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Generative AI Platform Ecosystems: Mapping the Field and Theorising Core Generative Power - A Systematic Literature Review and Bibliometric Analysis

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ADMINISTRATIVE INFORMATION

Support - No external funding was received.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 9 October 2026 and was last updated on 9 October 2026.

INTRODUCTION

Review question / Objective This review addresses three research questions:

RQ1. How has research on generative AI platform ecosystems developed, and how is the field intellectually and thematically structured?

RQ2. How are generative-core capabilities, platform architecture, ecosystem actors, governance, value creation and capture, and power and dependence conceptually and thematically connected across the emerging literature?

RQ3. What theoretical mechanism can explain how changes in the productive scope of an owner-controlled generative core reconfigure complementors' functional opportunities, bases of differentiation, and conditions for value appropriation?

The objectives are to systematically map the field, examine the integration of its principal analytical dimensions, and develop Core Generative Power as a theoretically grounded, capability-mediated mechanism of potential relational platform power. How does generative artificial intelligence reshape digital platform ecosystems and the power relations within them?

This systematic literature review and bibliometric study aims to identify, map, and synthesise research on the effects of generative AI on digital platform architectures, ecosystem governance, complementor relationships, value creation and capture, competition, and the distribution of power among ecosystem actors. It also seeks to identify the principal thematic structures, theoretical mechanisms, and gaps in the existing literature¹

Rationale Generative AI is transforming digital platform ecosystems by introducing productive, continuously evolving technological cores. Foundation models and large language models can expand the functions available through platforms

while changing the opportunities, differentiation strategies, and dependencies of complementors.

Although existing research examines platform architecture, governance, generativity, resource dependence, and platform power, the mechanism linking generative-core capability evolution to changes in relational power remains insufficiently integrated.

This review combines systematic literature identification, bibliometric performance analysis, keyword co-occurrence mapping, longitudinal thematic analysis, and abductive theoretical synthesis to clarify this relationship and develop the concept of Core Generative Power. Generative artificial intelligence is transforming the technological capabilities and organisational arrangements of digital platform ecosystems. Foundation models, large language models, and generative AI services introduce new dependencies, control points, and opportunities for value creation and appropriation. However, research on these developments remains dispersed across information systems, management, innovation, and technology studies. A systematic review combined with bibliometric analysis can consolidate this fragmented literature, identify its intellectual and thematic structure, and develop a conceptual understanding of how generative AI reshapes platform governance and power relations. The review is intended to support theory development and inform future empirical research1 October

Condition being studied This is a non-clinical systematic review examining generative AI platform ecosystems. The phenomenon of interest is the relationship between evolving generative-core capabilities and platform-level or ecosystem-level arrangements, including architecture, governance, complementor differentiation, dependence, value appropriation, and relational power1 October

METHODS

Search strategy A structured bibliographic search was conducted in Scopus and the Web of Science Core Collection, covering publications from 2023 to 2026. The final search was performed on 5 September 2026.

The search strategy intersected three conceptual domains: (1) generative artificial intelligence, foundation models, and large language models; (2) digital platforms and platform ecosystems; and (3) organisational and relational concepts, including

governance, architecture, business models, innovation, value creation and capture, dependence, power, boundary resources, and core-periphery relationships.

The Scopus search was applied to TITLE-ABS-KEY, while the equivalent Web of Science search was applied to the Topic field (TS).

The searches returned 301 records from Scopus and 172 records from Web of Science, for a total of 473 records. After removing 136 duplicates, 337 unique records remained for title-and-abstract screening.

The complete search expressions are reproduced in Schemes 1 and 2 of the review manuscript. Core Generative Power and equivalent capability-power expressions were deliberately excluded from the search strategy to avoid predetermining the theoretical outcome1 October

Participant or population The units of analysis are scholarly publications addressing generative AI platform ecosystems. The substantive actors examined in these publications include platform owners, foundation-model providers, complementors, developers, organisational users, and other ecosystem participants. No clinical patient population is involved1 October

Intervention The phenomenon of interest is the development and integration of generative AI capabilities within digital platform ecosystems, particularly the evolution of owner-controlled generative cores and their implications for platform architecture, ecosystem coordination, complementor differentiation, governance, dependence, and value appropriation. No experimental or clinical intervention is assessed1 October

Comparator No formal comparator is required. The conceptual synthesis distinguishes capability-mediated changes arising from generative-core evolution from established explanations involving platform governance, boundary-resource control, resource dependence, infrastructural power, and conventional platform-owner entry into complementor markets1 October

Study designs to be included Empirical, conceptual, theoretical, and analytically substantive scholarly research addressing generative AI in digital platform or platform-ecosystem contexts was eligible. The review was not restricted to a single empirical research design. Publications were assessed according to their

substantive contribution to the review questions rather than methodological format alone¹ October

Eligibility criteria Eligible publications were required to establish a substantive analytical connection between generative AI, foundation models, or large language models and digital platforms or platform ecosystems.

Relevant analytical dimensions included platform architecture, governance, platform owners and complementors, innovation, value creation and capture, dependence, power, and ecosystem-level relationships.

Purely technical model studies and context-specific applications without an analytically relevant platform or ecosystem dimension were excluded.

The database searches identified 473 records. After removing 136 duplicates, 337 records underwent title-and-abstract screening. Of these, 191 were excluded and 146 proceeded to full-text eligibility assessment. A further 31 reports were excluded because they lacked a substantive platform/ecosystem focus, did not provide a substantive analytical contribution, or represented non-research outputs.

The final analytical corpus comprised 115 documents. The 31 excluded reports and their primary exclusion reasons are documented in Supplementary Table S3.

Missing author keywords were not an exclusion criterion¹ October

Information sources Scopus and Web of Science Core Collection were the bibliographic information sources. The final database search was conducted on 5 September 2026 and covered the publication period 2023–2026¹ October

Main outcome(s) The primary outcomes are the intellectual and thematic structure of research on generative AI platform ecosystems, the conceptual relationships among generative-core capabilities, platform architecture, governance, ecosystem actors, value creation and capture, and power and dependence, and the development of a theoretically grounded explanation of Core Generative Power.

The proposed mechanism concerns how changes in the productive scope of an owner-controlled generative core may reconfigure complementor differentiation, substitutability, dependence,

bargaining positions, and value-appropriation conditions¹ October

Additional outcome(s) Secondary outcomes include annual scientific production, publication sources, authorship, international collaboration, citation patterns, geographical distribution, keyword frequencies and co-occurrence relationships, thematic clusters, strategic-diagram positions, and longitudinal thematic evolution.

These outcomes are interpreted descriptively and conceptually. Bibliometric proximity and thematic co-occurrence are not treated as evidence of causal relationships¹ October

Data management Bibliographic records from Scopus and Web of Science were merged, deduplicated, screened, and organised into a structured analytical corpus.

Metadata were cleaned conservatively to harmonise equivalent lexical variants without merging theoretically distinct concepts. Generative Artificial Intelligence and GenAI were standardised as Generative AI; large language model variants were harmonised; and orthographic variants such as cyber security were consolidated.

Distinct concepts, including Artificial Intelligence and Generative AI, different governance constructs, Platform Ecosystems and Ecosystems, and Foundation Models and Large Language Models, were retained separately.

For records without author-provided keywords, the harmonised conceptual keyword field was supplemented only with terms explicitly present in the abstracts. No absent concepts were inferred.

The final corpus comprised 115 documents and was used for bibliometric performance, keyword co-occurrence, and thematic-evolution analyses. Supporting reproducibility materials are associated with the Zenodo record DOI 10.5281/zenodo.230432591 October

Quality assessment / Risk of bias analysis This review does not estimate clinical intervention effects, and conventional clinical risk-of-bias instruments are not applicable.

The manuscript does not report the use of a formal numerical study-quality appraisal tool. Eligibility was assessed on the basis of substantive analytical relevance to generative AI platform ecosystems, with title-and-abstract screening and subsequent eligibility assessment conducted

independently by two reviewers and disagreements resolved through discussion and consensus.

Bibliometric indicators were used to characterise the literature and were not treated as measures of methodological quality. The theoretical synthesis distinguishes conceptual mechanisms from empirically established causal effects^{1 October}

Strategy of data synthesis The review combines systematic literature review procedures, bibliometric performance analysis, keyword co-occurrence mapping, longitudinal thematic analysis, and abductive theory building.

Bibliometrix/Biblioshiny was used to examine annual scientific production, sources, authorship, collaboration, citation indicators, countries, and affiliations.

VOSviewer was used to construct a keyword co-occurrence network based on the harmonised keyword field. A minimum occurrence threshold of two was applied; 38 of 476 identified keywords met the threshold. The manuscript reports full counting, association-strength normalisation, and a clustering resolution of 1.00.

SciMAT was used for longitudinal thematic analysis, dividing the 115-document corpus into 2023–2025 ($n = 52$) and 2026 ($n = 63$). The analysis used strategic diagrams, thematic-evolution maps, and internal thematic networks. The manuscript reports equivalence-index normalisation, simple-centers clustering, a minimum keyword frequency of two, and inclusion-index-based longitudinal analysis.

The final stage integrated the systematic review and science-mapping findings through abductive theoretical synthesis, comparing the mapped patterns with established theories of platform governance, boundary resources, resource dependence, infrastructural power, and platform evolution.

No statistical meta-analysis was conducted. Bibliometric co-occurrence and thematic proximity were not interpreted as causal evidence^{1 October}

Subgroup analysis No statistical subgroup analysis was conducted. The longitudinal thematic analysis compared two publication periods: 2023–2025 (52 documents) and 2026 (63 documents). These periods were used to examine thematic continuity, emergence, consolidation, and reorganisation through SciMAT. The comparison

was descriptive and conceptual rather than an effect-size-based subgroup analysis^{1 October}

Sensitivity analysis No conventional statistical sensitivity analysis was conducted because the review did not involve meta-analysis or pooled effect-size estimation.

The manuscript documents the principal keyword harmonisation and science-mapping parameters and adopts conservative interpretation of bibliometric relationships. It does not report a separate formal sensitivity-analysis procedure involving alternative thresholds or alternative model specifications^{1 October}

Language restriction Only publications written in English were eligible for inclusion^{1 October}

Country(ies) involved Spain.

Other relevant information The systematic review was conducted and reported in accordance with PRISMA 2020. The protocol was not prospectively registered; this submission therefore constitutes retrospective registration.

The study integrates bibliometric science mapping with abductive theoretical synthesis. Core Generative Power was not used as a search term, keyword category, clustering criterion, or predefined code, thereby separating the construction of the evidence base from the subsequent theoretical interpretation.

The final corpus comprises 115 documents published between 2023 and 2026. The manuscript reports independent screening by two reviewers, with disagreements resolved through consensus and no automated screening tools.

The proposed theoretical mechanism is intended for subsequent empirical validation and is not presented as an established causal effect.

Keywords Generative artificial intelligence; Digital platforms; Platform ecosystems; Large language models; Platform governance; Platform power; Science mapping; Core Generative Power; Bibliometric.

Dissemination plans "Generative AI Platform Ecosystems: Mapping the Field and Theorising Core Generative Power", intended for the journal Future Internet.

Supporting bibliometric and methodological materials are associated with the Zenodo record

DOI 10.5281/zenodo.23043259, subject to the repository's publication status and applicable data-sharing permissions1 October

Contributions of each author

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Author 2 - Sulaiman Krayem - Research design; literature searching; bibliographic data management; screening and eligibility assessment; bibliometric analysis; conceptual synthesis; original manuscript drafting and editing of the manuscript1 October

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