Ethical Dilemmas in AI-Driven Marketing Communication: A Systematic Literature Review and Future Research Agenda

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Abstract

Introduction: AI now sits at the centre of much marketing communication, from personalised recommendations to automated customer conversations. The same tools raise ethical problems: intrusive use of personal data, biased algorithms, persuasion that edges into manipulation, and decisions that consumers cannot see or question. How people read and respond to AI-generated messages is increasingly tied to how they judge these problems.

Purpose: This review examines the ethical challenges attached to AI-driven marketing communication and what existing research says about their effect on consumer experience and behaviour. It also takes stock of the theories, contexts and methods used so far, points out where the evidence is thin, and sets out an agenda for future work.

Methodology: We searched Scopus for articles published between 2020 and 2025 and followed the SPAR-4-SLR protocol, which gave 20 documents for analysis. Bibliometric patterns (publication trends, publishers, authors and citations) were mapped with R and VOS viewer, and the articles were then synthesised using the Theory–Context–Characteristics–Methodology (TCCM) framework.

Findings: Theoretical grounding is scattered. TAM, TPB, UTAUT, diffusion of innovation and stakeholder theory all appear, but no framework dominates and several studies use none. Data misuse, opaque algorithms, privacy and security worries, and fairness concerns recur across the studies, and they are tied to trust, perceived risk and purchase or adoption intention. The evidence base leans heavily on single-country (mostly Indian), cross-sectional survey research.

Implications: Cross-cultural work, longitudinal designs and validation of AI tools in real business settings are largely missing. We propose a research agenda built around transparent and explainable AI, regulatory development, and closer study of how people and AI systems interact in marketing communication.

Keywords: AI ethics; marketing communication; algorithmic bias; data privacy; consumer trust; systematic literature review; TCCM

Introduction

AI is changing how brands talk to consumers. Recommendation engines, chatbots and automated ad targeting let firms personalise messages at a scale that was not possible a few years ago. They also bring ethical questions about privacy, fairness, manipulation, transparency and accountability, and these questions affect whether consumers trust and accept what they are shown.

The concerns reach well beyond advertising. Deepfakes can distort what people take to be real, and fear about privacy and security has slowed the take-up of AI-enabled digital payments and other services. Inside organisations, similar issues come up around cloud computing, blockchain, corporate social responsibility (CSR) and fraud detection, where data-protection rules and regulatory gaps set limits on what firms can do.

Despite this attention, existing studies are fragmented. Many rely on cross-sectional surveys and borrow theories inconsistently, which makes it hard to see the overall picture of AI ethics in marketing. This paper reviews the literature using bibliometric analysis and the Theory Context–Characteristics–Methods (TCCM) framework. It looks at which theories, settings, constructs and methods have been used, and what they reveal about how ethical concerns shape consumer trust and acceptance of AI-mediated communication. The aim is to point future work toward responsible, transparent AI marketing that protects consumer

trust and autonomy.

Research questions

Main RQ: How do ethical dilemmas arising from the use of AI in marketing communication affect consumer experiences and behavioural responses?

Sub-questions

1. Who are the most influential authors, highly cited studies and leading publication outlets in research on ethical dilemmas in AI-driven marketing communication?
2. Which theoretical frameworks, contexts, key constructs and research methods have scholars used to explain how AI influences consumer experience and behaviour?
3. Which research designs and measures best capture consumer reactions to ethically questionable AI marketing practices, for example experiments, longitudinal tracking or behavioural trace data?
4. What ethical, technological and regulatory barriers hinder the responsible use of AI in marketing communication?
5. What gaps remain in the existing literature?
6. What future research directions can address the ethical, regulatory and operational challenges of AI-driven marketing communication?

This study combines bibliometric analysis with a systematic literature review (SLR). Using both lets us capture how much has been published and how fast the field is growing, as well as what the studies actually say. To our knowledge, few existing reviews combine the two methods, and fewer still do so for ethics in AI-enabled marketing, so this review is a first step toward bringing some order to a fragmented literature.

This review makes three contributions.

First, it gives an integrated overview of current knowledge on ethical dilemmas in AI-driven marketing: the main research trends, leading journals, influential authors and frequent keywords.

Second, it brings together the theories, research contexts, constructs and methods that shape the discussion, including privacy concern, transparency, algorithmic fairness, consumer manipulation and trust.

Third, it identifies where gaps remain and sets out directions for future research, so that scholars can see not only what is known but also what still has to be examined as AI becomes part of everyday marketing practice.

The paper is organised as follows. Section 2 describes the methodology and how studies were selected. Section 3 gives a general overview of publication trends, publishers, authors and citations. Section 4 applies the TCCM framework to the theories, contexts, constructs and methods found in the literature. Section 5 discusses the main barriers, and Sections 6 and 7 cover limitations and research gaps. Section 8 sets out the agenda for future research, and Section 9 concludes.

2. Methodology

We took a bibliometric approach informed by Khan et al. (2022) and followed the systematic review procedures of Paul et al. (2021). R was used to identify the most relevant authors, publication sources and most-cited documents, and VOS viewer was used for the co-authorship analysis.

The quantitative mapping was followed by a qualitative synthesis organised around the TCCM framework, which sorts the literature by theoretical foundation, research context, key characteristics (constructs) and methodological approach. Together, the two stages show how the field has developed and where the main gaps are.

2.1 Data and protocol

Following Paul et al. (2021), we used the SPAR-4-SLR protocol, which gives a transparent structure for literature reviews. The search strategy and data extraction stages are summarised in Figure 1. The protocol has three phases: assembling, arranging and assessing. Through these we gathered the relevant studies, classified them against explicit criteria and assessed what they contribute on the ethics of AI-driven marketing communication.

2.2 Assembling

Assembling has two sub-stages, identification and acquisition (Paul et al., 2021). In the identification stage we looked for scholarly work on ethical dilemmas in AI-driven marketing communication. Scopus was the main source, and we preferred it to Web of Science for three reasons:

1. it indexes a considerably larger body of literature, nearly 60% more than WoS according to Zhao and Strotmann (2015);
2. its journals are, on the whole, ranked higher than those in many other databases (Kumar et al., 2023); and
3. it is widely treated as the most comprehensive database of peer-reviewed research (Singh et al., 2023).

The search string combined these terms: “AI-driven marketing,” “marketing communication,” “ethical dilemmas,” “AI ethics,” “algorithmic bias,” “data privacy,” “consumer trust,” “targeted advertising,” “dark patterns” and “consumer manipulation.”

In the acquisition stage we added further filters for time window, subject area, document type, language and access type. The search covered 2020–2025, the period in which AI-based marketing tools and the ethical concerns around them grew quickly. The subject areas included Economics, Econometrics and Finance. Only journal articles in English, conducted in or focused on India and available as open access were retained. Applying these filters left 20 documents.

2.3 Arranging

Arranging covers organisation and purification. To

organise the studies we used the 2024 Scopus journal ranking to classify the quality of sources and the TCCM framework (Paul et al., 2021) to structure the theoretical and methodological synthesis.

During purification we screened the articles against the review's focus on ethical dilemmas in AI-driven marketing communication and excluded those that fell outside this scope or had no conceptual relevance. Only articles from Q1 and Q2 journals were kept where a ranking was available. After subject-context filtering and relevance checks, 20 documents remained, which meets the size threshold that Paul et al. (2021) recommend for a structured review.

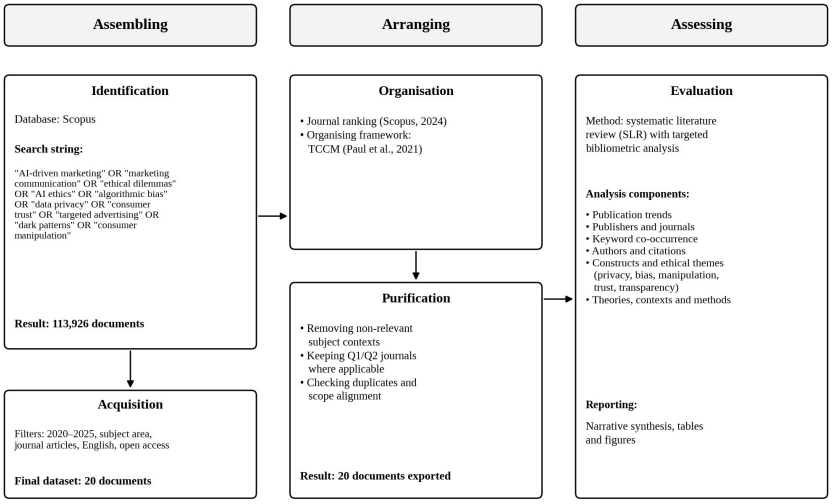
The final dataset was exported to CSV for bibliometric processing. VOS viewer, R and Excel were used to organise, visualise and interpret the bibliographic data.

2.4 Assessing

Assessing includes evaluation and reporting. In the evaluation stage the 20 selected articles went through targeted bibliometric analysis and content examination. Keyword co-occurrence mapping in VOSviewer pointed to recurring themes: privacy concerns, transparency, algorithmic fairness, consumer manipulation and trust in AI-enabled communication. Citation data showed the leading authors and the main research patterns.

The qualitative assessment used the TCCM framework to map the theories, settings, constructs and methods in each study. This gave a structured picture of how scholars have approached ethical dilemmas in AI-driven marketing communication.

Figure 1. Review process following the SPAR-4-SLR protocol.



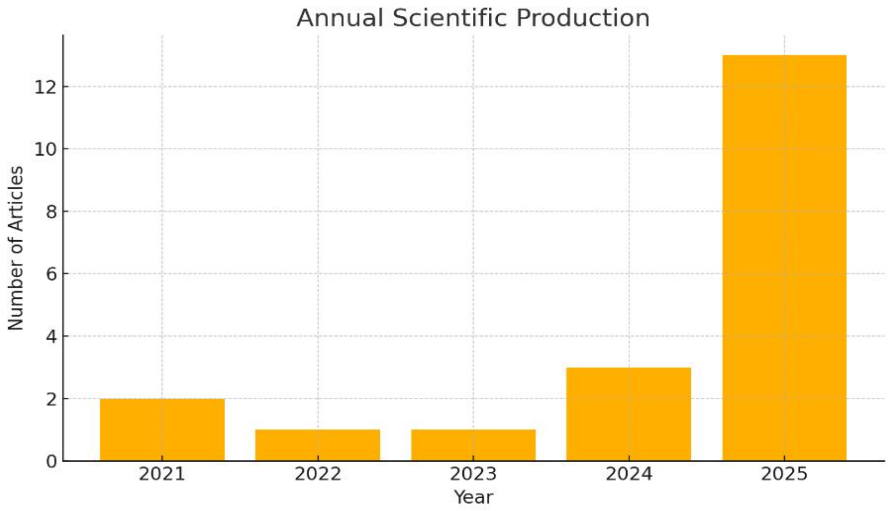
3. General Overview

3.1 Publication trends

Figure 2 shows that research on ethical dilemmas in AI-driven marketing communication has grown slowly but steadily. Between 2021 and 2023 only one or two articles appeared each year, and the pattern was uneven, which is typical of a topic that is still taking shape.

Output picked up in 2024, with three articles, and then jumped to 13 in 2025. That jump from a small base suggests that concerns about AI transparency, algorithmic fairness, manipulation and data privacy have only recently become a regular subject in marketing and communication research. Because the search window closes in 2025 and the dataset is small, the trend should be read with some caution.

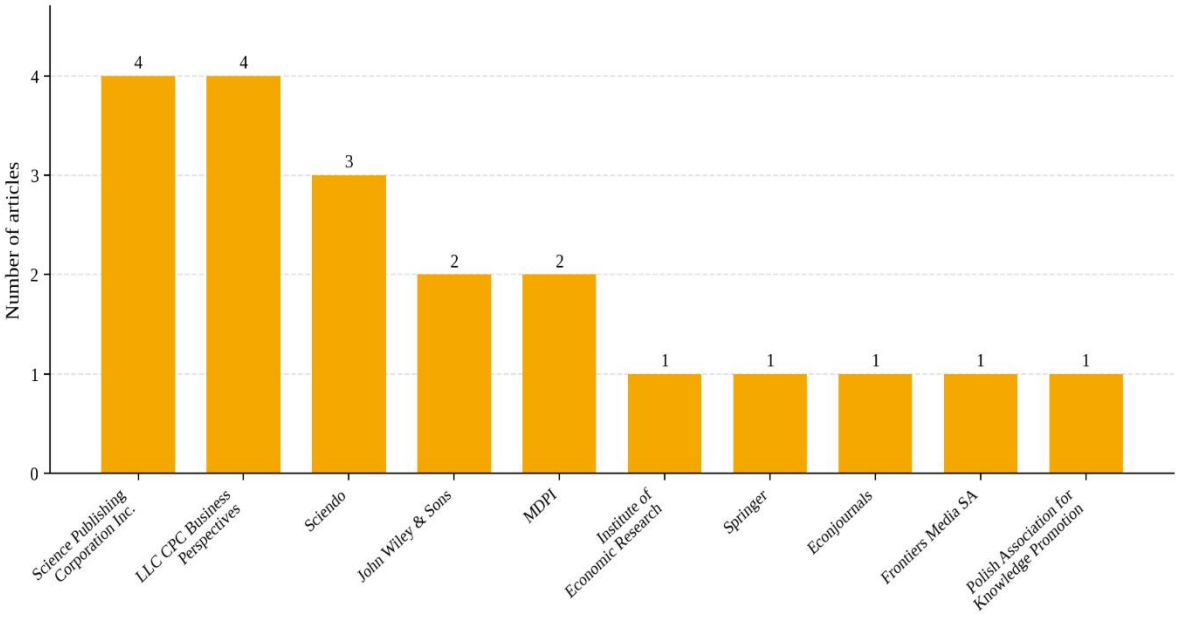
Figure 2. Annual scientific production, 2021–2025.



3.2 Top publishers

Figure 3 shows the publishers that account for most of the articles. Science Publishing Corporation Inc. and LLC CPC Business Perspectives lead with four articles each, followed by Sciendo with three. John Wiley & Sons and MDPI contributed two each, and Springer, Econjournals, Frontiers Media SA, the Institute of Economic Research and the Polish Association for Knowledge Promotion one each.

Figure 3. Top publishers of the selected articles

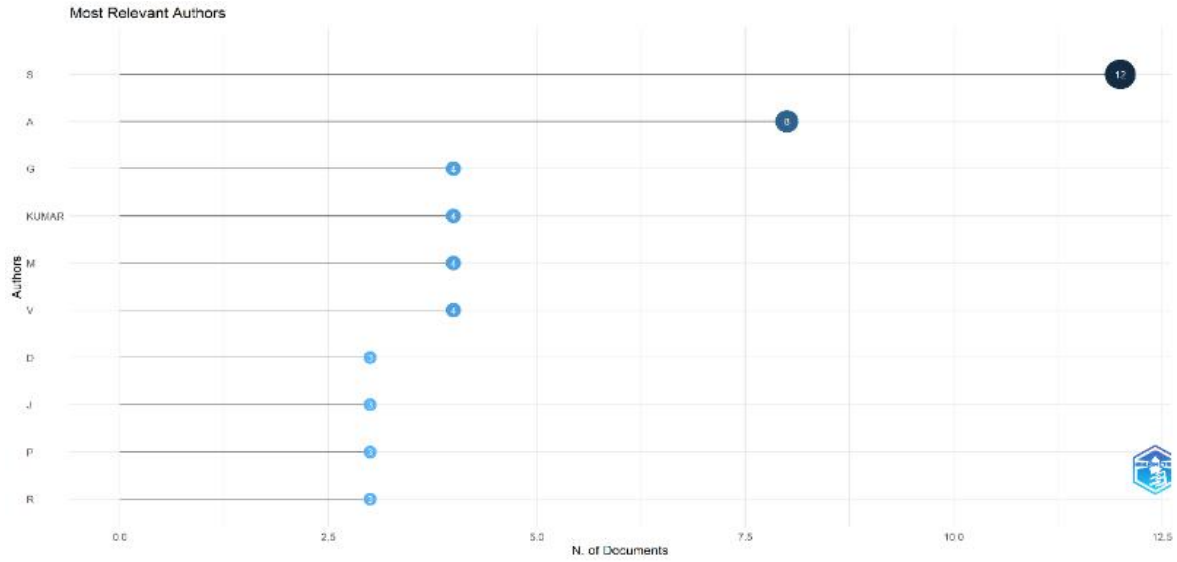


.3.3

Most relevant authors

Figure 4 shows the most productive authors in the dataset. The labels are initials only: S and A account for 12 and 8 documents, followed by G, Kumar, M and V with four each, and D, J, P and R with three each. This is a side effect of how author names are stored in the Scopus export. Because several researchers can share the same initial, these counts cannot be attributed to individual scholars, so we draw no conclusions about particular authors.

Figure 4. Most relevant authors (number of documents).



3.4 Most cited documents

Table 1 lists the most cited documents. Hasan et al. (2024), on digital payment behaviour, leads with 24 citations. Mishra et al. (2023; indexed in Scopus as 2025) follows with 22, which is notable for a recent paper and reflects interest in blockchain adoption in banking. Aljunaid et al. (2025), on explainable AI and federated learning for fraud detection, has 17.

Vo (2025) has 14 citations and Edmond et al. (2022) has 7. Ali et al. (2023), Bindhya et al. (2025) and Iyer (2021) have between three and six, while Waghmare et al. (2025) and Kumar et al. (2025) have two and one respectively.

Measured per year, Mishra (22.0), Aljunaid (17.0) and Vo (14.0) are the fastest-growing, which points to current interest in blockchain, AI-enabled finance and consumer research. Counts are low throughout, and most of the top-cited papers deal with finance and technology adoption rather than with marketing communication directly.

Table 1. Most cited documents.

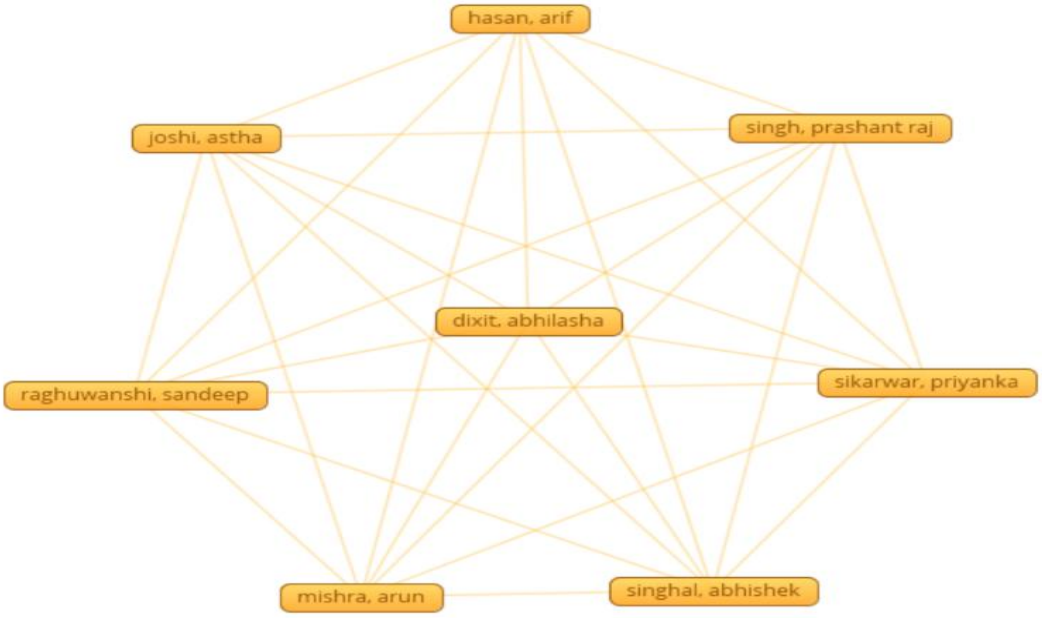
Paper	DOI	Total Citations	TC per Year	Normalized TC
HASAN, 2024, J. RISK FINANC. MANAG.	10.3390/jrfm17020087	24	12.00	2.88
MISHRA, 2025, ELECTRON. COMMER. RES.	10.1007/s10660-023-09707-3	22	22.00	4.69
ALJUNAID, 2025, J. RISK FINANC. MANAG.	10.3390/jrfm18040179	17	17.00	3.62
VO, 2025, INT. J. CONSUM. STUD.	10.1111/ijcs.70028	14	14.00	2.98
EDMOND, 2022, J. CENT. BANK. THEORY PRACT.	10.2478/jcbtp-2022-0016	7	1.75	1.00
ALI, 2023, INNOV. MARK.	10.21511/im.19(2).2023.13	6	2.00	1.00
BINDHYA, 2025, INT. J. ENERGY ECON. POLICY	10.32479/ijeep.17036	3	3.00	0.64
IYER, 2021, INNOV. MARK.	10.21511/im.17(2).2021.04	3	0.60	2.00
WAGHMARE, 2025, ECON. - INNOV. ECON. RES. J.	10.2478/eoik-2025-0045	2	2.00	0.43
KUMAR, 2025, BUS. ETHICS ENVIRON. RESPONSIB.	10.1111/beer.12731	1	1.00	0.21

3.5 Co-authorship analysis

Figure 5 shows the co-authorship network of eight authors drawn from the 85 in the dataset: Arif Hasan, Prashant Raj Singh, Abhilasha Dixit, Abhishek Singhal, Arun Mishra, Sandeep Raghuwanshi, Priyanka Sikarwar and Astha Joshi. All eight are linked to one another, which is what we would expect if they are co-authors of a single paper,

and the reference list suggests that this is Hasan et al. (2024). The network therefore reflects the output of one research group and shows little collaboration beyond it.

Figure 5. Co-authorship network.



4. TCCM Framework

4.1 Theories (T)

The TCCM synthesis covers 17 articles. Table 2 codes 23 theoretical perspectives across them, and no single framework dominates. Digital transformation and innovation is coded most often (four articles), followed by TAM, diffusion of innovations, the technology–organisation–environment (TOE) model, CSR and stakeholder theory, attitude–behaviour theory and integrated marketing communication (IMC) theory, with three articles each. Eight perspectives, including TPB, UTAUT and institutional theory, appear in two articles, and eight more in only one.

Roughly half of the articles build on an established behavioural or organisational theory. The others are descriptive, bibliometric or technical, and for these the table records the closest conceptual lens. Several entries, such as machine learning, federated learning and digital transformation, are better described as technical or conceptual frameworks than as theories, so Table 2 is best read as a map of perspectives rather than a count of tested theories. The range is wide, but the integration is weak.

Table 2. Theories and frameworks used in the reviewed studies.

Theory / Framework	No. of Articles Using the Theory	Articles & Authors
Technology Acceptance Model (TAM)	3	- Hasan et al. (2024) [9] - Bindhya et al. (2025) [11] - Edmond et al. (2022) [4]
Extended TAM (TAM2 / TAM3 / UTAUT-based)	2	- Hasan et al. (2024) [9] - Ali et al. (2023) [10]
Theory of Planned Behavior (TPB)	2	- Hasan et al. (2024) [9] - Bindhya et al. (2025) [11]
Unified Theory of Acceptance and Use of Technology (UTAUT)	2	- Hasan et al. (2024) [9] - Saheb et al. (2025) [12]
Diffusion of Innovations Theory (DOI / IDT)	3	- Mishra et al. (2023) [7] - Bindhya et al. (2025) [11] - Saheb et al. (2025) [12]
Uses and Gratification Theory (UGT)	1	- Madhura et al. (2024) [15]
Stimulus–Organism–Response (SOR)	1	- Madhura et al. (2024) [15]
Mind Perception Theory (MPT)	1	- Pradepan (2025) [1]
Workplace Spirituality / Emotional Intelligence Theory	1	- Pradhan & Jena (2016) [8]
Institutional Theory (Regulation & Compliance)	2	- Edmond et al. (2022) [4] - Mishra et al. (2023) [7]

CSR Theory / Stakeholder Theory	3	- Waghmare et al. (2025) [6] - Ali et al. (2023) [10] - Kumar et al. (2025) [14]
Social Capital Theory	1	- Roszko-Wójtowicz et al. (2025) [18]
Technology–Organization–Environment (TOE) Model	3	- Edmond et al. (2022) [4] - Mishra et al. (2023) [7] - Saheb et al. (2025) [12]
Machine Learning / Black Box AI Theory	2	- Pradepan (2025) [1] - Aljunaid et al. (2025) [17]
Explainable AI (XAI) Theory	2	- Pradepan (2025) [1] - Aljunaid et al. (2025) [17]
Federated Learning (FL) Framework	1	- Aljunaid et al. (2025) [17]
Bibliometric Science Mapping Framework	1	- Das et al. [3]
Consumer Behavior Theory	2	- Nadu (2022) [2] - Madhura et al. (2024) [15]
Attitude–Behavior Theory	3	- Nadu (2022) [2] - Hasan et al. (2024) [9] - Madhura et al. (2024) [15]
Integrated Marketing Communication (IMC) Theory	3	- Das et al. [3] - Roy & Misra (2024) [13] - Pratap (2021) [16]
Brand Equity Theory	2	- Waghmare et al. (2025) [6] - Madhura et al. (2024) [15]
Brand Recall Theory	1	- Madhura et al. (2024) [15]
Digital Transformation / Innovation Theory	4	- Edmond et al. (2022) [4] - Mishra et al. (2023) [7] - Saheb et al. (2025) [12] - Aljunaid et al. (2025) [17]

The way studies use theory varies a lot. Some lean heavily on an established framework, others are purely empirical or descriptive. Pradepan (2025) applies mind perception theory to ask how people attribute human-like qualities to AI-generated medical images, and reports serious risks from deepfakes, including distorted diagnoses and weaker trust in medical systems. Nadu (2022), studying herbal cosmetics, uses no formal theory but finds that trust, perceived safety and awareness drive buying behaviour.

Das et al. use a bibliometric mapping approach, not a behavioural model, to identify thematic clusters in social media marketing research. Edmond et al. (2022) draw on institutional theory in their study of cloud adoption in central banks and report that regulatory pressure, data-privacy concerns and security vulnerabilities are the main obstacles.

The CSR studies are also theory-grounded. Waghmare et al. (2025) rely on stakeholder theory and Ali et al. (2023) on an extended TAM; both find that CSR engagement raises trust, loyalty and purchase intention. Mishra et al. (2023) combine the TOE model with institutional theory and conclude that blockchain adoption in banking depends on technological maturity, organisational commitment and regulatory conditions.

In the workplace literature, Pradhan and Jena (2016) use workplace spirituality and emotional intelligence to study organisational commitment among bank employees, and find that higher emotional intelligence goes with stronger commitment and better well-being. Technology-adoption models are common in consumer research. Hasan et al. (2024) combine TAM, TPB and UTAUT and find that perceived usefulness, trust and social influence predict digital payment adoption among young users, while Bindhya et al. (2025) use diffusion of innovations and TPB and show that knowledge, expectations and demographic differences shape electric vehicle adoption.

Saheb et al. (2025) draw on elements of UTAUT and report that organisational readiness and perceived security influence the adoption of blockchain in financial reporting. Roy and Misra (2024) and Kumar et al. (2025) use no formal theory: the first shows how integrated marketing communication shapes educational choices, and the second maps the business ethics literature.

Madhura et al. (2024) integrate uses and gratifications theory, the SOR framework and TAM, and find that positive digital experiences strengthen purchase intention, although privacy and risk concerns can weaken the effect. Pratap (2021) takes a descriptive approach and stresses the value of online marketing research for firms that want deeper customer insight.

The more technical studies use newer frameworks. Aljunaid et al. (2025) rely on explainable AI (XAI) to build a transparent fraud-detection model and report better detection accuracy and fewer false positives. Roszko-Wójtowicz et al. (2025) use social capital theory to analyse e-commerce growth in Europe and show that trust and strong social networks support digital commerce.

4.2 Contexts (C)

Table 3 shows the settings in which the studies were carried out, and Figure 6 summarises them. India dominates: 11 of the 17 studies (64.7%) are Indian, covering digital payments, CSR, online shopping, blockchain adoption and education marketing. These studies deal mainly with trust, user perception and adoption barriers in a developing economy.

Several studies sit in institutional or sector-specific settings, mostly in finance and governance. Edmond et al. (2022) examine cloud adoption across central banks, where regulation is strict and security demands are high. Mishra et al. (2023) and Saheb et al. (2025) place blockchain adoption in banking and financial reporting and stress technological capability, regulatory alignment and organisational readiness.

Others are in technology-driven settings. Pradepan (2025) looks globally at deepfake medical imaging, and Aljunaid et al. (2025) study explainable AI for fraud detection in Middle Eastern banking. Both raise concerns about AI ethics, transparency, cybersecurity and data integrity.

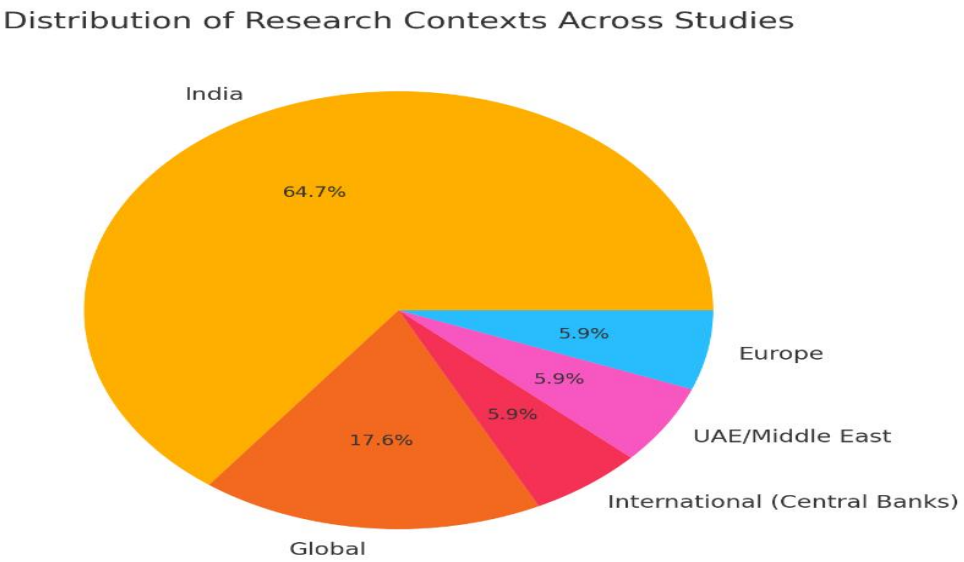
A few studies take a cross-national view. Das et al. map international trends in social media marketing, Kumar et al. (2025) map global research on business ethics, and Roszko-Wójtowicz et al. (2025) examine social capital and e-commerce across 28 European countries.

The picture is therefore concentrated. Indian, financial and organisational contexts dominate, and comparative or multi-country studies are rare. Work in other regions and industries would show whether the findings generalise.

Table 3. Research contexts of the reviewed studies.

Author(s) & Year	Country / Region	Sector / Industry Context	Study Focus / Context Description
Pradepan (2025)	Global	Healthcare / Medical Imaging	Ethical risks, detection techniques, and implications of deepfake medical images
Nadu (2022)	India	Consumer Goods / Herbal Cosmetics	Factors shaping purchasing behavior for herbal cosmetic products
Das et al.	Global	Marketing / Social Media	Mapping global research trends in social media marketing
Edmond et al. (2022)	International (Central Banks)	Banking & Financial Institutions	Barriers to cloud adoption in central banks
Waghmare et al. (2025)	India	CSR / Digital Markets	Impact of CSR on consumer loyalty and brand value
Mishra et al. (2023)	India	Banking / Blockchain Adoption	Blockchain use for resilient and sustainable operations in banking
Pradhan & Jena (2016)	India	Banking / Organizational Behavior	Workplace spirituality, emotional intelligence, and employee commitment
Hasan et al. (2024)	India	Digital Payments / FinTech	Determinants of behavioral intention to use digital payment systems
Ali et al. (2023)	India (NCR)	CSR & Consumer Behavior	Effect of CSR practices on purchase intention through trust
Bindhya et al. (2025)	India	Automotive / EV Market	Factors influencing electric vehicle adoption across demographic groups
Saheb et al. (2025)	India	Financial Reporting / Blockchain	Adoption of blockchain technology in financial reporting
Roy & Misra (2024)	India	Education / Higher Education Marketing	Impact of IMC strategies on student choice of institutions
Kumar et al. (2025)	Global	Business Ethics / Society	Mapping global research trends on business ethics and social issues
Madhura et al. (2024)	India	E-commerce / Online Fashion	Influence of digital experience on online fashion purchase decisions
Pratap (2021)	India	Marketing Research / Digital Insights	Role of online marketing research in generating customer insights
Aljunaid et al. (2025)	UAE / Middle East	Banking / AI & Fraud Detection	Explainable AI-driven fraud detection in financial institutions
Roszko-Wójtowicz et al. (2025)	Europe (28 countries)	E-commerce / Macroeconomics	Impact of social capital on e-commerce development

Figure 6. Distribution of research contexts across studies.



4.3 Characteristics (C)

Table 4 organises the constructs into independent, mediating, moderating and dependent variables. Independent variables are mostly technology attributes, consumer perceptions and organisational conditions: perceived usefulness and social influence in digital payment adoption (Hasan et al., 2024), CSR dimensions that shape consumer attitudes and loyalty (Ali et al., 2023), and readiness factors for blockchain and cloud computing (Mishra et al., 2023; Edmond et al., 2022).

Mediators are used less often but help explain how an effect arises. Trust mediates the effect of CSR in two studies (Ali et al., 2023; Waghmare et al., 2025). Attitude mediates in studies of digital payment adoption (Hasan et al., 2024), electric vehicle adoption (Bindhya et al., 2025) and online fashion purchase (Madhura et al., 2024).

Moderators show that relationships differ across groups and settings. Age and gender affect digital payment adoption (Hasan et al., 2024), privacy and review-authenticity challenges alter how digital experience affects purchase behaviour (Madhura et al., 2024), and organisational constraints shape cloud adoption in central banks (Edmond et al., 2022).

Dependent variables are mostly behavioural outcomes and adoption decisions: purchase intention (Ali et al., 2023; Madhura et al., 2024), behavioural intention toward new technologies (Hasan et al., 2024; Bindhya et al., 2025), technology adoption (Edmond et al., 2022; Saheb et al., 2025), and loyalty or commitment (Waghmare et al., 2025; Pradhan & Jena, 2016). In the deepfake and fraud-detection studies the outcomes are ethical risk, trust and detection accuracy (Pradepan, 2025; Aljunaid et al., 2025). Figure 7 shows that trust is the most frequently studied construct (five studies), ahead of behavioural intention, perceived usefulness or performance expectancy, and privacy and security concerns (four each).

Figure 7. Frequency of constructs across studies

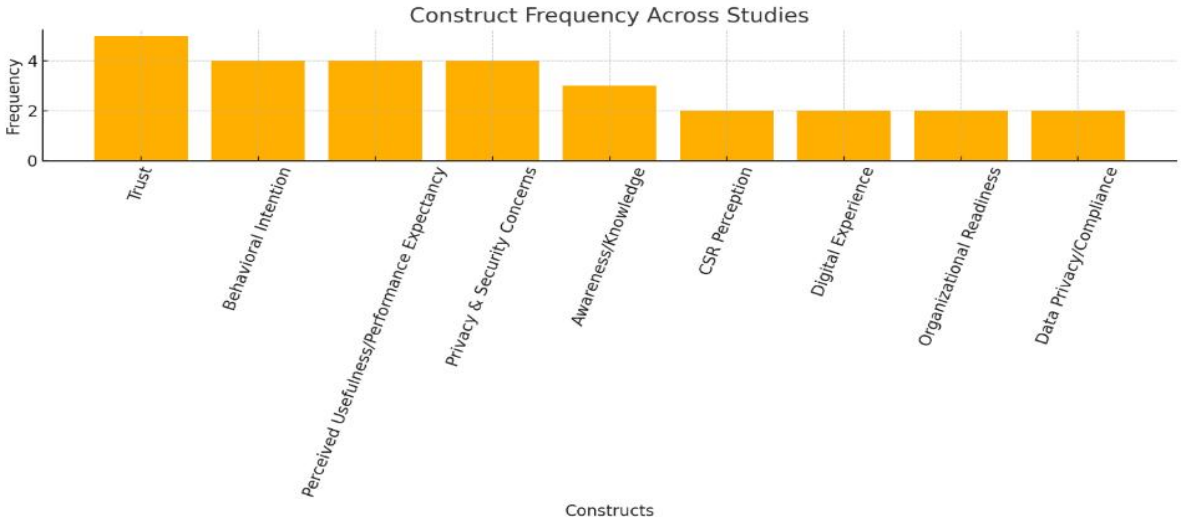


Table 4. Independent, mediating, moderating and dependent variables in the reviewed studies. Overview of variables

Study Title & Author (Year)	Independent Variables (IVs)	Mediating Variables (MVs)	Moderating Variables (ModVs)	Dependent Variables (DVs)
Deepfakes in Medical Imaging - Pradepan (2025)	Ethical concerns, Detection techniques	–	–	Trust in medical imaging, Risk perception
Herbal Cosmetics Buying Behaviour - Nadu (2022)	Product quality, Awareness, Price, Brand image	–	Demographics	Buying behaviour
SMM Bibliometric Review - Das et al.[3]	–	–	–	Research trends (Outcome)
Cloud Adoption in Central Banks - Edmond et al. (2022)	Security concerns, Compliance requirements, Cost, Infrastructure readiness	–	Organizational constraints	Cloud adoption intention
CSR & Brand Loyalty –-Waghmare et al. (2025)	CSR initiatives (Economic, Ethical, Philanthropic)	Trust	–	Brand loyalty, Brand value
Blockchain Adoption in Banking - Mishra et al. (2023)	Organizational readiness, Tech competency, Regulatory support	–	Environmental uncertainty	Blockchain adoption
Workplace Spirituality - Pradhan & Jena (2016)	Workplace spirituality, Emotional intelligence	–	–	Organizational commitment
Digital Payment Adoption – Hasan et al. (2024)	Perceived usefulness, Ease of use, Social influence, Trust, Risk	Attitude	Demographics (Age, Gender)	Behavioral intention
CSR → Purchase Intention - Ali et al. (2023)	CSR activities (Legal, Ethical)	Trust	–	Purchase intention
EV Adoption - Bindhya et al. (2025)	Awareness, Perceived benefits, Cost, Environmental concern	Attitude	Demographics	EV adoption intention
Blockchain in Reporting - Saheb et al. (2025)	Performance expectancy, Effort expectancy, Data safety	–	Organizational size	Technology adoption
IMC & Higher Education Choice - Roy & Misra (2024)	Digital campaigns, Alumni influence, Social media engagement	–	Institution type	Choice of education institution
Business Ethics Mapping –-Kumar et al. (2025)	Ethical issues, Societal expectations	–	–	Ethical frameworks in business
Online Fashion Consumerism – Madhura et al. (2024)	Digital experience (navigation, e-WOM), Trust, Usefulness	Attitude	Challenges (privacy, review authenticity)	Purchase intention
Online Marketing Research – Pratap (2021)	Online research tools, Data collection methods	–	–	Customer insight generation
Explainable AI in Banking - Aljunaid et al. (2025)	AI models, Data privacy, FL mechanisms	Explainability	–	Fraud detection accuracy
Social Capital & E-Commerce -Roszko-Wójtowicz et al. (2025)	Social trust, Civic participation, Network strength	–	GDP per capita	E-commerce development

Independent variables Pradepan (2025) treats ethical challenges, deepfake

risks and detection mechanisms as the main influences on trust in medical imaging. In a consumer setting, Nadu (2022) identifies product quality, brand reputation, awareness and price as determinants of buying decisions for herbal cosmetics. Edmond et al. (2022) point to security vulnerabilities, data-privacy obligations, regulatory demands and infrastructure readiness as the factors guiding cloud adoption in central banks.

In the CSR studies, Waghmare et al. (2025) and Ali et al. (2023) treat CSR activities (economic, ethical, philanthropic and legal) as drivers of customer loyalty and purchase intention. Mishra et al. (2023) take an organisational view, with readiness, technological maturity and regulatory support as inputs to blockchain adoption.

In the behavioural and technology-adoption studies, Hasan et al. (2024) name perceived usefulness, ease of use, social influence, trust and perceived risk as predictors of digital payment adoption among young users. Bindhya et al. (2025) examine awareness, perceived benefits, cost and environmental concern in electric vehicle adoption. For Madhura et al. (2024) the main independent variables are elements of digital experience, such as navigation, electronic word of mouth, trust and perceived usefulness, and Pratap (2021) identifies online research tools and data-gathering methods as the antecedents of customer insight.

The more technical studies use constructs such as performance expectancy, effort expectancy and data safety (Saheb et al., 2025), and AI model features, privacy mechanisms and federated learning architecture (Aljunaid et al., 2025). At the macro level, Roszko-Wójtowicz et al. (2025) treat social trust, civic engagement and network strength as predictors of e-commerce development in Europe.

Table 5. Independent variables in the reviewed studies.

Author & Year [Ref]	Independent Variables (IVs)
Pradepan (2025) [1]	Ethical concerns, Deepfake risk, Detection techniques, AI transparency
Nadu (2022) [2]	Product quality, Brand image, Awareness, Price
Das et al. [3]	Publication trends, Keyword clusters, Research themes (bibliometric)
Edmond et al. (2022) [4]	Data privacy, Security risk, Compliance pressure, Cost, Organizational readiness
Waghmare et al. (2025) [6]	CSR initiatives: Economic, Ethical, Philanthropic
Mishra et al. (2023) [7]	Organizational readiness, Tech capacity, Regulatory support, Sustainability orientation
Pradhan & Jena (2016) [8]	Workplace spirituality, Emotional intelligence
Hasan et al. (2024) [9]	Perceived usefulness, Ease of use, Social influence, Trust, Risk
Ali et al. (2023) [10]	CSR activities (Legal, Ethical), Trust
Bindhya et al. (2025) [11]	Awareness, Perceived benefits, Cost, Environmental concern
Saheb et al. (2025) [12]	Performance expectancy, Effort expectancy, Data safety
Roy & Misra (2024) [13]	Digital marketing, Alumni engagement, Social media campaigns
Kumar et al. (2025) [14]	Ethical concerns, Societal expectations, Corporate governance
Madhura et al. (2024) [15]	Digital experience, e-WOM, Trust, Perceived usefulness
Pratap (2021) [16]	Online research tools, Inquiry mechanisms
Aljunaid et al. (2025) [17]	AI model features, Privacy mechanisms, FL architecture, Explainability factors
Roszko-Wójtowicz et al. (2025) [18]	Social capital, Network strength, Civic engagement

Mediating variables

Mediators appear in only some of the studies, but they explain how the independent variables reach the outcome. Trust is the main mediator in the CSR research. Ali et al. (2023) show that it carries the effect of legal and ethical CSR activities on purchase intention, and Waghmare et al. (2025) show that it links CSR initiatives to brand loyalty and brand value.

Attitude is the other common mediator. Hasan et al. (2024) treat it as the route through which perceived usefulness, ease of use, social influence and trust affect digital payment adoption. Bindhya et al. (2025) find that it turns awareness, perceived benefits and environmental concern into an intention to adopt electric vehicles, and Madhura et al. (2024) show that it mediates the effect of digital experience and electronic word of mouth on fashion purchase intention.

In the AI-focused work, Aljunaid et al. (2025) use explainability as a mediator in fraud detection: the more interpretable the model's decisions, the more trust and understanding it creates, which supports detection performance.

Mediation is therefore studied selectively, with trust, attitude and explainability as the main examples. It is encouraging that some authors ask how and why a relationship holds and not only whether it does, but the practice is not yet widespread.

Table 6. Mediating variables in the reviewed studies.

Author & Year [Ref]	Mediating Variables (MVs)
Waghmare et al. (2025) **[6]**	Trust
Ali et al. (2023) **[10]**	Trust
Hasan et al. (2024) **[9]**	Attitude
Bindhya et al. (2025) **[11]**	Attitude
Madhura et al. (2024) **[15]**	Attitude
Aljunaid et al. (2025) **[17]**	Explainability (XAI Clarity)

Dependent variables

The dependent variables are a mix of behavioural, technological, ethical and organisational outcomes. In the healthcare AI setting, Pradepan (2025) focuses on trust in medical imaging and perceived risk as outcomes of the growing presence of deepfake images. Nadu (2022) looks at consumer buying behaviour.

Technology adoption is the outcome in several studies: cloud adoption intention in central banks (Edmond et al., 2022), blockchain adoption in banking (Mishra et al., 2023) and blockchain adoption in financial reporting (Saheb et al., 2025).

Behavioural intention is prominent in user-centred studies. Hasan et al. (2024) examine intention to use digital payments, and Bindhya et al. (2025) intention to adopt electric vehicles. Purchase intention is also common, in Ali et al. (2023) and Madhura et al. (2024), which link CSR practices, digital experience and trust to the likelihood of purchase.

Some studies examine relational or organisational outcomes: brand loyalty and brand value (Waghmare et al., 2025), organisational commitment (Pradhan & Jena, 2016) and students' choice of higher education institution (Roy & Misra, 2024).

At the macro level, Roszko-Wójtowicz et al. (2025) study e-commerce development across European countries, and Aljunaid et al. (2025) use fraud-detection accuracy as the outcome of an explainable, federated learning model.

Table 7. Dependent variables in the reviewed studies.

Author & Year [Ref]	**Dependent Variables (DVs)**
Pradepan (2025) [1]	Trust in medical imaging, Risk perception
Nadu (2022) [2]	Buying behaviour
Das et al. [3]	Research trends (outcome)
Edmond et al. (2022) [4]	Cloud adoption intention
Waghmare et al. (2025) [6]	Brand loyalty, Brand value
Mishra et al. (2023) [7]	Blockchain adoption
Pradhan & Jena (2016) [8]	Organizational commitment
Hasan et al. (2024) [9]	Behavioral intention to use digital payments
Ali et al. (2023) [10]	Purchase intention
Bindhya et al. (2025) [11]	EV adoption intention
Saheb et al. (2025) [12]	Blockchain adoption in reporting
Roy & Misra (2024) [13]	Choice of higher education institution
Madhura et al. (2024) [15]	Purchase intention
Pratap (2021) [16]	Customer insight generation
Aljunaid et al. (2025) [17]	Fraud detection accuracy
Roszko-Wójtowicz et al. (2025) [18]	E-commerce development
Kumar et al. (2025) [14]	Ethical frameworks in business

4.4 Methods (M)

Table 8 and Figure 8 summarise the research methods. Quantitative designs dominate, accounting for 10 of the 17 studies (58.8%). Nine are survey-based (52.9%) and usually analysed with SEM or regression: Nadu (2022) uses a questionnaire on herbal cosmetic buying, Waghmare et al. (2025) use SEM for CSR, loyalty and brand value, and Mishra et al. (2023), Hasan et al. (2024), Ali et al. (2023), Pradhan and Jena (2016), Madhura et al. (2024), Saheb et al. (2025) and Roy and Misra (2024) take a similar approach. Roszko-Wójtowicz et al. (2025) use a panel econometric design to study social capital and e-commerce across European countries.

Qualitative methods are rare. Only Edmond et al. (2022) use them (5.9%), drawing on expert interviews and document analysis to uncover institutional, regulatory and technological barriers to cloud adoption. That depth is useful for policy and governance questions that numbers cannot capture.

One study uses mixed methods. Bindhya et al. (2025) add qualitative insight to a quantitative analysis of electric vehicle adoption, which triangulates consumer perceptions and contextual barriers.

One study is experimental or model-based (5.9%). Aljunaid et al. (2025) develop and test an explainable federated learning model for fraud detection, examining interpretability and predictive

accuracy on real-world data.

Systematic reviews and bibliometric analyses make up three studies (17.6%). Pradepan (2025) synthesises research on deepfake risks in medical imaging, Das et al. combine bibliometric mapping with a PRISMA-guided review of social media marketing research, and Kumar et al. (2025) map the business ethics and society literature.

Finally, Pratap (2021) is purely conceptual. It discusses the role of online marketing research tools in generating customer insight and collects no new empirical data (5.9%).

The dominance of quantitative, survey-based work suggests a strong preference for empirical modelling in research on technology, CSR and consumer behaviour, while qualitative, mixed-method and experimental designs remain uncommon.

Figure 8. Distribution of data collection methods across studies.

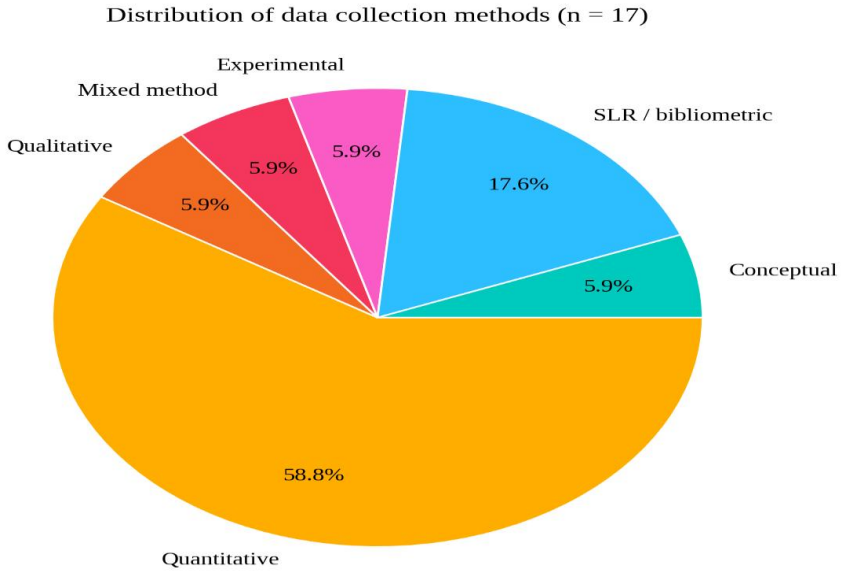


Table 8. Data collection methods across the reviewed studies.

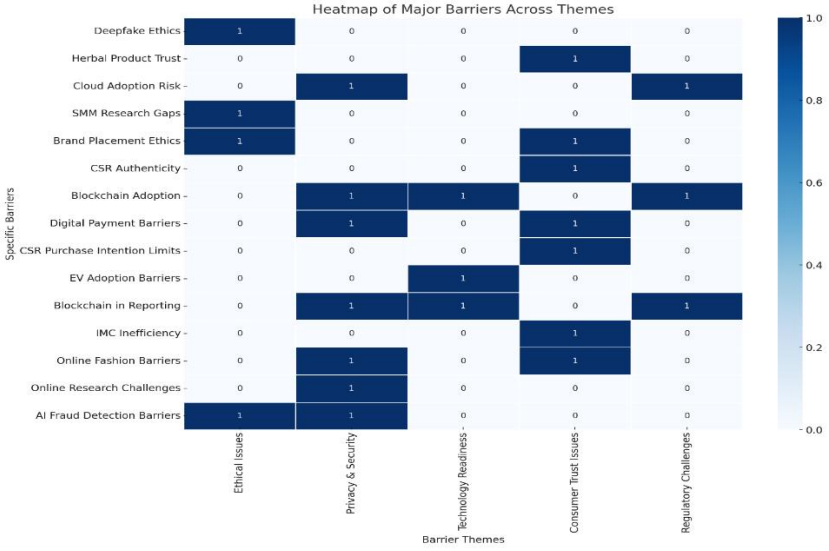
Data Collection Method	No. of Studies	%	Sample Studies (Author & Year [Ref])
Quantitative method	10	58.8%	Nadu (2022) [2]; Waghmare et al. (2025) [6]; Mishra et al. (2023) [7]; Pradhan & Jena (2016) [8]; Hasan et al. (2024) [9]; Ali et al. (2023) [10]; Saheb et al. (2025) [12]; Roy & Misra (2024) [13]; Madhura et al. (2024) [15]; Roszko-Wójtowicz et al. (2025) [18]
• Survey-based (SEM / regression)	9	52.9%	Nadu (2022) [2]; Waghmare et al. (2025) [6]; Mishra et al. (2023) [7]; Pradhan & Jena (2016) [8]; Hasan et al. (2024) [9]; Ali et al. (2023) [10]; Saheb et al. (2025) [12]; Roy & Misra (2024) [13]; Madhura et al. (2024) [15]
• Panel data econometric analysis	1	5.9%	Roszko-Wójtowicz et al. (2025) [18]
Qualitative method	1	5.9%	Edmond et al. (2022) [4]
Mixed method	1	5.9%	Bindhya et al. (2025) [11]
Experimental / model testing	1	5.9%	Aljunaid et al. (2025) [17]
Bibliometric and systematic literature review	3	17.6%	Pradepan (2025) [1]; Das et al. [3]; Kumar et al. (2025) [14]
Conceptual / theoretical review	1	5.9%	Pratap (2021) [16]
Total	17 studies	100%	–

5. Major Barriers

Figure 9 is a heatmap that groups the barriers reported in the studies into five themes: ethical issues, privacy and security, technology readiness, consumer trust and regulatory challenges. Privacy and security and consumer trust are the most frequent themes, each linked to seven of the fifteen barriers shown. Ethical issues come third.

1. Privacy and security (seven barriers) is the most common theme, especially around digital payments, blockchain, cloud computing and AI fraud detection, and points to continuing risks to data protection.
2. Consumer trust (seven) is equally common, for example in digital payments, online shopping, CSR and herbal products, and underlines the need for transparency and credibility.
3. Ethical issues (four) cover fairness, manipulation and responsibility, mainly around deepfakes, social media marketing, brand placement and AI fraud detection.
4. Technology readiness (three) concerns infrastructure and adoption, particularly for blockchain and electric vehicles, and shows a gap between innovation and practical use.
5. Regulatory challenges (three) arise mainly in cloud computing, blockchain and financial reporting, were regulation lags behind technology, especially in sensitive sectors.

Figure 9. Heatmap of major barriers across themes.



6. Limitations

The selected studies have methodological, contextual and conceptual limitations that restrict how far their findings can be generalised across AI ethics, digital payments, consumer behaviour, CSR, blockchain, cloud computing and e-commerce.

The main limitations are these:

1. Many studies rely on one-time surveys, which cannot show how behaviour changes over time and are open to self-reporting bias.
2. Most research is confined to a single country, often India, so findings are hard to apply elsewhere.
3. Established theories are used weakly, which limits explanation and theory building, particularly on complex or ethical questions.
4. Few studies use long-term, experimental or real-world designs, which reduces practical relevance.
5. Technology studies tend to focus on models rather than on real-world challenges such as infrastructure or workforce readiness.
6. Ethical, regulatory and societal issues, including AI fairness and accountability, are often examined only briefly.

This review has limits of its own. It draws on a single database (Scopus), a short time window, English-language open-access articles only, and a small final sample, so relevant work indexed elsewhere or behind a paywall may be missing. The final sample is also dominated by finance and technology-adoption studies, and only a few deal directly with marketing communication, so conclusions about AI ethics in marketing should be read with this in mind.

7. Research Gaps

Research on AI-driven marketing communication has grown steadily, but several shortcomings limit what we can conclude. Most empirical work uses cross-sectional survey data collected at one point in time, so it cannot show how consumer behaviour and ethical perceptions change as the technology matures or as people gain experience with AI. One-time questionnaires also add the risk of bias and make long-term causal claims difficult.

The studies are also geographically concentrated. Much of the work on digital payments, CSR, online shopping and blockchain comes from India. It is valuable, but it limits generalisation to other cultural, economic and regulatory settings, and regions such as Africa, Latin America and parts of Europe are barely covered.

Theory use is inconsistent. About half of the studies apply no formal framework, and where TAM, TPB,

UTAUT or CSR theories are used, they are often applied narrowly. This makes it hard to build a unified account of how ethical issues shape consumer responses to AI-mediated communication. Real-world testing is also scarce. Studies of deepfake detection, explainable AI and federated learning are mostly model-centred and tested in simulations or controlled experiments, so we know little about how these tools behave in real business settings or how consumers deal with them outside the laboratory.

Ethical and regulatory questions are mentioned in many papers but rarely studied in depth. Algorithmic discrimination, transparency mechanisms, consumer data rights and accountability structures get only brief attention, and little is known about how AI ethics can be built into marketing communication strategy in practice.

Finally, the work is siloed. Research on AI, blockchain, CSR, cloud computing and consumer behaviour rarely draws on the others, so interdisciplinary frameworks that connect technology, ethics and consumer psychology remain largely undeveloped.

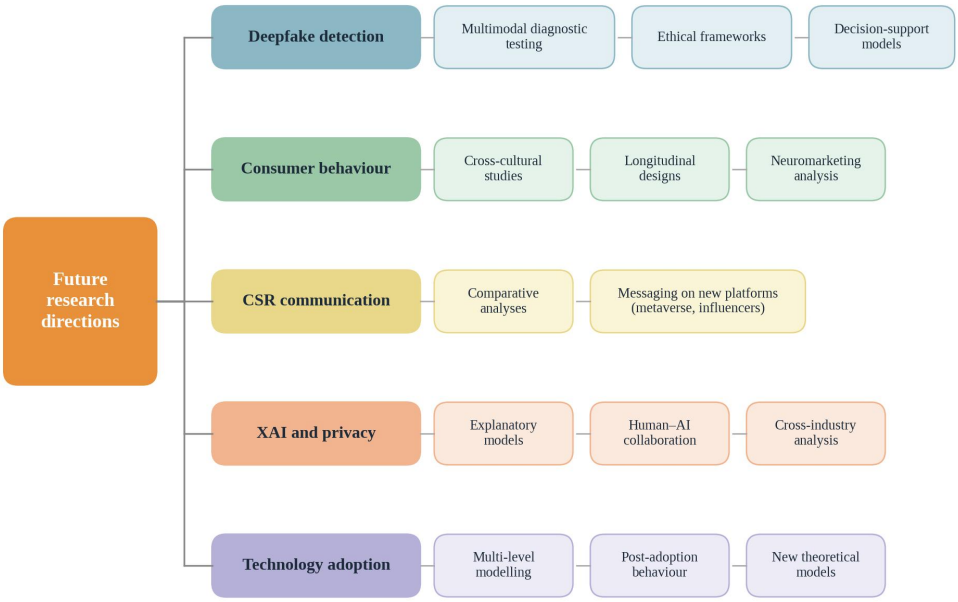
8. Future Research Directions

Future work should build stronger ethical frameworks for AI-driven marketing and develop AI systems that are transparent, fair and trustworthy for consumers. Studies should also move beyond single-country designs and examine how people in different cultures respond to AI communication under different social and regulatory conditions.

Methodologically, researchers should move from one-time surveys toward longitudinal studies, field and laboratory experiments, and newer tools such as neuromarketing, which can show how trust in and acceptance of AI develop over time. Testing deepfake detection and explainable AI in real business or healthcare settings would show how well they work and what ethical effects they have. Figure 10 summarises these directions.

In CSR and marketing ethics, it will be important to study how AI shapes messaging on newer platforms such as the metaverse and influencer campaigns, since trust is at stake there. Technology-adoption research could use multi-level models that connect individual, organisational and societal factors, to understand how innovations such as blockchain, digital payments and electric vehicles are taken up over time.

Figure 10. Summary of future research directions.



9. Conclusion

AI-driven marketing communication is changing how brands reach people, and it brings ethical concerns that cannot be set aside. Privacy, data misuse, bias and a lack of transparency leave consumers uncertain and sometimes vulnerable.

The research reviewed here offers useful insights, but it is scattered and often shallow on the ethical questions, which points to the need for stronger guidelines and testing in real settings. By pulling together what is known and what is still missing, this review aims to encourage more careful, responsible and human-centred use of AI in marketing communication.

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