

Open-Source AI and Market Creation in China: A PRISMA-SCR Scoping Review

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ABSTRACT

Competition is changing, thanks to open-source and low-cost AI models, which are reducing barriers to development and adoption and moving value creation toward ecosystems, application services, and complementary assets. The evidence of Chinese AI companies' applications of these models in market creation is scattered across the fields of strategic management, innovation, entrepreneurship, information systems, and policy research. This scoping review was conducted with 44 queries grouped into four clusters, with SciSpace Deep Search, SciSpace Full-Text Search, and Google Scholar being searched following the PRISMA-ScR guidance and instructions. A total of 1,183 records were found in the searches, with 997 after eliminating duplicates. An AI-driven ranking process led to the prioritization of 500 records for screening of title and abstract; 497 records were not screened, posing a material risk of selection bias. Only 34 sources (35 full texts) were included in this assessment, all published between 2018 and 2026. Themes that arose were resource-efficient model development, open-source democratization, API-based platform strategies, ecosystem network effects and value innovation in the creation of markets. The most frequented were Business Model Innovation, Platform Ecosystem Theory and Open Innovation, while Disruptive Innovation Theory and Blue Ocean Strategy were used formally in a few cases. Important gaps include longitudinal sustainability, the governance of the ecosystem, international transfer, responses of incumbents, ethics, safety and sovereignty. The review is structured in four steps, from enabling capabilities to strategic configuration, through the ecosystem processes to mapped market outcomes, without making any causal claims.

Keywords: Open-source AI; low-cost AI models; Chinese AI firms; market creation; platform ecosystems

INTRODUCTION

Historically, the focus of AI competition has been on compute power, proprietary datasets, model performance and scale, with large tech firms more likely to afford the ability to train large systems and operate closed systems. Chinese companies are disrupting this model with models they offer which are open source or low cost. Some recent examples are platform companies and industrial ecosystems that generate value through model weights that are readily available, APIs, developer communities, enterprise integration, and accompanying services such as DeepSeek companies (Feld, 2025; Jia et al., 2018; Shi, 2025).

Open-source and low-cost models work in different ways to change competition. Open-source models might offer available source code, model weights or permits for source code inspection, modification, and distribution. Low-cost models lower the costs of computing resources, as compared to available proprietary models, for training, deployment, inference, and/or access to the model. A model which satisfies one definition may not satisfy the other. They can publicly publish model elements and monetize by hosting APIs, enterprise

apps, cloud services, data infrastructure, custom applications and coordinating the ecosystem (Cricchio, 2025; Longpre et al., 2025).

The impact of strategic importance is not limited to model pricing. There is potential for reducing costs to involve SMEs, researchers, public institutions and entrepreneurs into markets they were previously unable to enter. App development can help to enhance applications and accelerate diffusion. An open technical base can become a scalable platform when accessed via API. The mechanisms link technological efficiency to open innovation, platform ecosystems, business-model innovation, disruptive innovation, dynamic capabilities and market creation (Cricchio, 2025; Steiber & Alvarez, 2024; Zhang et al., 2025).

CONCEPTUAL BACKGROUND

The disruptive innovation theory is one that demonstrates how a newcomer can enter the market with a lower price or less complicated product to users of the same market who are underserved and gradually progress until they disrupt established companies. The idea is applicable when low-cost systems become available and will be used by users with limited resources, and when they eventually are as fast as the high-priced systems. But low prices are not disruptive. Initial target segments, performance trajectory, incumbent responses, and market structure changes should also be a focus of research (Christensen et al., 2015; Li, 2026).

Open Innovation describes how companies leverage external knowledge flows and communities to enhance technologies and speed the process of converting them into applications. The Platform Ecosystem Theory provides a framework to understand the relationships between model providers, developers, cloud companies, data providers, application companies, customers, universities, and governments. Whether core models are available or not, Business Model Innovation shows how companies are monetizing freemium business models, paid APIs, integration with enterprises, or other niche complements (Cricchio, 2025; Steiber & Alvarez, 2024; Zhang et al., 2025).

Blue Ocean Strategy is about value innovation and demand creation beyond the scope of existing competitive boundaries. It provides a good perspective when considering low cost and open models, which are cheap, flexible and accessible, and draw users who might not otherwise engage in a community or use a service. Dynamic Capabilities Theory complements this by providing a process perspective by describing how firms detect shifts in the market, capitalize on emerging opportunities with quick releases and partnerships, and realign resources based on feedback from the ecosystem. There is no single explanation for the phenomenon, and an integrated evidence map is supported (Kim & Mauborgne, 2005; Lanigan, 2022; Teece, 2007).

Rationale for the Review

The evidence of how Chinese open-source and low-cost AI models are applied is scattered across strategic management, entrepreneurship and innovation studies, information systems, finance, healthcare, telecommunications policy and China studies. Case studies, theoretical papers, event studies, reviews, and grey literature are also all intermingled in the literature. The scoping review is appropriate when there is a lack of similar effect estimates and when it is necessary to map concepts, methods, contexts and gaps that are evolving across a new field (Arksey & O'Malley, 2005; Munn et al., 2018; Peters et al., 2020).

Objectives and Review Questions

The review was designed to chart the extent to which Chinese AI companies are leveraging open-source and cheap models to develop markets and alter the dynamics of competition. It answered five questions: What disruptive mechanisms are found in the evidence? How do firms create value from strategic resources? How do open innovation and platform ecosystems enable value creation? What are the theories of open innovation and platform ecosystems? What are the gaps in the research that are relevant for strategic management, entrepreneurship, and policy?

METHODS

Review Design

The review was conducted according to the PRISMA Extension for Scoping Reviews and the guidance from the JBI (Tricco et al., 2018; Peters et al., 2020). It also adopted the scoping review frameworks of Arksey and O'Malley (2005) and Levac et al. (2010). Questions, eligibility criteria, sources of information, search clusters, screening thresholds, and charting fields were established as part of the protocol prior to conducting the synthesis. This protocol was not formally registered.

Eligibility Criteria

The Population-Concept-Context framework was used to determine eligibility. The population included Chinese AI companies, developers, platform organizations, and ecosystem players, including big techs like Baidu, Alibaba, Tencent, ByteDance, iFLYTEK, and Haier, as well as new players like DeepSeek. The idea was focused on open-source (or low-cost) AI models, related strategies, resource efficiency in model development, APIs, ecosystem orchestration, open innovation, business-model innovation, competitive advantage and market creation. This involved strategic and organizational analysis, entrepreneurship, market, and policy analysis in relation to Chinese related AI activities and the global technology competition.

Operational Definitions

In this review, open-source AI is defined as an AI model or component of an AI model that is distributed under conditions that allow for the meaningful inspection, use, modification, or redistribution of both the source code and/or model weights. Not all training data, documentation, and development components are open. Low-cost AI is defined as a model or access to a model that is reported to have a significantly lower cost of training, deployment, inference, licensing, or user access than a model, or relevant proprietary or incumbent model. Low price was not enough to be included unless the source related the price differential with organizational strategy, adoption, competition, entrepreneurship, and/or market creation. Market creation occurs when new users, applications, complements, transactions, ventures and/or demand that appear that goes beyond mere substitution between existing providers (Abraham, 2025; Kim & Mauborgne, 2005; Longpre et al., 2025).

Scholarly journal articles, conference papers, book chapters and preprints, as well as institutionally attributed grey literature, published between 2018 and September 2026, were eligible for inclusion. The sources are needed to present strategic or organizational analysis, market analysis, policy analysis, or entrepreneurial analysis. Only model evaluations that included a strategic component, that focused on firms with a Chinese connection, and that provided industry commentary with analysis were included.

Information Sources and Search Strategy

The sources of SciSpace Deep Search, SciSpace full-text Search and Google Scholar were searched in August and September 2026. Exact replication is limited as the search period for the review level period was preserved but no database-specific timestamps were recorded. The literature search only included publications from the period 2018 to September 2026. English-language terms were used, and no systematic use of Chinese language databases was made. 44 queries were grouped into four clusters, which are Disruption and Market Creation, Strategic Mechanisms and Resource Leverage, Open Innovation and Platform Ecosystems, and theoretical frameworks. Firm or technology terms, including Chinese AI firms, DeepSeek, Baidu, Alibaba, Tencent, ByteDance, open-source AI, and low-cost AI, were combined with strategic terms, such as disruption, value innovation, platform ecosystem, API strategy, open innovation, dynamic capabilities, and business-model innovation, for each query. The final list of queries and procedures for each source are listed in Appendix A.

Source Selection

1,183 records were found during the searches, with 395 found through SciSpace Deep Search, 400 through SciSpace Full-Text Search, and 398 through Google Scholar. 997 unique records were kept after removal of 186 duplicates, based on title, author, year, and digital object identifier (doi) if available. Since the number of records generated was greater than the screening capacity, 500 records were selected for title and abstract screening using AI relevance ranking. There were 497 records not screened. The 500 records screened were excluded from this sample due to the lack of a Chinese firm or ecosystem connection, primary technical nature, or lack of strategic, organizational, entrepreneurial, market, and policy analysis. A total of 35 full texts is assessed, and one of those is excluded because of lack of strategic focus, with 34 remaining. This process is reported in Table 1 and Figure 1.

The ranking process was performed according to titles, abstracts and keywords to evaluate the alignment with the PCC criteria and four search clusters. Records that included a Chinese AI context and either low-cost or open-source models as well as a clear strategic or market-creation approach received priority. Purely technical benchmarking, general AI commentary, and studies that were not connected to Chinese organizations were given a lower priority. The cut-off point of 500 records was a pragmatic choice as it represented a reasonable resource choice but not a confirmed methodologically valid cut-point. No recall estimate was computed for any random sample of the 497 associated lower ranked records were not independently screened. The ranking as a result lowered workload but cannot show that all potentially eligible evidence is retained.

The screening and decision on final inclusion of the title, abstract and full texts was done by the primary author. The AI relevance scores were used to prioritize, rather than replace, full text judgement. No inter-rater reliability statistics, formal disagreement resolution or independent duplicate screening were completed in the protocol. These omissions are made clear and taken as a risk of selection bias and not as a safeguard that is completed.

Table 1. Summary of the PRISMA-ScR source-selection process

Selection stage	Records
Records identified	1,183
Duplicates removed	186
Advanced through relevance ranking	500
Excluded at title and abstract screening	465
Full texts assessed	35
Full texts excluded	1
Sources included	34

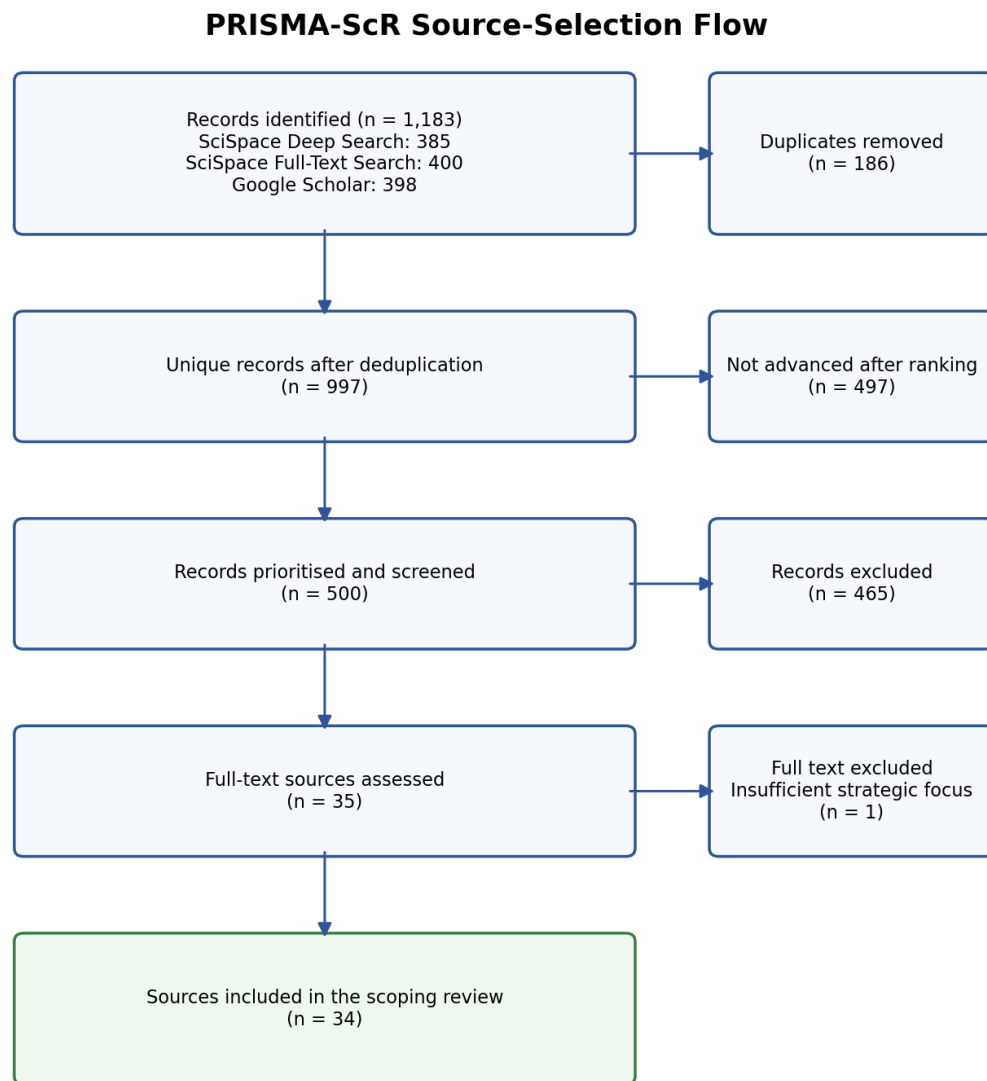


Figure 1. PRISMA-ScR flow diagram of source selection

Data Charting and Synthesis

The data were transcribed in a standardized charting format which included information on bibliographic details, publication year and type, accessibility, firm or platform context, country connection, research design, strategic mechanism, theoretical framework, business-model innovation, competitive advantage, reported market outcome, limitations, and research gaps. As new categories emerged the form was developed in an iterative process. No independent duplicate charting was done; one reviewer charted the data and made cross checking with the source text (Levac et al., 2010; Peters et al., 2020).

Thematic classification was carried out by using deductive and inductive methods. Deductive codes were generated from the review questions, including cost efficiency, openness, APIs, participation in the ecosystem, value creation, and competitive responses. Mechanisms that were reported in multiple sources were captured as inductive codes. If two or more codes referred to the same strategic pathway and different sources, then the codes were compared, grouped together, and clustered into five themes. A source could contribute to several themes. To pass a mention of a theory was not enough, the use of the named theory or its main concepts had to be consistent throughout the entire itemization. Descriptive evidence mapping was undertaken using frequencies and cross-tabulations. Pooled effects and formal risk of bias assessment were not conducted due to the use of empirical, conceptual, preprint, and grey literature within the corpus (Peters et al., 2020; Tricco et al., 2018).

RESULTS

Selection and Characteristics of Included Sources

The final corpus included 34 sources from the period 2018 – 2026. In 2025, 58.8% (20 sources) were published, showcasing the swift advancement of DeepSeek and open-source AI methodologies within the Chinese context. There are 29 journal articles, four grey literature and other items, and one book chapter in the corpus. There were 6 freely available and 28 with restricted access sources. This evidence covered strategic management, innovation, information systems, finance, healthcare and telecommunication policy. The publication-type distribution is shown in Figure 2.

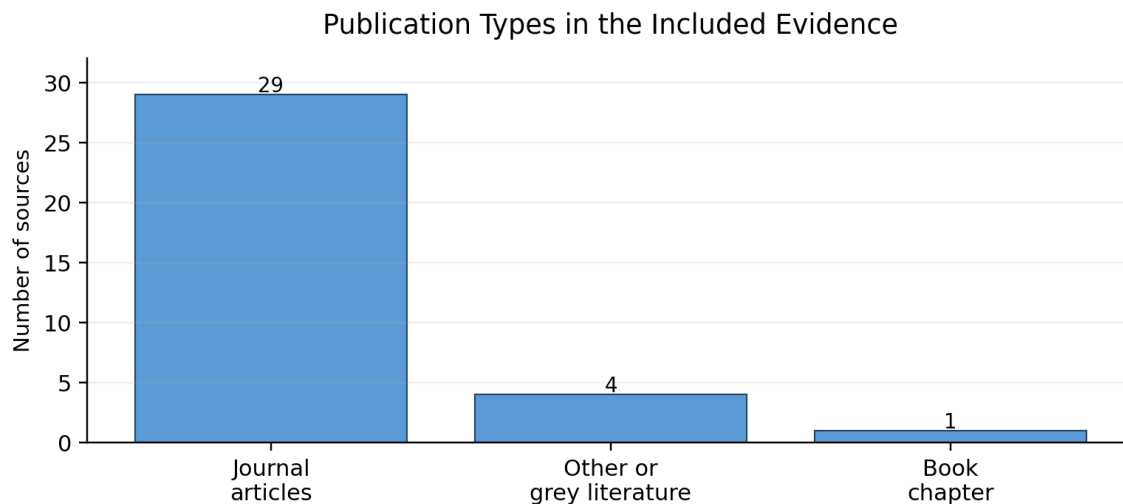


Figure 2. Publication types across the 34 included sources

The corpus was produced through a variety of approaches such as case studies, conceptual analysis, literature review, event studies and mixed evidence mapping. This diversity provides for a wide range of concepts but does not allow for direct comparison. There are more indications of strategic patterns in the field than of long-term performance or cause-and-effect.

Theoretical Distribution

The most common framework identified ($n = 5$) was Business Model Innovation, followed by Platform Ecosystem Theory ($n = 4$), Open Innovation ($n = 3$), Dynamic Capabilities ($n = 2$), and National Innovation Systems ($n = 2$). There was one occurrence of Resource Based View, Disruptive Innovation Theory, Digital Transformation, and Blue Ocean Strategy. There were three sources that employed value co-creation or general ecosystem perspectives. Eleven sources were identified as having more than one or survey based or other frames that could not be categorized within one of the categories discussed above. However, many sources did not even name theories but instead discussed the theories of disruption or market creation. The classifications and representative sources are summarized in Table 2 and Figure 3 shows theoretical coverage.

Table 2. Selected theoretical frameworks in the included evidence

Framework	Sources (n)	Representative sources
Business Model Innovation	5	Zhang et al. (2025); Ma and Hu (2021); Zhu (2023)

Framework	Sources (n)	Representative sources
Platform Ecosystem Theory	4	Longpre et al. (2025); Wang (2024); Sun et al. (2025)
Open Innovation	3	Cricchio (2025); Chen et al. (2025); Xin (2025)
Dynamic Capabilities	2	Ma and Hu (2021); Li (2021)
National Innovation Systems	2	Lanigan (2022); Zhu et al. (2025)
Blue Ocean Strategy	1	Tang (2025)
Disruptive Innovation Theory	1	Li (2026)
Value Co-creation or Ecosystem	3	Chen et al. (2021); Steiber and Alvarez (2024)

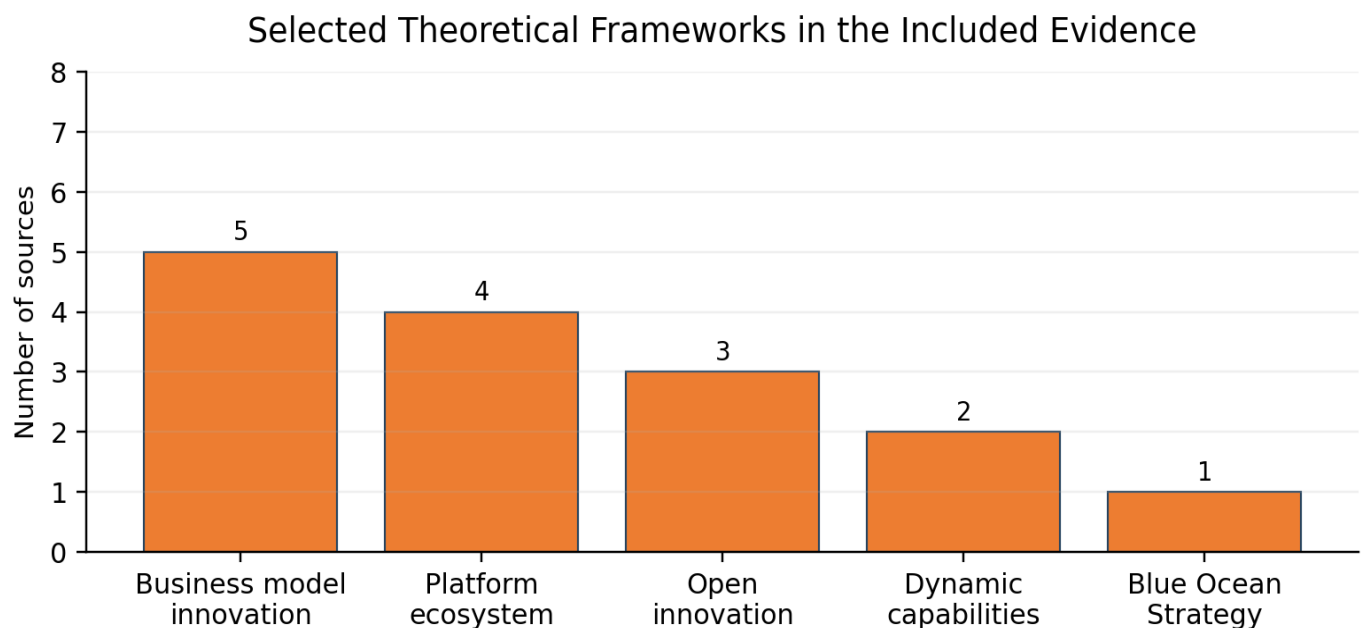


Figure 3. Selected theoretical coverage across the included evidence

Thematic Evidence Map

The coding process resulted in the identification of five themes that were used in the strategic process more than once. Themes are not mutually exclusive categories or tested causal mechanisms; rather they are patterns that emerge from the mapping of the evidence. Table 3 presents the themes and how they function.

Table 3. Five strategic themes derived from the evidence map

Theme	Mapped mechanisms
Resource-efficient model development	Algorithmic efficiency, reduced training and deployment costs, hardware flexibility
Open-source democratization	Accessible model weights, local adaptation, lower licensing barriers, wider adoption
API-based platform strategies	Hosted access, enterprise integration, freemium tiers, complementary services
Ecosystem network effects	Developer communities, complementors, data feedback, cross-sector diffusion
Value innovation and market creation	Access for non-users, new application markets, changed cost-performance expectations

Resource-Efficient Model Development

The first theme is about cost radical innovation. The evidence includes significant cost savings in model training and deployment, resulting from a variety of methods such as mixture-of-experts architectures, selective activation, efficient reinforcement learning, hardware-aware optimization, and a reduction in reliance on the most advanced chips (Feld, 2025; Joshi, 2025; Shi, 2025). Others estimate costs can be cut as much as 95% compared to more costly methods. The figures are treated as source reported estimates given the scoping review did not independently check the cost accounting or model equivalence.

Strategically, resource efficiency is changing the minimum size of the market to access AI. Reducing training costs helps challenger businesses and reducing inference and access costs helps downstream adopters. The mechanism is important because it modifies the cost performance considerations for the incumbent and the user. X. Yang (2025) reported that the abnormal returns of selected hardware and computing companies were negative after the market received information regarding DeepSeek, which indicates that the investors readjusted their assumptions about the computational advantage.

Open-Source Democratization

The second theme is on purpose access expansion by open-source releases. Conventional licensing barriers can be removed for developers to deploy, fine-tune, inspect, and integrate models using weights that are accessible (Abraham, 2025; Li, 2026; Longpre et al., 2025). Small businesses, researchers, public organizations and emerging economy developers are the first groups to benefit. The strategy generates demand through the switch of organizations that could not afford proprietary systems into active adopters and complementors.

In addition to open-source democratization, there is innovation location change. The knowledge in the application is not limited to the focal firm but can be acquired from users or other developers. This opens new areas for experimentation and enhances adaptation locally. But having access is not equal to being able to participate. No access to computing resources, data, skills, language coverage and distribution channels has yet to have an equally significant impact on who can benefit. Research needs to be able to differentiate between nominal and effective openness.

API-Based Platform Strategies

Value Capture is also described in the third theme. They can offer an open technical platform and sell hosted APIs, high-capacity usage, reliability, support, enterprise integration, security, and/or special applications (F. Sun, 2025; Zhang et al., 2025). Freemium and tiered access prevent experimentation costs while setting up a road to paid usage. This helps separate the technology access from assurance of services and enables a space to remain open while generating commercial revenues.

API strategies also convert models into resources of a platform. Developers develop on a stable interface, organizations build on and integrate capabilities into their workflows, and complementors create a broader use case set. The provider of the model can benefit from usage information, dependence on the ecosystem, visibility and demand for the surrounding services. The strategic asset could then transition from ownership of a model to their ability to orchestrate it, their service quality and the availability of supplements.

Ecosystem Network Effects and Open Innovation

The most uniform cross-cutting mechanisms were open innovation and the platform ecosystem strategy. There are five pathways found in the evidence. Communities donate code, optimized models, assessment and applications. More developers with their models increase model utility and market reach. Businesses liaise with government, universities and communities. The finance, health, manufacturing, content and social platforms are all becoming infused with the capabilities of AI. Both users and developers and firms contribute to the creation and capture of value (Chen et al., 2021; Cricchio, 2025; Wang, 2024).

These pathways can be enhanced by network effects. More applications are developed, leading to more users and more enterprise partners. The more it is used, the more feedback and if the governance allows, the more data can improve services. But as the ecosystem expands, there are some coordination issues, such as quality, security, IP, incentives for contributors, and reliance on the platform owner. Evidence is clearer about the importance of orchestration than the governance processes that enable it.

Value Innovation and Market Creation

The fifth theme relates to the creation of markets. The low-cost models eliminate price barriers, the open-source access eliminates licensing and adaptation barriers, and the APIs eliminates technical integration barriers. These mechanisms can collectively extend to premium non-proprietary AI users. It is consistent with the concepts of Blue Ocean Strategy as it brings together both lower cost and higher utility and access (Kim & Mauborgne, 2005).

Additionally, there are new application areas in the health sector, content production, public services, industrial software and platform commerce (Chen et al., 2025; Peng & Wang, 2025; Temsah et al., 2025). However, only one included source explicitly used Blue Ocean Strategy. Further studies should assess the level of non-customer conversion, new use occasions, value curves and the persistence of new demand before making a definitive assessment that a stable blue ocean has been reached.

Strategic Resource Leverage

Four types of resource leverage are found throughout the evidence. In the first step, API packaging transforms the capability of the model into a service. Second, ecosystem orchestration does not require the inclusion of all development costs by developers and complementors. Thirdly, platform and transaction data can help with continuous improvement. Fourth, alignment with national innovation priorities can help to secure funding, infrastructure, standards and institutional support (Jia et al., 2018; Lanigan, 2022; Steiber & Alvarez, 2024; Zhu et al., 2025).

These mechanisms meet the requirements of a narrow interpretation of RBV. It doesn't always have to be the case that the core model is exclusive for competitive advantage. Companies can have one resource open and still enjoy benefits regarding data, distribution, computing infrastructure, service delivery, integration,

ecosystem relations, and governance. There is also a finding by Xie and Zhou (2025) that non-rival digital inputs can yield different rates of return on investment as compared to rival physical inputs. The question is what layer of the stack is going to be opened, and which complementary layers are going to be controlled.

Research Gaps

Some gaps were identified in the review that need to be further explored theoretically and empirically. These gaps and the research priorities are summarized in Table 4.

Table 4. Research gaps and priority directions

Research gap	Priority direction
Longitudinal sustainability	Track whether low-cost and open-source advantages persist as usage, maintenance, and governance costs increase.
Ecosystem governance	Examine contributor incentives, quality control, security, intellectual property, and decision rights.
International market transfer	Test how Chinese strategies perform across regulatory, cultural, language, and institutional settings.
Incumbent response	Study pricing, release, partnership, acquisition, and standards responses by established global firms.
Ethics, safety, and sovereignty	Analyze the tension among open access, misuse risk, national control, privacy, and accountability.
Comparative performance	Use comparable measures of cost, quality, adoption, enterprise value, and complement growth.
Entrepreneurial outcomes	Measure venture creation, productivity, survival, dependence, and value capture among downstream firms.

DISCUSSION

Interpretation of the Evidence

The findings show that open-source and low-cost AI models work in tandem within a strategic approach. Development taking account of resource efficiency reduces costs on the supply side. Open release increases acceptance and uptake. APIs provide an accessible and sustainable layer of access and revenue. Increased participation in the ecosystem leads to more applications and reach. Services are complementary which assist value capture. These mechanisms create the market if they attract new users and new use cases, which enter the AI economy (Abraham, 2025; Peng & Wang, 2025; Shi, 2025; Steiber & Alvarez, 2024).

Evidence base is still relatively recent. While there has been a high level of interest since DeepSeek, its concentration in 2025 is also attributable to the fact that many claims refer to early responses and not to lasting results. Case studies and conceptual papers provide a description of mechanisms, and event studies show the immediate market reactions. Very few sources provide information on whether the benefits remain after accounting for security, maintenance, infrastructure and coordination costs. The review, therefore, outlines

plausible and reported mechanisms, and not necessarily superiority over the long term (Ge & Yang, 2025; Temsah et al., 2025; G. Yang, 2025).

Integrated Strategic Framework

The review is designed to fit into a four-stage framework. The first is to provide capabilities like efficient model architecture, engineering expertise, data, computing access, and institutional support. The second phase is choosing between openness, pricing, licensing and APIs and partnerships. Ecosystem processes such as external contribution, complement development, feedback, cross-sector diffusion and governance constitute the third stage. The fourth stage addresses the market consequences of adoption such as entrepreneurial entry, the income from complements, competitive repositioning and new demand. The four stages and the component identified in each stage has been summarized in Table 5.

Table 5. Integrated framework for market creation through open-source and low-cost AI

Framework stage	Components identified in the evidence
Enabling capabilities	Efficient architecture; engineering; data; computing; institutional support
Strategic configuration	Open release; low-cost access; API tiers; licensing; partnerships
Ecosystem processes	Developer contribution; complements; feedback; governance; sector diffusion
Mapped outcomes	Adoption; venture entry; service revenue; repositioning; market creation

Feedback occurs between the stages. Unmet needs are identified through developer and user activity; firms change their model and service offerings and ecosystem responses affect future releases. Dynamic capabilities link these changes through the three processes of sensing, seizing and reconfiguration. Governance supports the system by mitigating a lack of quality, security or contributors' management that may hinder trust and adoption. The framework is an organizing synthesis and needs to be tested empirically.

Theoretical Implications

This review poses the question as to whether the key to competitive advantage is always to have exclusive resources. A firm can offer a core model as it creates an advantage around integration, data, infrastructure, brand, enterprise relationships and ecosystem control. Research on resource-based view should thus examine the concept of layered appropriation, which is defined as making use of openness in one layer of the resource, while capturing more value in another layer (Barney, 1991; Longpre et al., 2025; Xie & Zhou, 2025).

Disruptive Innovation Theory needs to differentiate between low prices and full disruption. Future tests require evidence of underserved entry segments, performance improvements, market migration and incumbent displacement and/or response. The concept of Blue Ocean Strategy should focus on value innovation and new demand, not to define any low-cost model as market creation. The governance of the contributors, complement of quality, and value allocation among contributors should be explained by Open Innovation and Platform Ecosystem Theory (Christensen et al., 2015; Cricchio, 2025; Kim & Mauborgne, 2005; Steiber & Alvarez, 2024).

Dynamic Capabilities Theory offers a process linkage between these views. Businesses need to feel the cost and access pressures, capitalize on opportunities through quick release and ecosystem mobilization, and

reconfigure their services based on feedback. National Innovation Systems incorporate institutional settings that influence computing access, standards, talent, funding and internationalization. A multi-level theoretical model rather than a single, isolated lens is thus more appropriate (Lanigan, 2022; Teece, 2007; Zhu et al., 2025).

Entrepreneurship Implications

Low-cost APIs and open-source models lower the investment and skills needed to develop AI-powered businesses. Instead of training foundation models, entrepreneurs can establish a focus on domain knowledge, customer problems, work flows and distribution. This creates opportunities in the healthcare industry, education, manufacturing, professional services, content, and public applications. The best opportunities might be those where models are easily available coupled with proprietary industry data, trusted service delivery or local industry knowledge (Abraham, 2025; Chen et al., 2025; Peng & Wang, 2025; Temsah et al., 2025).

Reducing barriers to entry will also raise competition and dependence. Many ventures can have the same models, and this demands customer relationship, specialized data, integration capability, governance, and switching costs, for a sustainable differentiation. When choosing a platform to build around, entrepreneurs should consider the stability of the licensing, API pricing, portability of models, data security, and dependency on the provider. Concentration risk can be minimized using multi-model architecture and portable application layers (Longpre et al., 2025; G. Yang, 2025).

Managerial and Policy Implications

When looking at the models, managers should consider open-source and low-cost options based on total adoption cost, and not model price. Integration, computing, security, monitoring, skills, compliance, reliability and switching should all be included in an evaluation. Firms must decide which option to self-host, which to use managed APIs, hybrid or which to use more than one provider, depending on the level of risk and capability. Performance of models should be measured by the needs of each use case, not using general benchmarks (Longpre et al., 2025; Temsah et al., 2025; G. Yang, 2025).

Policy needs to strike a balance between access to innovation, safety, sovereignty and competition. Although open models have the potential to enhance national capability, SMEs, R&D, and public services, they may also bring up issues of misuse, accountability, and security. Standards can help to define interoperability and trust, while excessive coordination can slow the innovation process. Competition policy should track the level of concentration in cloud platforms, data, distribution or technical access that may result from open access (Longpre et al., 2025; G. Yang, 2025; Zhu et al., 2025).

LIMITATIONS

There are some limitations to this review. It conducted a database search on SciSpace Deep Search, SciSpace Full-Text Search, and Google Scholar, but failed to systematically search in specialized and Chinese databases such as Scopus, Web of Science, IEEE Xplore, ACM Digital Library, CNKI, Wanfang, and so on. The evidence is primarily in English, and may not reflect the views of Chinese academics, industry and policy. Search timestamps were not saved for the specific database. There can also be a quick change of models, preprints and platform policies, and this may result in the exclusion of more recent evidence from the indexed corpus.

The most crucial limitation is that the AI relevance ranking only screened 500 out of 997 unique records, leaving 497 records out. There was no separate sample of lower-ranked records, or a recall estimate to validate the cut-off, and it was pragmatic rather than valid. One reviewer did screen and charting, no duplicate screening, data extraction was not done independently, no disagreement procedure, and no interrater reliability assessment. These decisions could have resulted in the omission of relevant research and/or affected thematic and theoretical categorization. The final corpus also includes peer-reviewed literature, but not preprints, conceptual papers, or grey literature, which are not formally reviewed and are therefore not weighted for the

evidence maps. Another restriction is the temporal concentration. Only 20 of 34 sources were published in 2025, with not much long-term evidence. Reduced costs and competitive impact will be variable across models, hardware assumptions, accounting practices, market conditions and their quality. The review should therefore help formulate research questions and help make strategic interpretation rather than making accurate forecasts or causal estimates of costs.

Future Research Agenda

Longitudinal datasets on model costs, performance, adoption, developer participation, formation of complements, revenues and governance incidents should be created and developed in future studies. Comparative work shall be based on common measures, and Chinese companies and non-Chinese companies shall be compared. Immediate market response can be tested using event studies, and persistence and causal mechanisms can be tested through panels, case-comparison, and ecosystem-network designs.

There are many aspects of governance to be researched including licensing, contributor rights, model updates, disclosure of security vulnerabilities, quality assurance, community leadership and dispute resolution. Research in a global context needs to be undertaken to see how open-source principles will transfer over to regulation, language, procurement, and data regimes. Changes in pricing, open releases, partnerships, acquisition, lobbying and standards competition should be studied in incumbent-response studies. Market creation should be operationalized in future research studies by using indicators like adoption by previous non-users, new application categories, value curves, switching, willingness to pay complements, venture formation, productivity, survival, dependence, and value distribution. Updated reviews should include searching Chinese-language and technical databases, check all unique records, include full database-specific queries and dates, use two independent reviewers, include reasons for agreement and exclusion, duplicate data charting, and source-quality appraisal.

CONCLUSION

34 sources have been identified and mapped in this PRISMA-ScR on how Chinese AI companies have developed markets and affected competition through open-source or low-cost models. Five interconnected strategies are identified from the evidence, which are resource efficient model development, easy releases, easy value capture through API, ecosystem participation, and complementary services. The mechanisms could reduce the barriers to development and adoption for firms, SMEs, researchers, public institutions and resource constrained organizations, but the evidence does not indicate that these mechanisms have a causal effect on the market.

Business Model Innovation, Platform Ecosystem Theory and Open Innovation frameworks were most explicitly discussed, and Disruptive Innovation and Blue Ocean Strategy were used less formally. The outlined framework connects to enabling capabilities, strategic configuration, ecosystem processes and mapped outcomes. The limitations of this study include the lack of coverage on the database, the single reviewer processes, the 497 records were not screened, and the limited evidence of description restricted to a recent period. Future research should explore whether openness and cost efficiency will lead to sustainable market creation, how value will be generated and how value will be shared within firms, and how governance, safety, sovereignty and incumbent responses will impact on outcomes.

Declarations

The study has not received any specific funding, and the authors have no conflict of interest to declare. Ethical approval was not needed as the review was based on published literature. The data set used for the charts and search documentation are available from the corresponding author on reasonable request.

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Appendix A. Complete Search Strategy

Table A1. Complete set of 44 search queries used in the review

No	search cluster	Complete query
1	Disruption and market creation	("open-source AI" OR "low-cost AI") AND China AND disruption

No	search cluster	Complete query
2	Disruption creation and market	("open-source AI" OR "low-cost AI") AND Chinese AND "market creation"
3	Disruption creation and market	DeepSeek AND (disruption OR "disruptive innovation")
4	Disruption creation and market	DeepSeek AND ("market creation" OR "new market")
5	Disruption creation and market	(Baidu OR Alibaba OR Tencent OR ByteDance) AND AI AND disruption
6	Disruption creation and market	("Chinese AI firms" OR "China AI") AND "value innovation"
7	Disruption creation and market	("open model" OR "open-weight model") AND China AND competition
8	Disruption creation and market	("low-cost model" OR "cost-efficient AI") AND China AND adoption
9	Disruption creation and market	DeepSeek AND (competition OR incumbent response)
10	Disruption creation and market	("open-source AI" AND China) AND (noncustomers OR democratization)
11	Disruption creation and market	("Chinese generative AI" OR "China foundation model") AND market entry
12	Strategic mechanisms and resources	("Chinese AI firms" OR DeepSeek) AND "cost efficiency"
13	Strategic mechanisms and resources	DeepSeek AND (training cost OR inference cost)
14	Strategic mechanisms and resources	("open-source AI" AND China) AND "resource-based view"
15	Strategic mechanisms and resources	("Chinese AI" OR DeepSeek) AND "competitive advantage"
16	Strategic mechanisms and resources	(Baidu OR Alibaba OR Tencent) AND AI AND "dynamic capabilities"
17	Strategic mechanisms and resources	("low-cost AI" OR DeepSeek) AND resource leverage
18	Strategic mechanisms and resources	("Chinese AI model" OR DeepSeek) AND hardware efficiency

No	search cluster	Complete query
19	Strategic mechanisms and resources	("Chinese AI firms" OR DeepSeek) AND rapid innovation
20	Strategic mechanisms and resources	("open-source AI" AND China) AND complementary assets
21	Strategic mechanisms and resources	(DeepSeek OR "Chinese AI") AND firm value
22	Strategic mechanisms and resources	(DeepSeek OR "Chinese AI") AND event study
23	Open innovation and ecosystems	("open-source AI" AND China) AND "open innovation"
24	Open innovation and ecosystems	("open-source AI" AND China) AND "platform ecosystem"
25	Open innovation and ecosystems	DeepSeek AND (developer community OR complementors)
26	Open innovation and ecosystems	(Baidu OR Alibaba OR Tencent OR ByteDance) AND "AI ecosystem"
27	Open innovation and ecosystems	("Chinese AI" OR DeepSeek) AND "network effects"
28	Open innovation and ecosystems	("open-weight AI" OR "open model") AND China AND governance
29	Open innovation and ecosystems	("Chinese AI firms" OR DeepSeek) AND "API strategy"
30	Open innovation and ecosystems	("AI platform" AND China) AND value co-creation
31	Open innovation and ecosystems	("open-source AI" AND China) AND licensing
32	Open innovation and ecosystems	("Chinese AI ecosystem" OR DeepSeek) AND entrepreneurship
33	Open innovation and ecosystems	("Chinese AI" AND open source) AND internationalization
34	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "business model innovation"
35	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "dynamic capabilities"

No	search cluster	Complete query
36	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "Blue Ocean Strategy"
37	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "disruptive innovation theory"
38	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "platform ecosystem theory"
39	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "open innovation theory"
40	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "resource-based view"
41	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "national innovation system"
42	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "value co-creation"
43	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND "digital transformation"
44	Theoretical frameworks	(DeepSeek OR "Chinese AI") AND (strategy OR entrepreneurship OR policy)