



ISSN: 2617-6548

URL: [www.ijirss.com](http://www.ijirss.com)



## Charting a decade of AI in social commerce: Implications for consumer experience and satisfaction

Wan Nur Syaheera Wan Ruslan<sup>1</sup>,  Kamarulzaman Ab. Aziz<sup>1\*</sup>

<sup>1</sup>*Faculty of Business, Multimedia University, Jalan Ayer Keroh Lama, 75450 Bukit Beruang, Melaka, Malaysia.*

Corresponding author: Kamarulzaman Ab. Aziz (Email: [kamarulzaman.aziz@mmu.edu.my](mailto:kamarulzaman.aziz@mmu.edu.my))

### Abstract

Generative Artificial Intelligence (Gen AI) introduces cutting-edge technologies that mimic human-like functions, fostering human traits in AI systems. By aiding in content creation and customer support, Gen AI aligns with the shift from the Industrial Revolution (IR) 4.0 to IR 5.0, emphasizing social responsibility through enhanced Human-Computer Interaction (HCI). The collaboration between human expertise and intelligent machines drives demand for personalized solutions, significantly enhancing consumer satisfaction. The transition from e-commerce to social commerce further bridges this evolution into IR 5.0, offering tailored experiences. The rise of AI-powered tools in social commerce has fueled AI-augmented social commerce, providing strategic opportunities through brand anthropomorphism, where human characteristics are attributed to AI platforms. These advancements reshape consumer perceptions and satisfaction by improving service quality, particularly for social media natives who are hyper-users of social commerce, especially in Malaysia. This study conducts a Systematic Literature Review (SLR) of research from 2015 to 2025, exploring how brand anthropomorphism in Gen AI-augmented social commerce impacts consumer satisfaction. Following the PRISMA 2020 guidelines, this review offers an in-depth analysis and provides actionable recommendations for optimizing AI-augmented social commerce.

**Keywords:** Brand anthropomorphism, Consumer satisfaction, Generative artificial intelligence, PRISMA, Social commerce, Systematic literature review.

**DOI:** 10.53894/ijirss.v8i6.9893

**Funding:** This study received no specific financial support.

**History:** **Received:** 4 July 2025 / **Revised:** 7 August 2025 / **Accepted:** 11 August 2025 / **Published:** 17 September 2025

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**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

**Transparency:** The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

**Publisher:** Innovative Research Publishing

## 1. Introduction

Artificial Intelligence (AI) has redefined business operations via automation, analytics, and generative capabilities [1]. The evolution of AI has given rise to Generative AI (Gen AI), generating written, graphics, and sound content [2]. The shift from Industrial Revolution (IR) 4.0 to 5.0 has introduced Techno-Social Revolution, uniting manpower and robotics [3]. In line with that, social commerce has leveraged personalization, promoting IR 5.0 via human-AI collaboration to optimize consumer satisfaction [4]. Businesses utilize AI in platforms as its human-like traits enhance the anthropomorphic design, shaping the brand's perception [5].

The extension of AI, which earlier focused on data-centric roles such as AI-powered analytics, segmentation, and tailored suggestions, has now advanced into the formation of authentic, immersive, and imaginative content via Gen AI [6]. Gen AI integration has extended across industries, including academia, healthcare, and business, particularly in customer experience and marketing [7]. As proposed by Kalota [8], industry professionals must develop a deeper understanding of Gen AI, considering its growing applications, transformative impact, and the hurdles in its adoption. Gen AI's extensive influence has drawn consumer attention via tailored content and improved operational efficiency [9]. The application of Gen AI focuses on marketing and customer relations, facilitating personalized promotional approaches and strengthening customer loyalty [10]. This is demonstrated by Gen AI chatbot interactions, embedded with anthropomorphic traits [11].

The dynamic commercial landscape has integrated social computing platforms, which have given rise to social commerce, a medium for sharing community-driven insights, marketing products and services, and operating businesses [12]. In recent years, social commerce has become more appealing with AI augmentation [13]. Prior studies have found that Gen AI applications in social commerce assist in retrieving details of goods and services via personalized search findings [14]. Also, it refines customer service via Gen AI chatbots, embedded with human-like traits, creating a warm and engaging platform [11]. While social commerce continues to gain recognition for its importance, concerns regarding user discontinuance intention, as outlined by Chong et al. [15], pose threats to its long-term sustainability. Consequently, further studies are vital for pertinent entities to implement proactive measures in addressing social commerce deficiencies.

## 2. Methodology

This research adopts a Systematic Literature Review (SLR) as a method to discover underexplored areas based on identified gaps, ensuring meaningful contributions to existing knowledge, minimizing redundancy, and confirming novelty [16].

### 2.1. Research Scope

In defining the comprehensive scope of the study, particularly within the dynamic research domain of social sciences, this SLR is best suited to adopt the widely recognized PICOC model [17]. The PICOC model strategically guides researchers to utilize its key elements, facilitating the systematic construction of research questions [18]. Table 1 addresses the elements within the SLR context, forming the research question.

**Table 1.**

Application of the PICOC model in a research context.

| PICOC Element | Research Context                                                                                                                      |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Population    | Social media natives. These natives include Millennials, Gen Z, and Gen Alpha, who are tech-savvy users of social commerce platforms. |
| Intervention  | Gen AI-augmented social commerce. This is adopted by businesses that apply the marketing strategy of brand anthropomorphism.          |
| Comparison    | Conventional digital commerce. This is due to the landscape lacking sufficient AI augmentation in its solutions.                      |
| Outcome       | Consumer satisfaction. This study aims to assess consumer satisfaction when interacting with AI-driven tools in social commerce.      |
| Context       | The primary focus is on Malaysia. Any international research may be considered if its findings apply to the local context.            |

**Research Question:** How does Gen AI-augmented social commerce, which facilitates brand anthropomorphism, contribute to consumer satisfaction among social media natives?

## 2.2. Search Strategy

This SLR has selected The Lens, also known as Lens.org and formerly established as Patent Lens in 1998, as the primary digital library for retrieving both scholarly and patent literature. The Lens was chosen for its extensive coverage and facilitation of a freely accessible database [19]. This database has been similarly used in prior research within related fields [20]. Subsequently, according to Carrera-Rivera et al. [18] and Booth et al. [21], the search string formation involves incorporating PICOC elements to create relevant keywords, which are then connected using Boolean operators "AND" or "OR", serving as commands in search engines. For this SLR, the search strings are as presented in Table 3, which can be found in the following section. Accordingly, this SLR defined the inclusion and exclusion criteria in Table 2 to ensure a systematic selection. This review protocol was established beforehand to prevent scope deviations, ensure consistency, and avoid work redundancy [21].

**Table 2.**

Inclusion and Exclusion Criteria.

| Criteria              | Inclusion                                                                                                             | Exclusion                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Topic relevance       | Emphasise brand anthropomorphism, Gen AI, social commerce, and consumer satisfaction in AI-augmented social commerce. | Focus solely on e-commerce without addressing social commerce, Gen AI, brand anthropomorphism, and consumer satisfaction. |
| Data source           | The Lens.                                                                                                             | Other scholarly databases.                                                                                                |
| Publication type      | Journal articles, book chapters, dissertations, and conference proceeding articles.                                   | Non-scholarly, grey literature, and non-peer-reviewed publications.                                                       |
| Publication year      | 2015 to 2025.                                                                                                         | Before 2015 or no publication date.                                                                                       |
| Language              | English studies.                                                                                                      | Non-English studies.                                                                                                      |
| Target audience       | Consumers, particularly social media natives.                                                                         | Unrelated consumer segments, such as non-digital consumers.                                                               |
| Geographical coverage | Malaysian and international studies that offer comparable insights.                                                   | Beyond the Malaysian context, with non-comparable findings.                                                               |

## 2.3. Literature Identification, Screening & Selection

This SLR employs the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020, the latest literature search reporting guideline, providing researchers with a complete checklist and flow diagram [22]. The guideline comprises several stages.

The first stage, known as the identification stage, involves clarifying The Lens as the scholarly database used, along with the applied filters. These filters include publication year and publication type. These filters incorporate a publication date range from 2015 to 2025 and preferred document types, specifically Journal Articles, Book Chapters, Dissertations, and Conference Proceedings Articles. In March 2025, search queries were executed. The resulting scholarly work records were exported from The Lens database in BibTeX format to be integrated into reference management software. In this study, Mendeley served as the reference manager to further perform counts for data extraction. As a result, 190 studies were identified (see Table 3). Accordingly, Mendeley helps to detect duplicates, removing 45 studies (see Figure 1).

**Table 3.**

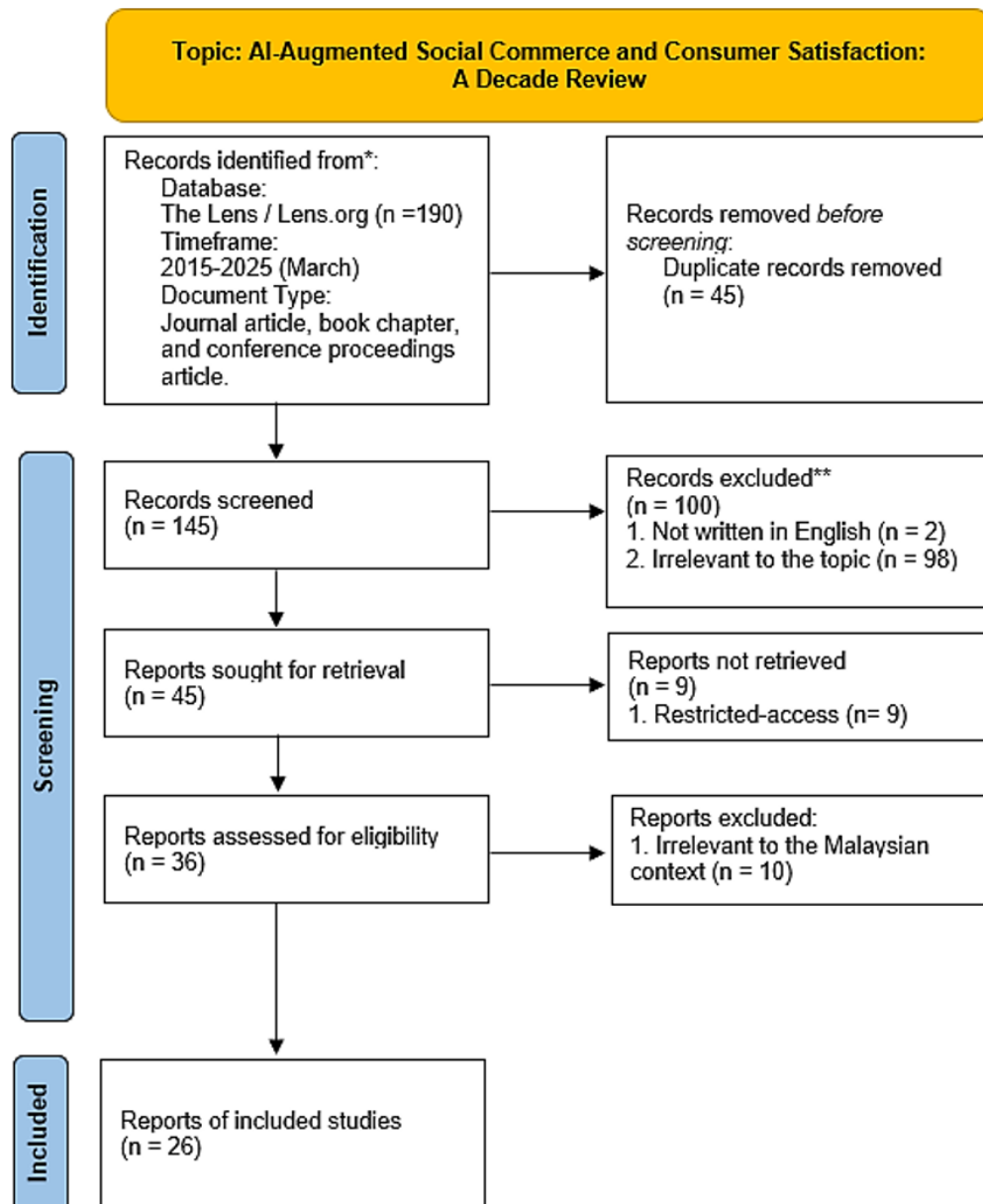
Reference Count Based on The Lens.

| <b>Search String</b>                                                                                                                        | <b>No. of Studies</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| ("Social Commerce") AND ("Artificial Intelligence")                                                                                         | 144                   |
| ("Social Commerce") AND ("Generative Artificial Intelligence" OR "Generative AI" OR "Gen AI")                                               | 4                     |
| ("Social Commerce") AND ("Artificial Intelligence") AND (Brand Anthropomorphism)                                                            | 5                     |
| ("Social Commerce") AND ("Artificial Intelligence") AND ("Customer Satisfaction")                                                           | 33                    |
| ("Social Commerce") AND ("Artificial Intelligence") AND ("Customer Satisfaction") AND (Brand Anthropomorphism)                              | 4                     |
| ("Social Commerce") AND ("Artificial Intelligence") AND ("Customer Satisfaction") AND (Brand Anthropomorphism) AND (SERVQUAL)               | 0                     |
| ("Social Commerce") AND ("Artificial Intelligence") AND ("Customer Satisfaction") AND (Brand Anthropomorphism) AND ("Social Media Natives") | 0                     |
| Total No. of Studies                                                                                                                        | 190                   |

The second stage, known as the screening stage, involves screening 145 studies on language, retaining only English-language references and topic relevance. This screening process requires reviewing titles and abstracts. These measures were implemented to prevent potential inconsistencies, including misinterpretations of meaning that may arise from document translation, and to ensure that only relevant studies were included. As recorded in Figure 1 100 studies did not meet the topic relevance and language criteria.

The third stage, known as the retrieval stage, involves verifying the accessibility of the remaining 45 studies. This process validates whether the scholarly works are available via open access or accessible under the institution's subscription. Given the high cost of accessing studies from multiple publishers, prioritizing openly available scholarly works ensures a practical selection process for conducting comprehensive analysis. Only accessible studies proceed to the following stage, while non-subscribed sources are excluded due to financial constraints. Nine studies were reported as unavailable for retrieval in Figure 1.

The fourth stage, known as the eligibility stage, involves filtering 36 studies to ensure they correspond to the geographical scope. Eligible studies must focus on Malaysian or comparable international findings. Accordingly, the sampling design and data collection methods in the research methodology of each scholarly work were thoroughly reviewed to validate their eligibility for inclusion. Thus, ten studies were excluded, resulting in 26 studies included for SLR, as seen in Figure 1.



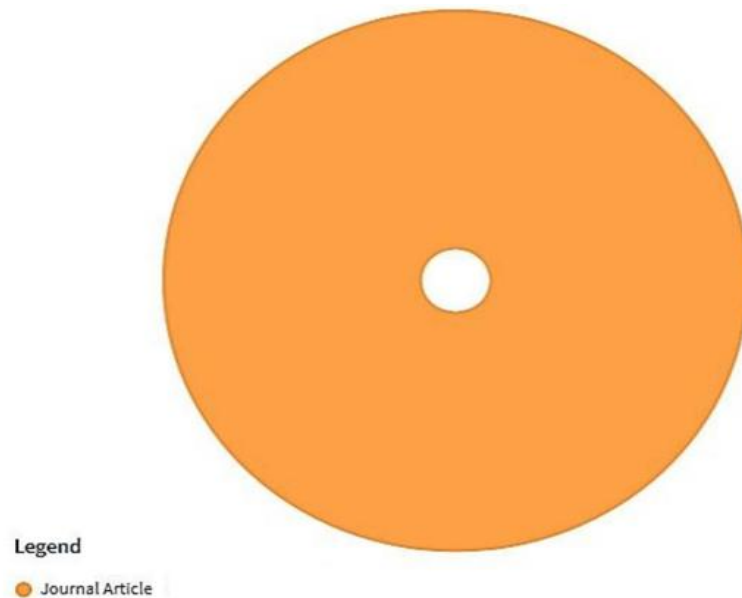
**Figure 1.**  
PRISMA 2020 Flow Diagram.

### 3. Data Synthesis and Analysis

This section provides an analysis of the final dataset by describing the key characteristics and identifying patterns and trends. The dataset's characterizations are categorized based on document type, publication year, research field, and citation count via Lens.org. An extended analysis was conducted using Connected Papers to identify both prior works and derivative works.

#### 3.1. Document Type

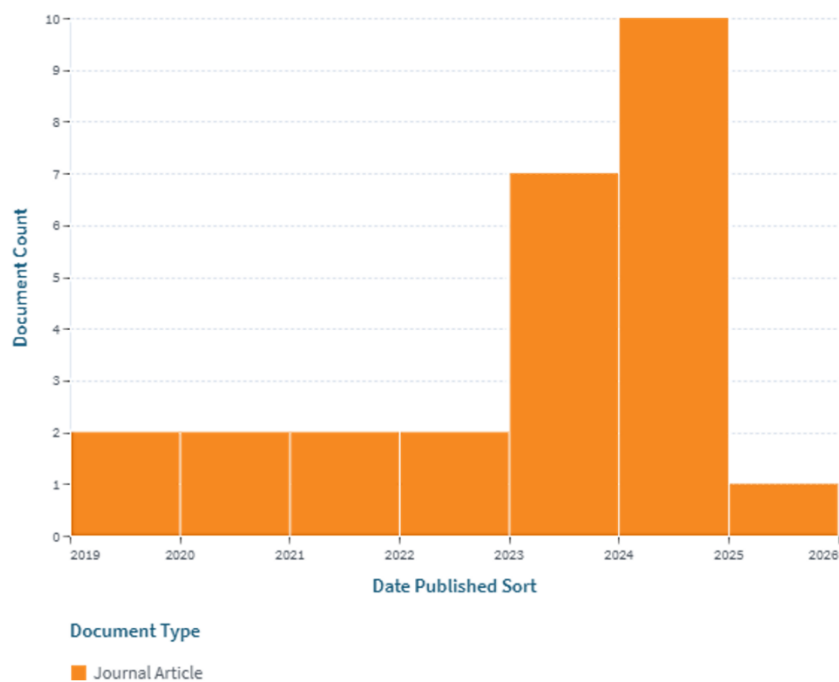
Before initiating the search on The Lens, filters were applied to include specific document types. Following the PRISMA 2020 guidelines, the final inclusion comprises 26 scholarly works, all of which are journal articles, as shown in Figure 2. The inclusion of journal articles is driven by the quality assurance perceived through the thorough peer-review process, ensuring quality and credibility.



**Figure 2.**  
Document Type via Lens.org.

### 3.2. Publication Year

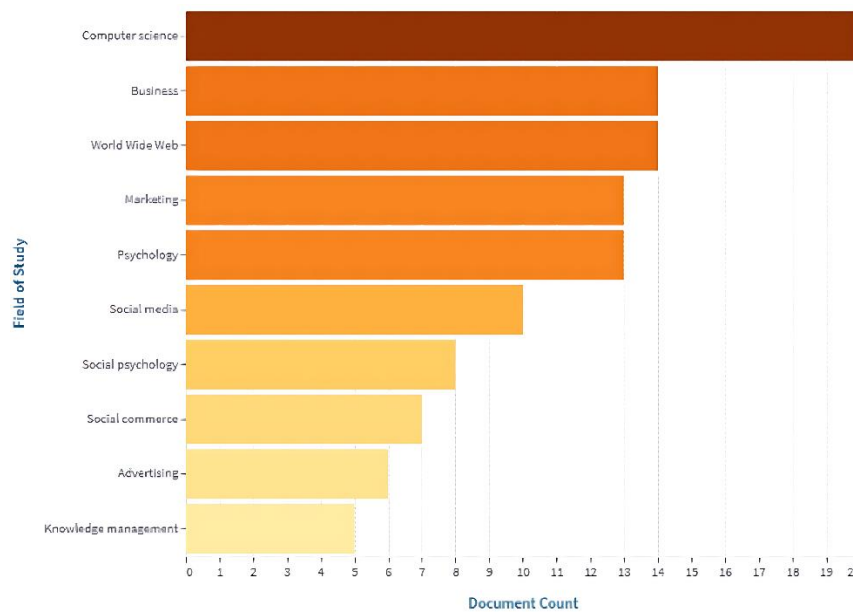
In Figure 3, the trend analysis graph reveals a sharp spike in studies beginning in 2023 and peaking in 2024. This trend indicates the growing recency of research attention in this domain, corresponding with the rise of Gen AI, the emergence from e-commerce to social commerce, and shifts in consumer behavior.



**Figure 3.**  
Publication Year via Lens.org.

### 3.3. Research Field

In Figure 4 the top four fields highlight this study's technological and commercial foundation. The significance of the business and marketing fields reflects the role of technologies within the commercial industry. The considerably high representation of psychology, social psychology, social media, and social commerce fields indicates a growing scholarly interest in understanding consumer behavior in AI-augmented settings.



**Figure 4.**  
Field of Study via Lens.org.

### 3.4. Publication Year

According to Table 4, which presents the scholarly works with high citation counts retrieved from The Lens, the top 10 most cited scholarly works collectively accumulated 223 citations out of the overall 229 citations across the finalized 26 scholarly works for this SLR. This indicates that only a small core of scholarly works in this domain contributes to academic influence. An analysis of the top 3 most cited works portrays a strong research interest in the social commerce domain. Examining the publication year trend, the years 2020 to 2023 dominate the top-cited works, reflecting the rapid technological advancement and rising research interest in this area over the past few years. In recent studies from 2022 to 2023, the research focus has evolved toward AI-driven engagement tools and sociable digital commerce platforms, with the integration of Gen AI, particularly the chatbots Sidlauskiene et al. [23] and virtual AI streamers [24], reshaping social commerce interactions.

**Table 4.**  
Top 10 Most Frequently Cited Scholarly Works via Lens.org.

| Title                                                                                                          | Authors                  | Year | Citation |
|----------------------------------------------------------------------------------------------------------------|--------------------------|------|----------|
| AI-based chatbots in conversational commerce and their effects on product and price perceptions.               | Sidlauskiene et al. [23] | 2023 | 35       |
| Extending the Theory of Planned Behavior in the Social Commerce Context: A Meta-Analytic SEM (MASEM) Approach. | Leong et al. [25]        | 2022 | 30       |

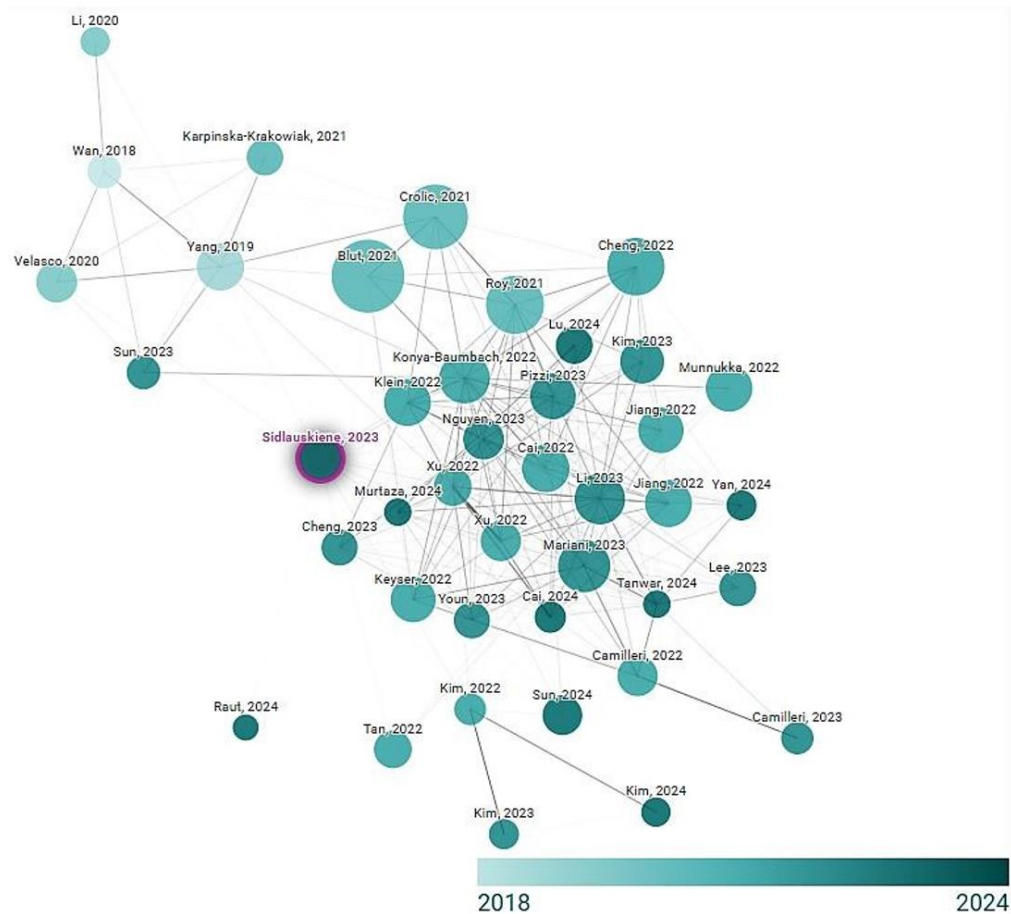
#### 3.4.1. Connected Papers Analysis

To complement the findings of the frequently cited work analysis retrieved through The Lens, a further in-depth analysis through literature mapping was carried out using Connected Papers via “<https://www.connectedpapers.com>” in May 2025. The analysis began with the designation of a study by Sidlauskiene et al. [23] as the “origin paper,” enabling the Connected Papers system to build a graph based on it. The resulting graph is illustrated in Figure 5. From this graph, analyses can be executed by examining the node size, node color, and connecting lines. These analyses are guided by Behera et al. [26].

Node size presents the citation-based insight. Therefore, the bigger the node's size, the more influential the paper is. According to Figure 5, papers by Blut et al. [27], Crolic et al. [28] and Roy and Naidoo [29] are among the top three largest nodes, reflecting that they are among the most frequently cited papers in this area of study. This can also be verified by examining the citation ranking from the “List View” feature. Collectively, these papers demonstrate that the enhancement of user experiences by AI agents such as anthropomorphized chatbots depends on the context of the application. The effectiveness is driven by the factors of time orientation, as suggested by Roy and Naidoo [29], emotional states, as mentioned by Crolic et al. [28], and design features, as highlighted by Blut et al. [27]. Hence, this indicates the need to design and deploy human-AI interaction carefully, depending on the specific circumstances. This is supported by a finding by Crolic et al. [28] signifying the negative impact of implementing anthropomorphized chatbots, leading to negative consumer emotions due to not meeting their expectations when handling complaints. Nevertheless, according to Roy and Naidoo [29], chatbots with a warm tone appear appealing for present-oriented consumers.

As for the node color, it depicts the study's timeline. Hence, the recent papers will be brighter, while the older papers will be dimmer. On the other hand, the interpretation of the recent papers indicates the recent trend in the related area of study, while the interpretation of the older papers represents the foundational works in this area of study. As depicted in

Figure 5, most of the brighter nodes range from papers published from the year 2023 to 2024, signifying the emerging papers and the current trend in this area of research. The dimmer nodes are mostly papers published in the years 2018 to 2020, indicating the initial stage of development for this area of study. According to the graph in Figure 5, there are a total of 41 interconnected papers identified. This amount can be verified by converting the graph into a list of papers using the “List View” feature. Besides, the original paper by Sidlauskienė et al. [23] still appears significant, regardless of not being the largest node, but owning an intermediate-sized and brighter color node signifies that the paper is recent and substantially impactful.



**Figure 5.**

Graph via Connected Papers.

**Source:** Li, et al. [30]; Crolie, et al. [28]; Blut, et al. [27]; Sidlauskienė, et al. [23]; Chong, et al. [15]; Roy and Naidoo [29]; Konya-Baumbach, et al. [31]; Klein and Martinez [32]; Xu, et al. [33]; Kim and Lee [34]; Li, et al. [35]; and Kassa and Worku [1].

Nevertheless, the relevance of this Connected Papers relies on its ability to identify papers with a high similarity of content. This can be achieved by examining the connecting lines, which explain the strength of content similarity. Thicker lines indicate a higher degree of content similarity between the connected papers, and vice versa. As seen in Figure 6, papers by Klein and Martinez [32], Konya-Baumbach et al. [31] and Xu et al. [33] are among the papers with direct and significant links to the original paper. These three papers are closely correlated to the original paper due to their mutual themes in exploring the influence of anthropomorphized chatbots on consumer perceptions and behaviors in the digital commerce context. These studies also imply psychological considerations to examine the relationship between chatbots and consumers, which include social presence as a mediating variable in a study by Konya-Baumbach et al. [31], warmth perception as a mediating variable in a study by Xu et al. [33], and situational loneliness as a moderating variable in the original paper by Sidlauskienė et al. [23]. Additionally, the studies were all conducted in online commercial settings, specifically in conversational commerce by Sidlauskienė et al. [23], online retail by Xu et al. [33] and food e-commerce by Klein and Martinez [32]. Table 5 shows the top five papers with high similarity to the original paper.



**Table 5.**  
Papers with High Similarity Content to the Origin Paper via Connected Papers.

| <b>Title</b>                                                                                                                     | <b>Authors</b>             | <b>Year</b> | <b>Similarity to Origin</b> |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------|-----------------------------|
| Someone out there? A study on the social presence of anthropomorphized chatbots.                                                 | Konya-Baumbach et al. [31] | 2023        | 9.9                         |
| The impact of anthropomorphism on customer satisfaction in chatbot commerce: an experimental study in the food sector            | Klein and Martinez [32]    | 2022        | 9.5                         |
| Enhancing customer satisfaction with chatbots: the influence of anthropomorphic communication styles and anthropomorphised roles | Xu et al. [36]             | 2022(b)     | 9.2                         |
| The rise of chatbots in political campaigns: the effects of conversational agents on voting intention                            | Kim and Lee [34]           | 2022        | 8.4                         |
| Enhancing customer satisfaction with chatbots: The influence of communication styles and consumer attachment anxiety             | Xu et al. [33]             | 2022(a)     | 8.3                         |

Subsequently, to be indicated as an influential recent paper, the node must be large and have a brighter color, while to be signified as an influential foundational paper, the node must be large and have a dimmer color. The identification of these papers can be obtained from the features of “Prior Works” and “Derivative Works” via Connected Papers. The “Prior Works” feature facilitates the discovery of influential older papers that serve as the groundwork in the research field with high graph citation. According to Connected Papers, studies by Go and Sundar [37], Araujo [38], and Epley et al. [39] are listed as the top influential prior works, which provide the foundation for this research area. These papers established a theoretical foundation by Epley et al. [39] and data-driven foundations by Go and Sundar [37] and Araujo [38] in understanding the way anthropomorphism affects the consumer's reaction when using chatbots. The foundational idea proposed by Epley et al. [39] incorporates offering a theoretical model, namely the SEEK model, to examine how non-human agents are perceived as anthropomorphic, using the psychological factors grounded in the model. Besides, this study extends the theory application in the field of technological agents such as robotics, artificial intelligence, and virtual assistance, which guides in designing these agents with psychological values like humans. Studies by Go and Sundar [37] and Araujo [38] collectively established that anthropomorphic design elements in chatbots, such as names, visuals, and language, help in shaping users' trust, ultimately contributing to brand perception and consumer satisfaction. Table 6 portrays the top five prior works retrieved from the Connected Papers.

**Table 6.**  
Prior Works via Connected Papers.

| <b>Title</b>                                                                                                                                                 | <b>Authors</b>      | <b>Year</b> | <b>Paper Citations</b> | <b>Graph citations</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|------------------------|------------------------|
| Humanizing chatbots: The effects of visual, identity, and conversational cues on humanness perceptions                                                       | Go and Sundar [37]  | 2019        | 620                    | 29                     |
| Living up to the chatbot hype: The influence of anthropomorphic design cues and communicative agency framing on conversational agent and company perceptions | Araujo [38]         | 2018        | 725                    | 27                     |
| On seeing human: a three-factor theory of anthropomorphism.                                                                                                  | Epley et al. [39]   | 2007        | 2490                   | 23                     |
| Customer service chatbots: Anthropomorphism and adoption                                                                                                     | Sheehan et al. [40] | 2020        | 369                    | 21                     |
| Machines and Mindlessness                                                                                                                                    | Nass and Moon [41]  | 2000        | 2367                   | 20                     |

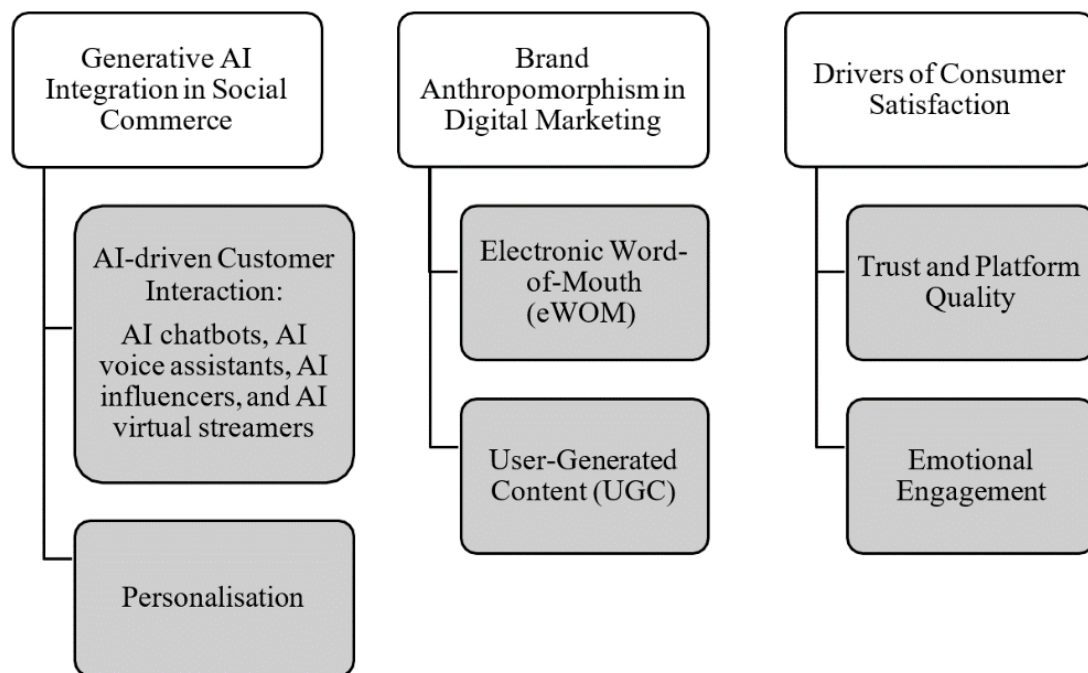
Conversely, the “Derivative Works” feature enables the detection of influential recent papers that signify new trends and emerging paths in the research field, which are mainly relevant and associated with many papers in the graph. Based on Connected Papers, studies by Zhou [42], Meng et al. [43] and Zhang et al. [44] are listed among the top influential recent works that can be retrieved. These studies provide insights into recent research directions, as evidenced by the large number of graph citations. A study by Zhu et al. [45] The text emphasizes the importance of employing AI chatbots with roles that are appropriate to the context of the service, thereby justifying the need to explore new roles for AI chatbots beyond serving as specialists or companions, as observed in this study. Additionally, Meng et al. [43] highlight the growing relevance of human-AI collaboration between humans and chatbots, thus suggesting future studies to examine potential mediators that may shed light on understanding consumer behavior when engaging with chatbots. Ultimately, Zhang et al. [44] suggest exploring the unfavorable impact of anthropomorphism as well as determining the favorable degree of anthropomorphic attributes to be employed in service robots. These derivative works can be identified in Table 7.

**Table 7.**  
Derivative Works via Connected Papers.

| Title                                                                                                                                                                 | Authors           | Year | Paper Citations | Graph references |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------|-----------------|------------------|
| Anthropomorphism of Artificial Intelligence Service Agents and Consumer Responses: A Systematic Review Literature Review and Future Research Agenda                   | Li et al. [35]    | 2025 | 0               | 14               |
| Expert or partner: The matching effect of AI chatbot roles in different service contexts                                                                              | Jhu et al. [45]   | 2025 | 0               | 12               |
| The Impact of Chatbot Response Strategies and Emojis Usage on Customers' Purchase Intention: The Mediating Roles of Psychological Distance and Performance Expectancy | Meng et al. [43]  | 2025 | 2               | 12               |
| Humanlike service robots: A systematic literature review and research agenda                                                                                          | Zhang et al. [44] | 2024 | 1               | 12               |
| Anthropomorphism in artificial intelligence: a game-changer for brand marketing                                                                                       | Gomes et al. [46] | 2025 | 3               | 11               |

#### 4. Results and Discussion

This section presents the thematic analysis of the interconnected themes as presented in Figure 6, followed by insights into research implications, study limitations, and future recommendations to diverse audiences.



**Figure 6.**  
Taxonomies of SLR.

##### 4.1. Thematic Analysis

###### 4.1.1. Generative AI Integration in Social Commerce

The progressing digital commerce landscape has merged social media and e-commerce, accelerating the rise of social commerce platforms that are progressively powered by AI [47]. The current users of digital commerce demonstrate their desire for dynamic content such as images, reels, reviews, and posts, frequently shared across social platforms as exemplified by TikTok and Instagram [48]. Gen AI's remarkable contributions in delivering AI-generated content and AI-powered experiences amplify business functions by creating ads and evaluating reviews using AI-driven customer interaction [49]. The AI features include AI chatbots, AI voice assistants, AI influencers, and AI virtual streamers [25]. Furthermore, the key applications include the incorporation of personalization attributes in the social commerce setting [50].

A sub-theme that can be observed from the works is AI-driven customer interaction. In social commerce, social interaction occurs among users and platforms, requiring human-to-human and human-to-computer interactions [42]. The integration of AI chatbots and AI voice assistants enhances human-computer interaction, enabling customers to interact and complete transactions. With AI empowering these tools, users' past data interactions can be utilized to facilitate contextualized conversations [51]. According to Zhang et al. [24], AI influencers and AI virtual streamers play a transformative role in live streams, motivating customers to purchase impulsively. As part of digital marketing approaches,

influencers serve as intermediaries between brands and consumers to cultivate interaction [50].

Social commerce has evolved into an AI-driven landscape equipped with personalized shopping experiences. These experiences include customizing advertisements and tailoring product suggestions synchronized with consumers' historical data [47]. Additionally, the growing AI adoption in social commerce aligns with Marketing 5.0, merging technology and humanity, resonating with the need for personalization powered by AI and data analytics in social commerce. This involves predictive analytics and sentiment analysis to interpret consumer behavior and emotional responses [49]. With AI empowering personalization, it has now advanced into a key digital advertising strategy called hyper-personalization. Hence, through the empowerment by AI, live data, and automation, businesses are expected to realize consumers' needs by providing individualized content and customized product suggestions that align with their profiles [50]. Besides supporting personalized recommendations, personalization also customizes interactions via customer support [52].

#### *4.1.2. Brand Anthropomorphism in Digital Marketing*

AI tools are deemed as human-like as they depict realistic actions, appearances, and intelligence. These tools duplicate human cognition and interact similarly to individuals [24]. From a marketing viewpoint, human-like values, cognitive skills, and emotional intensity reinforce brand anthropomorphism [5]. Research by Zhang et al. [24], Sidlauskienė et al. [23] and Leong et al. [25] explored AI-powered agents as conveyors of anthropomorphic abilities. Specifically, AI chatbots anthropomorphize the platform by assisting with customer support and synthesizing reviews [49]. Such contributions are associated with electronic Word-of-Mouth (eWOM) and User-generated Content (UGC), which are broadly discussed concepts in social commerce.

eWOM has surpassed conventional WOM in pace and reach with the presence of the internet and social media [53]. eWOM incorporates collective community responses on products or services, covering appraisals and criticisms pooled in social media. These evaluations offer insights to consumers in fulfilling a purchase [54]. Remarkably, AI chatbots strengthen eWOM by convincing consumers through human-like communication when serving customers with feedback [49]. Similarly, influencers, referred to as key opinion leaders (KOLs), are also contributors to eWOM as they provide product reviews and testimonials on social media that help offer insights, in addition to relying on consumer reviews only [49].

UGC incorporates numerous formats of multimedia content, reflecting genuine consumer experiences and insights into a product or service. The authenticity and deviation from bias retrieved from consumers' perspectives develop trust, which makes UGC a convincing determinant in shaping consumer behavior [55]. When consumers share brand-related content, they contribute to pooling reviews, which reinforce social proof, build community, and establish trust within the digital marketplace. Consequently, UGC presents a human voice for brands as they become humanized via social proof, giving them brand anthropomorphism [47]. Social proof enables brands to elevate consumers' consumption, as consumers are driven to make purchases based on others' usage and recommendations, particularly among young consumers [55].

#### *4.1.3. Drivers of Consumer Satisfaction*

Social commerce involves shaping online consumer behaviors such as intention, acceptance, and satisfaction. These behaviors span several stages of the consumer experience, from product search to post-purchase engagement, making consumer satisfaction an essential post-purchase response [25]. Delivering top-notch service quality alongside developing trust and reputation are vital in a competitive market, as both shape consumer behavior in ways that drive satisfaction and repeat use [56]. Additionally, favorable emotions can also foster meaningful engagement and consumer satisfaction through anthropomorphic Gen AI conversational commerce tools [25].

Trust and platform quality are key aspects influencing customer satisfaction. Building consumer trust is essential due to the vulnerability associated with digital commerce. As mentioned by Zhao et al. [57] trust and risk are correlated, as consumers' perception of risk decreases when their trust in technology increases. As eWOM is perceived as a reliable consumer endorsement, this digital marketing tactic establishes consumer trust in social commerce [53]. In line with that, trust can be developed via brand-related content through customer reviews, endorsements, and brand mentions. Therefore, ensuring high service quality is important in social commerce by providing satisfactory support and immediate solutions. These enhance the platform experience, eventually boosting consumer satisfaction [56].

The emotional and psychological areas of study have been strongly associated with social factors, a dimension highlighted in the social commerce framework by Leong et al. [51]. Similarly, emotional support also serves as a key element in a social commerce model developed by Yuan et al. [58]. The application of Gen AI tools, mainly AI influencers and virtual streamers, sparks consumer emotion, which leads to impulsive purchases when using anthropomorphic attributes to deliver service during livestreams [24]. A similar effect occurs when consumers develop emotional ties and become more expressive when using anthropomorphic AI chatbots [23].

#### *4.2. Research Implications*

For theoretical implications, a social commerce framework suggested by Leong et al. [51] leads future research and overcomes the prior frameworks' limitations. Next, this SLR discovers relevant theories for studying the social commerce domain, especially when it is integrated with advanced technologies such as AI [25]. Furthermore, Pour et al. [56] suggest a reliable scale to evaluate service quality, mainly for assessing the social commerce strengths and shortcomings. For practical implications, social commerce providers can employ the proposed framework by Leong et al. [51] to lead research and marketing strategies. The suggested key components help strengthen community engagement in the social aspect,

improve service quality in the commercial aspect, and enhance operational efficiency and security in the technological aspect. Delivering high service quality in social commerce requires attention to the platform's interaction, design, technological, and informational features [56]. In social commerce, managers and policymakers can enhance the platform's credibility by encouraging constructive electronic word-of-mouth (eWOM) while effectively addressing negative feedback [25]. Regarding AI-powered tools, marketers should recognize anthropomorphic AI chatbots as valuable instruments for delivering personalized experiences [23]. Developers can improve user experience by embedding more human-like traits into AI conversational commerce tools, thereby reinforcing brand credibility, boosting operational efficiency, and advancing individualized customer support [25].

#### 4.3. Research Limitations

Several limitations were encountered, arising from the defined research scope. Examining the limitations of the research scope, this SLR only depends on one database. The limited inclusion of well-regarded scholarly databases might omit relevant and impactful studies in such databases. Additionally, this SLR includes only scholarly works written in English, resulting in the omission of potentially useful findings from studies published in other languages, mainly papers written in Chinese, despite China's technological development and dominance in social commerce. Furthermore, this SLR primarily focused on Malaysia and comparable international settings' studies, which restricts the inclusion of broader insights from other countries. The time frame constraint of only recognizing works published within the past decade exhibits pros and cons. Although it guarantees the recency of findings from a technological point of view, it also causes neglect of foundational scholarly works.

#### 4.4. Future Directions

The limited number of finalized scholarly works for this SLR indicates a critical need for researchers to conduct more studies within this field. This is to ensure a continuous contribution to the existing body of literature while extending the field with new scope and novel insights. This domain is noteworthy to explore, with the emergence of digital commerce, the recent shift of the Industrial Revolution, AI advancements, and changes in consumer behavior. To address the scope limitations, Leong et al. [51] recommended that future studies include research published in other languages, accompanied by accurate translations. They should also expand their search to other reputable databases to ensure the inclusion of high-impact studies. Future research should incorporate a broader range of international studies to promote the generalizability of the findings.

### 5. Conclusion

Generative AI (Gen AI) plays a crucial role in social commerce by enabling dynamic human-computer interactions via tools, mainly AI chatbots, fostering personalized experiences and impulsive purchasing behaviors. This systematic review guides in discovering the application of Gen AI that augments social commerce via AI-driven customer interaction, also called conversational commerce tools, and personalization features that exhibit human-like traits. These applications enhance brand anthropomorphism, convincing consumers via electronic Word-of-Mouth (eWOM) and User-Generated Content (UGC) strategies. Trust and platform quality emerge as critical drivers of consumer satisfaction, as high-quality services and reliable endorsements boost confidence and loyalty.

This analysis highlights the transformative impact of AI in social commerce and offers recommendations for optimizing user engagement and satisfaction. The contributions benefit numerous entities, including researchers, managers, marketers, and policymakers, with a compilation of valuable insights and future directions of the AI-powered social commerce landscape. It also specifies recent perspectives on emerging trends associated with social commerce, technologies, and consumer behavior. Ultimately, embedding AI's potential in social commerce presents transformative opportunities to enhance consumer satisfaction, build trust, and drive personalized engagement, paving the way for innovative and impactful digital experiences.

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