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# The evolution of showrooming in emerging fashion markets: value co-creation and co-destruction during digital transformation

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I. Struweg, M. Frazer\* and A. Ledikwe

Department of Marketing Management,  
School of Consumer Intelligence and Information Systems,  
University of Johannesburg,  
P.O. Box 524, Auckland Park,  
Johannesburg, South Africa  
Email: [istruweg@uj.ac.za](mailto:istruweg@uj.ac.za)  
Email: [mfrazer@uj.ac.za](mailto:mfrazer@uj.ac.za)  
Email: [aledikwe@uj.ac.za](mailto:aledikwe@uj.ac.za)

\*Corresponding author

**Abstract:** This study examines showrooming behaviour and value creation dynamics in South Africa's fashion retail sector across two phases of digital transformation (2019–2022). Using a repeated cross-sectional quantitative design with structural equation modelling, independent samples were collected in 2019 and 2022 to examine how differences in online savviness are associated with customer behaviour in an emerging market undergoing rapid digital adoption. Grounded in service-dominant logic, the study explores associations between value co-creation, co-destruction, and shopping experience as markets shift from nascent to more mature omnichannel contexts. Findings suggest a market-level shift: showrooming was associated with negative shopping experience outcomes in the earlier sample but showed no significant adverse effects in the later sample. Online savviness scores were statistically significantly higher, though modestly so (Cohen's  $d = 0.30$ ), in phase 2, and the negative association between showrooming and customer experience was no longer significant. Results are consistent with the view that emerging markets may follow accelerated digital adoption trajectories with distinct implications for retail strategy. The findings align with a contextualised extension of service-dominant logic in which institutional conditions moderate value dynamics, with practical implications for fashion retailers navigating digital transformation.

**Keywords:** showrooming; fashion retailing; omnichannel behaviour; emerging markets; value co-creation; digital transformation; service-dominant logic; SDL; value co-destruction; online savviness; customer experience; omnichannel retailing; retail strategy; channel switching; cross-channel behaviour; South Africa.

**JEL codes:** M31, L81, O33.

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**Biographical notes:** I. Struweg is an Associate Professor in the Department of Marketing Management in the School of Consumer Intelligence and Information Systems, College of Business and Economics at the University of Johannesburg. She received her PhD in Communication Management from the University of Pretoria in South Africa. Her research focuses on consumer behaviour, brand management and strategic integrated communication. Her work has been published in journals such as the *Journal of Retailing and Consumer Services*, *Journal of Computer Information Systems*, *Journal of Marketing Communication*, *European Business Review* and *Public Relations Review*.

M. Frazer is a Senior Lecturer at the Department of Marketing Management at the University of Johannesburg in South Africa. Her lecture specialisation is focused on strategic retailing and digital marketing. As a curriculum development expert in retail, her research interests encompass innovative pedagogy design and leadership skills development for the retail sector, with broader interests in AI applications in retail, omnichannel retail strategies, and the intersection of technology and customer experience.

A. Ledikwe is a Lecturer and research associate at the Department of Marketing Management at the University of Johannesburg in South Africa. He primarily lectures Marketing Research and Marketing Management 1A at Kingsway Campus. His research interests are focused on relationship marketing, branding and omni-channel management.

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## 1 Introduction

A fashion customer enters a boutique, examines the fabrics, tries on garments, consults the staff about sizing, and then pulls out her smartphone to purchase the same items online at a lower price. This scene, once considered problematic ‘showrooming’ behaviour, now reflects standard shopping practice in digitally-enabled markets. Yet for fashion retailers investing in premium in-store experiences, this evolution raises a central question: does showrooming shift from value co-destruction to normalised omnichannel behaviour once a market passes a threshold of digital maturity, and if so, which structural conditions, rising online savviness, improving e-commerce infrastructure, and retailer channel integration, drive that transition? The study proposes that in an emerging market context, showrooming transitions from co-destructive to normalised omnichannel behaviour when consumer online savviness reaches a level sufficient to overcome institutional barriers to online purchasing, a shift expected to be empirically detectable between the pre-maturity (2019) and post-acceleration (2022) phases of South Africa’s digital retail landscape.

Recent scholarship has shed light on various dimensions of showrooming behaviour – the practice of examining products in physical stores while ultimately purchasing them online (Arora and Sahney, 2019; Halibas et al., 2023). Research demonstrates that showrooming poses significant challenges for brick-and-mortar retailers, who incur service costs without guaranteed sales returns (Chimborazo-Azogue et al., 2021; Flavián et al., 2020). Studies have examined showrooming motivations, including price comparison, product uncertainty reduction, and convenience maximisation (Daunt and Harris, 2017). From a theoretical perspective, showrooming has been conceptualised

through value co-destruction lenses, wherein customers extract value from physical retailers without reciprocating through purchases (Echeverri and Skålén, 2011). However, this literature predominantly reflects developed market contexts characterised by stable digital infrastructure, mature e-commerce ecosystems, and gradual technology adoption trajectories.

Emerging markets present different dynamics. Between 2019 and 2022, South African markets underwent a verifiable acceleration in digital retail adoption: internet penetration in South Africa rose from approximately 54% in January 2019 to 68.2% in January 2022 (Kepios, 2022), e-commerce's contribution to total retail sales income grew from 3.9% to 7.7% as e-commerce revenue rose from R37.4 billion to R86.8 billion over the same period (Statistics South Africa, 2026), and pandemic-related store closures between March 2020 and June 2021 saw 68% of consumers reduce the frequency of their physical supermarket visits while 37% increased their online shopping activity (NielsenIQ, as cited in Thenga, 2020). These changes did not unfold sequentially – as they did over two decades in developed markets – but compressed into approximately 36 months, constituting a natural experiment in accelerated digital adoption (Phan et al., 2020; Silva et al., 2019; Sleiman et al., 2022). These markets also face unique institutional constraints: limited banking access, unreliable logistics infrastructure, lower e-commerce trust, and income volatility that shapes risk perceptions differently than in developed economies (Izogo and Jayawardhena, 2018). For fashion retail specifically – where tactile product evaluation remains critical (Blázquez, 2014) – these constraints create paradoxical dynamics wherein infrastructure limitations simultaneously inhibit online purchases yet motivate in-store product examination before online buying (Nistor, 2019).

This context raises critical unanswered questions. Existing theory suggests showrooming constitutes value co-destruction, but does this characterisation persist as omnichannel shopping normalises? Research from developed markets documents the gradual evolution of showrooming, but how do behaviours transform under compressed digital adoption? Literature emphasises stable institutional environments, but how do emerging market constraints – such as payment friction, delivery uncertainty, and trust deficits – shape omnichannel behaviour trajectories? And practically, what retail strategies effectively manage the transition from showrooming's disruptive challenge to a normalised practice?

This study addresses these gaps by investigating the evolution of showrooming behaviour in South Africa's fashion retail market across two critical time points (2019 and 2022), representing distinct phases of digital maturity. Whereas prior omnichannel and showrooming research has been conducted predominantly in developed markets with stable digital trajectories (Flavián et al., 2020; Arora and Sahney, 2019), this study contributes a repeated cross-sectional design that captures structural change in the relationships between online savviness, showrooming, value co-creation/co-destruction, and shopping experience across two empirically distinct phases of digital maturity. The Gauteng context is theoretically relevant beyond its geographic specificity: it represents a class of upper-middle-income emerging markets – characterised by high urban smartphone penetration, underdeveloped e-commerce infrastructure, and institutional friction in online transactions – that face compressed adoption timelines distinct from both developed and low-income emerging market trajectories (Khanna and Palepu, 2010; Izogo and Jayawardhena, 2018). Findings are therefore expected to generalise to

comparable contexts such as urban Nigeria, Kenya, and Egypt, where similar institutional conditions and adoption accelerations are documented. Three specific objectives guide the research:

- *Objective 1:* Assess whether online savviness intensifies showrooming behaviour during accelerated digital adoption periods, testing whether compressed transformation creates different capability-behaviour relationships than gradual evolution.
- *Objective 2:* Determine whether the impact of showrooming on the shopping experience transforms from negative (value co-destruction) to neutral or positive (normalised omnichannel behaviour) as markets mature digitally.
- *Objective 3:* Evaluate how value co-creation and co-destruction dynamics evolve as omnichannel behaviours transition from novel to routine shopping practices.

This investigation is grounded in service-dominant logic (SDL) theory (Vargo and Lusch, 2007), which conceptualises value as co-created through customer-retailer interactions yet accommodates value co-destruction when interactions diminish prosperity for service system participants (Greer, 2015). Critically, the study extends SDL by proposing that the characterisation of behaviours as co-creative versus co-destructive depends on the institutional context and market maturity, showrooming may transition from predominantly co-destructive to potentially co-creative as markets develop and retailers adapt their strategies.

This research contributes theoretically by providing evidence consistent with the view that emerging markets experience distinct phases of digital retail evolution, suggesting that showrooming normalisation challenges static co-destruction conceptualisations. Methodologically, it employs repeated cross-sectional structural equation modelling across two transformation phases, revealing relationship dynamics obscured in cross-sectional designs. Practically, it provides actionable insights for fashion retailers navigating compressed digital adoption, identifying critical inflexion points when strategies should shift from resisting showrooming to facilitating it.

The paper proceeds as follows: The first section presents the theoretical framework and literature review. The following section develops the conceptual model and hypotheses. The methodology section details the research approach. The subsequent section presents findings. This is followed by a discussion of results and implications. The paper concludes with limitations and future research directions.

## 2 Theoretical foundations and literature review

### 2.1 Theoretical grounding: SDL and customer experience

This study is grounded in SDL theory (Vargo and Lusch, 2007), which posits that value is co-created through interactions between service systems and that services, rather than goods, form the basis of exchange (Edvardsson et al., 2011). SDL provides a particularly relevant lens for examining showrooming because it recognises that customers actively participate in value creation throughout their shopping journey, with outcomes potentially including both value co-creation and value co-destruction (Echeverri and Skålén, 2011).

The study integrates SDL with two complementary theoretical perspectives. First, the stimulus-organism-response (SOR) theory suggests that external stimuli influence behavioural decisions by affecting internal emotional and cognitive states, which mediate the relationship between stimuli and resultant behaviours (Mehrabian and Russell, 1974; Donovan and Rossiter, 1982). In our context, increasing online savviness and evolving retail environments serve as stimuli that affect customers' cognitive states and subsequent showrooming behaviours. Second, customer experience theory emphasises that every touchpoint (physical stores, websites, mobile applications, social media) shapes the overall customer experience (Bolton et al., 2014; Keiningham et al., 2019), with value co-creation fundamentally contributing to the quality of the experience.

Within the SDL framework, value co-creation occurs when retailers and customers collaborate to generate mutual benefits (Richardson and Cassop Thompson, 2023). In fashion retail, co-creation is manifested through product customisation, review contributions, and collaborative design processes (Thomas et al., 2020). However, SDL also accommodates value co-destruction, defined as interactive processes between service systems that decrease prosperity for at least one party (Greer, 2015). Showrooming potentially exemplifies co-destructive behaviour when customers extract value from physical retailers' services without reciprocating through purchases, creating asymmetric value flows (Daunt and Harris, 2017).

Critically, the researchers argues that the co-creation versus co-destruction characterisation of showrooming depends on contextual factors, particularly market maturity and institutional development. As online shopping normalises and retailers adapt their strategies to integrate channels, showrooming may transition from primarily destructive to potentially creative behaviour – a hypothesis this study examines empirically.

## *2.2 Showrooming in emerging market fashion retail*

Three showrooming mechanisms are well established in developed-market research. Price-seeking consumers use physical stores as inspection venues and complete purchases online where prices are lower (Flavián et al. 2020), a behaviour enabled by the comparison capabilities that define online savviness – directly informing the online savviness → showrooming path (H1). Risk mitigation captures a second function: physical evaluation reduces product uncertainty before online commitment, particularly for high-touch categories such as fashion (Daunt and Harris, 2017), and independently supports H1 by also shaping the showrooming → online co-creation/co-destruction path (H4) by determining whether the retailer derives residual value from interaction. A third mechanism, convenience-driven omnichannel integration, describes consumers who strategically leverage the complementary strengths of physical and digital touchpoints without prioritising price (Halibas et al., 2023; Arora and Sahney, 2019), underpinning the showrooming → online shopping experience path (H5) by positioning showrooming as experience-enhancing rather than disruptive.

Developed-market findings, however, conflict on which mechanism dominates, and this conflict has direct implications for the model paths. Flavián et al. (2020) demonstrate that price arbitrage is primary: higher online competence increases showrooming propensity because the price advantage outweighs the convenience of in-store completion, predicting a positive online savviness → showrooming relationship (H1) that

strengthens as digital capabilities mature. Daunt and Harris (2017) counter that risk mitigation is the principal driver: as online confidence grows, the need for prior physical evaluation diminishes, implying the savviness – showrooming relationship may plateau or become non-linear at high competence levels – a qualitatively different H1 trajectory. The two accounts also diverge on H4: price-seeking showrooming extracts value from the physical retailer without reciprocation, prototypical co-destruction (Echeverri and Skålén, 2011), whereas risk-mitigation showrooming may generate residual retailer value through brand exposure and eventual same-retailer online conversion, rendering the co-creation/co-destruction valence ambiguous (Frazer and Struweg, 2019). Which mechanism dominates, therefore determines whether the showrooming → co-creation/co-destruction path (H4) is primarily co-destructive or of mixed valence.

These conflicts remain unresolved in emerging market contexts, where institutional conditions alter the salience of each mechanism across adoption phases. Payment friction, logistics uncertainty, and trust deficits (Izogo and Jayawardhena, 2018; Gefen et al., 2003) make risk mitigation structurally more prominent than price-seeking in early-phase emerging-market showrooming: consumers must physically inspect products not merely to compare prices but to manage genuine uncertainties around unreliable delivery and difficult returns. This institutional weighting means the Daunt and Harris mechanism better characterises phase 1 behaviour – with co-destruction as the likely net valence of H4 – and suggests the H1 relationship may be weaker or non-linear at the pre-maturity stage. As online savviness rises under South Africa’s compressed digital adoption trajectory, however, these barriers attenuate: consumers who develop sufficient competence to manage payment and delivery risk are freed to execute price-seeking behaviour, potentially shifting the dominant mechanism between phases and altering the direction and magnitude of both H1 and H4 by 2022. This same trajectory transforms H2 (online savviness → co-creation/co-destruction): rising savviness enables co-creative engagements – contributing reviews, activating loyalty features, leveraging personalisation – that progressively offset co-destructive channel extraction. The strengthening of online savviness → shopping experience (H3) and co-creation/co-destruction → shopping experience (H6) between phases reflects the same process: once institutional barriers no longer dominate the online experience, the positive contribution of savviness and co-creative behaviour to experience quality becomes empirically detectable.

### *2.2.1 Late-stage digital adoption patterns*

Between 2019 and 2022, South Africa underwent compressed digital transformation: mobile internet penetration rose substantially, smartphone affordability improved, and pandemic-related store closures accelerated online adoption even among traditionally offline fashion shoppers (Wang, 2024; Sleiman et al., 2022). This trajectory provides the empirical rationale for examining all six model paths at two distinct time points. If institutional barriers primarily drive phase 1 behaviour – risk-mitigation showrooming, co-destructive H4 valence, weak H3 and H6 – then the reduction of those barriers by phase 2 should produce measurable changes in the direction and magnitude of H1, H2, H4, and the experience paths, yielding a natural test of whether the Flavián et al. or Daunt and Harris mechanism comes to dominate as South Africa’s digital retail landscape matures.

### 2.2.2 The fashion retail context

Fashion products create specific showrooming dynamics due to their experiential nature. Physical attributes – such as fit, fabric feel, colour accuracy, and quality – remain difficult to assess online, despite improvements in website technologies (Blázquez, 2014). Emerging market customers, in particular, value physical evaluation, given the higher complexity and costs associated with returns compared to developed markets, where return processes are streamlined (Nistor, 2019).

Online fashion retail offers compensating advantages – 24/7 access, broader assortment, customer reviews, and price transparency – whose value is only realisable once consumers possess sufficient savviness to navigate them (Izogo and Jayawardhena, 2018). This conditionality underpins the online savviness → shopping experience path (H3): in phase 1, institutional friction and limited competence suppress experience quality; by phase 2, rising savviness allows consumers to capitalise on these advantages, and the positive H3 relationship becomes empirically detectable. The showrooming → shopping experience path (H5) similarly depends on channel integration: where showrooming is cross-retailer, the online experience is defined by a competitor's site and is largely decoupled from the physical inspection episode; where retailers successfully integrate channels, the physical visit enhances rather than undermines the subsequent online experience, shifting H5 from negative toward neutral or positive as omnichannel maturity increases between phases.

## 2.3 Online savviness and its evolution

Online savviness, synonymous with internet savviness, describes customers' proficiency in using digital platforms for shopping activities (Daunt and Harris, 2017; Monsuwé et al., 2004). This encompasses technological competence, confidence in website navigation, ability to assess online information quality, and skill in product comparison (Bart et al., 2005; Flynn and Goldsmith, 1999).

In emerging markets, online savviness evolves rapidly as smartphone adoption and internet access expand. Customers transition from hesitant digital novices to confident omnichannel shoppers, developing capabilities in multiple domains (Park et al., 2011; Sharma et al., 2025):

- *Search competence*: Efficiently locating desired products across websites.
- *Evaluation skills*: Assessing website credibility and product information quality.
- *Comparison abilities*: Comparing prices, features, and reviews across platforms.
- *Transaction confidence*: Comfort with online payment and delivery processes.
- *Problem resolution*: Managing returns, complaints, and customer service interactions.

The researchers propose that online savviness plays a pivotal role in the evolution of showrooming. Initially, limited online savviness constrains customers' ability to execute showrooming effectively. As savviness increases, customers can more efficiently leverage physical stores for product evaluation while completing purchases online. However, this relationship may eventually plateau or shift as very high savviness enables confident online purchasing without requiring physical evaluation.

## 2.4 Value co-creation and co-destruction in omnichannel contexts

Value co-creation has emerged as a central construct in services marketing, facilitated by internet technologies, service-oriented business models, and collaborative platforms (Ind and Coates, 2013). In fashion retail, co-creation activities encompass co-promotion, co-branding, co-design, and co-production of product support (Thomas et al., 2020); however, the literature on effectively leveraging co-creation in fashion contexts remains limited.

Online co-creation manifests when customers contribute reviews, share styling suggestions, participate in design votes, or provide feedback that improves retailer offerings (Rodrigues Inacio et al., 2019). These activities generate value for both customers (through improved products and personalised experiences) and retailers (through innovation insights and customer engagement).

Conversely, value co-destruction emerges from resource mismanagement, stringent procedures, or opportunistic behaviours, including potentially showrooming (Echeverri and Skålén, 2011). Co-destruction occurs when customer-retailer interactions decrease value for one or both parties. Showrooming traditionally exemplifies co-destruction: customers extract value from physical retailers' services (such as staff expertise, product displays, and fitting rooms) without reciprocating through purchases, creating asymmetric value flows that threaten the sustainability of physical retailers (Battisti and Brem, 2020).

However, this study challenges the assumption that showrooming necessarily constitutes co-destruction. As markets mature and retailers adapt strategies, showrooming may transition into normalised omnichannel behaviour with potentially co-creative elements. Physical stores can serve as experiential showrooms, generating brand awareness, product trial, and customer engagement that eventually drive purchases, either in-store or online, from the same retailer. The key distinction lies in whether showrooming occurs within integrated omnichannel strategies (potentially co-creative) or benefits competing retailers (likely co-destructive).

## 2.5 Online shopping experience in emerging markets

Online shopping experience encompasses cognitive and emotional responses during website interactions (Sudaryanto et al., 2021; Barari et al., 2020). Early research conceptualised experience as cue-driven responses during the purchasing process (Verhoef et al., 2009), but contemporary perspectives recognise experience as collaboratively created, with customers actively contributing to the quality of the experience through co-creation behaviours (Bolton et al., 2014; Izogo and Jayawardhena, 2018).

Positive online shopping experiences enhance customer trust, encourage repeat purchase intentions, and reduce complaints (Ma et al., 2021). However, emerging market online experiences face unique challenges:

- *Technology barriers*: Website performance issues due to bandwidth limitations.
- *Information asymmetry*: Less detailed product information than available in physical stores.
- *Payment friction*: Complex or unfamiliar payment processes.

- *Delivery concerns*: Uncertainty about delivery reliability and timing.
- *Return complexity*: Difficult return processes compared to physical store returns.

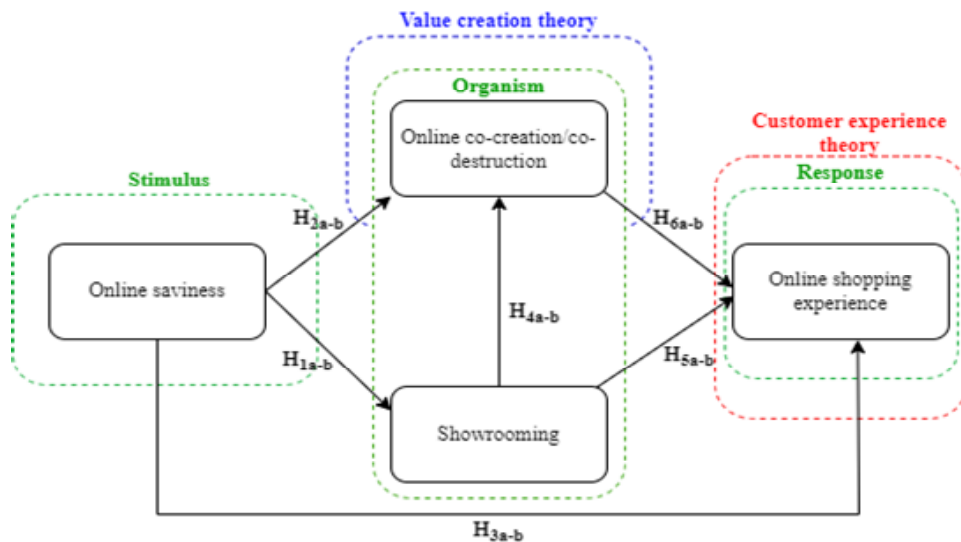
This study examines how showrooming impacts online shopping experience, proposing that this relationship evolves as markets mature. Initially, showrooming may negatively impact experience by highlighting disconnects between physical and online channels. As omnichannel integration improves and customers develop more sophisticated channel-use strategies, the showrooming impact on the experience may diminish or become positive.

### 3 Conceptual model and hypotheses development

#### 3.1 Conceptual framework

Our conceptual model (Figure 1) examines the relationships between four primary constructs: online savviness, showrooming behaviour, online co-creation/co-destruction, and the online shopping experience. This study investigates how these relationships evolve across two time points, representing distinct phases of digital maturity, allowing for the examination of behavioural dynamics during rapid digital transformation.

**Figure 1** Conceptual model (phase 1 and phase 2) (see online version for colours)



Source: Researchers' construct

The model proposes that online savviness influences showrooming behaviour, online co-creation/co-destruction, and online shopping experience. Showrooming behaviour affects both co-creation and co-destruction, as well as the shopping experience. Ultimately, co-creation/co-destruction significantly impacts the shopping experience. This study examines these relationships at both time points to assess stability versus evolution.

**Table 1** Construct definitions

| <i>Construct</i>                      | <i>Definition</i>                                                                                                               | <i>Source</i>           |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Online savviness                      | Customer proficiency in navigating digital platforms, assessing website quality, and executing online shopping tasks            | Bart et al. (2005)      |
| Showrooming                           | Customer behaviour of examining products in physical stores while purchasing through online channels                            | Daunt and Harris (2017) |
| Online co-creation/<br>co-destruction | Interactive value generation (co-creation) or value diminishment (co-destruction) through customer-retailer online interactions | Daunt and Harris (2017) |
| Online shopping experience            | Cognitive and emotional responses during online fashion retailer website interactions                                           | Babin et al. (1994)     |

*Source:* Authors' compilation based on literature review.

### 3.2 Hypotheses development

#### 3.2.1 H1: online savviness → showrooming behaviour

Literature establishes relationships between internet savviness and showrooming, suggesting that increased digital proficiency enables greater showrooming engagement. Online savviness provides customers with skills to efficiently navigate digital environments, compare products, assess prices, and execute online purchases (Bart et al., 2005; Flynn and Goldsmith, 1999).

Research supports the connection between digital expertise and showrooming practice: customers proficient in online tools are more effective at leveraging physical stores for product evaluation before making online purchases (Chimborazo-Azogue et al., 2021; Daunt and Harris, 2017). This relationship may intensify during periods of rapid digital adoption, as customers develop capabilities that enable sophisticated omnichannel behaviours.

The behavioural process driving change between phases operates through friction reduction. In phase 1 (2019), institutional barriers – limited mobile payment infrastructure, uncertain delivery logistics, and low baseline trust in online transactions – constrain showrooming even among savvy consumers: digital competence is necessary but not sufficient when online purchase completion carries material risk (Izogo and Jayawardhena, 2018). The OS → SWR path therefore reflects only partial activation of savviness into showrooming behaviour. By phase 2 (2022), accelerated infrastructure development and pandemic-driven normalisation of online purchasing removed these structural constraints, allowing the same digital competence to translate more fully into showrooming execution. The mechanism is barrier removal rather than capability growth: identical savviness produces greater showrooming in phase 2 because the environmental conditions that previously suppressed its enactment have attenuated, predicting a significantly stronger OS → SWR coefficient in the later phase. Therefore, it is hypothesised that:

H1 Online savviness has a positive influence on showrooming behaviour, with this relationship strengthening during periods of accelerated digital adoption.

### 3.2.2 H2: *online savviness* → *online co-creation/co-destruction*

Online-savvy customers knowingly engage in behaviours that benefit or harm retailers across various channels (Sit et al., 2018). Literature documents symbiotic relationships between in-store value-taking and online co-creation/co-destruction behaviours (Daunt and Harris, 2017; Hänninen et al., 2021).

As customers increase in-store value extraction through showrooming, they intensify online pre-purchase search activities, creating complex value co-creation and co-destruction patterns across channels (Siddique et al., 2021). Online-savvy customers can engage in extensive online information gathering, product comparison, reading reviews, and evaluating retailers – activities that can benefit their shopping experience while creating value or diminishing it for retailers.

The researchers propose that online savviness enables co-creation behaviours (contributing reviews, sharing feedback, and engaging with retailers) while simultaneously facilitating potential co-destruction (extracting information without purchasing and comparison shopping that pressures margins). In phase 1, the OS → OCC relationship is constrained by a limited co-creation repertoire: consumers in the nascent adoption stage primarily engage in passive information extraction – price comparison, review consumption, and product search – rather than generative co-creative acts such as contributing reviews, engaging with brand communities, or activating loyalty features. Their savviness expands co-destruction more readily than co-creation because the institutional environment offers few channels for directing savviness co-creatively. By phase 2, two behavioural shifts occur simultaneously:

- a co-creative infrastructure matures, giving savvy consumers meaningful channels through which to contribute value
- b repeated online transactions build the experiential confidence required for generative engagement rather than defensive information-seeking.

The OS → OCC path therefore strengthens not because savviness increases, but because the behavioural repertoire that savviness can activate expands as the market matures. Secondly, it is hypothesised that:

H2 Online savviness positively influences online co-creation and co-destruction behaviours, with this relationship evolving as customers develop sophisticated omnichannel strategies.

### 3.2.3 H3: *online savviness* → *online shopping experience*

Relationships exist between online savvy behaviour and proactive information seeking, empowering customers to gather insights and expand knowledge through marketplace engagement (Garnier and Macdonald, 2009). This deeper understanding enhances customers' influence within online communities through value-sharing activities.

Online-savvy customers demonstrate confidence in navigating shopping platforms and efficiently finding the products they desire (Daunt and Harris, 2017). Research suggests that higher online savviness correlates with greater online value co-destruction/co-creation engagement (Chiu et al., 2011), with savvy customers more likely to engage in behaviours that add to or detract from shopping experiences.

The behavioural process linking phase-level change to the OS → OSEH path operates through cognitive load reduction. In phase 1, even relatively savvy consumers encounter elevated cognitive effort during online fashion purchases: navigating unfamiliar platforms, evaluating trustworthiness signals, managing payment uncertainty, and resolving delivery ambiguity all divert attentional resources away from the hedonic and functional dimensions of the experience itself (Chiu et al., 2011). Higher savviness mitigates this load, generating positive experiential returns – but because the baseline cognitive burden is high, the marginal return to each unit of savviness is constrained. By Phase 2, platform familiarity, improved interface design, and reduced institutional friction lower the overall cognitive burden, shifting the OS → OSEH relationship: savviness now operates on a lower burden, allowing its positive contribution to be directed more fully toward experience quality rather than problem-solving. The predicted strengthening of this path between phases, therefore, reflects a changed experiential environment in which digital capabilities produce greater hedonic and utilitarian returns. We hypothesise:

H3 Online savviness positively influences online shopping experience, with this relationship potentially intensifying as digital capabilities mature.

The OCC construct was modelled as a single latent variable because it was intended to capture the net interaction valence of the showrooming experience. In line with the SDL perspective, consumer interactions may contain both co-creative and co-destructive elements simultaneously, and the scale was therefore used to reflect the overall evaluative outcome of that experience.

#### 3.2.4 H4: *showrooming behaviour* → *online co-creation/co-destruction*

Showrooming represents complex customer action involving value co-creation and co-destruction across digital and physical channels (Frazer and Struweg, 2019). Customers engaging in in-store value-taking—using physical store resources without purchase intention – often extend these behaviours online, contributing to value creation and destruction (Daunt and Harris, 2017; Sit et al., 2018).

This dual impact benefits retailers where final transactions occur, while potentially harming physical stores where showrooming is initiated. However, this characterisation assumes cross-retailer showrooming (examining products at retailer A, purchasing from retailer B). Within-retailer showrooming (examining products at Retailer A's store and purchasing from retailer A's website) may create different dynamics, potentially supporting omnichannel integration rather than representing pure co-destruction.

The behavioural mechanism driving phase-level change in the SWR → OCC path involves a structural shift in showrooming type from predominantly cross-retailer to within-retailer. In phase 1, weak omnichannel integration means that most showrooming is cross-retailer – a consumer inspects a garment at retailer A and purchases from a lower-priced competitor online – producing asymmetric value extraction in which the physical retailer bears the service cost without capturing the transaction, generating strongly co-destructive OCC valence (Echeverri and Skålén, 2011). By phase 2, retailer-side omnichannel investment captures more showrooming within a single retailer's ecosystem, reducing the zero-sum extraction character of H4; consumers completing within-retailer cross-channel journeys are also more likely to engage in co-creative acts – generating reviews, using loyalty systems, providing preference data –

as part of those same journeys. The  $SWR \rightarrow OCC$  coefficient therefore shifts from predominantly co-destructive to mixed valence as the modal showrooming type changes between phases. We hypothesise:

H4 Showrooming behaviour influences online co-creation and co-destruction, with the nature of this relationship evolving as omnichannel integration develops.

### 3.2.5 H5: *showrooming behaviour* $\rightarrow$ *online shopping experience*

Contemporary retail landscapes emphasise omnichannel strategies, including showrooming and webrooming, which focus on enhancing the customer experience supported by digital innovations (Halibas et al., 2023). Showrooming triggers a range of emotions, from initial excitement to eventual uncertainty or distrust, with these emotions actively shaping the quality and depth of the online shopping experience (Sit et al., 2018).

The researchers propose a critical evolution in this relationship. During the early stages of digital adoption, when showrooming remains novel and channel integration is weak, showrooming may negatively impact the shopping experience by highlighting disconnects between physical and online channels, creating friction and frustration. However, as showrooming normalises and retailers improve omnichannel integration, its impact on the experience may diminish or become positive, as customers view channel mixing as expected behaviour rather than a problematic activity.

The specific behavioural process driving this sign change involves emotional reframing. In phase 1, showrooming is schema-incongruent: most consumers operate with a single-channel mental model in which an in-store visit implies an in-store purchase, making cross-channel behaviour cognitively dissonant and emotionally effortful (Sit et al., 2018). This incongruence generates negative affective residue that contaminates the downstream online experience, producing the predicted negative  $SWR \rightarrow OSEH$  path. By phase 2, repeated cross-channel behaviour has normalised the omnichannel schema: consumers no longer experience the in-store-to-online transition as a violation of expected shopping scripts, and what was once a source of role conflict becomes a routine, instrumentally valued component of a competent shopping journey. The behavioural mechanism is schema normalisation – whereby repeated exposure to a novel behaviour progressively reduces its affective cost until it reaches zero or reverses sign – predicting the disappearance of the negative  $SWR \rightarrow OSEH$  relationship by phase 2.

This hypothesis represents the core theoretical contribution of our study, demonstrating the normalisation of showrooming as it transitions from a disruptive to an accepted omnichannel practice. It is hypothesised that:

H5 Showrooming behaviour's impact on online shopping experience evolves from negative during nascent digital adoption to neutral or positive as omnichannel behaviour normalises.

### 3.2.6 H6: *online co-creation/co-destruction* $\rightarrow$ *online shopping experience*

An intricate balance between online co-creation and co-destruction directly shapes the quality of the online shopping experience (Siddique et al., 2021). Customers actively participating in these dual processes function as architects of their shopping journeys

rather than passive recipients. The synergistic effects of co-creation and co-destruction lay the foundations for memorable and impactful shopping experiences.

Co-creation activities – such as contributing reviews, providing feedback, and engaging with brands – enhance customer engagement and satisfaction, ultimately improving the overall experience. Conversely, co-destruction behaviours may initially harm experience if customers perceive their efforts as unreciprocated or feel they must work excessively to achieve satisfactory outcomes.

The behavioural mechanism governing phase-level change in the OCC → OSEH path is experiential saturation, grounded in SDL's treatment of operant resources as dynamic rather than fixed (Vargo and Lusch, 2007). In phase 1, co-creation and co-destruction activities – writing reviews, comparing prices across channels, sharing feedback – are novel, effortful, and distinctly perceptible to the consumer. Their novelty confers salience: when a behaviour is consciously experienced as an active contribution to or extraction from the service system, it carries disproportionate weight in shaping the overall evaluation of the experience (Siddique et al., 2021). The OCC → OSEH path is therefore strong because each co-creative or co-destructive act registers as a discrete, affect-laden episode. By phase 2, these same behaviours have been performed repeatedly and have become automatic, pre-reflective components of the shopping routine – executed without deliberate attention and therefore without the experiential salience that originally produced their strong effect on OSEH. The predicted weakening of the OCC → OSEH path between phases is thus not a failure of co-creation but its success: behaviours that once differentiated the experience have been absorbed into the baseline, consistent with habituation theory in consumer psychology and with SDL's recognition that value propositions lose distinctiveness as they are institutionalised. Lastly, it is hypothesised that:

- H6 Online co-creation and co-destruction behaviours influence online shopping experience, with this relationship potentially evolving as omnichannel practices mature.

## 4 Research methodology

### 4.1 Research design and context

This study uses a repeated cross-sectional quantitative design to examine how showrooming behaviour develops over two key time points during South African fashion retail's digital transformation. The research setting, Gauteng Province in South Africa, offers an ideal environment for exploring emerging market omnichannel dynamics during a period of rapid change, digital adoption.

#### 4.1.1 Contextual justification: South Africa as an emerging market case study

South Africa represents a prototypical emerging market experiencing rapid digital transformation while facing institutional challenges characteristic of developing economies. Gauteng Province, which includes Johannesburg and Pretoria, serves as the nation's economic hub, housing approximately 24% of South Africa's population and generating over one-third of the country's national GDP (Euromonitor International, 2021). The province exhibits:

- Diverse socioeconomic customer base spanning income levels.
- Concentrated fashion retail presence, including international and local brands.
- Rapidly expanding internet and smartphone penetration.
- Developing e-commerce infrastructure with persistent logistical challenges.
- A growing middle class with increasing disposable income, yet significant income volatility.

Between 2019 and 2022, Gauteng experienced accelerated digital adoption, driven by infrastructure investment, mobile network expansion, and external catalysts that necessitated the adoption of online commerce. This period thus provides a window into the compressed dynamics of digital transformation, generalisable to other emerging markets experiencing similar transitions.

## *4.2 Data collection approach*

### *4.2.1 Two-phase repeated cross-sectional design*

Data collection occurred at two time points:

- Phase 1 (2019): Representing the nascent digital adoption phase when online fashion shopping remained relatively novel for most customers, with physical retail dominant
- Phase 2 (2022): Representing the accelerated digital adoption phase following a period of rapid online commerce growth and infrastructure development

### *4.2.2 Population and sampling*

The study population consisted of fashion customers aged 18–65 years residing in Gauteng Province who had purchased fashion items (both in-store and online) within the six months preceding each data collection point. This broad age range encompasses a diverse range of digital adoption levels, from younger digital natives to older customers who are adapting to online shopping.

Given the absence of a comprehensive sampling frame for fashion consumers in Gauteng, non-probability sampling is consistent with established practice in emerging market retail and consumer behaviour research, where no population register of shoppers exists (Izogo and Jayawardhena, 2018; Chinomona and Sandada, 2013; Duffett, 2017; Sheth, 2011). Studies investigating omnichannel and digital shopping behaviour in comparable sub-Saharan and upper-middle-income emerging market contexts have routinely employed purposive or quota-controlled convenience samples for analogous reasons (Thaichon et al., 2020; Osei-Frimpong et al., 2019). The absence of a defined sampling frame is itself a characteristic institutional feature of these markets, recognised as a primary methodological constraint rather than a design shortcoming (Burgess and Steenkamp, 2006). Rather than asserting demographic representativeness relative to an undefined population universe, the quota controls imposed across age group, gender, employment status, and education level are intended to ensure adequate cell coverage and to prevent the systematic over-representation of any single subgroup, thereby enhancing

the credibility of cross-wave comparisons. The study employed purposive non-probability sampling with quota controls. Quotas ensured representation across:

- Age groups (18–25, 26–35, 36–45, 46–55, and 56–65).
- Gender (male, female).
- Employment status (employed, student, unemployed).
- Education level (secondary, tertiary).

Because wave 2 used open-link online distribution, additional data-quality checks were applied to reduce the risk of duplicate or invalid submissions. Google Forms was configured to limit responses to a single submission where possible, and the returned dataset was screened for exact duplicates, highly repetitive response patterns, and anomalous completion behaviour prior to analysis. Cases flagged as potentially duplicated or invalid were reviewed and excluded where necessary. While non-probability sampling limits strict statistical generalisability, the quota approach enhances sample representativeness and provides valuable insights into showrooming dynamics during digital transformation.

#### *4.2.3 Data collection procedures*

- Phase 1 (2019): Seven trained fieldworkers administered paper-based questionnaires at shopping centres and residential areas across Gauteng. After obtaining verbal consent, screening for eligibility (recent fashion purchases), fieldworkers introduced the study and collected responses through face-to-face administration. This approach reflected common practice in customer research for emerging markets, where access to online panels remains limited. Sample size:  $n = 234$ .
- Phase 2 (2022): Using the same questionnaire instrument, data collection transitioned to online self-administration via Google Forms distributed through social media platforms. Participants indicated informed consent before completing the questionnaire. This methodological shift reflected both pragmatic considerations (increased online survey feasibility) and conceptual alignment (testing digital survey participation as an indicator of increased online savviness). Sample size:  $n = 150$ .

#### *4.2.4 Methodological note on data collection evolution*

The shift from paper-based to online data collection mirrors the digital transformation under investigation. While ideally maintaining a consistent methodology, this evolution provides additional insight: the customers' willingness and ability to complete online surveys in 2022, versus the requirement for in-person administration in 2019, demonstrates an increased level of digital comfort. However, it is acknowledged that this introduces potential confounds and addresses implications in our limitations discussion.

A pilot test ( $n = 30$ ) preceded phase 1 data collection, with minor refinements to the questionnaire enhancing clarity. Both samples exhibited similar demographic profiles, with a predominantly female composition (phase 1: 64.1%; phase 2: 58.4%) and a high proportion of individuals holding post-secondary education (62.9% in both phases) and full-time employment (phase 1: 64.1%; phase 2: 71.6%).

### 4.3 Measurement instrument

The survey questionnaire comprised three sections.

The questionnaire consisted of three structured sections. Section A captured key demographic information, including respondent age, gender, education level, employment status, and shopping frequency. Section B focused on physical store fashion shopping and examined in-store behaviours, experiences, and showrooming practices using adapted measurement scales from Daunt and Harris (2017). Section C addressed online fashion shopping and assessed online savviness, co-creation and co-destruction behaviours, and the online shopping experience using established and validated scales. All substantive items were measured using a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) to capture response intensity. Screening questions were included to ensure respondent eligibility before questionnaire administration.

#### 4.3.1 Measurement scales

All scales derive from established empirical studies demonstrating validity and reliability, as evident in Table 2.

**Table 2** Measurement scales and reliability statistics

| <i>Construct</i>                  | <i>Items</i> | <i>Source</i>                   | <i>Sample item</i>                                                                                                      | <i>Cronbach's <math>\alpha</math> phase 1</i> | <i>Cronbach's <math>\alpha</math> phase 2</i> |
|-----------------------------------|--------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Online savviness                  | 5            | Bart et al. (2005)              | "I am confident in my ability to assess the quality of a website."                                                      | 0.90                                          | 0.83                                          |
| Showrooming behaviour             | 6            | Daunt and Harris (2017)         | "I used physical stores to research all information needed about the product before buying online."                     | 0.90                                          | 0.80                                          |
| Online co-creation/co-destruction | 6            | Daunt and Harris (2017) adapted | "After looking in physical stores, I searched for more product information from different online stores before buying." | 0.82                                          | 0.75                                          |
| Online shopping experience        | 11           | Babin et al. (1994)             | "This shopping experience was truly a joy."                                                                             | 0.93                                          | 0.81                                          |

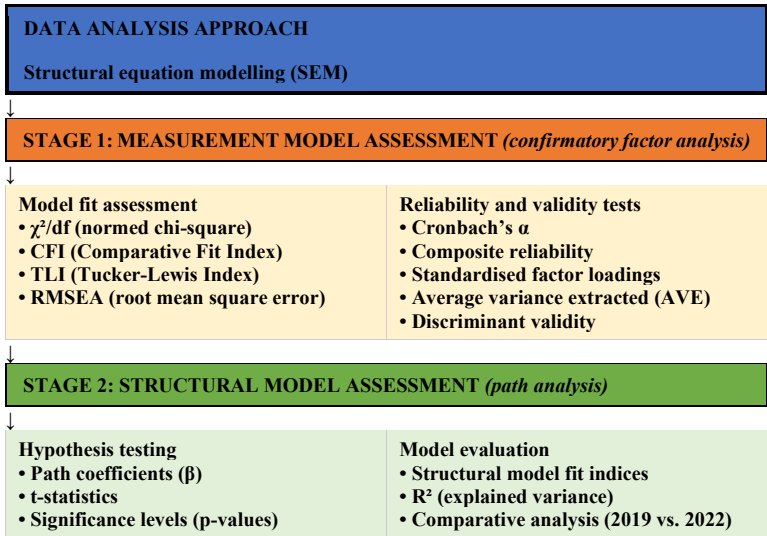
Notes: All constructs measured on seven-point Likert scales (1 = strongly disagree, 7 = strongly agree). All reliability coefficients exceed the recommended threshold of 0.70 (Hair et al., 2019) – phase 1 = 2019 (nascent digital adoption); phase 2 = 2022 (accelerated digital adoption).

All scales demonstrated satisfactory reliability across both phases ( $\alpha > 0.70$ ), supporting measurement consistency.

### 4.4 Data analysis approach

This study employed structural equation modelling (SEM) via AMOS following a rigorous two-stage approach (Hair et al., 2019; see Figure 2).

**Figure 2** Two-stage structural equation modelling analysis process (see online version for colours)



Source: Adapted from Hair et al. (2019) SEM methodology

This two-stage approach ensures measurement quality before hypothesis testing, following best practices in SEM methodology (Hair et al., 2019).

## 5 Findings

### 5.1 Measurement model assessment and sample comparability

Confirmatory factor analysis was used to examine the measurement model's adequacy across both time points before hypothesis testing. Prior to this, Tables 3a–3d present the descriptive statistics, sample comparability, and preliminary diagnostic results to provide context for interpreting the measurement and structural model findings.

#### 5.1.1 Cross-wave descriptive statistics and effect sizes

Table 3a presents the descriptive and comparability results, which provide an initial view of mean differences across the two periods and highlight sample shifts that should be considered in interpreting the findings.

Table 3 shows that all four focal constructs of the study increased from the pre-COVID (phase 1) to the post-COVID phase (phase 2), although the magnitude of change differed across constructs. Online savviness (OS) increased significantly from a mean of 4.89 to 5.28, but the standardised effect was small ( $d = 0.30$ ), indicating a modest rather than dramatic increase in consumers' digital capability. In contrast, showrooming webrooming-related behaviour (SWR), online co-creation/co-destruction activity (OCC), and online shopping experience (OSEH) all recorded large positive shifts, with effect sizes ranging from  $d = 0.86$  to  $d = 0.88$ . These results suggest that the most meaningful post-COVID change was not simply that consumers became more

digitally savvy, but that digitally enabled cross-channel behaviours became more routine, more intense, and more strongly embedded in the fashion purchase process. Accordingly, the evidence supports a reframing of the findings to emphasise behavioural normalisation and channel integration rather than an exaggerated claim of exponential growth in online savviness.

**Table 3a** Cross-wave descriptive statistics and effect sizes

| <i>Construct</i> | <i>Pre-mean<br/>(SD)<br/>(phase 1<br/>2019)</i> | <i>Post-mean<br/>(SD)<br/>(phase 2<br/>2022)</i> | <i>Mean<br/>diff</i> | <i>95%<br/>CI</i> | <i>p-value</i> | <i>Cohen's<br/>d</i> | <i>Interpretation</i>                                                                                                                       |
|------------------|-------------------------------------------------|--------------------------------------------------|----------------------|-------------------|----------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| OS               | 4.89<br>(1.46)                                  | 5.28 (1.21)                                      | 0.39                 | [0.16,<br>0.63]   | =0.001         | 0.30                 | Small but significant increase; this change was modest in magnitude and does not support the claim that online savviness more than doubled. |
| SWR              | 3.43<br>(1.77)                                  | 4.82 (1.46)                                      | 1.38                 | [1.10,<br>1.67]   | <0.001         | 0.86                 | Large increase; showrooming intensified materially in phase 2.                                                                              |
| OCC              | 3.49<br>(1.81)                                  | 4.86 (1.35)                                      | 1.37                 | [1.08,<br>1.65]   | <0.001         | 0.88                 | Large increase; cross-channel value activity became more routine and widespread.                                                            |
| OSEH             | 4.11<br>(1.52)                                  | 5.28 (1.19)                                      | 1.18                 | [0.93,<br>1.42]   | <0.001         | 0.88                 | Large increase; online shopping experience improved substantially.                                                                          |

### 5.1.2 Comparability and bias diagnostics

Table 3b presents the comparability and bias diagnostic results, highlighting demographic differences across the two periods and providing additional checks to assess whether the samples were sufficiently comparable for subsequent analysis.

**Table 3b** Comparability, bias diagnostics, and interpretation

| <i>Test</i>            | <i>Results</i>                                                                                                                                                                                                                                                 | <i>Interpretation</i>                                                                                                                                     |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement invariance | Configural: $\chi^2$ (538) = 1,289.05, CFI = 0.904, RMSEA = 0.052. Metric: $\chi^2$ (559) = 1,331.87, CFI = 0.901, RMSEA = 0.051. $\Delta$ CFI = 0.003.                                                                                                        | Metric invariance is supported using the practical $\Delta$ CFI rule, so cross-wave path comparisons are reasonable.                                      |
| Common method bias     | Harman first factor = 40.95% (pre) and 36.68% (post). Max VIF = 1.76 (pre) and 2.11 (post).                                                                                                                                                                    | No strong indication of severe common-method bias from these diagnostics.                                                                                 |
| Non-response bias      | The datasets distinguished between the pre-COVID (2019) and post-COVID (2022) data collection periods, and no incomplete responses were observed in the final samples. However, no within-wave response-order or detailed time-stamp information was retained. | No item-level missingness was observed, but a formal early-versus-late non-response bias test could not be conducted retrospectively from the data alone. |

Table 3b provides evidence regarding the comparability and credibility of the two cross-sectional samples. First, the configural and metric invariance results indicate that the harmonised retained-item solution operated similarly across the two phases, with the change in comparative fit index remaining within acceptable practical limits. This supports cautious comparison of structural relations across waves. Secondly, the Harman’s single-factor and full collinearity VIF diagnostics do not indicate severe common-method bias, thereby strengthening confidence that the observed associations are not primarily artefacts of method variance. However, a full non-response bias test could not be conducted retrospectively because the archived datasets did not contain response order or timestamp variables. Taken together, these diagnostics support the overall robustness of the analysis, while also justifying a transparent limitation statement regarding retrospective bias assessment and the shift in survey administration mode between phases.

5.1.3 Weak-item diagnostics

Table 3c presents the weak-item diagnostic results, highlighting items with unstable or weaker performance across the two periods and identifying indicators that warranted closer scrutiny in the measurement model assessment.

**Table 3c** Weak-item diagnostics

| <i>Scale</i> | <i>Item</i>       | <i>Phase</i>                     | <i>Diagnostic pattern</i>                                                                                        |
|--------------|-------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------|
| SWR          | OVT2              | Pre and post                     | Low corrected item-total correlation (pre = 0.390; post = 0.275) and alpha improves if removed.                  |
| OCC          | OCC5/<br>OCDCC5   | Primarily post                   | Weakest OCC item later wave (post-item-total = 0.186; alpha improves notably if dropped).                        |
| OSEH         | OSH11/<br>OSSEH11 | Pre and post,<br>especially post | Very poor performance (pre-item-total = 0.045; post-item-total = -0.136) and alpha improves strongly if removed. |

Table 3c shows that a small number of items were psychometrically unstable across the two phases and therefore required transparent reporting. Specifically, OVT2 displayed weak and inconsistent item-total relationships across both waves, OCC5 performed poorly particularly in the later wave, and OSEH item 11 showed the clearest evidence of malfunction, including extremely weak or negative item-total statistics. These patterns indicate that the retained common-item solution is more stable than the original unrestricted item set.

5.1.4 Model fit assessment

Both phases demonstrated acceptable model fit (Table 3d).

**Table 3d** Model fit indices for both phases

| <i>Fit index</i>                         | <i>Phase 1 (2019)</i> | <i>Phase 2 (2022)</i> |
|------------------------------------------|-----------------------|-----------------------|
| Normed chi-square ( $\chi^2/\text{df}$ ) | 3.21                  | 3.50                  |
| Comparative Fit Index (CFI)              | 0.91                  | 0.89                  |
| Tucker-Lewis Index (TLI)                 | 0.92                  | 0.90                  |
| Root mean square error (RMSEA)           | 0.06                  | 0.05                  |

These indices meet recommended thresholds ( $\chi^2/df < 5.0$ , CFI  $> 0.90$ , TLI  $> 0.90$ , RMSEA  $< 0.08$ ; Hair et al., 2019), confirming adequate model fit for both time points.

### 5.1.5 Reliability assessment

Construct reliability, assessed through Cronbach's alpha and composite reliability, exceeded recommended thresholds ( $\alpha > 0.70$ , CR  $> 0.70$ ) across all constructs and both phases (Tables 4–5), confirming internal consistency.

**Table 4** Measurement model results – phase 1 (pre-COVID, 2019)

| Scale items                                 |                                                                                                                                  | Factor loadings | Cronbach's alpha | Construct reliability | AVE  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|-----------------------|------|
| Online davviness (OS)                       |                                                                                                                                  |                 | 0.90             | 0.92                  | 0.74 |
| IS1                                         | I am confident in my ability to assess the quality of a website                                                                  | 0.84            |                  |                       |      |
| IS2                                         | I consider myself to be quite knowledgeable about websites in general                                                            | 0.85            |                  |                       |      |
| IS3                                         | I am happy to buy fashion products online                                                                                        | 0.83            |                  |                       |      |
| IS4                                         | I know where to find things on the internet                                                                                      | 0.85            |                  |                       |      |
| IS5                                         | I know how to compare fashion products online                                                                                    | 0.91            |                  |                       |      |
| Showrooming (SWR)                           |                                                                                                                                  |                 | 0.90             | 0.93                  | 0.71 |
| OVT1                                        | Before buying online, I spent a lot of time looking in physical stores                                                           | 0.79            |                  |                       |      |
| OVT2                                        | Before buying online, I only visited one physical store                                                                          | 0.60            |                  |                       |      |
| OVT3                                        | I went to lots of different physical stores to find out about the product before buying it online                                | 0.88            |                  |                       |      |
| OVT4                                        | I compared the price of the product at several different physical stores before buying it online                                 | 0.94            |                  |                       |      |
| OVT5                                        | I used physical stores to research all of the information that I needed about the product before buying it online                | 0.90            |                  |                       |      |
| OVT6                                        | Before buying online, I experienced the product in several different physical stores                                             | 0.93            |                  |                       |      |
| Online co-destruction and co-creation (OCC) |                                                                                                                                  |                 | 0.82             | 0.86                  | 0.57 |
| OCC1                                        | After looking in physical stores, I searched for more product information from different online stores before buying the product | 0.89            |                  |                       |      |
| OCC2                                        | I compared the advice from the physical stores at several online stores before buying the product                                | 0.83            |                  |                       |      |

**Table 4** Measurement model results – phase 1 (pre-COVID, 2019) (continued)

| <i>Scale items</i>                                                                                                                                 | <i>Factor loadings</i> | <i>Cronbach's alpha</i> | <i>Construct reliability</i> | <i>AVE</i> |
|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------|------------------------------|------------|
| Online co-destruction and co-creation (OCC)                                                                                                        |                        | 0.82                    | 0.86                         | 0.57       |
| OCC3 After looking in physical stores, I checked out the product on several online websites before I bought it                                     | 0.88                   |                         |                              |            |
| OCC4 After looking in physical stores, I bought the product from one of the first websites that I visited                                          | 0.61                   |                         |                              |            |
| OCC5 After looking in physical stores, I did not search for further information online before buying the product online                            | 0.66                   |                         |                              |            |
| OCC6 After comparing the price of the product at different physical stores, I compared the price at a number of physical stores before I bought it | 0.77                   |                         |                              |            |
| Online shopping experience (OSEH)                                                                                                                  |                        | 0.93                    | 0.94                         | 0.67       |
| OSH1 This shopping experience was truly a joy                                                                                                      | 0.85                   |                         |                              |            |
| OSH2 I continued to shop, not because I had to, but because I wanted to                                                                            | 0.87                   |                         |                              |            |
| OSH3 This shopping experience truly felt like an escape                                                                                            | 0.86                   |                         |                              |            |
| OSH4 Compared to other things I could have done, the time spent shopping was truly enjoyable                                                       | 0.86                   |                         |                              |            |
| OSH5 I enjoyed being occupied with exciting new products                                                                                           | 0.83                   |                         |                              |            |
| OSH6 I enjoyed this shopping experience for its own sake, not just for the items I may have purchased                                              | 0.86                   |                         |                              |            |
| OSH7 I had a good time because I was able to act on the spur of the moment                                                                         | 0.86                   |                         |                              |            |
| OSH8 During the online shopping, I felt the excitement of the hunt                                                                                 | 0.89                   |                         |                              |            |
| OSH9 While shopping, I was able to forget my problems                                                                                              | 0.80                   |                         |                              |            |
| OSH10 While shopping, I felt a sense of adventure                                                                                                  | 0.87                   |                         |                              |            |
| OSH11 This shopping experience was not very nice                                                                                                   | 0.83                   |                         |                              |            |
| <i>Model fit</i>                                                                                                                                   |                        |                         |                              |            |
| Normed chi-square ( $\chi^2/df$ )                                                                                                                  |                        | 3.21                    |                              |            |
| Comparative Fit Index (CFI)                                                                                                                        |                        | 0.91                    |                              |            |
| Tucker-Lewis' Index (TLI)                                                                                                                          |                        | 0.92                    |                              |            |
| Root mean square error of approximation (RMSEA)                                                                                                    |                        | 0.06                    |                              |            |

**Table 5** Measurement model results – phase 2 (post-COVID, 2022)

| <i>Construct</i>                                                 | <i># items</i> | <i>Cronbach's <math>\alpha</math></i> | <i>Construct reliability</i> | <i>AVE</i> |
|------------------------------------------------------------------|----------------|---------------------------------------|------------------------------|------------|
| Online savviness (OS)                                            | 5              | 0.83                                  | 0.86                         | 0.54       |
| Showrooming (SWR)                                                | 5              | 0.80                                  | 0.82                         | 0.51       |
| Online co-creation/co-destruction (OCC)                          | 5              | 0.75                                  | 0.79                         | 0.50       |
| Online shopping experience (OSEH)                                | 10             | 0.81                                  | 0.85                         | 0.51       |
| <i>Model fit</i>                                                 |                |                                       |                              |            |
| $\chi^2/\text{df} = 3.50$ ; CFI = 0.89; TLI = 0.90; RMSEA = 0.05 |                |                                       |                              |            |

Notes: Table 5 follows the same structure as Table 4, with phase 2 data. Due to length, key construct summaries are shown.

### 5.1.6 Validity assessment

Convergent validity, evaluated through standardised factor loadings and average variance extracted (AVE), demonstrated satisfactory results:

- All factor loadings exceeded 0.70 (with minor exceptions).
- AVE values surpassed 0.50 for most constructs.
- Results support convergent validity per Hair et al. (2019) guidelines.

Normal distribution of data and appropriate sample sizes support measurement model validity, enabling structural model assessment.

## 5.2 Structural model results and hypothesis testing

Structural equation modelling examined hypothesised relationships across both time points. Tables 6–8 present detailed results, with Figure 3 illustrating path coefficients.

### 5.2.1 Phase 1 (2019): nascent digital adoption

During this earlier phase, representing nascent omnichannel behaviour, Table 6 details this phase's detailed results.

**Table 6** Structural model results – phase 1 (pre-COVID, 2019)

| <i>Hypothesis</i>                                                | <i>Beta (<math>\beta</math>)</i> | <i>t-value</i> | <i>p-value</i> | <i>R<sup>2</sup></i> | <i>Conclusion</i> |
|------------------------------------------------------------------|----------------------------------|----------------|----------------|----------------------|-------------------|
| H1 OS $\rightarrow$ SWR                                          | 0.23                             | 3.95           | 0.00           | 0.53                 | Supported         |
| H2 OS $\rightarrow$ OCC                                          | 0.20                             | 5.15           | 0.01           |                      | Supported         |
| H3 OS $\rightarrow$ OSEH                                         | 0.37                             | 8.29           | 0.00           |                      | Supported         |
| H4 SWR $\rightarrow$ OCC                                         | 0.80                             | 24.50          | 0.00           | 0.75                 | Supported         |
| H5 SWR $\rightarrow$ OSEH                                        | −0.28                            | −2.80          | 0.01           |                      | Supported         |
| H6 OCC $\rightarrow$ OSEH                                        | 0.67                             | 6.42           | 0.00           | 0.66                 | Supported         |
| <i>Model fit</i>                                                 |                                  |                |                |                      |                   |
| $\chi^2/\text{df} = 3.11$ ; CFI = 0.99; TLI = 0.99; RMSEA = 0.05 |                                  |                |                |                      |                   |

Notes: OS = online savviness, SWR = showrooming, OCC = online co-creation/co-destruction, and OSEH = online shopping experience.

### 5.2.2 Phase 2 (2022): accelerated digital adoption

Following rapid digital transformation, Table 7 details this phase's detailed results.

**Table 7** Structural model results – phase 2 (post-COVID, 2022)

| <i>Hypothesis</i>                                                | <i>Beta (<math>\beta</math>)</i> | <i>t-value</i> | <i>p-value</i> | <i>R<sup>2</sup></i> | <i>Conclusion</i> |
|------------------------------------------------------------------|----------------------------------|----------------|----------------|----------------------|-------------------|
| H1 OS $\rightarrow$ SWR                                          | 0.49                             | 8.70           | 0.00           | 0.58                 | Supported         |
| H2 OS $\rightarrow$ OCC                                          | 0.29                             | 5.77           | 0.00           |                      | Supported         |
| H3 OS $\rightarrow$ OSEH                                         | 0.52                             | 7.18           | 0.00           |                      | Supported         |
| H4 SWR $\rightarrow$ OCC                                         | 0.70                             | 11.70          | 0.00           | 0.79                 | Supported         |
| H5 SWR $\rightarrow$ OSEH                                        | 0.20                             | 1.60           | 0.11           |                      | Not supported     |
| H6 OCC $\rightarrow$ OSEH                                        | 0.14                             | 0.99           | 0.32           | 0.45                 | Not supported     |
| <i>Model fit</i>                                                 |                                  |                |                |                      |                   |
| $\chi^2/\text{df} = 3.02$ ; CFI = 0.98; TLI = 0.98; RMSEA = 0.03 |                                  |                |                |                      |                   |

Notes: OS = online savviness, SWR = showrooming, OCC = online co-creation/co-destruction, and OSEH = online shopping experience.

The apparent difference between the phase 2 measurement model fit (CFI = 0.89) and the later structural model fit (CFI = 0.98) is not necessarily contradictory, as the structural model was based on a revised retained-item solution and the removal of weaker items. This resulted in a more refined model specification and improved overall fit.

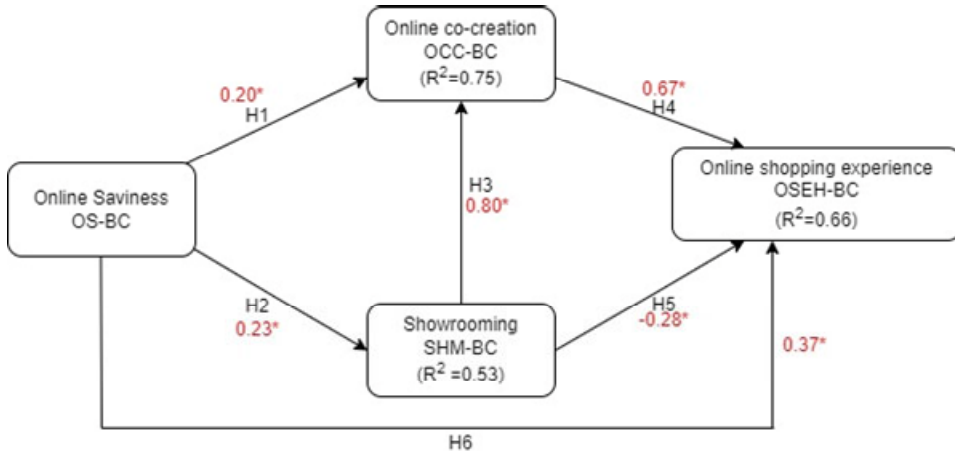
### 5.2.3 Cross-wave structural path differences (robustness analysis)

To assess whether the structural relationships differed meaningfully across the two time points, Table 8 presents the cross-wave structural path differences based on the robustness analysis.

**Table 8** Cross-wave structural path differences

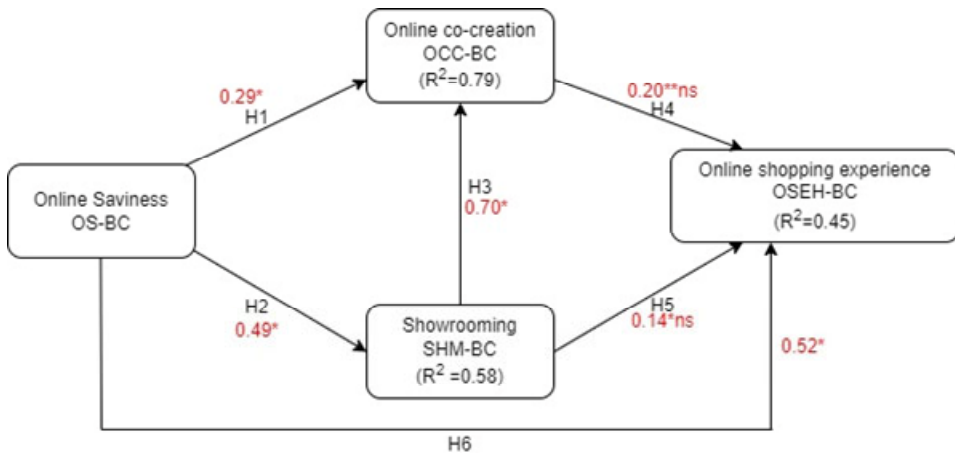
| <i>Path</i>            | <i>Pre-std. est. (phase 1 2019)</i> | <i>Post-std. est. (phase 2 2022)</i> | <i>z-diff</i> | <i>p-diff</i> | <i>Interpretation</i>                                                  |
|------------------------|-------------------------------------|--------------------------------------|---------------|---------------|------------------------------------------------------------------------|
| OS $\rightarrow$ SWR   | 0.222                               | 0.450                                | 2.22          | 0.027         | Significantly stronger in phase 2.                                     |
| OS $\rightarrow$ OCC   | 0.199                               | 0.268                                | 0.11          | 0.914         | No meaningful cross-wave change.                                       |
| SWR $\rightarrow$ OCC  | 0.784                               | 0.709                                | -2.51         | 0.012         | Still strong, but significantly weaker in phase 2.                     |
| OS $\rightarrow$ OSEH  | 0.390                               | 0.526                                | 0.80          | 0.426         | Positive in both phases; no significant difference.                    |
| SWR $\rightarrow$ OSEH | -0.167                              | 0.158                                | 1.87          | 0.061         | Direction changed from negative to positive; marginal difference only. |
| OCC $\rightarrow$ OSEH | 0.507                               | 0.169                                | -1.46         | 0.143         | Large substantive weakening; difference test weaker than expected.     |

**Figure 3** Structural model with path coefficients for the pre-COVID phase (see online version for colours)



Source: Researchers' own

**Figure 4** Structural model with path coefficients for the post-COVID phase (see online version for colours)



Source: Researchers' own

Table 8 indicates that some structural relationships remained stable across phases, whereas others changed meaningfully during digital transformation. The most statistically robust difference was the strengthening of the path from online saviness to showrooming behaviour, suggesting that digitally capable consumers became increasingly likely to engage in cross-channel search and evaluation activity in the post-COVID environment. At the same time, the path from OCC to OSEH weakened materially and became non-significant in the later wave, implying that cross-channel interaction no longer translated into online shopping experience in the same way as before. The SWR to OSEH relationship changed direction from negative to positive, which is substantively consistent with the argument that showrooming became more

normalised and less disruptive in the later market context; however, because this difference was only marginally significant, it should be interpreted cautiously. Overall, the structural comparison provides directional support for behavioural normalisation during digital transformation, while indicating that the strongest statistical evidence lies in the OS to SWR and OCC to OSEH pathways.

### 5.3 Summary of key findings

Table 9 synthesises relationship changes across phases, highlighting critical evolutions.

**Table 9** Comparative summary of relationship changes

| <i>Hypothesis</i>         | <i>Phase 1<br/>(<math>\beta</math>)</i> | <i>Phase 2<br/>(<math>\beta</math>)</i> | <i>Change</i>             | <i>Interpretation</i>     |
|---------------------------|-----------------------------------------|-----------------------------------------|---------------------------|---------------------------|
| H1 OS $\rightarrow$ SWR   | 0.23***                                 | 0.49***                                 | +113%                     | Substantial strengthening |
| H2 OS $\rightarrow$ OCC   | 0.20*                                   | 0.29***                                 | +45%                      | Moderate strengthening    |
| H3 OS $\rightarrow$ OSEH  | 0.37***                                 | 0.52***                                 | +41%                      | Moderate strengthening    |
| H4 SWR $\rightarrow$ OCC  | 0.80***                                 | 0.70***                                 | -13%                      | Slight weakening          |
| H5 SWR $\rightarrow$ OSEH | -0.28*                                  | 0.20 <sup>ns</sup>                      | Negative $\rightarrow$ NS | Normalisation             |
| H6 OCC $\rightarrow$ OSEH | 0.67***                                 | 0.14 <sup>ns</sup>                      | Strong $\rightarrow$ NS   | Normalisation             |

Notes: \*\*\* $p < 0.001$ , \* $p < 0.05$ ; <sup>ns</sup> = not significant, OS = online savviness, SWR = showrooming, OCC = online co-creation/co-destruction, and OSEH = online shopping experience.

These results reveal three critical patterns:

- *Online savviness intensification*: All online savviness effects strengthened substantially, particularly for showrooming (+113%), indicating the increasing importance of digital capabilities.
- *Showrooming normalisation*: Showrooming's negative impact on shopping experience disappeared ( $\beta$ : -0.28  $\rightarrow$  0.20<sup>ns</sup>), suggesting behavioural acceptance.
- *Experience decoupling*: Co-creation/co-destruction effects on experience diminished ( $\beta$ : 0.67  $\rightarrow$  0.14<sup>ns</sup>), potentially indicating that these behaviours became routine rather than exceptional.

## 6 Discussion

This section interprets the findings through theoretical and practical lenses, examining the implications for understanding the evolution of omnichannel behaviour in emerging markets and offering strategic guidance for fashion retailers navigating digital transformation.

## 6.1 Theoretical implications

### 6.1.1 The intensification of online savviness effects

The dramatic strengthening of online savviness effects, particularly for showrooming behaviour ( $\beta$ : 0.23  $\rightarrow$  0.49, representing a 113% increase), provides critical insights into digital transformation dynamics in emerging markets. This finding suggests that as customers progress along digital adoption curves, their capabilities increasingly drive omnichannel behaviours rather than merely enabling them.

During phase 1, moderate online savviness modestly predicted showrooming, indicating that basic digital skills enabled some customers to execute cross-channel shopping. However, by phase 2, online savviness – while only modestly higher in mean level – much more strongly predicted showrooming, suggesting that sophisticated digital capabilities empower customers to strategically leverage multiple channels.

This pattern aligns with technology adoption theories, which suggest that as innovations mature, skilled users extract increasing value from advanced capabilities (Orr, 2003). In emerging market contexts experiencing compressed adoption, this effect intensifies; customers rapidly progress from novice to expert users, with showrooming behaviour accelerating as capabilities develop.

These findings are consistent with an extension of SDL in which customer competencies (operant resources) become increasingly associated with value co-creation as markets mature. During the nascent adoption phase, environmental constraints appear to limit the effects of expertise. As constraints diminish (improved infrastructure, better website design, streamlined processes), the association between savviness and co-creation strengthens, enabling more sophisticated value co-creation strategies.

### 6.1.2 The normalisation of showrooming behaviour

The most theoretically notable pattern is the shift in the showrooming-experience association: a significant negative relationship in phase 1 ( $\beta = -0.28$ ,  $p = 0.01$ ) that was no longer significant in phase 2 ( $\beta = 0.20$ ,  $p = 0.11$ ). This pattern is consistent with a process of showrooming normalisation – a potential transition from disruptive, value-destroying behaviour to accepted, routine omnichannel practice—though the repeated cross-sectional design means individual-level change cannot be directly inferred from these data.

During phase 1, showrooming had a negative impact on the online shopping experience, suggesting that customers perceived cross-channel shopping as problematic and created friction between physical and digital touchpoints. This negative relationship indicates that customers who experience showrooming experience lower satisfaction with their online shopping, potentially due to:

- Perceived channel disconnects highlighting integration failures.
- Cognitive dissonance from using stores for evaluation while purchasing elsewhere.
- Frustration with needing to visit stores before feeling confident in online purchases.
- Guilt or ethical concerns about extracting store value without reciprocating.

However, by phase 2, this negative relationship disappeared entirely. Showrooming neither harmed nor enhanced the shopping experience, indicating behavioural

normalisation. Customers no longer perceive showrooming as problematic but rather as expected, routine omnichannel behaviour. This normalisation suggests several underlying shifts:

- *Retailer adaptation:* Fashion retailers are increasingly recognising the showrooming reality and adapting their strategies accordingly, reducing customer friction through improved omnichannel integration, transparent pricing, and embracing the role of physical stores in online sales funnels.
- *Customer acceptance:* Customers reframe showrooming from a problematic to a strategic behaviour, viewing multi-channel shopping as smart purchasing rather than retailer exploitation.
- *Channel integration:* Improved integration between physical and online channels reduces friction, making cross-channel shopping seamless rather than disjointed.
- *Theoretical contribution to SDL:* This finding is consistent with a contextualised extension of SDL in which the characterisation of behaviours as co-creative versus co-destructive is conditioned on institutional context and market maturity rather than being fixed. In the earlier sample, showrooming appeared to exhibit co-destructive characteristics (extracting value without reciprocating); in the later sample, the association had become neutral, which is consistent with both retailer and customer adaptation as markets mature. This challenges static conceptualisations of co-destruction and suggests that value outcomes may be dynamically shaped by ecosystem development, though establishing the underlying causal mechanism requires longitudinal panel data beyond the scope of this study.

### *6.1.3 The decoupling of co-creation/co-destruction from experience*

The significant positive relationship between co-creation/co-destruction and the shopping experience in phase 1 ( $\beta = 0.67$ ,  $p < 0.001$ ) became non-significant in phase 2 ( $\beta = 0.14$ ,  $p = 0.32$ ), suggesting that the experience decoupled as behaviours normalised.

During phase 1, customers who actively engaged in co-creation/co-destruction activities (such as conducting extensive product searches, price comparisons, reading reviews, and gathering information) experienced substantially enhanced shopping experiences. This strong relationship indicates that active participation in information-intensive shopping created positive experiences, possibly through:

- Empowerment from comprehensive information access.
- Satisfaction from thorough evaluation before purchase decisions.
- Enjoyment of the discovery process across multiple online sources.
- Confidence from extensive due diligence.

However, by phase 2, this relationship disappeared. Co-creation/co-destruction activities no longer significantly influenced the experience, suggesting that these behaviours had become routine, expected components of online shopping rather than notable, experience-enhancing activities.

This evolution parallels research on the distinction between routine and exceptional experiences. Novel activities elicit strong experiential responses (positive or negative),

but as behaviours become normalised, their experiential impact diminishes, as they transition from foreground experiences to background expectations (Verhoef et al., 2009).

*Implications for experience theory:* this finding suggests that customer experience drivers evolve as markets mature. During the nascent adoption phase, active participation fosters positive experiences. As behaviours normalise, different factors (convenience, speed, and personalisation) may drive experience quality. Retailers must continuously identify emerging experience drivers rather than relying on previously effective strategies.

## 6.2 Practical implications for emerging market fashion retailers

Four empirically grounded priorities emerge from the structural model results. Each is anchored to one or more specific path coefficients from Tables 6 and 7 and is targeted at the phase of digital market maturity where it is most actionable.

- *Recommendation 1 (phase 2 – accelerated-adoption markets) – actively facilitate omnichannel integration:*

The OS → SWR path strengthened from  $\beta = 0.23$  in phase 1 to  $\beta = 0.49$  in phase 2 (+113%), indicating that a one-unit increase in online savviness is associated with substantially greater showrooming intensity once a market crosses the digital adoption threshold. Critically, the SWR → OSEH path that was significantly negative in phase 1 ( $\beta = -0.28$ ,  $p < 0.05$ ) became non-significant in phase 2 ( $\beta = 0.20$ ,  $p = 0.11$ ), signalling that showrooming no longer damages the shopping experience in a more digitally mature market. Retailers operating in markets where internet penetration and mobile commerce adoption have accelerated should therefore treat showrooming as a normalised cross-channel behaviour and invest in its facilitation: deploying in-store QR codes linking to enriched online product pages, enabling unified inventory and price visibility across channels, and training staff to support customers in completing cross-channel journeys within the retailer's own ecosystem. Attempting to obstruct showrooming in phase 2 markets carries no experiential benefit and risks misallocating defensive investment.

- *Recommendation 2 (phase 1 onwards – nascent-adoption markets, with sustained relevance in phase 2) – build consumer digital capability as a direct experience investment:*

Online savviness directly and significantly improves the shopping experience in both phases, with the OS → OSEH path strengthening from  $\beta = 0.37$  (phase 1) to  $\beta = 0.52$  (phase 2), a 41% increase (both  $p < 0.001$ ). This confirms that consumer digital capability is not merely a precondition for showrooming – it is independently and increasingly associated with better shopping outcomes, regardless of channel behaviour. Fashion retailers in nascent-adoption emerging markets should therefore prioritise customer-facing digital literacy as a direct experience-enhancement strategy: in-store demonstration stations where in-store staff assist first-time online purchasers, app-based onboarding that reduces navigation friction, and guided online purchasing sessions conducted in physical stores. This investment yields measurable

experiential returns from phase 1 onwards, before showrooming normalisation occurs, and its payoff intensifies as the market matures into phase 2.

- *Recommendation 3 (phase 1–phase 2 transition – markets approaching the showrooming inflection) – reconfigure the physical store role ahead of experiential neutralisation:*

The shift in the SWR → OSEH path from  $\beta = -0.28$  (phase 1,  $p < 0.05$ ) to  $\beta = 0.20$  (phase 2,  $p = 0.11$ , non-significant) constitutes the empirical inflection point at which showrooming transitions from a value co-destructive act – actively damaging the shopping experience – to a neutral component of routine omnichannel behaviour. Retailers whose markets are approaching this inflection should reconfigure the physical store's strategic role before the transition occurs: moving from a transaction venue harmed by showroomers to a brand experience and product discovery centre whose value is independent of whether the in-store visit converts to an immediate purchase. In practice, this means redirecting physical store investment from sales-conversion infrastructure toward experiential features – expert fitting and styling services, tactile product assortment differentiated from the online range, and in-store events – that generate brand affinity and influence subsequent online purchases attributable to the physical visit.

- *Recommendation 4 (phase 2 – accelerated-adoption markets, anticipating phase 3) – innovate co-creation mechanisms before experiential saturation:*

The most structurally consequential change across the two phases is the collapse of the OCC → OSEH path from  $\beta = 0.67$  (phase 1,  $p < 0.001$ ) to  $\beta = 0.14$  (phase 2,  $p = 0.32$ , non-significant) – a 79% reduction in the experiential leverage of co-creation and co-destruction behaviours. Information-seeking, cross-channel comparison, and knowledge-sharing activities that generated meaningful experiential returns in phase 1 have, by phase 2, become so routine that they no longer differentiate the experience. For retailers in accelerated-adoption markets, this is a leading indicator: co-creation infrastructure currently operating as a differentiator will experience declining experiential returns as the market matures. Retailers should therefore begin investing ahead of this saturation point in next-generation co-creation capabilities – community-based styling and fit-feedback platforms, participatory product development mechanisms, and AI-driven personalisation – so that differentiated experiential value is available to replace the eroding returns from current co-creation practices.

### 6.3 *Strategic framework for managing showrooming evolution*

Synthesising these findings, we propose a strategic framework for fashion retailers managing showrooming evolution across digital transformation phases:

#### 1 *Phase 1 – nascent adoption (showrooming as disruption):*

- *Characteristic:* Showrooming negatively impacts experience; customers perceive channel conflicts.
- *Strategy:* Basic omnichannel integration; transparent pricing; staff education about online offerings.

- *Focus:* Reduce friction; begin accepting online as a complementary channel.
- 2 *Phase 2 – accelerating adoption (showrooming normalisation):*
    - *Characteristic:* Showrooming neutral to experience; customers view cross-channel shopping as routine.
    - *Strategy:* Advanced integration; physical stores as experience centres; unified loyalty programs.
    - *Focus:* Leverage showrooming insights; optimise omnichannel journeys.
  - 3 *Phase 3 – mature adoption (showrooming as strategy) [predicted]:*
    - *Characteristic:* Showrooming potentially enhances experience; customers expect seamless integration.
    - *Strategy:* Proactive showrooming facilitation; within-retailer cross-channel journeys optimised.
    - *Focus:* Competitive differentiation through superior omnichannel experiences.

This framework guides retailers in adapting strategies to match market maturity while anticipating future evolution.

#### 6.4 Emerging market-specific considerations

These findings particularly benefit emerging market retailers facing unique institutional constraints:

##### 6.4.1 Addressing infrastructure limitations

Emerging markets' infrastructural challenges shape showrooming differently than in developed markets:

- 1 *Payment system constraints:* Limited credit card penetration and banking access create friction in online transactions. Recommendations:
  - Expand payment options (mobile money, cash on delivery, instalment plans).
  - Partner with local payment providers.
  - Offer in-store payment for online orders (click-and-collect with store payment).
- 2 *Logistics challenges:* Unreliable postal services and high shipping costs inhibit online purchases. Recommendations:
  - Develop proprietary delivery networks for major urban areas.
  - Establish convenient pickup points (stores, lockers, partner locations).
  - Offer free shipping thresholds incentivising larger purchases.
  - Provide realistic delivery estimates managing customer expectations.
- 3 *Data access limitations:* Expensive or limited mobile data constrains online browsing. Recommendations:
  - Optimise websites for low-bandwidth environments (lightweight pages, efficient image compression).

- Offer WiFi in physical stores, enabling online browsing.
- Develop data-efficient mobile apps providing core functionality with minimal data consumption.

#### 6.4.2 *Building trust in online retail*

Emerging market customers often exhibit lower online retail trust due to fraud risks and limited consumer protection. Recommendations:

- *Transparent policies:* Clear return policies, money-back guarantees, secure payment assurances.
- *Social proof:* Prominent customer reviews, user-generated content, testimonials.
- *Customer service:* Accessible support via phone, WhatsApp, e-mail addressing concerns promptly.
- *Security signals:* Display security certifications, payment protections, privacy commitments.

Building trust converts showrooming into online purchases rather than losing sales to competitors.

#### 6.4.3 *Leveraging cultural factors*

Emerging markets often maintain stronger social shopping cultures than individualistic developed markets. Recommendations:

- *Social shopping features:* Group ordering, shared wish lists, social recommendations.
- *In-store events:* Fashion shows, styling workshops, community gatherings, and maintaining social connections.
- *Influencer partnerships:* Collaborate with local fashion influencers reflecting cultural aesthetics.
- *Community engagement:* Support local causes, employ locally, reflect cultural values.

These culturally-attuned strategies recognise emerging market distinctiveness rather than applying generic developed market approaches.

## 7 **Conclusions**

This study investigated the evolution of showrooming behaviour in South Africa's fashion retail sector across two critical time points (2019 and 2022), representing distinct phases of digital maturity. Using repeated cross-sectional structural equation modelling, the research examined how relationships between online savviness, showrooming behaviour, value co-creation and co-destruction, and shopping experience differed across the two samples during a period of rapid digital adoption.

The findings are consistent with a market-level shift: across the two samples, showrooming appeared to move from a disruptive behaviour negatively associated with customer experience to a normalised omnichannel practice with no significant adverse effects. Online savviness was statistically significantly higher, though with a modest effect size ( $d = 0.30$ ), in the second sample, particularly in its association with showrooming, while co-creation and co-destruction behaviours appeared to move from experience-enhancing to routine, background activities. These patterns are consistent with the view that emerging markets experience compressed digital transformation, with behavioural normalisation occurring within years rather than decades – though the repeated cross-sectional design captures market-level differences between samples rather than individual-level change over time.

The study makes three key theoretical contributions. First, it provides cross-sectional evidence consistent with the view that the implications of showrooming vary with market maturity, challenging static characterisations of the behaviour as inherently problematic. Second, the findings are aligned with a contextualised extension of SDL in which value co-creation and co-destruction are not fixed behavioural outcomes but conditioned on institutional context; in the earlier sample showrooming appeared predominantly co-destructive, while the later sample suggests a shift toward neutrality. Third, the pattern of results is consistent with accelerated digital adoption trajectories unique to emerging markets, suggesting that theory derived from developed-market contexts may require adaptation to explain retail behaviour under conditions of compressed transformation.

Practically, the findings provide strategic guidance for fashion retailers in emerging markets. Rather than resisting showrooming, retailers should actively facilitate omnichannel integration through mechanisms such as QR-enabled product displays, digital kiosks, mobile app functionality, and staff training that supports integrated shopping journeys. Physical stores should be re-positioned as omnichannel touchpoints that function as experience centres, product discovery hubs, and fulfilment nodes. As online shopping becomes routine, continued differentiation will depend on advanced co-creation initiatives, personalisation, and superior digital functionality. Retail strategies must therefore be agile and forward-looking, transforming behavioural shifts into competitive advantage.

Several limitations must be acknowledged. The methodological shift from paper-based to online data collection may introduce comparability concerns, and non-probability sampling constrains generalisability. Additionally, the single-market focus limits wider inference. Future research should extend repeated cross-sectional analyses across multiple emerging markets and retail categories, apply consistent methods to strengthen causal claims, and explore whether showrooming evolves into experience-enhancing behaviour as predicted. Investigating strategies that encourage within-retailer showrooming while reducing cross-retailer migration represents a valuable direction for further study.

Overall, the findings highlight that retail behaviours previously considered disruptive become normalised as markets mature, reinforcing the need for dynamic theoretical and strategic perspectives in rapidly digitising environments.

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All listed authors have read and approved the manuscript. Professor Struweg, Dr. Frazer and Dr. Ledikwe conceived and designed the study and carried out the data collection, analysis and interpretation. Dr. Frazer and Professor Struweg drafted the manuscript, supervised the project, critically revised the text for intellectual content and completed the final editing. All authors have endorsed the version to be published and accept responsibility for every aspect of the work.

## Authors' contributions

Credit: Dr. Frazer: investigation, methodology, writing – original draft; Professor I. Struweg: conceptualisation, data curation, formal analysis, writing – review and editing; Dr. A. Ledikwe: conceptualisation, data curation, formal analysis, writing – review and editing.

## Declarations

The authors declare no financial, personal, or professional conflicts of interest related to this work.

The article is entirely original; it has neither been published previously nor submitted concurrently to any other outlet.

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