e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

OPTIMIZATION OF GENERATIVE ENGINE IN TRANSFORMING DIGITAL VISIBILITY IN AI SEARCH

Andhi Febisatria
Universitas Negeri Makassar
e-mail: andhi.febisatria@unm.ac.id

ABSTRACT
This study employs a Systematic Literature Review (SLR) approach to identify and synthesize the development of the Generative Engine Optimization (GEO) concept based on literature published between 2020 and 2026, sourced from Google Scholar using a PRISMA-guided selection procedure. The findings indicate that GEO represents a shift from ranking-based optimization toward optimizing content representation within generative AI responses, emphasizing the likelihood of content being selected, summarized, and presented by AI-driven systems. Implementation has evolved from simple textual adjustments to semantic approaches, intent modeling, multimodal integration, and cross-query consistency. The application of GEO enhances product visibility in AI-generated answers and influences consumer perceptions, while also presenting risks related to bias, information manipulation, and ethical challenges in AI-based digital ecosystems.

Keywords: Generative Engine Optimization; Generative AI; Content Optimization; Digital Visibility; Systematic Literature Review

ABSTRAK
Penelitian ini menggunakan pendekatan Systematic Literature Review (SLR) untuk mengidentifikasi dan mensintesis perkembangan konsep Generative Engine Optimization (GEO) berdasarkan literatur periode 2020–2026 yang diperoleh dari Google Scholar dengan prosedur seleksi mengikuti alur PRISMA. Hasil kajian menunjukkan bahwa GEO menandai pergeseran dari optimasi berbasis peringkat menuju optimasi keterwakilan konten dalam respons AI generatif, dengan fokus pada peluang konten dipilih, dirangkum, dan disajikan oleh sistem berbasis kecerdasan buatan. Perkembangan implementasi bergerak dari penyesuaian teks menuju pendekatan semantik, pemodelan intent, integrasi multimodal, dan konsistensi lintas kueri. Penerapan GEO meningkatkan visibilitas produk dalam jawaban AI serta memengaruhi persepsi konsumen, namun tetap menyisakan risiko bias, manipulasi informasi, dan tantangan etis dalam ekosistem digital berbasis AI.

Kata kunci: Generative Engine Optimization; AI generative; Optimasi Konten; Visibilitas Digital; Systematic Literature Review

I. INTRODUCTION

The development of generative AI–based search engines has transformed the foundations of digital marketing strategies. Competition no longer focuses solely on page rankings in search results,

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

but on the likelihood that content is selected by AI as a source for generated answers. Traditional SEO approaches that emphasize keywords and technical aspects are increasingly considered misaligned with these new search systems (Aggarwal et al., 2024). Generative Engine Optimization (GEO) has emerged as an approach that emphasizes semantic relevance, understanding user search intent, and alignment between content and AI processing mechanisms (Rejón-Guardia & Molinillo, 2025). Digital marketing literature remains limited in explaining how this shift affects marketing performance outcomes such as conversions, lead quality, audience engagement, and AI-driven customer journeys.

The application of GEO in e-commerce demonstrates significant strategic potential while simultaneously opening new avenues for research. Content-agent–based approaches are considered more effective than keyword-based techniques (Chen et al., 2025). These findings underscore the importance of semantic structure in digital marketing content. However, the relationships between semantic optimization and purchasing decisions, recommendation system accuracy, and customer loyalty formation remain insufficiently examined empirically.

The evolution of optimization strategies that integrate textual and visual elements adds further complexity to digital marketing practices. Caption injection strategies have been shown to influence content visibility in generative search environments (Chen & Liao, 2025). The integration of visual and textual signals has also been reported to increase content prioritization in AI-generated results (Du et al., 2026). Content-agent frameworks strengthen the relational semantic structure in information presentation (Chen et al., 2025). Nevertheless, digital marketing research still tends to analyze text, visuals, and metadata separately, resulting in the absence of an integrated model that explains the combined effects of these elements on the performance of AI-driven campaigns.

The emergence of generative AI–driven search engines has reoriented digital marketing from competition over search rankings toward competition over AI content selection. Conventional SEO practices centered on keywords and technical optimization are increasingly incompatible with generative search mechanisms that prioritize semantic coherence and contextual relevance (Aggarwal et al., 2024). In response, Generative Engine Optimization (GEO) has been introduced as an approach focused on semantic alignment, user intent interpretation, and compatibility between content architecture and AI processing logic (Rejón-Guardia & Molinillo, 2025). Despite its growing prominence, the theoretical integration of GEO within established marketing frameworks remains

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

limited, particularly in explaining how AI-oriented optimization contributes to value creation, consumer decision-making, and marketing performance.

Empirical studies indicate that content-agent–based strategies achieve superior semantic alignment compared to keyword-driven techniques, especially in e-commerce environments (Chen et al., 2025). Research on multimodal optimization further shows that caption injection and the integration of textual and visual signals enhance content prioritization in generative search outputs (Liao; Du et al., 2026). However, these findings largely remain confined to visibility and AI selection mechanisms, while empirical evidence linking GEO to downstream outcomes such as conversion, recommendation accuracy, customer engagement, and loyalty is still scarce. Moreover, existing studies tend to examine text, visuals, and metadata independently, resulting in the absence of an integrated empirical model that captures their combined effects in AI-driven campaigns.

Overall, the literature reflects a dual research gap. Theoretically, GEO lacks a unified conceptual framework that connects semantic and multimodal optimization with core marketing theories and AI governance. Empirically, limited evidence explains how GEO practices translate into measurable marketing outcomes. This fragmentation highlights the need for systematic synthesis through a Systematic Literature Review to consolidate concepts, reconcile findings, and establish a more coherent foundation for future digital marketing research grounded in Generative Engine Optimization SLR enables the systematic and transparent synthesis of evidence, providing a stronger theoretical foundation for the development of digital marketing strategies based on Generative Engine Optimization. Based on this background, the research questions addressed in this study include:

1. How is Generative Engine Optimization (GEO) defined and differentiated from Search Engine Optimization (SEO) in the literature on generative AI–based search engines?
2. What factors and approaches shape the development and implementation of Generative Engine Optimization across different research contexts?
3. What are the impacts, opportunities, and risks of implementing Generative Engine Optimization for content visibility and AI-based search performance?
4. How do GEO mechanisms influence consumers within the context of digital marketing?

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

II. LITERATURE REVIEW

2.1. Theoretical Foundations of Generative Engine Optimization (GEO)

The emergence of Generative Engine Optimization (GEO) has been driven by fundamental changes in digital search systems, shifting from information retrieval–based mechanisms toward systems that generate answers through generative artificial intelligence. Modern search engines no longer merely present lists of links, but instead combine source retrieval processes with large language model processing to construct comprehensive responses. Under these conditions, optimization success is no longer determined by page ranking positions, but by the likelihood that content is understood, selected, and integrated into AI-generated answers (Aggarwal et al., 2023). These systems operate by evaluating semantic meaning, contextual relevance, and source credibility, requiring optimization strategies to emphasize semantic structure and authority signals (Chen et al., 2025).

2.2. Definition of Generative Engine Optimization (GEO)

GEO refers to a content optimization approach designed to increase the likelihood that digital materials are utilized by generative AI systems in constructing user-facing answers. Its primary focus lies in content representation within AI-generated responses, rather than mere visibility on search engine results pages (Aggarwal et al., 2023). This approach emphasizes the clear semantic presentation of information, alignment with search intent, and source legitimacy. Subsequent studies indicate that intent modeling and well-organized information structures enhance the probability of content appearing in generative responses, including within digital commerce contexts (Bagga et al., 2025).

2.3. Search Engine Optimization (SEO) as an Evolutionary Foundation

Search Engine Optimization (SEO) represents a traditional optimization practice aimed at improving page rankings in search results through keyword management, backlink strategies, and technical site factors. This mechanism relies on indexing and algorithmic ranking processes, with success measured by organic traffic and SERP positions (Aggarwal et al., 2023). However, as users increasingly rely on direct answers generated by AI, the effectiveness of ranking-based approaches alone has become limited (Chen et al., 2025).

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

2.4. Conceptual Relationship between GEO and SEO

The fundamental difference between GEO and SEO lies in their outcome orientation. SEO seeks to increase the likelihood of page clicks, whereas GEO aims to ensure that information is incorporated into AI-generated answers. Evaluation within generative systems places greater emphasis on semantic quality, narrative consistency, and source reliability than on keyword density (Chen et al., 2025). Nevertheless, SEO principles such as content quality and technical structure remain foundational, while GEO has evolved as an extension that adapts to AI-based search ecosystems (Aggarwal et al., 2023).

III. RESEARCH METHOD

This study applies a Systematic Literature Review (SLR) to systematically and transparently identify, evaluate, and synthesize scholarly literature related to Generative Engine Optimization. The study selection process follows the PRISMA 2000 guidelines, which include the stages of identification, screening, eligibility assessment, and article inclusion (Page et al., 2021). Data sources were obtained from Google Scholar, which was selected for its ability to capture reputable, multidisciplinary scholarly publications. The literature search was conducted using the keywords “GEO” and “Generative Engine Optimization” to ensure comprehensive coverage aligned with the research focus. Inclusion criteria consisted of scholarly articles that matched the specified keywords, were published within the last five years (2020–2026), employed systematic research methods, and were relevant to discussions of content optimization and AI-based generative search engine mechanisms.

IV. RESULTS AND DISCUSSION

4.1. Results

This study was conducted using a Systematic Literature Review (SLR) approach implemented in accordance with the PRISMA 2000 framework to ensure that the processes of literature collection and analysis were structured, objective, and reproducible (Page et al., 2021). The following section presents the study selection flow using the PRISMA method.

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

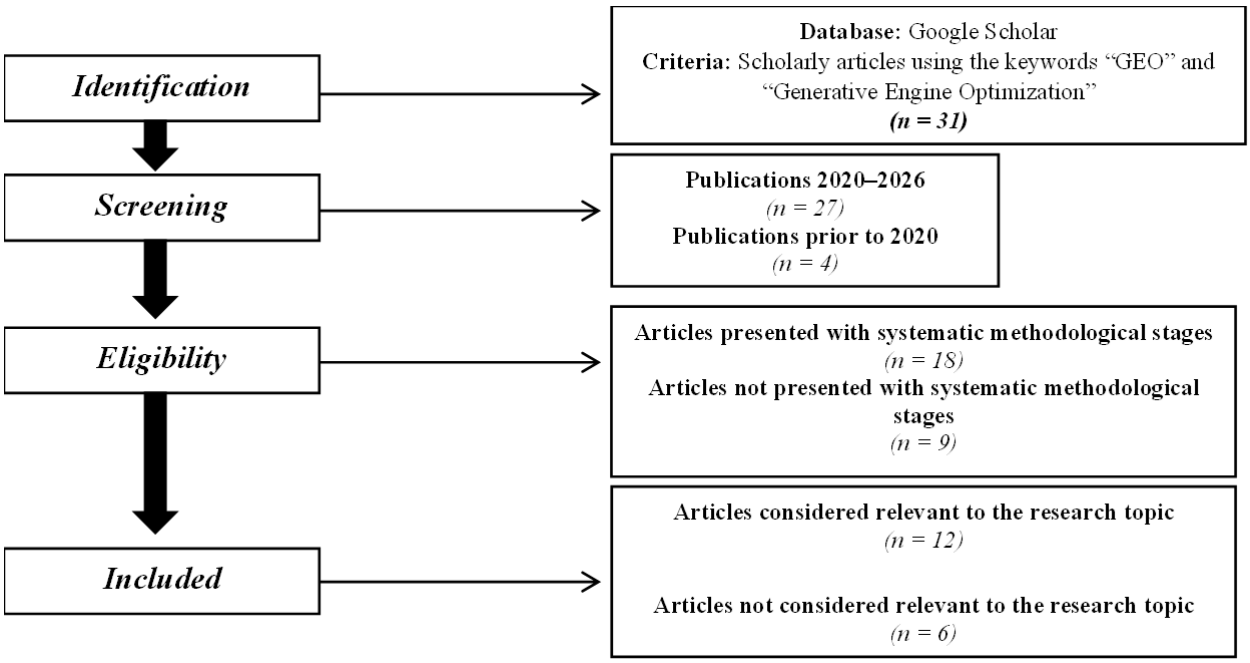


Figure 1. Literature Selection Flow Using the PRISMA Method

The source identification process was conducted by searching Google Scholar using keywords representing the concept of Generative Engine Optimization, resulting in 31 publications that showed initial relevance to optimization in generative AI–based search systems. The subsequent screening stage focused on filtering articles based on the publication period of 2020–2026, yielding 27 articles that met this criterion. The next stage involved evaluating articles according to the presence of systematic methodological stages and appropriate research methods, resulting in 18 articles. The final assessment examined topical relevance through a review of titles, abstracts, and full content.

This multi-stage screening process produced 12 scholarly articles that met all inclusion criteria and were considered conceptually and methodologically relevant. The selected articles represent the main spectrum of research in GEO, including the formulation of foundational concepts, the development of intent-based and content-agent optimization strategies, multimodal approaches, cross-sector applications, as well as issues related to risk and cross-query stability within generative AI–based search ecosystems. The following section presents the list of the 12 selected articles.

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

No	Author(s) & Year	Title	Research Focus / Object	Method / Approach	Key Findings
1	Aggarwal et al. (2024)	*GEO: Generative Engine Optimization*	Conceptualization of GEO in generative search engines	Experiments and generative AI system analysis	GEO is more effective than traditional SEO in increasing content visibility in AI-based search engines
2	Bagga et al. (2025)	*E-GEO: A Testbed for Generative Engine Optimization in E-Commerce*	GEO on e-commerce platforms	Experimental testbed	GEO strategies increase the likelihood of products being referenced and ranked by generative engines
3	Chen et al. (2025)	*Beyond Keywords: Driving GSEO with Content-Centric Agents*	Semantic content-agent–based optimization	Agent-based approach and performance evaluation	Content-centric agents outperform keyword-based optimization
4	Chen & Liao (2025)	*Caption Injection for Optimization in Generative Search Engines*	Multimodal description optimization	Experiments on generative search systems	Structured captions enhance the visibility of both textual and visual content
5	de Rosen (2025)	*From GEO to AI Visibility Optimization*	Evolution of GEO toward AIVO	Conceptual and strategic analysis	AIVO extends GEO to cross-platform AI visibility optimization
6	Du et al. (2025)	*Multimodal Generative Engine Optimization*	Multimodal-based GEO	Multimodal experiments (text–visual)	Multimodal integration improves generative content ranking
7	Du et al. (2026)	*Multimodal GEO: Rank Manipulation for VLM Rankers*	Rank manipulation in vision–language models	Vision–language model experiments	Visual and textual signals influence generative AI rankings
8	Namdev (2025)	*GEO and AI-First Search in Healthcare*	GEO in the healthcare sector	Case study and implementation analysis	GEO improves access to medical information while raising ethical risks
9	Rejón-Guardia & Molinillo (2025)	*GEO and AI-Generated Content in Search Engines*	Integration of AI-generated content in search	Encyclopedic study and system analysis	GEO acts as a bridge between conventional SEO and AI-based search
10	Reyes-Lillo et al. (2025)	*GEO in Digital Repositories*	GEO in academic repositories	Metadata and visibility analysis	Context and metadata optimization enhances AI readability
11	Wen et al. (2025)	*Risks of GEO in the Era of LLMs*	Risks and ethics of GEO	Ethical and systemic analysis	GEO may trigger information manipulation and bias
12	Zhou et al. (2026)	*IF-GEO: Conflict-Aware Instruction Fusion*	Multi-query GEO optimization	Instruction fusion modeling and experiments	IF-GEO improves cross-query result stability

Table 1. Results of the Synthesis of Relevant Studies
Source: Literature Review (2026)

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

4.2. Discussion

4.2.1. Definition and Conceptual Characteristics of Generative Engine Optimization (GEO)

The synthesis results indicate that Generative Engine Optimization (GEO) is understood as an optimization approach aimed at increasing the likelihood that content is selected, summarized, and presented within the outputs of generative AI–based search engines. The orientation of GEO no longer lies in page ranking positions, but in content representation within the synthetic responses generated by large language models. Aggarwal et al. (2024) emphasize that GEO operates at the inference layer of AI models, such that optimization effectiveness is measured through impression levels and visibility within AI-generated answers. This perspective is reinforced by Rejón-Guardia and Molinillo (2025), who position GEO as a conceptual bridge between conventional Search Engine Optimization practices and generative search systems that integrate AI-produced content. De Rosen (2025) further extends this framework by framing GEO as a transitional stage toward the paradigm of AI Visibility Optimization, which encompasses the management of content visibility across multiple AI-based platforms.

4.2.2. Approaches and Strategies in GEO Implementation

The literature review reveals that GEO approaches have shifted from text-based strategies toward more complex and adaptive optimization frameworks. Early studies demonstrate that content rewriting and information structure adjustments can increase the likelihood of content being referenced by generative engines, particularly in e-commerce environments, as shown by Bagga et al. (2025). Subsequent methodological developments are characterized by the adoption of agent-based approaches, in which content agents focusing on semantic structure and user intent modeling outperform traditional keyword-based optimization (Chen et al., 2025).

The evolution of GEO strategies is also marked by the integration of multimodal dimensions. Chen and Liao (2025) demonstrate that the implementation of caption injection enhances content visibility in subjective and context-dependent generative search scenarios. Du et al. (2025) provide evidence that the simultaneous combination of visual and textual signals exerts a significant influence on ranking mechanisms within vision–language model–based systems. More advanced approaches are

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

developed through the IF-GEO model, which is designed to maintain consistency of search results across queries by minimizing instruction conflicts during the AI inference process (Zhou et al., 2026).

4.2.3. Implications, Risks, and Challenges of GEO Implementation

The synthesis of the literature indicates that GEO implementation has wide-ranging implications across various sectors. Studies in the healthcare domain show that GEO contributes to improved accessibility of medical information in AI-first search systems, while simultaneously raising ethical challenges related to accuracy, bias, and the potential for misinformation (Namdev, 2025). Analyses of digital academic repositories indicate that context and metadata optimization enhance the readability of scholarly knowledge by generative AI systems, positioning GEO as a potentially important strategy for maintaining the visibility of academic publications (Reyes-Lillo et al., 2025).

The literature also highlights several structural risks inherent in GEO practices. Wen et al. (2025) identify that overly aggressive optimization may encourage visibility manipulation, distortion of information representation, and large-scale instability in search results. These challenges have driven the development of optimization approaches that are more conflict-aware and oriented toward cross-query stability, as reflected in the conflict-aware optimization models developed by Zhou et al. (2026).

4.2.4. GEO Mechanisms in Digital Marketing

Generative Engine Optimization (GEO) mechanisms shape consumer behavior through changes in how products appear within generative AI systems. Product positioning is no longer determined by competition for ranking positions on search engine results pages, but by the probability of being selected as a reference within AI-generated answers. The effectiveness of this approach is considered to surpass conventional SEO in enhancing content visibility within AI-based search engines (Aggarwal et al., 2024). The frequency of product appearances in AI responses expands brand exposure and strengthens consumer awareness.

Subsequent impacts are observed in the stages of information selection and summarization by AI systems. The application of GEO strategies in e-commerce has been shown to increase the likelihood of products being referenced and positioned within generative systems (Bagga et al., 2025). Meaning- and context-based content structuring demonstrates higher effectiveness than keyword-

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

dependent approaches, as content-based agents hold advantages in modern AI systems (Chen et al., 2025). The way AI interprets product attributes directly influences how product value propositions and advantages are presented to consumers.

The integration of textual and visual elements further reinforces these mechanisms. The presentation of structured captions enhances the visibility of both textual and visual components within AI systems (Chen & Liao, 2025). Multimodal integration contributes to improved content positioning in generative environments (Du et al., 2025), while the combination of visual and textual signals affects AI evaluation processes of products (Du et al., 2026). The product representations formed through AI-generated answers emerge from the simultaneous interaction of images, descriptions, and supporting data.

The influence of GEO extends beyond a single platform, as visibility now occurs across multiple AI services. GEO is positioned as a bridge between traditional SEO practices and AI-based search systems (Rejón-Guardia & Molinillo, 2025). The concept of AI Visibility Optimization further expands this scope toward cross-platform optimization (de Rosen, 2025). Increased product appearances across various AI systems enhance both recognition and consumer trust. Information structure and management constitute additional determinants of GEO effectiveness. The organization of context and metadata has been shown to improve readability by AI systems (Reyes-Lillo et al., 2025). The IF-GEO model demonstrates improved result consistency across different query variations (Zhou et al., 2026). Stability of information appearance across diverse questions reinforces perceptions of product reliability among consumers.

Risks continue to accompany the implementation of GEO strategies. The potential for manipulation and informational bias represents consequences that must be anticipated in GEO practices (Wen et al., 2025). The growing dominance of AI in determining information visibility also introduces significant ethical challenges (Namdev, 2025). Overall, these dynamics indicate that GEO influences consumers through intensified exposure, AI-driven information summarization patterns, multimodal integration, and cross-query representation consistency, with AI systems acting as the primary mediators between marketing strategies and the formation of consumer perceptions.

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

V. CONCLUSION

The literature consistently indicates that Generative Engine Optimization (GEO) represents a fundamental reconfiguration of optimization practices, shifting the focus from competition over ranking positions to competition for inclusion within AI-generated responses. In this paradigm, visibility is determined by how effectively content is interpreted, summarized, and selected by generative AI systems at the inference stage, rather than by its placement on search result pages. This transformation positions GEO as a transitional framework that extends beyond traditional SEO and aligns optimization strategies with the logic of AI-based information mediation operating across multiple platforms.

The evolution of GEO strategies reflects a clear movement toward semantic, agent-based, and multimodal optimization approaches. Techniques centered on meaning, context, and user intent demonstrate greater effectiveness than keyword-dependent methods, particularly when supported by the integration of textual and visual elements. The interaction between these modalities shapes how AI systems evaluate and prioritize content, while consistency across varying query conditions emerges as a critical determinant of sustained visibility. Consequently, effective GEO increasingly depends on maintaining coherent information representation throughout the AI inference process.

At the same time, the expansion of GEO introduces structural and ethical challenges. Enhanced AI visibility strengthens exposure, accessibility, and perceived credibility, yet it also creates risks related to informational bias, manipulation, and instability in AI-generated outputs. These dynamics reinforce the role of AI systems as central intermediaries in digital marketing, where consumer perceptions are formed through AI-driven summarization, semantic framing, and multimodal representation rather than direct engagement with original sources. Overall, GEO can be understood as a multidimensional optimization paradigm that redefines how visibility, influence, and value creation occur within marketing ecosystems increasingly shaped by generative AI.

The findings extend SEO theory toward an AI-mediated visibility paradigm. The concept of digital visibility shifts from mere exposure to active participation in the construction of AI-generated synthetic answers. The role of AI as a mediator between content and consumers enriches studies on trust, perception, and digital marketing communication. The integration of semantic and multimodal

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

dimensions opens opportunities for the development of new conceptual models within the digital marketing literature.

Practitioners should shift their focus from keywords toward semantic structure, contextual relevance, and text–visual integration. Content must be designed to be easily understood and summarized by AI systems. Information consistency across queries and platforms becomes critical for building brand trust and exposure. Ethical governance and information accuracy are essential factors in maintaining credibility within AI-first ecosystems.

Future research should empirically examine the effects of GEO on conversion rates, consumer trust, and loyalty. Studies on algorithmic bias, visibility stability, and the impact of multimodality on purchasing decisions should be further expanded. Interdisciplinary approaches are recommended to better understand the role of AI as a mediator in digital marketing processes.

REFERENCES

Aggarwal, P., Murahari, V., Rajpurohit, T., Kalyan, A., Narasimhan, K. R., & Deshpande, A. (2024). GEO: Generative engine optimization. *Proceedings of the 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining*. https://doi.org/10.1145/3637528.3671900

Bagga, P. S., Farias, V. F., Korkotashvili, T., & Peng, T. (2025). E-GEO: A testbed for generative engine optimization in e-commerce. *arXiv preprint*. https://doi.org/10.48550/ARXIV.2511.20867

Chen, Q., Chen, J., Huang, H., Shao, Q., & Chen, J. (2025). Beyond keywords: Driving generative search engine optimization with content-centric agents. *arXiv preprint*. https://doi.org/10.48550/ARXIV.2506.06741

Chen, X., & Liao, Y. (2025). Caption injection for optimization in generative search engines. *arXiv preprint*. https://doi.org/10.48550/ARXIV.2511.04080

de Rosen, T. (2025). From GEO to AI visibility optimization: Rethinking visibility in the AI **era**. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5459812

Du, Y., Yu, C., Xu, H., Wang, Z., & Zhao, Y. (2025). Multimodal generative engine optimization. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4893271

Du, Y., Yu, C., Xu, H., Wang, Z., Zhao, Y., & Hu, X. (2026). Multimodal generative engine optimization: Rank manipulation for vision–language model rankers**.** *arXiv preprint*. https://doi.org/10.48550/ARXIV.2601.12263

e-ISSN 2722-6328
SCIENTIFIC JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND ACCOUNTING
e-journal.uniflor.ac.id/index.php./analisis VOL. 16 NO. 01 YEAR OF 2026
PUBLISHED BY:
FACULTY OF ECONOMICS AND BUSINESS FLORES UNIVERSITY

Kitchenham, B., Brereton, O. P., Budgen, D., Turner, M., Bailey, J., & Linkman, S. (2009). *Systematic literature reviews in software engineering: A systematic literature review*. Information and Software Technology, 51(1), 7–15. https://doi.org/10.1016/j.infsof.2008.09.009

Martín-Martín, A., Orduna-Malea, E., Thelwall, M., & López-Cózar, E. D. (2018). *Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories*. Journal of Informetrics, 12(4), 1160–1177. https://doi.org/10.1016/j.joi.2018.09.002

Namdev, R. (2025). Generative engine optimization (GEO) and AI-first search in healthcare**.** *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.5715542

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., … Moher, D. (2021). *The PRISMA 2020 statement: An updated guideline for reporting systematic reviews*. BMJ, 372**,** n71. https://doi.org/10.1136/bmj.n71

Rejón-Guardia, F., & Molinillo, S. (2025). Generative engine optimization: How search engines integrate AI-generated content into conventional queries**.** In *Encyclopedia of Artificial Intelligence*. Springer. https://doi.org/10.1007/978-3-031-13901-3_187

Reyes-Lillo, D., Morales-Vargas, A., & Rovira, C. (2025). Generative engine optimization en repositorios digitales: Optimización de la visibilidad para la IA generativa**.** *Infonomy*, 4(2), 1–18. https://doi.org/10.3145/infonomy.2025.04

Snyder, H. (2019). *Literature review as a research methodology: An overview and guidelines*. Journal of Business Research, 104**,** 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Wen, Y., Zhang, N., Yuan, H., Chen, X., & Zhang, H. (2025). On the risks of generative engine optimization in the era of LLMs**.** *AI Ethics*. https://doi.org/10.1007/s43681-025-00421-9

Zhou, H., Chen, J. J., Chen, X., Bao, J., & Chen, Z. (2026). IF-GEO: Conflict-aware instruction fusion for multi-query generative engine optimization. *arXiv preprint*. https://doi.org/10.48550/ARXIV.2602.01987