A Literature Review on Research Topic Clusters, Methodological Evolution, and Thematic Shifts in Consumer Behavior Studies from 2020 to 2025

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Abstract

This article examines the structural turn in consumer behaviour research from 2020 to 2025 in the context of exogenous shocks and accelerating digitalisation. It argues that consumer decision making has shifted from choices grounded in relatively stable preferences to dynamic adjustment shaped jointly by shocks, platform technologies, and governance rules. This shift makes it necessary to synthesise a rapidly expanding yet difficult to cumulate body of knowledge through a systematic review. Guided by a topic clustering approach, the review identifies seven major research streams in the past five years: (1) Risk and adaptation in crisis and pandemic contexts. (2) Multi touchpoint journeys, experience management, and personalisation mechanisms. (3) AI and algorithm driven human machine interaction, including acceptance and resistance. (4) The effects of socialised content such as livestreaming and short videos on trust and conversion. (5) The influence of immersive technologies such as augmented reality on decision making and purchase intention. (6) Mechanisms of sustainable consumption and circular economy adoption. (7) Governance and intervention pathways addressing consumer wellbeing and the risks of digital manipulation. The review further highlights three core limitations: a lack of interoperable conceptual interfaces across theoretical chains, an overreliance on cross-sectional correlational designs with insufficient causal identification and temporal dynamic evidence. And an underdeveloped explanation of the institutionalisation process from shock to normality, population heterogeneity, and the consequential linking purchase, resistance, exit, and wellbeing outcomes. Building on these gaps, future research should take two core actions. First, it should treat information structures and governance structures as upstream variables to integrate mechanisms across streams, and strengthen evidence bases through longitudinal data, observed behavioural data, and quasi-natural experiments. Second, it should incorporate consumer protection and wellbeing assessment into an overarching explanatory framework for platform-mediated consumption environments. These steps will improve the theoretical cumulativeness and policy relevance of subsequent studies.

Keywords

Consumer behaviour, Algorithmic governance, Immersive technologies, Sustainable consumption and circular economy, Consumer wellbeing, Dark patterns

Introduction

Since 2020, consumer behaviour research has intensified rapidly in a relatively short period, fundamentally because the generative mechanism of consumer decision making has changed. Consumers are no longer choosing primarily within a relatively stable preference structure. Instead, they continuously adjust their behaviour within an environment jointly shaped by exogenous shocks, platform technologies, and governance rules. This shift positions consumer behaviour as a critical analytical entry point for understanding market functioning and broader societal consequences. First, the pandemic and crisis contexts pushed uncertainty and constraints to the extreme. Lockdowns, supply chain disruptions, and heightened risk perception altered channel and category choices, and redirected scholarship from stable preferences to examining risk perception, information environments, affective stress responses, and adaptation mechanisms. This stream also argues that certain consumption habits may become institutionalised as a new normal. Second,

the technologisation and platformisation of retail touchpoints accelerated, embedding consumer decisions within multi touchpoint journeys and data driven interaction structures. The tension between the value of personalisation and privacy concerns has become more salient, while AI and algorithms further reshape information presentation, interaction modalities, and friction costs.

Consequently, consumer behaviour is manifested not only as purchase or adoption, but also as the evolution of acceptance, resistance, and counter control strategies. Building on these developments, as socialised content and livestreaming short video formats have become core commercial infrastructures, trust and emotional arousal can efficiently drive transactional conversion.

Yet the same communication structure can also generate adverse outcomes such as resistance, cancellation, and permanent disengagement, indicating that research must explain the boundary conditions that differentiate conversion from disengagement. Meanwhile, research on immersive technologies and sustainable consumption has continued to expand. Augmented reality can influence purchase intention by increasing diagnosticity and reducing psychological distance, but existing studies remain fragmented and provide insufficient comparisons of boundary conditions [1,2]. Although the circular economy and sustainable consumption literature has been rapidly consolidated through reviews and meta-analyses, the intention behaviour gap recurs persistently, further underscoring the importance of observed behavioural data and contextual governance variables [3-5]. Driven by these changes, the focus of consumer behaviour research has also extended from explaining purchase to evaluating governance and wellbeing consequences. Issues such as dark patterns and algorithmic opacity have made consumer protection a testable behavioural science agenda and have prompted scholars to incorporate institutional and technological factors into systematic assessments of wellbeing impacts [6,7].

Against the above background, conducting a systematic literature review on consumer behaviour topics has salient contemporary relevance. The core rationale is that the knowledge structure of this field exhibits a typical pattern of parallel development with limited cumulativeness. Without a structured synthesis, research can easily fall into conceptual repetition, variable proliferation, and fragmented evidence. Existing studies have already established multiple mature lines of inquiry concerning pandemic shocks, journey management, personalisation and privacy, AI and algorithm mediated interaction, and conversion driven by socialised content.

However, the theoretical interfaces and shared propositions across these lines have not been systematically connected, resulting in repeated deployment of similar constructs across contexts without converging on an integrated explanation. More critically, these themes in fact share a common problem domain in which information structures and governance structures shape trust, autonomy, and behavioural choice. Pandemic research emphasises information environments and risk perception, algorithm research highlights opacity induced fatigue and resistance, and dark pattern research focuses on the behavioural consequences of interface manipulation. If such evidence can be incorporated into a unified mechanistic model, cross contextual explanatory power and theoretical cumulativeness would be substantially enhanced. Accordingly, one key contribution of this study is to provide an actionable knowledge map for the field through a topic clustering review. It clarifies the boundaries, interfaces and integrable meso-level mechanisms across research streams, thereby reducing duplication costs and improving the efficiency of theory development.

From a methodological perspective, consumer behaviour research from 2020 to 2025 demonstrates a marked imbalance in methodological structure. Cross sectional surveys and SEM based path testing dominate multiple topics, whereas multi method integration and quasi causal identification have emerged but remain sporadic and unevenly distributed [8-10]. As research objects have expanded from adoption intentions to algorithm fatigue, dark patterns, subscription lock-in and spending shifts induced by payment instruments. Purely correlational chains are increasingly insufficient to support governance interventions and policy inferences. This is because key mechanisms often display dynamic features such as temporal accumulation, threshold turning points, and shocks arising from rule changes [11]. Therefore, by systematically synthesising

the forms of evidence, this review can pinpoint where gaps lie between testable mechanisms and identifiable causal effects across topics. It can thereby propose research design trajectories that better match the nature of the phenomena, such as longitudinal tracking, observed behavioural data, and quasi natural experiments. When combined with mechanistic explanatory models, these designs can enhance the credibility, generalisability, and governance implications of research conclusions.

From a practical and societal perspective, consumer behaviour merits investigation today. It not only directly relates to firms' marketing and retail performance, but also digital platforms have embedded it in an institutional environment that is shapeable, manipulable, and capable of spilling over into social consequences. Platform mechanisms can improve conversion efficiency through trust cues and affective signals, yet they can also erode autonomy through opaque recommendations, dark patterns, and lock in mechanisms, thereby triggering resistance, exit, or wellbeing harm. Meanwhile, policy driven promotion of sustainable consumption and the circular economy, market mobilisation through green brands and value perceptions, and the persistent intention behaviour gap further elevate the significance of consumer behaviour research for public governance and corporate strategy. In particular, it becomes essential to identify, at the level of observed behaviour, which information structures and governance structures can narrow the gap and enable more sustainable conversion. Accordingly, a systematic review centred on consumer behaviour can provide firms with actionable insights for touchpoint design, trust management, and intervention strategies, while also offering evidence-based policy foundations for platform governance and consumer protection. In doing so, it responds to the contemporary need to jointly address efficiency, ethics, and wellbeing within the digital economy.

Literature review

Since 2020, consumer behaviour research has undergone a pronounced shift under the joint influence of multiple exogenous shocks and accelerating digitalisation. On the one hand, crises and the pandemic placed consumers in contexts characterised by high uncertainty and strong constraints. The field has thus moved beyond normalised preferences and rational choice, concentrating instead on risk perception, information environments, affective responses, and adaptive behaviours. On the other hand, retail touchpoints' technologisation and platformisation have driven the formation of multiple theoretical chains. These chains are parallel yet potentially integrable, centering on customer journeys, personalisation and privacy, AI and algorithmic governance, immersive technologies, and sustainable consumption [12].

Methodologically, conceptual frameworks and research agenda articles have provided theoretical vocabularies and propositional structures for emerging phenomena. Cross sectional surveys and structural equation modelling, meanwhile, have become the primary tools for mechanism testing. At the same time, selected topics show a strengthening trend towards methodological integration and quasi-causal identification. These include experiments combined with observed data, fuzzy-set Qualitative Comparative Analysis (fsQCA)-based configurational explanation, topic modelling-assisted reviews, and synthetic differences-in-differences approaches [13,14]. Consequently, research in this period has expanded not only in thematic scope but also in evidentiary forms, exhibiting a gradual evolution from explanatory frameworks to testable mechanisms and further towards governance and wellbeing-oriented inquiry.

From a methodological genealogy perspective, studies published from 2020 to 2025 can be grouped into three mainstream pathways. The first comprises conceptual frameworks and research agenda articles, which primarily provide theoretical language, variable chains, and roadmaps for future research when novel phenomena emerge. Representative examples include frameworks for pandemic shocks, agendas for journey management, and AI experience decomposition frameworks.

The second pathway focuses on survey based structural model testing. Partial Least Squares Structural Equation Modeling (PLS-SEM) and Structural Equation Modeling (SEM) are highly prevalent in topics such as abnormal purchasing during the pandemic, voice assistant adoption, livestreaming induced impulse buying, and short video trust chains. It reflects a methodological pattern of standardised mechanism

testing. The third pathway involves integrative evidence and methodological fusion, including systematic reviews, meta-analyses, topic modelling assisted reviews. It also includes experiments combined with observed data, multi method designs that integrate SEM with fsQCA, and quasi causal identification via synthetic difference in differences methods. This body of work indicates that the field is increasingly strengthening evidence quality and the credibility of causal explanation [15].

To systematically present the knowledge structure of consumer behaviour research over the past five years, this study synthesises relevant literature using a topic clustering approach. Overall, although research topics are highly diverse, their evolution largely revolves around two principal axes. The first concerns change in risk perception, affective stress, and adaptive behaviours driven by rising uncertainty and exogenous shocks. The second concerns deepening discussions of multi touchpoint journeys, personalisation privacy tradeoffs, AI and algorithm mediated interaction, and the governance consequences induced by accelerating technologisation in retail and platform contexts.

Within this context, existing studies have gradually consolidated into several relatively stable and mutually connectable clusters. These clusters focus on consumer order reconfiguration and behavioural adaptation during crises and pandemics. They also focus on experience management and personalisation mechanisms in multi-touchpoint journeys, and AI and algorithm-driven human-machine interaction including acceptance and resistance. They also explore the roles of socialised content such as livestreaming and short videos in trust and transactional conversion, and the effects of immersive technologies such as AR on decision quality and purchase intention. They further examine the mechanisms of sustainable consumption and circular economy adoption, as well as governance and intervention pathways for addressing consumer wellbeing and the risks of digital manipulation. Based on this clustering structure, the following sections begin with crisis and pandemic contexts, where exogenous constraints are strongest and theoretical and empirical progress has been particularly rapid. This provides a contextual foundation for understanding how consumer behaviour research moves from phenomenon description to mechanism testing. It sets the stage for subsequent discussions on platformised touchpoints, algorithmic governance, and wellbeing consequences.

Consumer behaviour in crisis and pandemic contexts

Research on consumer behaviour during the pandemic first established a foundational theoretical account by asking how external constraints reorder consumption patterns. Sheth proposed an explanatory framework centred on whether old habits return or disappear, conceptualising lockdown measures, supply chain disruptions, and risk perception as structural restrictions on everyday consumption. On this basis, the framework deduced a series of behavioural changes, including reinforced home-based consumption, channel migration towards online contexts, improvised substitution, and stockpiling. It also emphasises that some practices may be institutionalised as a new normal, such as home delivery and contactless services [16]. Building on this foundation, research rapidly progressed from describing behavioural change to specifying how the research object itself is reshaped. Donthu and Gustafsson characterised the pandemic as a rare shock and argued that channel migration, risk avoidance, and value reevaluation would systematically transform consumption and marketing research agendas. They proposed that future research should focus more intensively on digitalisation, vulnerability, trust, supply chains, and consumer wellbeing, thereby offering a clearer agenda framework for post pandemic consumer research [17].

Once macro level explanatory frameworks became more established, scholarships increasingly focused on behavioural generation processes and testable mechanisms under constrained conditions. Kirk and Rifkin, drawing on extreme exchange phenomena early in the pandemic, proposed a three-stage behavioural framework of reaction, coping, and adaptation. They interpreted behaviours such as stockpiling, rejection, do it yourself practices, and redistribution as adaptive outcomes under constraint, and further suggested that these coping strategies may spill over into longer term changes in values and consumption patterns [18]. Empirically, the Stimulus-Organism-Response (SOR) framework became a common pathway for explaining pandemic related behavioural mechanisms. Laato treated online information exposure and information

overload as stimuli, psychological states such as cyberchondria and perceived severity as organism variables. This thereby explained the formation of abnormal purchasing and self-isolation intentions, revealing a strong association between the two intentions [19]. Relative to survey-based SEM mechanism testing, qualitative research is often better suited to demonstrating how context enters the individual lifeworld as an interpretable causal chain. Güngördü Belbağ showed through thick description that policy restrictions, economic downturn, and social media information do not remain abstract. They are translated into behavioural changes through affective and cognitive processes such as fear, boredom, and risk perception. These changes lead to avoidance of physical stores, reduced leisure activities, stockpiling, and shifts in planned and impulse purchase patterns [20].

As mechanism research advanced, the pandemic was no longer treated merely as a short-term disruption, but increasingly discussed as a structural event capable of shaping cohort differences and long-term consumption trajectories. Zwanka and Buff proposed the conceptual framework of a COVID-19 Generation, arguing that the pandemic may leave durable imprints on consumption values, risk preferences, and channel choices. This thereby provides theoretical leverage for subsequent cohort comparison and longitudinal designs [21]. This claim has also received empirical support from generational comparison studies. Eger found significant cohort differences during the pandemic in both risk avoidance and the extent of channel migration. This suggests that the behavioural effects of macro shocks are not homogeneously diffused but are systematically moderated by cohort and life history conditions [22].

Importantly, pandemic research has not been locked into a single narrative of irrational purchasing. Instead, it increasingly exhibits two parallel pathways: Risk driven deviant behaviour and resource driven positive change. Guèvremont explained positive habit adoption through optimism and collective resilience, indicating that psychological resources can generate positive behavioural mechanisms under crisis conditions. This contrasts with pathways in which stress and risk cognition stimulate impulse buying [23]. Meanwhile, improvements in conceptual definition and measurement have strengthened cumulativeness. Cham developed a panic buying scale using a mixed methods approach. This enables subsequent studies to distinguish panic buying more rigorously from stockpiling or impulse buying and provides a more robust measurement foundation for cross context comparison and mechanism testing [24].

Retail journeys, experience management, and personalisation mechanisms

Research on retail and consumer journeys strengthened markedly around 2020. Its key value lies in elevating consumer behaviour from a single point purchase decision to a continuous sequence across touchpoints and stages. It thereby incorporates technological factors as well as social, cultural, and political factors into a unified explanatory framework. Grewal and Roggeveen advanced a research agenda centred on customer journey management. It emphasises that consumer experience and decision making do not occur at a single moment but unfold across stages such as cognition, consideration, purchase, usage, and repurchase. In technology-intensive retail environments, social, cultural, and political forces jointly shape touchpoint experiences and behavioural choices [25]. Building on this, Roggeveen and Sethuraman systematically classified interactive retail technologies by journey stage. They clarified that technology affects behavioural outcomes such as purchase and repurchase by changing information processing, trust formation, and friction cost levels [26]. This provides a more actionable structured interface for subsequent empirical modelling that embeds technological variables into journey chains.

Within the journey perspective, personalisation is no longer treated merely as a marketing tactic, but is advanced as a psychological mechanism capable of explaining consumer motivation and evaluative formation. Van Osselaer argued that when technologised services may introduce risks of depersonalisation, disclosing personal information about producers, service providers, or consumers can increase motivation, work quality, and product attractiveness. The theoretical contribution is to link personalisation with mechanisms such as objectification and prosocial motivation, enhancing testability and intervention value [27]. At the same time, personalisation is not inherently beneficial. Cloarec, from an attention economic perspective, articulated the paradoxical structure in which personalisation coexists with privacy concerns. This

shows that consumers display a trade off logic between value and risk in information disclosure and adoption behaviours. This provides a clear opposing mechanism pathway for testing privacy boundaries and adoption conditions across intelligent retail contexts [28].

Further deepening of the journey literature is reflected in the recognition that touchpoint responses are shaped not only by technology and experience intensity, but also by stable social structures such as political identity and cultural norms. Jung and Mittal systematically reviewed the roles of political identity across journey stages and proposed conceptual structures and measurement recommendations [29]. This implies that in contexts of identity polarisation, consumer responses in brand choice, satisfaction, loyalty, and resistance are more likely to be differentiated. It also implies that market segmentation and brand communication should explicitly incorporate political identity as a social identity variable. From a cross-cultural perspective, Shavitt and Barnes further showed that cultural norms influence how consumers interpret journey elements such as pricing, advertising, displays, reputation, and coupons. Accordingly, the same touchpoint may elicit sharply different purchase responses across cultural contexts [30]. Beyond individualistic journey narratives, Thomas proposed a collective journey framework. The framework emphasises that a substantial portion of consumer behaviour is organised around shared identities and common goals and often manifests as joint decision making and coordinated action. Retailers may play centralised, mediated, or decentralised roles within such collective journeys. This extends explanation from individual decision making to the level of practices and relational weaving [31].

Consumer behaviour in AI, algorithms, and human machine interaction contexts

AI and algorithm related consumer behaviour research form a relatively clear evolutionary trajectory. Its core trend is to decompose technology from a generic external stimulus into actionable and measurable experiential units, while explaining acceptance and resistance within a single framework. Puntoni differentiated AI consumption experiences into four types and systematically discussed the corresponding mechanisms of acceptance or resistance. This enables subsequent research to conduct experimental manipulation or structural model testing using more refined constructs [32]. At a more strategic level, Huang and Rust distinguished mechanical AI, thinking AI, and feeling AI and mapped them onto marketing research and action systems. They emphasised that key consumer response variables vary by AI capability level, potentially expanding from evaluations of efficiency and convenience to more social outcome variables such as emotional trust and relationship quality [33]. This theoretical decomposition provides an organising principle for empirical research, namely that different AI capability levels correspond to different consumer psychological and behavioural responses, rather than assuming a single model for all AI contexts.

Empirically, the effects of human machine interaction are not stable and are often constrained jointly by affective states, interaction cues, and situational expectations. A representative boundary condition is that anthropomorphism is not universally effective. Crolic, combining observed data with multiple experiments, found that angry customers under anthropomorphised chatbot conditions form higher efficacy expectations. When service performance fails to meet those expectations, satisfaction and purchase intention decrease significantly. This indicates that anthropomorphism may backfire under specific emotional conditions rather than functioning as a universally beneficial strategy [34]. In voice assistant and intelligent service contexts, research often combines technology acceptance logic with behavioural reasoning perspectives. It repeatedly shows that privacy and willingness to disclose information constitute persistent bottlenecks for continued use, revealing a structural tension between convenience value and data risk.

Further work increasingly strengthens the depiction of post adoption complexity through multi method designs. Evidence integrating PLS-SEM with fsQCA indicates that the intelligent attributes of voice assistants may activate both positive and negative pathways. On the one hand, they can enhance subjective wellbeing through psychological ownership; on the other hand, they can reduce wellbeing through perceived intrusiveness. This double-edged effect is moderated by conditions such as technology readiness and brand credibility, suggesting that reliance on a single average

effect is insufficient and that configurational perspectives are necessary to represent multiple equifinal pathways and differentiated boundaries.

More recent topics have clearly shifted from whether to adopt to how to govern and how consumers engage in counter control. Yang proposed and empirically tested algorithm fatigue, showing that filter bubbles and algorithmic opacity induce fatigue and subsequently trigger resistance behaviour, while algorithm literacy mitigates negative attitudes. This suggests that consumers are not passive recipients of recommender systems but develop counter control strategies, including cognitive opposition and behavioural avoidance [35]. In parallel with algorithm fatigue, dark pattern research extends the risk focus from recommendation logic to interface manipulation. Witte, grounded in information manipulation theory, explained how dark patterns affect consumer judgement and behavioural consequences and built a mechanism chain for consumer outcomes [36]. Related intervention studies further show that anti manipulation effectiveness depends on the fit between support sources and information framing. This implies that digital consumption governance should translate consumer protection into testable and optimisable behavioural intervention designs rather than remaining at the level of normative principal statements. Meanwhile, platform mechanism research offers evidence highly relevant to governance debates. Subscription mechanisms may increase user engagement through feelings of lock in, while buying now pay later payment instruments can raise spending substantially through payment delays. Research on buy now pay later uses synthetic difference in differences methods to provide stronger quasi causal evidence, highlighting a paradigm shift from correlational explanation towards causal identification and policy relevance in this domain.

Consumer behaviour driven by livestreaming, short videos, and socialised content

Research on livestreaming and short videos often follows the SOR framework to explain how socialised content rapidly activates emotions and psychological states under highly interactive and strongly present contexts, thereby promoting transactional behaviour. Lee showed that stimulus variables such as interaction intensity, social cues, and presence do not directly translate into purchase. Instead, they operate through organism states including trust, excitement, and impulsiveness, thereby significantly increasing impulse buying tendencies. This mechanism structure effectively explains the high conversion feature of livestreaming commerce characterised by immediate affective activation and immediate transactional conversion [37]. The short video literature exhibits a highly similar logic, but places greater emphasis on the role of content attributes. Luo reported that content features such as usefulness, ease of use, and entertainment influence purchase intention through trust, and that trust functions both as a direct effect and as a mediating effect. This implies that in platform structures where content itself functions as the channel, content quality not only shapes viewing experience but is also accumulated as a convertible asset of transactional trust [38].

Despite rapid expansion in topics and variables, the evidentiary form remains relatively concentrated, producing a structural feature of fast growth with insufficient heterogeneous evidence. Systematic reviews indicate that existing studies rely heavily on cross sectional surveys and structural modelling, with research contexts often concentrated in the Chinese market. This evidence structure facilitates rapid mechanism chain validation but limits identification of temporal dynamics, observed behaviour, and cross context robustness. Accordingly, reviews call for longitudinal designs and behavioural data, and for finer differentiation of stimulus sources to more accurately model the joint roles of streamers, platforms, products, and algorithms within the same consumption field [39].

Moreover, platform contexts do not produce only purchase as an outcome variable. Anti-brand and anti-consumption behaviours are also institutionalised and instrumentalised within the same communication structure. Cummings advanced conceptual differentiation and measurement for cancellation phenomena, emphasising that cancellation differs from traditional boycotts by highlighting permanent disengagement and identity expression. They proposed an index tool to identify high frequency early cancellation behaviour, indicating that digital public opinion is generating new identity expressive mechanisms of consumption and anti-consumption. This extends socialised content

research beyond the boundary of transactional conversion [40].

Augmented reality and immersive shopping behaviour

The augmented reality and immersive shopping literature have gradually formed a relatively clear and stable mechanistic narrative. The central claim is that AR improves information richness, increases perceived diagnosticity, and shortens psychological distance between consumers and products, thereby improving decision quality and increasing purchase intention. Uhm, drawing on media richness theory and construal level theory, argued that AR can enhance purchase intention by increasing diagnosticity and reducing perceived risk. Studies in this area often combine experiments with surveys to test mediating chains, suggesting relatively high consistency and replicability in mechanism identification and path testing [41]. Nevertheless, although AR research has accumulated rapidly, fragmentation remains strong across theoretical choices, variable definitions, and outcome indicators, which hinder smooth cumulation and comparison. Accordingly, clearer theoretical mapping and more consistent research directions are needed to improve integration.

As the literature deepens, an important shift is that AR is no longer treated as a universally effective enhancement technology, but is understood as a conditional tool highly dependent on context and individual differences. Research using a task technology fit perspective argues that AR design does not directly produce behavioural responses. Instead, conversion occurs through key psychological mechanisms such as perceived product value, and consumer traits shape how design elements are interpreted and translated into value. Hence, AR effects are better characterised as outcomes of design user fit rather than inevitable advantages of the technology itself. Similarly, in mobile shopping contexts, AR influences purchase intention through experience variables such as immersion, enjoyment, and usefulness, but effect strength depends significantly on product type and consumer technology readiness. This suggests that future research should more systematically incorporate product attributes and user heterogeneity into boundary conditions and further identify which AR designs yield stable effects for which segments and categories.

Sustainable consumption, green purchasing, and circular economic behaviour

A salient feature of sustainable consumption and circular economy research in recent years is a clear shift towards review based and meta-analytic evidence, which typically indicates movement from rapid expansion to systematic integration and effect evaluation. Systematic reviews in this area function to map theoretical landscapes and condense variable lists. By synthesising diverse theories and models, they identify key drivers operating across levels, including individual values and norms, social influence, and institutional and contextual constraints. This provides more transferable guidance for theory selection and variable operationalisation in subsequent research. Complementing this, meta-analyses provide more robust overall judgements about core relationships through effect size synthesis. They confirm a relatively stable positive effect of attitudes on green purchase intention, while also revealing substantial heterogeneity due to contextual and sample differences. This implies that measurement consistency and cross-cultural comparability should become important methodological agendas, rather than relying on isolated conclusions from single contexts [42].

Within circular economy contexts, consumer behaviour research further strengthens its focus on the intention behaviour gap. Reviews not only identify multiple research domains but repeatedly emphasise that while attitudes and knowledge are often found to matter, their explanatory power remains limited when predicting actual behaviour and when applied to specific industry contexts. This indicates that attitudes or environmental cognition alone are insufficient to support adoption of circular products and services. Accordingly, studies call for incorporating factors closer to adoption decisions, such as perceived risk, convenience, and perceived value, and for testing mechanisms with more observed behavioural data across business models and industry settings. This thereby reduces the cumulative bias of explaining intentions without explaining behaviour.

Meanwhile, the field is developing broader theoretical linkages by conceptualising sustainable consumption as a lifestyle choice that may influence individual wellbeing, rather than merely an ethical or moral decision. Evidence suggests that values can be

transmitted to wellbeing outcomes through sustainable consumption behaviour, establishing empirical links between sustainable consumption and quality of life and meaning in life. This provides a basis for building an integrated explanatory framework of sustainability and wellbeing [43]. Further reviews of circular economic adoption mechanisms emphasise the coupled roles of trust, green branding, and perceived value. This shifts circular economic research from supply side practices and business model centred discussion towards integrating behavioural mechanisms of demand side consumer adoption. It provides clearer directions for more fine-grained path testing and contextual comparison.

Consumer wellbeing, vulnerability, and digital manipulation

Consumer wellbeing research in this period shows a clear dual track trajectory, strengthening systematic integration of concepts and measurement on the one hand, while using computational approaches to structure the intellectual landscape on the other. Systematic reviews indicate that consumer wellbeing has long suffered from fragmented definitions and inconsistent measurement, limiting cumulativeness.

Research agendas developed using the Theory - Context - Characteristics - Methodology (TCCM) framework further stress the need for more consistent operationalisation across psychological, social, financial, and environmental dimensions to improve comparability and transferability of findings. Building on this, larger scale literature mapping increasingly applies topic modelling and meta theoretical content analysis to synthesise hundreds of studies into structured multi topic knowledge maps and to examine relationships among definitional orientations. This suggests that machine assisted reviewing is becoming an important pathway for addressing rapid growth in publication volume and reducing omission risk in manual reviews. Similarly, evolutionary oriented systematic reviews argue that definitional inconsistency and measurement non uniformity weaken cumulativeness and propose connecting macro level societal wellbeing with micro level consumption experiences to form more complete and explanatory theoretical chains [44].

In research on consumer vulnerability and financial wellbeing, studies increasingly enhance explanatory precision through capability decomposition and cross context comparison. Financial capability is decomposed into knowledge, behaviours, and skills to explain the financial wellbeing of disadvantaged consumers, and different dimensions contribute unequally. This implies that policy and educational interventions should not remain at the level of generalised financial literacy promotion. They should shift towards more targeted designs, for example by differentiating programmes for behavioural habits, skill training, and knowledge supplementation [45]. Comparative studies across cultures and pandemic contexts further show that macro shocks change not only overall levels of vulnerability and wellbeing but may also alter the strength and structure of relationships between them. This suggests that macro shocks should be treated as structural moderators that can change relationships among variables and should be explicitly modelled [46].

At the same time, wellbeing risks in digital consumption environments are increasingly expanding towards interface and algorithmic governance. Dark pattern research, grounded in information manipulation theory, reveals mechanism chains linking dark patterns to consumer judgement and behavioural consequences, while intervention research identifies effective conditions for anti-manipulation strategies through contextualised designs. Together, this indicates that consumer protection is no longer merely a normative initiative but is becoming a testable and optimisable behavioural science agenda.

Current research gaps

Over the past five years, research on consumer behaviour has expanded rapidly in topical scope, yet it still exhibits a structural weakness characterised by multiple parallel lines of inquiry with limited cumulativeness. Existing studies have developed several relatively mature, localised chains, centred on risk and adaptation in pandemic and crisis contexts. They also cover multi-touchpoint journeys and experience management, personalisation and privacy trade-offs, acceptance and resistance in AI and algorithm-mediated interaction, as well as the role of socialised content in driving trust and transactional conversion. However, these chains lack interoperable theoretical interfaces, which results in repeated use of

similar constructions across contexts without converging on an integrated explanation. For example, risk perception and information environments are treated as key stimuli in pandemic research; algorithmic opacity and manipulation are shown in governance research to trigger fatigue and resistance. And social content research emphasises that trust and emotional arousal translate experience into transactions. Substantively, these phenomena all point to a shared proposition concerning how information structures and governance structures shape trust, autonomy, and behavioural choice. Yet existing work largely remains within closed loops inside each theme and has not systematically incorporated governance variables into a unified mechanistic model of consumer behaviour. These limits cross contextual portability and theoretical accumulation.

Methodological shortcomings similarly constrain explanatory depth and policy relevance. Although signals of methodological integration and quasi-causal identification have emerged. These include experiments combined with observed data, fsQCA-based configurational explanation, topic modelling-assisted reviews and synthetic difference-in-differences designs. Cross-sectional surveys combined with PLS-SEM or SEM remain the default paradigm for a substantial portion of literature. This paradigm dominates key topics including abnormal purchasing during the pandemic, voice assistant adoption, livestreaming induced impulse buying, and short video trust chains.

The central gap created by this path dependence is not the statistical technique per se, but the research design's limited ability to identify temporal sequences and causal directions. In particular, it struggles to capture cumulative processes of risk and fatigue, threshold turning points, and exogenous effects induced by changes in governance rules. Accordingly, as research objects have shifted from adoption intentions to algorithm fatigue, dark patterns, subscription lock in, and spending changes triggered by payment instruments. Correlational explanations based on average effects are insufficient to justify governance interventions and policy inferences. Quasi natural experiments, longitudinal tracking, and observed behavioural data remain scarce forms of evidence in this domain.

With respect to context and heterogeneity, although the literature has identified several important boundary conditions, systematic comparison remains inadequate, particularly in tracing institutionalisation mechanisms through which shocks become normalised. Pandemic research proposes that old habits may return or disappear and discusses how shocks can leave long term imprints. Cohort comparisons also show that different age cohorts differ significantly in risk avoidance and channel migration. In addition, the literature has identified two parallel pathways, namely risk driven non normative purchasing and resource driven positive behavioural change [47].

Yet there is still a lack of longitudinal evidence and mechanistic validation regarding which changes ultimately stabilise into enduring habits, which platform services and governance conditions support such stabilisation, and how the two pathways diverge or transform into each other after the shock. Similar issues arise in journey and immersive technology research. Although collective journeys have been proposed as an important unit of explanation, the dominant evidence base remains individual survey data, which limits mechanism testing for group negotiation and joint decision making. In AR research, while the mechanistic narrative is relatively consistent, reviews highlight fragmentation in theoretical choices and variable selection, and the conditional effects of design user fit still lack structured comparisons across product categories and population segments.

Finally, outcome variables and value orientations in consumer behaviour research are shifting from conversion and adoption towards governance and wellbeing, yet a clear disconnect remains between these two agendas. Socialised content research has developed relatively mature explanations of how trust and affective mechanisms drive purchasing, but it pays insufficient attention to consequences such as anti-brand behaviour, resistance, and permanent disengagement in platform environments. Although cancellation behaviour has been conceptualised and measurement tools have been advanced. This development implies that platform mechanisms can simultaneously produce two categories of outcomes, namely purchasing and disengagement. It also means that the conditions differentiating these outcomes should be explained within a unified framework. Similarly, wellbeing

research has made significant progress in conceptual integration and landscape mapping. Yet testable bridging models remain limited regarding how platform mechanisms such as dark patterns, algorithmic opacity, and subscription lock-in maps onto different well-being dimensions. It also remains unclear through which psychological processes harm are produced, and which interventions are effective under which conditions. Therefore, the most representative research gap over the past five years can be summarised as follows. Governance structures and information structures should be treated as upstream variables. They integrate meso-level mechanisms such as risk, trust, autonomy, and wellbeing with behavioural outcomes such as purchasing, resistance, and exit within a single testable model. Longitudinal designs, observed behavioural data, and quasi-causal approaches are needed to strengthen explanatory credibility and governance relevance.

Recommendation for future research

Future consumer behaviour research should first accomplish a theoretical level structural integration, shifting from presenting themes in parallel to connecting multi context phenomena through a transferable mechanistic framework. In recent years, scholarships have developed mature explanatory chains in areas such as pandemic shocks, journey touchpoints, personalisation and privacy, algorithmic interaction, and socialised content driven conversion. The problem, however, is that these chains often remain self-contained and struggle to address a more fundamental shared proposition: In digital platform environments, how are consumer choices jointly shaped by information structures and governance structures.

Future research can treat algorithmic transparency, interface ethics, platform regulatory intensity, and information quality governance as upstream institutional stimuli. It can link them systematically to meso-level psychological mechanisms such as risk perception, trust formation, perceived autonomy, and emotional arousal. It can ultimately explain multiple behavioural outcomes including purchase, repurchase, resistance, cancellation, and exit. This approach would place conversion and anti-conversion within the same theoretical coordinate system for comparative explanation. More importantly, core constructs need to be reconstructed through a dialectical lens. Trust should not be simplified as a mediating variable that facilitates conversion, but should be conceptualised as a dynamic resource that can accumulate, depreciate, and be repaired under different governance conditions. Risk should likewise not be treated merely as an individual psychological state, but should be analytically bound to platform rules, content ecosystems, and governance instruments, becoming a structural mechanism that explains behavioural volatility and long run pathway divergence. In this way, consumer behaviour research can move from variable stacking back to structural explanation and establish a continuous theoretical narrative linking crisis contexts with routine digital consumption.

Methodologically, the key challenge for future research is not more complex statistical techniques, but stronger research designs that can identify temporal sequences and causal directions, thereby supporting governance inference and policy implications. A large share of current studies still relies on cross sectional correlational testing. Such evidence can quickly validate mechanistic chains, yet it is poorly suited to capturing the dynamic nature of consumer behaviour, including how risk and fatigue accumulate, when thresholds are crossed, how rule changes trigger pathway discontinuities, and when interventions succeed or fail. Future work can treat events such as platform rule adjustments, regulatory policy changes, feature iterations, and payment tool rollouts as exogenous shock windows.

On this basis, researchers should introduce longitudinal tracking, observed behavioural data, and quasi natural experimental designs to obtain more persuasive causal evidence. At the same time, causal identification should not replace mechanistic explanation, but should complement experiments or structural models, enabling studies to answer not only whether an effect exists but also through which psychological processes it operates. Moreover, consumer behaviour in digital environments often exhibits multiple concurrent pathways and equifinal outcomes, and single average effects may conceal critical heterogeneity. Future research therefore needs to normalise configurational perspectives and multi method integration to identify multiple equivalent pathways leading to high conversion or high resistance across governance configurations, population segments,

and contexts, thereby improving explanatory granularity and practical operability.

At the levels of context and outcome variables, future research should treat heterogeneity and consequence expansion as a core agenda, with particular emphasis on tracing institutionalisation from shock to normality, extending the decision-making unit from individuals to collectives, and integrating consequence chains from conversion to wellbeing. Many studies have identified cohort differences, affective pathways, and the coexistence of positive change, yet systematic answers remain limited regarding key questions. Which behavioural changes consolidate into stable habits, which platform services and governance conditions enable consolidation, and how do risk driven and resource driven pathways diverge, transform, or layer onto one another after a shock. Future research needs to organise an intertemporal chain linking shock onset, platform mediated services and governance, and habit consolidation and value change. It needs to conduct structured comparisons across populations, product categories, and levels of platform governance intensity. It aims to explain why the same shock produces different long run consequences. Meanwhile, consumer behaviour is not always individualised decision making. A substantial portion of real-world consumption practices occur within families, communities, and network relations. Future research should incorporate joint decision making, negotiation mechanisms, and role differentiation into the unit of analysis to enhance explanatory power for real consumption practices. More importantly, platform environments generate not only purchasing but also resistance, cancellation, and exit. Future work should explain the differentiating conditions between conversion and disengagement within a single framework and incorporate consumer protection and wellbeing assessment into the consequence chain. This requires clarifying which platform mechanisms erode autonomy, impair judgement, and reduce multidimensional wellbeing, and identifying which interventions are robust under which conditions.

By extending behavioural outcomes into a continuous spectrum of purchase, resistance, exit, and wellbeing, and integrating this spectrum with information structures and governance structures. Consumer behaviour research will be better positioned to achieve cumulative theory, identifiable evidence, and actionable governance recommendations.

Conclusion

From 2020 to 2025, driven by exogenous shocks and accelerated digitalization, consumer behavior research has formed seven core thematic clusters. These span crisis adaptation, multi-touchpoint experiences, human-machine interaction, socialized content impacts, immersive technologies, sustainable consumption, and consumer wellbeing governance. The field has seen continuous theoretical expansion and methodological diversification.

However, the field still faces prominent limitations. Theoretical chains are fragmented and lack interoperable interfaces. Research overrelies on cross-sectional correlational designs, with insufficient causal identification and dynamic evidence. Explanations for the institutionalization of shocks and population heterogeneity are inadequate. Behavioral outcomes (e.g., purchase, resistance, exit) are disconnected from wellbeing assessments, with no clear explanatory framework for this gap. Future research should take information structures and governance structures as upstream variables. It should integrate cross-stream mechanisms, strengthen evidence bases through longitudinal data, observed behavioral data, and quasi-natural experiments. It should also incorporate consumer protection and wellbeing evaluation into a unified explanatory framework for platform-mediated consumption. This will enhance theoretical cumulativeness and policy relevance, better addressing the coordinated demands of efficiency, ethics, and wellbeing in the digital economy.

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Conflicts of Interest

The authors declare no conflict of interest.

References

[1] Hoffmann, S., Mai, R. (2022) Consumer behavior in augmented shopping reality. A review, synthesis,

and research agenda. *Frontiers in Virtual Reality*, 3, 961236.

[2] Rumokoy, F. S., Frank, B. (2025) Retail value creation through augmented reality: the role of task-technology fit, consumer knowledge, and personality. *Journal of Retailing and Consumer Services*, 84, 104173.

[3] Syed, S., Acquaye, A., Khalfan, M. M., Obuobisa-Darko, T., Yamoah, F. A. (2024) Decoding sustainable consumption behavior: a systematic review of theories and models and provision of a guidance framework. *Resources, Conservation & Recycling Advances*, 23, 200232.

[4] Vidal-Ayuso, F., Akhmedova, A., Jaca, C. (2023) The circular economy and consumer behaviour: literature review and research directions. *Journal of Cleaner Production*, 418, 137824.

[5] Lopez, N. S. R., Legardeur, J. (2024) Consumer behaviour in the context of circular economy: a systematic literature review. *Proceedings of the Design Society*, 4, 1417-1426.

[6] Bhardwaj, P., Kalro, A. D. (2024) Consumer well-being - a systematic literature review and research agenda using TCCM framework. *International Journal of Consumer Studies*, 48(1), e12991.

[7] Lee, C. H., Chiu, H. C., Lai, T. C., Yuan, C. W. (2025) Who has your back? Countering dark patterns in online shopping using interpersonal and AI-delivered support. *International Journal of Human-computer Studies*, 103697.

[8] Acikgoz, F., Perez-Vega, R., Okumus, F., Stylos, N. (2023) Consumer engagement with AI-powered voice assistants: a behavioral reasoning perspective. *Psychology & Marketing*, 40(11), 2226-2243.

[9] Kang, W., Shao, B. (2023) The impact of voice assistants' intelligent attributes on consumer well-being: findings from PLS-SEM and fsQCA. *Journal of Retailing and Consumer Services*, 70, 103130.

[10] Kumar, A., Salo, J., Bezawada, R. (2024) The effects of buy now, pay later (BNPL) on customers' online purchase behavior. *Journal of Retailing*, 100(4), 602-617.

[11] Wu, B., Guo, G., Luo, P. (2024) The effect of subscriptions on customer engagement. *Journal of Business Research*, 178, 114638.

[12] Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., Haenlein, M. (2021) Digital transformation: a multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889-901.

[13] Gaston-Breton, C., De Stefano, M. C. (2025) Mapping consumer well-being: contextualization, conceptualization, and classification using topic modeling. *Journal of Business Research*, 194, 115350.

[14] Wen, J., Li, X. (2025) AI digital human responsiveness and consumer purchase intention: the mediating role of trust. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(3), 246.

[15] Zaremohzzabieh, Z., Ismail, N., Ahrari, S., Samah, A. A. (2021) The effects of consumer attitude on green purchase intention: a meta-analytic path analysis. *Journal of Business Research*, 132, 732-743.

[16] Sheth, J. (2020) Impact of Covid-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research*, 117, 280-283.

[17] Donthu, N., Gustafsson, A. (2020) Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284-289.

[18] Kirk, C. P., Rifkin, L. S. (2020) I'll trade you diamonds for toilet paper: consumer reacting, coping and adapting behaviors in the COVID-19 pandemic. *Journal of Business Research*, 117, 124-131.

[19] Laato, S., Islam, A. N., Farooq, A., Dhir, A. (2020) Unusual purchasing behavior during the early stages of the COVID-19 pandemic: the stimulus-organism-response approach. *Journal of Retailing and Consumer Services*, 57, 102224.

[20] Güngördü Belbağ, A. (2022) Impacts of Covid-19 pandemic on consumer behavior in Turkey: a qualitative study. *Journal of Consumer Affairs*, 56(1), 339-358.

[21] Zwanka, R. J., Buff, C. (2021) COVID-19 generation: a conceptual framework of the consumer behavioral shifts to be caused by the COVID-19 pandemic. *Journal of International Consumer Marketing*, 33(1), 58-67.

[22] Eger, L., Komárková, L., Egerová, D., Mičík, M. (2021) The effect of COVID-19 on consumer shopping behaviour: generational cohort perspective. *Journal of Retailing and Consumer Services*, 61, 102542.

[23] Guèvremont, A., Boivin, C., Durif, F., Graf, R. (2022) Positive behavioral change during the COVID-19 crisis: the role of optimism and collective resilience. *Journal of Consumer Behaviour*, 21(6), 1293-1306.

[24] Cham, T. H., Cheng, B. L., Lee, Y. H., Cheah, J. H. (2023) Should I buy or not? Revisiting the concept and measurement of panic buying. *Current Psychology*, 42(22), 19116-19136.

[25] Grewal, D., Roggeveen, A. L. (2020) Understanding retail experiences and customer journey management. *Journal of Retailing*, 96(1), 3-8.

[26] Roggeveen, A. L., Sethuraman, R. (2020) Customer-interfacing retail technologies in 2020 & beyond: an integrative framework and research directions. *Journal of Retailing*, 96(3), 299-309.

[27] Van Osselaer, S. M., Fuchs, C., Schreier, M., Puntoni, S. (2020) The power of personal. *Journal of Retailing*, 96(1), 88-100.

[28] Cloarec, J. (2020) The personalization-privacy paradox in the attention economy. *Technological Forecasting and Social Change*, 161, 120299.

[29] Jung, J., Mittal, V. (2020) Political identity and the consumer journey: a research review. *Journal of Retailing*, 96(1), 55-73.

[30] Shavitt, S., Barnes, A. J. (2020) Culture and the consumer journey. *Journal of Retailing*, 96(1), 40-54.

[31] Thomas, T. C., Epp, A. M., Price, L. L. (2020) Journeying together: Aligning retailer and service provider roles with collective consumer practices. *Journal of Retailing*, 96(1), 9-24.

[32] Puntoni, S., Reczek, R. W., Giesler, M., Botti, S. (2021) Consumers and artificial intelligence: an experiential perspective. *Journal of Marketing*, 85(1), 131-151.

[33] Huang, M. H., Rust, R. T. (2021) A strategic framework for artificial intelligence in marketing. *Journal of the Academy of Marketing Science*, 49(1), 30-50.

[34] Crolic, C., Thomaz, F., Hadi, R., Stephen, A. T. (2022) Blame the bot: Anthropomorphism and anger in customer-chatbot interactions. *Journal of Marketing*, 86(1), 132-148.

[35] Yang, H., Li, D., Hu, P. (2024) Decoding algorithm fatigue: the role of algorithmic literacy, information cocoons, and algorithmic opacity. *Technology in Society*, 79, 102749.

[36] Witte, J., Kenning, P., Brock, C. (2025) Dark patterns in online retailing: an analysis based on information manipulation theory. *European Journal of Marketing*, 59(13), 597-625.

[37] Lee, C. H., Chen, C. W. (2021) Impulse buying behaviors in live streaming commerce based on the stimulus-organism-response framework. *Information*, 12(6), 241.

[38] Luo, C., Hasan, N. A. M., Zamri bin Ahmad, A. M. T., Lei, G. (2025) Influence of short video content on consumers purchase intentions on social media platforms with trust as a mediator. *Scientific Reports*, 15(1), 16605.

[39] Li, Y., García-de-Frutos, N., Ortega-Egea, J. M. (2025) Impulse buying in live streaming e-commerce: a systematic literature review and future research agenda. *Computers in Human Behavior Reports*, 19, 100676.

[40] Cummings, K. H., Zafari, B., Beitelspacher, L. (2025) Canceled! Exploring the phenomenon of canceling. *Journal of Business Research*, 186, 115025.

[41] Uhm, J. P., Kim, S., Do, C., Lee, H. W. (2022) How augmented reality (AR) experience affects purchase intention in sport E-commerce: roles of perceived diagnosticity, psychological distance, and perceived risks. *Journal of Retailing and Consumer Services*, 67, 103027.

[42] Zhuang, W., Luo, X., Riaz, M. U. (2021) On the factors influencing green purchase intention: a meta-analysis approach. *Frontiers in Psychology*, 12, 644020.

[43] Minton, E. A., Tan, S. J., Tambyah, S. K., Liu, R. L. (2022) Drivers of sustainability and consumer well-being: an ethically-based examination of religious and cultural values. *Journal of Business Ethics*, 175(1), 167-190.

[44] Pradhan, D., Rup, B. K., Lyngdoh, T., Chefor, E.,

Pahi, S. A., Kuanr, A. (2025) The evolution of consumer well-being over the last four decades: a comprehensive review and future directions. *Acta Psychologica*, 260, 105662.

[45] Xiao, J. J., Porto, N. (2022) Financial capability and wellbeing of vulnerable consumers. *Journal of Consumer Affairs*, 56(2), 1004-1018.

[46] Duarte, P., Linardi, M. A., Domingues, H. S., Silva, S. C. (2023) Consumer vulnerability and well-being across contexts: implications for international businesses. *Heliyon*, 9(3), e14612.

[47] Anas, M., Khan, M. N., Rahman, O., Uddin, S. F. (2022) Why consumers behaved impulsively during COVID-19 pandemic? *South Asian Journal of Marketing*, 3(1), 7-20.