

Identification and Analysis of the Factors Influencing Corporate Patient Capital Based on Dynamic Capabilities Theory

Aichen Ma^{1,a,#}, Siyu Pan^{1,b,#}, Siqi Chen^{1,c,#}, Xiaowei Qiao^{1,d,#}, Haoyang Song^{1,e,#}, Jingyi Wang^{1,f,#}

¹Beijing 21st Century International School, Beijing, 100142, China

^amac133115@163.com, ^bpan13161880873@163.com, ^cchensiqi4629@icloud.com,

^dvivianstudy_200911102026@outlook.com, ^etylersong630@sina.com, ^fjingyi0131@126.com

#Co-first author

Abstract: In today's society, amid ongoing macroeconomic fluctuations and growing market uncertainty, firms find it difficult to maintain operational stability, causing the cost of patient capital to rise continually and profoundly affecting their capacity for long-term development. Drawing on a specialized lexicon and a textual dataset of 68,000 sentences, this study constructs a dual-dimensional framework of internal and external factors from a dynamic factor-identification perspective and systematically investigates the core determinants of firms' patient-capital costs and their mechanisms. The findings show that changes in external macroeconomic policy, intensifying market competition, and environmental uncertainty significantly increase firms' patient-capital costs; within firms, resource reserves, innovation investment, and long-term strategic planning can effectively optimize the cost structure and reduce ineffective patient-capital costs, whereas governance problems such as managerial myopia and agency conflicts increase cost redundancy. By clarifying the factors and pathways affecting corporate patient capital, this study provides a theoretical reference and practical basis for sustainable operations.

Keywords: patient capital, text analysis, supply chain resilience, dynamic capabilities

1. Introduction

Global industrial and supply chains are currently facing multiple shocks arising from geopolitical conflicts, trade protectionism, public emergencies, and other sources, while the risk of supply chain disruption continues to rise. Strengthening supply chain resilience—the comprehensive capacity of supply chains to withstand external shocks, recover quickly, and achieve optimization and upgrading—has become a key task in coordinating development and security and in building a modern industrial system. The report to the 20th National Congress of the Communist Party of China explicitly called for “efforts to improve the resilience and security of industrial and supply chains.” Yet stronger supply chain resilience depends on firms making sustained, long-term resource commitments to inventory redundancy, supplier diversification, digital upgrading, and innovation in key technologies. Such investments generally have long payback periods and high uncertainty, creating a structural conflict with short-term, profit-seeking capital and, consequently, an urgent need for patient capital.

As a form of investment focused on long-term value returns, patient capital is characterized primarily by its long-term orientation, stability, and high risk tolerance, enabling it to meet the long-term funding needs of supply chain resilience building. In 2024, a meeting of the Political Bureau of the CPC Central Committee first introduced the term “patient capital,” and the Third Plenary Session of the 20th CPC Central Committee further emphasized the need to “develop patient capital.” Against this background, how to effectively foster and expand patient capital has become a practical question of shared concern in academic and policy circles. The first prerequisite for answering this question is to clarify the key factors influencing corporate patient capital. From the perspective of dynamic capabilities theory, firms' sensing, seizing, and reconfiguring capabilities may play key roles in this process.

Dynamic Capabilities Theory was first systematically developed by Teece and colleagues in 1997 to explain how firms sustain long-term competitive advantage in rapidly changing environments. Its

central logic is that a firm's competitive advantage depends not only on its static resource endowments, but also on its ability to integrate, build, and reconfigure internal and external resources in response to environmental change. Dynamic capabilities can be further decomposed into three interrelated dimensions—sensing, seizing, and transforming (reconfiguring)—which together form a complete chain of capabilities through which firms adapt to uncertain environments. Specifically, sensing capability is a firm's ability to continually scan the external environment, identify opportunities and threats, and understand changes in technological trends and customer needs; seizing capability is its ability to mobilize resources after identifying an opportunity and convert that opportunity into actual value; and transforming capability is its ability to recombine internal and external resources and adjust its organizational structure and business model to remain adaptive as the environment continues to change. Existing research shows that transformation processes driven by dynamic capabilities often lead to profound changes in organizational culture and strategic orientation, providing an important analytical framework for understanding the formation and evolution of corporate patient capital.

From a dynamic capabilities perspective, the factors influencing corporate patient capital can be understood along three dimensions. First, in terms of sensing capability, firms with stronger sensing capabilities are more likely to identify emerging technological opportunities and market changes in highly uncertain environments. They can thereby send effective signals of future growth potential to prospective investors, reduce information asymmetry, and attract capital with a long-term orientation. Second, in terms of seizing capability, patient capital provides firms with stable financial support, allowing them to sustain R&D, upgrade production systems, and invest in long-term development projects; however, its effectiveness depends on whether the firm has the integrative capability to convert financial resources into innovation outcomes and competitive advantage. Third, in terms of reconfiguring capability, firms must continually reorganize internal and external resources, adjust organizational structures, and renew business models in order to maintain the effectiveness of long-term investments amid changing technological, market, and competitive conditions. This reconfiguring capability is an important mechanism through which patient capital generates sustained value.

Although existing research has provided preliminary evidence that patient capital can significantly improve firms' total factor productivity, ESG performance, and corporate resilience, research on the factors influencing patient capital remains relatively limited, and the direction and mechanisms of the various effects have yet to be systematically integrated. Moreover, there has been little systematic empirical testing of how the three types of dynamic capability described above respectively affect firms' acquisition and use of patient capital. Accordingly, using A-share listed companies from 2010 to 2023 as the research sample, this study systematically examines the key factors influencing corporate patient capital across the sensing, seizing, and reconfiguring dimensions of dynamic capabilities theory. It further distinguishes the differential effects on equity-based and debt-based patient capital, with the aim of providing a theoretical basis and policy reference for fostering and expanding patient capital and optimizing its allocation.

2. Literature Review

In recent years, increasing geopolitical uncertainty, rapid technological iteration, and continuing economic restructuring have placed greater demands on firms' long-term development capabilities. To strengthen supply chain resilience and maintain competitive advantage, firms must make sustained investments in technological innovation, supplier management, digital transformation, and organizational capability building. Such investments, however, generally involve long cycles, high uncertainty, and delayed returns, creating a degree of conflict with capital preferences that emphasize short-term financial performance. Against this background, patient capital—a form of capital that emphasizes long-term value creation, tolerates short-term fluctuations, and supports firms' continuing development—has attracted increasing attention in both academia and practice [1] Its importance is particularly evident in the context of China's high-quality economic development and the growth of strategic emerging industries. The formation of patient capital, however, depends not only on the external supply of capital; firms' own ability to attract, allocate, and effectively use long-term capital is equally important. Investigating the factors that shape the formation of corporate patient capital therefore has substantial theoretical and practical value.

Existing research holds that patient capital differs from forms of capital focused on short-term returns. Its defining features are a longer investment horizon, greater tolerance of uncertainty, and an emphasis on long-term value creation [1] Related research further indicates a close relationship

between investors' holding periods and their support for firms' long-term development: long-term investors are more inclined to provide stable support [2] Information conditions and investor behavior also affect the formation of patient capital. Information asymmetry may constrain firms' access to external finance [3], while investors' short-termism and risk preferences may reduce their willingness to participate in long-term, uncertain investment projects [4-5]. Firms therefore need to strengthen their capabilities, improve information transparency, and demonstrate future development potential in order to build the confidence of long-term investors.

Among internal firm-level factors, dynamic capabilities theory provides an important theoretical basis for explaining how firms attract patient capital. Teece, Pisano, and Shuen [6] define dynamic capabilities as a firm's ability to integrate, build, and reconfigure internal and external resources in rapidly changing environments. Subsequent research further divides dynamic capabilities into three core dimensions: sensing, seizing, and reconfiguring [7]). Firms with stronger dynamic capabilities can identify market opportunities, integrate resources, and adapt to environmental change more effectively, thereby presenting investors with more stable development prospects and increasing the likelihood of obtaining patient-capital support.

More specifically, a firm's sensing capability helps it identify technological trends, market changes, and potential opportunities, and communicate positive signals about its future development to investors through strategic action and information disclosure [8-9]. Seizing capability reflects the firm's ability to integrate financial, technological, and organizational resources and convert opportunities into actual outcomes. Because patient capital generally serves long-term innovation and capability building, only firms with strong resource-integration and knowledge-absorption capabilities can use long-term capital effectively to create sustained value [10] Reconfiguring capability also enables firms to adjust resource allocation, organizational structures, and business models in response to changes in the external environment, thereby strengthening their capacity for sustained development and increasing investors' confidence in their ability to create long-term value [11-12].

Beyond firms' own capabilities, the external environment is also an important factor in the formation of corporate patient capital. Capital-market structures, industry characteristics, and institutional conditions all affect investors' willingness to provide long-term capital. For example, institutional investors' investment horizons, governance objectives, and liquidity requirements influence their investment behavior [13] Stable long-term capital is especially important in industries with long technological-innovation cycles and high investment uncertainty [14]. At the same time, sound institutional conditions and investor-protection mechanisms can reduce governance risk and strengthen long-term investor confidence, whereas policy uncertainty may weaken firms' willingness to undertake long-term investment [15-16]. The formation of corporate patient capital is therefore jointly shaped by firms' internal dynamic capabilities and external environmental factors.

Overall, existing research has examined patient capital extensively from the perspectives of investor characteristics, capital-market conditions, and firms' long-term investment needs, but research on how firms actively form and attract patient capital remains relatively limited. In particular, further study is needed on how firms' sensing, seizing, and reconfiguring capabilities influence the formation of patient capital and how internal capabilities interact synergistically with the external environment. Based on dynamic capabilities theory, this study therefore investigates the factors influencing corporate patient capital at the levels of firms' internal capabilities and the external environment, with the aim of offering a new research perspective on how firms can build long-term financing advantages and achieve sustainable development.

3. Research Design

3.1. Object of Study and Overall Approach

This study examines the foundations for the formation, conditions for the development, and mechanisms through which the effectiveness of patient capital in China is realized. It aims to systematically identify core influencing factors with stable explanatory power from multiple textual sources. Complete propositions and their semantic relationships, rather than the frequency of isolated conceptual terms, serve as the basic units of analysis. Particular attention is paid to how institutional arrangements, capital supply, investment mechanisms, market conditions, and organizational capabilities are described as enabling conditions, constraints, or mechanisms of patient capital. The findings reveal the cognitive structures and patterns of expression through which different textual

actors understand the relevant factors; they are not directly equivalent to causal effects identified by econometric methods.

The research proceeds sequentially through concept definition and the establishment of identification rules, corpus collection and candidate retrieval, construction of a few-shot prompt, validation of model effectiveness, full-corpus identification, and coding of influencing factors. Once the candidate-sentence corpus has been formed, 50 sentences are first sampled and manually annotated to create a fixed few-shot prompt. After removing these sentences and near-duplicate texts from the same sources, another 1,000 sentences are sampled to establish an independent test set. The model is applied to identify the complete set of candidate sentences only after accuracy, precision, recall, and F1 score have all met the predetermined thresholds; the resulting outputs are then used to form the formal sentence corpus. Finally, dynamic capabilities theory is used as the analytical framework for summarizing specific influencing factors, directions of effect, and underlying mechanisms.

A uniform temporal boundary applies only to corporate annual reports, for which the annual reports of Chinese A-share listed companies from 2016 to 2024 are selected. Academic literature, national policies, and reports are selected according to their relevance to the research topic, the authority of their sources, and the verifiability of their content; they are not subject to the same annual restriction as corporate annual reports. Foundational academic studies may be traced further back where appropriate, while policies and reports are included according to whether they support concept definition, mechanism identification, and lexicon expansion. Comparative analyses involving annual changes are based, in principle, on continuous samples of corporate annual reports so that differences in data availability across sources are not misinterpreted as temporal trends.

3.2. Data Sources and Text Preprocessing

3.2.1. Data Sources

The research corpus comprises four categories of sources. First, academic literature primarily includes relevant studies indexed in China National Knowledge Infrastructure (CNKI), journals included in the Chinese Social Sciences Citation Index (CSSCI), Web of Science, and other databases. These materials support concept definition, the organization of theoretical mechanisms, and the expansion of specialist terminology. Classic studies with foundational or continuing explanatory value may be traced back as needed, with no uniform starting year.

Second, national policies primarily include laws and regulations, normative documents, policy interpretations, and transcripts of press conferences released publicly by the website of the Chinese government and by institutions including the National Development and Reform Commission, the Ministry of Finance, the People's Bank of China, the China Securities Regulatory Commission, and the State-owned Assets Supervision and Administration Commission of the State Council. Official documents form the core of the policy corpus; authoritative interpretations are used only to supplement policy objectives and mechanisms. Traceability information, including the issuing institution, release date, and original link, is retained in full.

Third, reports primarily include materials from authoritative domestic and international financial media, public reports by international organizations, China's international communication platforms, professional interviews, and thematic commentaries. All such materials are classified uniformly as "reports," with no further distinction between overseas and financial reports. Commercial advertorials, unsigned aggregated articles, and repeated republications are removed during collection. In principle, only the original report or the most complete authoritative version of the same event is retained, while both the original text and a Chinese translation are stored for foreign-language materials.

Fourth, corporate annual reports primarily comprise the 2016-2024 annual reports of Chinese A-share listed companies released through the statutory disclosure channels of CNINFO and the Shanghai, Shenzhen, and Beijing stock exchanges. The extraction focuses on sections covering management discussion and analysis, shareholders and governance, investments, risk factors, and development strategy. All four source categories contribute to concept identification and influencing-factor extraction, but only corporate annual reports are used to build a continuous annual sample for 2016-2024.

3.2.2. Text Collection, Cleaning, and Sentence Segmentation

Each item is assigned a unique document identifier, and metadata are systematically recorded, including the title, author or issuing institution, release date, source category, original URL, download

date, language, and page or paragraph location. PDF, HTML, and annual-report files are converted uniformly into searchable text, while the original files are retained.

Text preprocessing includes removing navigation information, copyright notices, headers and footers, and duplicate paragraphs; standardizing full-width and half-width characters, spaces, and common character variants; and segmenting sentences without changing the original meaning. Very short sentences, directory-style headings, incomplete fragments without a core predicate, and table text that cannot be reconstructed as a complete proposition are excluded.

3.3. Construction of the Keyword Lexicon and Candidate-Sentence Corpus

3.3.1. Establishment of the Keyword Lexicon

The keyword lexicon is established according to three substantive criteria: “long-term value orientation and tolerance of extended time horizons,” “capital investment in strategic fields and long-cycle innovation projects,” and “sustained coordination between capital supply and non-capital resources.” Concept cues and exclusion terms are also included. Researchers first extract seed terms manually from the four categories of materials and then expand synonymous or closely related expressions using term frequency, co-occurrence relationships, and semantic neighbors. A stable version is produced after independent review by two researchers. For each entry, the source, applicable text type, ambiguity notes, and version information are recorded. Keywords are used only for candidate retrieval and do not directly constitute the basis for determining relevance.

3.3.2. Candidate-Sentence Retrieval

A target sentence is included in the candidate-sentence corpus if it contains a concept cue or a phrase corresponding to any substantive criterion. Retrieval is followed sequentially by exact deduplication, near-duplicate identification, and the consolidation of republications. For report materials, repeated republications are identified at the document level, and among highly similar sentences within the same document, only the most informative is retained. Each candidate record includes, at minimum, a sentence identifier, document identifier, original sentence, normalized text, context, matched term, source category, date, and location in the source text, ensuring that subsequent identification is traceable and verifiable.

3.4. Manual Annotation and Validation of Model Effectiveness

3.4.1. Construction of the Few-Shot Prompt and Independent Test Set

After the candidate-sentence corpus has been deduplicated and has become stable, it is first stratified by source category. Fifty sentences are then randomly sampled and annotated sentence by sentence by the researchers, using a uniform identification manual, for the three criteria, the final label, and the corresponding evidence. These annotations form a fixed few-shot prompt. The number or proportion of positive and negative cases is not predetermined; the class distribution is jointly determined by the established rules and the random sample. Once model testing begins, the content, labels, evidence explanations, and order of the example sentences are all fixed.

After the 50-sentence few-shot prompt has been completed, those sentences and near-duplicate texts from the same sources are removed. A further 1,000 sentences are then randomly sampled by source category, with documents serving as the grouping unit, to construct an independent test set. Two researchers complete independent annotations, and disagreements are adjudicated by a third researcher against the original text. The final results serve as the manually established gold standard for model evaluation.

3.4.2. Model Identification and Effectiveness Criteria

The study selects a large language model whose version can be fixed, that supports structured output, and that has strong Chinese-language semantic comprehension. The independent test and subsequent full-corpus identification use the same model version, system prompt, fixed 50-sentence few-shot sample, operating parameters, and output structure. For each sentence, the model must return judgments on all three criteria, the corresponding evidence, the number of matched criteria, and the final label; the evidence must be precisely locatable in the original target sentence. Records with failed structured output, missing evidence, or inconsistencies between the number of matches and the final label are treated as invalid and referred for manual review.

The model's identification results for the 1,000-sentence independent test set are compared sentence by sentence with the manual gold standard, and accuracy, precision, recall, and F1 score are calculated. The model is deemed effective for full-corpus identification within the established corpus, concept definition, and prompt conditions only if all four metrics reach at least 85%. If any metric fails to meet the threshold, the conceptual boundaries, keyword lexicon, or prompting scheme must be revised, and a new independent test sample must be drawn for testing. This avoids information leakage and inflated results caused by repeatedly using the same test set to tune the model.

3.5. Formal Sentence Corpus and Identification of Influencing Factors

3.5.1. Construction of the Formal Sentence Corpus

Only after the model has passed the effectiveness test is it used to identify the relevance of all candidate sentences. A sentence is retained only when at least two of the three criteria are supported by direct evidence that can be located in the original text. Records with missing context, unclear references, inconsistencies between evidence and labels, or incomplete output are referred uniformly for manual review. After passing review, the records undergo exact deduplication and near-duplicate consolidation. Their sources, contexts, criterion matches, evidence excerpts, model and prompt versions, and review status are retained to form a traceable and verifiable formal sentence corpus.

3.5.2. Dynamic-Capability Coding and Analysis of Core Influencing Factors

Multi-label factor coding is conducted on the formal sentence corpus. The specific factor expressed in each text is first identified, after which it is assigned to sensing, seizing, or reconfiguring capability, and its direction of effect, target, mechanism, and textual evidence are extracted. Directions are coded uniformly as “facilitating,” “constraining,” “conditional,” or “not specified.” General knowledge may not substitute for textual evidence in any label, nor may a subject, causal relationship, or policy implication not explicitly reflected in the source text be added.

Core importance is determined by jointly considering the intensity of mentions after deduplication, coverage across independent documents, breadth of coverage across the four source categories, and persistence over time. This prevents concentrated, high-frequency expressions in a single source from being misclassified as core factors. The principal analysis examines the three dynamic-capability dimensions and their respective specific factors. Facilitating and constraining expressions are counted separately rather than offsetting one another on a net basis. Source comparisons use the four categories of material as the basic units. Analyses of annual changes are based primarily on corporate annual reports from 2016 to 2024 and report both the numbers of sentences and independent documents in order to reduce the undue influence of longer texts on the statistical results.

4. Data Analysis

4.1. Sample Construction, Keyword Rules, and Calibration Results

The data analysis in this study is based on a sentence corpus of corporate texts. Centered on the definition of patient capital and its long-term, capital, and high-tech-industry attributes, an initial keyword search of the corporate texts using Table 1 produced 368,740 candidate sentences. Keywords do not directly determine final relevance; rather, they broaden candidate recall. They primarily cover five categories: long-term orientation and sustained investment, capital investment and financing arrangements, R&D and innovation activities, high-tech industries and specific technologies, and strategic transformation and digital upgrading.

Table 1. Keyword Lexicon

60 Keywords			
Resource integration	Supply chain resilience	Supply chain strengthening	Pension funds
Supply-chain gap filling	Equity investment	Fault-tolerance and liability-exemption mechanism	Strategic robustness
Industrial weaknesses	Key core technologies	Reduction in financing costs	Strategic shareholding
Industrial-chain resilience	Relationship-based debt financing	Financing capacity	Strategic emerging industries
Industrial-chain	State-owned capital	Upstream and downstream	Strategic funds

restructuring		enterprises	
Industrial ecosystem	Technological bottlenecks	Social security funds	Long-term shareholding
Industrial investment funds	Value creation	Social functions	Long-term investment decisions
Industrial collaboration	Value co-creation	Time flexibility	Long-term investment capital
Venture capital	Value investing	Market volatility	Long-term orientation
Dynamic resource integration	Scientific and technological innovation	Digital transformation	Long-termism
Risk-bearing capacity	Sustainable development	Stability	Long-term capital
Risk resilience	Cross-cycle financial support	Supply-chain stabilization	Long-term capital
Risk preference	Patient capital	New quality productive forces	Positive externalities
Serving the real economy	Supporting firms throughout their growth	Supply-chain extension	Government funds
Supply chain finance	Corporate resilience	R&D investment	R&D support

Next, 1,000 sentences were randomly drawn from the candidate corpus for manual yes/no classification. The decision threshold required “evidence on three dimensions, with at least two matches”: a sentence was retained as relevant to corporate patient capital only if it simultaneously presented at least two of the following three dimensions—long-term characteristics, an embodiment of capital, and high-tech-industry or innovation content. This criterion avoids directly classifying accounting items, statistical tables, or management slogans as patient capital merely because they mention “equity investment,” “R&D investment,” or “digital transformation,” while allowing complete action-oriented statements about sustained R&D or technology-platform development to provide implicit evidence of a long-term orientation.

During review of the 1,000 manually labelled sentences, the rules were iteratively refined using boundary cases. Eighty-five sentences that might originally have been missed, but that expressed complete semantics of long-term technological action, were added; 41 formulaic disclosures, accounting records, purely numerical tables, or statements lacking actual corporate action were strictly excluded. Applying the final rules to the entire candidate corpus yielded 68,004 sentences relevant to corporate patient capital, representing 18.44% of the candidate corpus. Table 2 present this process and its evaluation criteria.

Table 2 Corpus Construction, Sample Calibration, and Final Analytical Corpus

Stage	Data Result	Analytical Meaning
Initial candidate retrieval	368,740 candidate sentences	Broadened the candidate scope using term groups related to long-term orientation, capital, innovative technology, digitalization, and transformation.
Random manual sample	1,000 sentences	Manually classified relevance using the “at least two types of evidence” rule to calibrate the criteria.
Rule calibration	85 added; 41 strictly excluded	Addressed boundary cases involving sustained technological action, accounting disclosures, formulaic statements, and non-corporate actions.
In-sample calibration results	TP=216; TN=736; FP=11; FN=37	Accuracy=95.20%; Precision=95.15%; Recall=85.38%; F1=90.00%.
Final analytical corpus	68,004 relevant sentences	Representing 18.44% of the candidate corpus and used to calculate the three dynamic-capability dimensions and key factors.

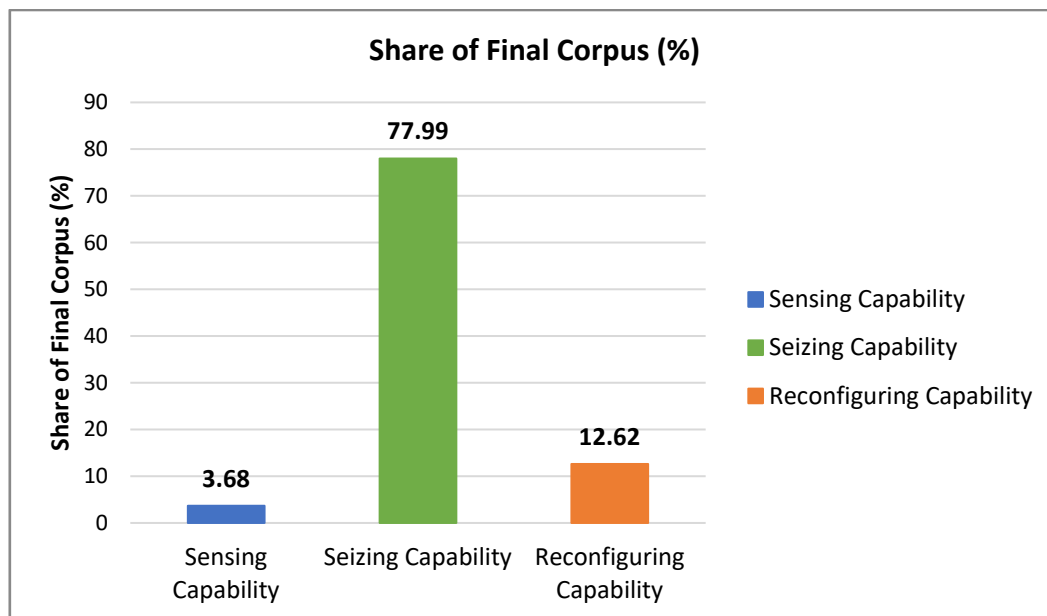
4.2. Analysis of the Three Dynamic-Capability Dimensions

Table 3 summarizes the multi-label coding results for the 68,004 final relevant sentences. Specifically, each sentence was assessed for explicit evidence of sensing, seizing, or reconfiguring, and the number of sentences matched to a given dimension was divided by the total final corpus to obtain that dimension's textual coverage. Because a single sentence can simultaneously describe market insight, R&D investment, and strategic transformation, the three capabilities permit multiple matches; their percentages therefore should not sum to 100%. Table 2 reflects the explicit frequency with which each capability appears in texts relevant to corporate patient capital, rather than the causal weights or statistical significance of the three capabilities.

Table 3 Textual Coverage of the Three Dynamic-Capability Dimensions (Multiple Coding Permitted)

Dynamic-Capability Dimension	Matched Sentences	Share of All Sentences	Principal Textual Manifestations	Direct Effect on the Firm
Sensing	2,501	3.68%	Market demand, customer changes, technology trends, policy, competition, opportunities, and risks	Provides an informational basis for directing long-term capital and improves the quality of directional choice and risk identification.
Seizing	53,039	77.99%	R&D investment, financing, equity funds, project construction, capacity, resources and collaboration, and commercialization	Converts opportunities into sustained resource commitments, technological assets, and executable value-creation activities.
Reconfiguring	8,585	12.62%	Strategic transformation, industrial upgrading, resource integration, governance mechanisms, business models, digital platforms, and ecosystems	Renews resource and organizational configurations and prevents long-term capital from developing path dependence as the environment changes.

As Table 3 shows, seizing capability has coverage of 77.99%, substantially higher than sensing and reconfiguring capabilities. This indicates that the most common expressions of patient capital in the final sentence corpus concern what resources have been or are being committed, what projects are being implemented, and what R&D and commercialization activities are being advanced. This is consistent with the practical logic of patient capital within firms: whether long-term funds actually have an effect must ultimately be demonstrated through observable actions such as R&D investment, project implementation, capacity construction, strategic investment, and resource mobilization. Because seizing capability has the highest coverage, it can be regarded as the central action stage through which patient capital moves from financial commitment to value creation. This conclusion, however, indicates only the highest textual frequency; it does not imply the largest causal effect in an econometric sense.

*Figure 1 Textual Coverage of the Three Dynamic Capabilities of Corporate Patient Capital*

As shown in Figure 1, sensing capability has relatively low coverage of 3.68%, but its strategic importance should not be underestimated. Market demand, customer changes, technology trends, and policy risks often appear in corporate texts as the background to an action or the basis for a decision, rather than as independently disclosed investment items, making them less likely to be captured explicitly at the sentence level. For firms, sensing capability determines where long-term capital should be invested: it helps identify opportunities supported by sustained demand, technological feasibility, and institutional conditions, and it helps distinguish tolerable uncertainty from risks that should be

avoided. Without sensing capability, capital may be patient in its duration yet misaligned with the direction of industrial evolution.

Reconfiguring capability has coverage of 12.62%. Although lower than that of seizing capability, it more directly reflects the adaptability of long-term capital. Patient capital generally supports projects with long cycles, while technological, market, and organizational conditions may continue to change over the course of a project. If a firm merely maintains its original allocation of funds and cannot renew its resource base through strategic transformation, industrial upgrading, digital platforms, resource integration, and business-model adjustment, long-term investments may solidify into inefficient assets. Reconfiguring capability is therefore the safeguard that turns “long-term investment” into “long-term effective investment.”

4.3. Key Influencing Factors, the Most Influential Factor, and Their Effects on Firms

Table 4 reports the results of a second-stage factor-identification process based on the three-dimensional coding in Table 3. The study first developed detailed factor lexicons and semantic conditions from the theoretical definitions of sensing, seizing, and reconfiguring, and then applied multi-label annotation to the relevant sentences within each dimension. Table 4 reports both the “overall share” and the “within-dimension share.” The former is the number of sentences matched to a factor divided by the 68,004 final sentences and reflects its visibility in the corpus as a whole. The latter is the number of sentences matched to the factor divided by the number of matches in the corresponding dimension and reflects its relative importance within that dimension. Because a single sentence may trigger multiple factors, neither set of percentages should be added mechanically.

Table 4 Key Factors Influencing Corporate Patient Capital and Their Specific Effects on Firms (Multiple Coding Permitted)

Dimension	Key Influencing Factor	Matched Sentences	Overall Share	Within-Dimension Share	Specific Effect on the Firm
Sensing	Market demand and customer insight	1,234	1.81%	49.34%	Identifies sustained demand and improves the alignment of long-term capital with its investment direction.
	Competition, opportunity, and risk assessment	1,147	1.69%	45.86%	Screens uncertainty and reduces the risk of investing capital in weak opportunities.
	Recognition of technology and industry trends	954	1.40%	38.14%	Identifies technological pathways and industry cycles and improves investment timing.
	Assessment of the policy, macroeconomic, and regulatory environment	243	0.36%	9.72%	Assesses institutional constraints and policy windows.
Seizing	R&D and innovation investment	40,546	59.62 %	76.45%	Supports experimentation, knowledge accumulation, and long-cycle R&D and is the principal action channel.
	Project construction and capacity deployment	8,718	12.82 %	16.44%	Converts technological opportunities into products, capacity, and operating capabilities.
	Equity, fund, and strategic investment	8,586	12.63 %	16.19%	Uses ownership and fund arrangements to obtain complementary resources and external technologies.

Dimension	Key Influencing Factor	Matched Sentences	Overall Share	Within-Dimension Share	Specific Effect on the Firm
	Resource allocation and mobilization of talent and collaboration	7,603	11.18 %	14.33%	Coordinates capital, talent, and partnerships to improve project implementation capabilities.
	Financing channels and financial support	3,747	5.51%	7.06%	Maintains continuity of funding during periods of uncertain returns.
	Market expansion and commercialization	3,102	4.56%	5.85%	Converts innovation outcomes into market value and cash-flow potential.
Reconfiguring	Strategic transformation and industrial upgrading	5,401	7.94%	62.91%	Guides resources toward high-value-added businesses and new strategic positions.
	Digitalization, platformization, and ecosystem renewal	3,970	5.84%	46.24%	Rebuilds information and collaboration architectures to support large-scale allocation across organizations.
	Adjustment of business structure and business model	1,795	2.64%	20.91%	Adjusts the means of creating and capturing value.
	Resource integration and asset acquisition and restructuring	1,380	2.03%	16.07%	Recombines internal and external assets and mitigates path dependence.
	Organizational governance and mechanism optimization	532	0.78%	6.20%	Improves decision rights, incentives, and coordination mechanisms.

The most prominent factor in Table 4 is “R&D and innovation investment.” It appears in 40,546 sentences, accounting for 59.62% of all final sentences and 76.45% of sentences matched to seizing capability—far more than any other factor. This indicates that the primary textual manifestation of patient capital is not general financing or static shareholding, but a continuing commitment of resources to R&D, technological accumulation, innovation experimentation, and long R&D cycles. For firms, R&D investment links the long-term nature of capital to corporate innovation capabilities by creating a stock of knowledge, technological options, prototype-development capacity, and a foundation for subsequent industrialization. R&D and innovation investment can therefore be regarded as the foremost channel through which patient capital affects firms.

Within seizing capability, project construction and capacity deployment, equity funds and strategic investment, and resource, talent, and collaboration mobilization account for 16.44%, 16.19%, and 14.33%, respectively. Together, these findings show that R&D cannot create value on its own. Project construction moves technology from experimentation or planning into production and operation; equity, fund, and strategic investments give firms access to specialized technologies, industrial-chain resources, or external innovators; and talent and collaboration mobilization connect capital with professional knowledge, suppliers, research institutions, and market channels. Although financing channels and financial support account for only 7.06% within the dimension, they stabilize funding during periods of uncertainty and provide the foundation for the continuous advancement of long-term projects.

Within sensing capability, market demand and customer insight have the largest within-dimension share, at 49.34%, followed by competition, opportunity, and risk assessment at 45.86%, and recognition of technology and industry trends at 38.14%. This means that the directional choice of patient capital is not simply a pursuit of the long term; it must also satisfy the conditions of future demand, technological evolution, and controllable risk. Market and customer insight helps firms judge where future value may emerge; opportunity and risk assessment helps them distinguish “innovation uncertainty worth tolerating” from “uncontrollable risk that should be avoided”; and recognition of technology and

industry trends affects technology pathways, the pace of strategic positioning, and the timing of capital entry.

Within reconfiguring capability, strategic transformation and industrial upgrading account for 62.91%, while digitalization, platformization, and ecosystem renewal account for 46.24%; both are central factors in this dimension. The former reallocates capital from low-value-added or traditional businesses to industries and strategic positions with greater growth potential, while the latter changes how resources are organized through digital platforms, data capabilities, and ecosystem collaboration. Business-model adjustment, resource integration, and governance optimization appear less frequently, but they respectively renew the means of capturing value, the asset portfolio, and the discipline of long-term decision-making. They are important complements that prevent long-term capital from settling into static assets.

4.4. Three-Dimensional Dynamic-Capability Mechanism of Patient Capital and Its Pathways of Influence

Figure 2 visually integrates Tables 3 and 4. It distills the “factors” and “effects on firms” from the two tables, arranges them in three columns according to the progressive logic of “sensing, then seizing, then reconfiguring,” and adds a feedback arrow to form the diagram.

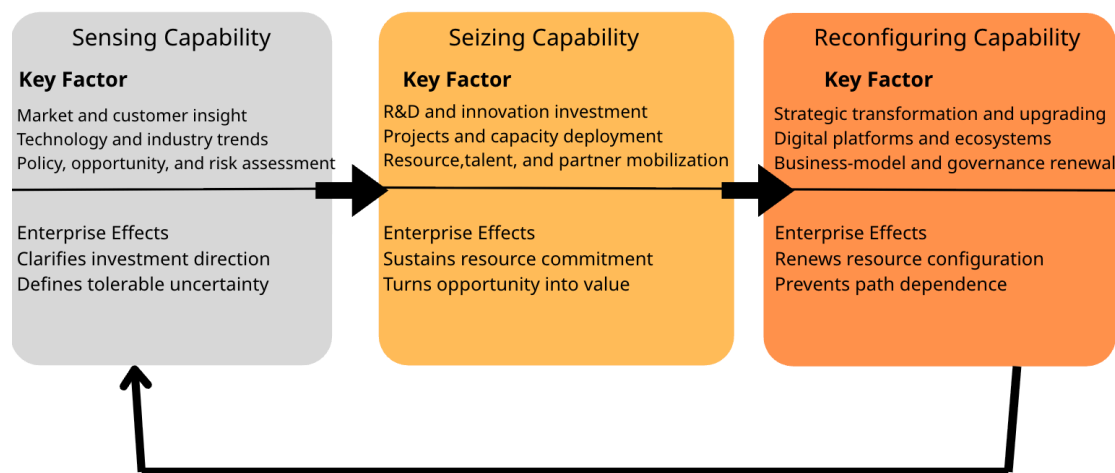


Figure 2 Dynamic-Capability Cycle of Corporate Patient Capital and Its Effects on Firms

First, sensing capability constitutes the cognitive starting point for allocating long-term capital. Firms form investment judgments through market-demand and customer insight, recognition of technological trends, assessment of the policy environment, and evaluation of competitive opportunities and risks. Its effect at this stage is to improve the direction and quality of capital allocation: patient capital may tolerate short-term fluctuations, but it should not be detached from long-term demand, technological pathways, or institutional conditions.

Second, seizing capability converts identified opportunities into resource commitments and value realization. R&D and innovation investment is the principal channel: it enables firms to sustain technological accumulation and innovation experimentation before returns become apparent. Project construction and capacity deployment turn technological opportunities into operating assets; equity funds and strategic investments connect firms to external complementary technologies and industrial resources; and talent, collaboration, and commercialization activities translate capital commitments into concrete implementation and market conversion. The “patience” of patient capital is therefore not passive holding, but the firm's ability to allocate resources continuously and advance value creation under uncertainty.

Finally, reconfiguring capability ensures that long-term investments can be renewed as the environment changes. Strategic transformation and industrial upgrading change the strategic direction of capital; digital platforms and ecosystem renewal change the firm's collaborative and information architectures; and resource integration, business-model adjustment, and governance optimization renew the asset portfolio, the means of capturing value, and decision-making mechanisms. For firms, this stage prevents long-term funds from being locked into obsolete technologies, inefficient capacity, or

rigid organizational structures, allowing invested capital to remain adaptive. More importantly, the reconfigured knowledge base, asset portfolio, and collaboration network reshape the opportunities the firm can sense in the next cycle, forming a pattern of “sensing, seizing, reconfiguring, and sensing again.”

5. Conclusions

This study examines the factors influencing corporate patient capital from a dynamic capabilities perspective. Through candidate-sentence retrieval, manual classification, rule calibration, and full-corpus screening, it identifies 68,004 relevant texts from 368,740 candidate sentences. The 1,000 manually labelled sentences used for calibration achieved an accuracy of 95.20%, precision of 95.15%, recall of 85.38%, and an F1 score of 90.00%. On this basis, the relevant factors were classified into sensing, seizing, and reconfiguring dimensions. The main conclusions are as follows.

First, seizing capability is the analytical dimension with the highest coverage, accounting for 77.99% of the final sentence corpus. This shows that firms generally present the operation of this form of capital through specific resource commitments and implementation activities. R&D and innovation investment is the most prominent factor, appearing in 40,546 sentences, or 59.62% of the entire analytical corpus and 76.45% of the seizing dimension. Sustained investment thus becomes an important vehicle for knowledge accumulation, technological experimentation, and preparation for future industrialization. Project construction and capacity deployment, equity funds and strategic investment, mobilization of talent and collaborative resources, financing support, and commercialization further convert financial commitments into operating assets and potential market value.

Second, sensing capability guides the allocation of patient capital and defines its risk boundaries. Although this dimension covers only 3.68% of the texts, its relatively low frequency does not imply weak strategic importance, because judgments about markets, technology, and policy often serve as the background to investment actions rather than being disclosed as independent items. Market-demand and customer insight, assessment of competitive opportunities and risks, recognition of technology and industry trends, and evaluation of the institutional environment help decision-makers determine where long-term funds should be invested, when they should enter, and what degree of uncertainty can be tolerated. This form of capital can tolerate delayed returns and short-term fluctuations, but without effective information recognition, the advantage of its long horizon may still be weakened by strategic misdirection.

Third, reconfiguring capability enables existing investments to remain effective as technological, market, and organizational conditions change. It covers 12.62% of the corpus and is manifested primarily in strategic transformation and industrial upgrading, followed by digitalization, platformization, and ecosystem renewal. Business-model adjustment, resource integration, asset acquisition and restructuring, and governance optimization provide complementary pathways for renewing the resource base and reduce the risk that long-term investments will be locked into obsolete technologies, inefficient capacity, or rigid structures. Taken together, the three-dimensional coding results support a patterned analytical framework of “sensing, seizing, reconfiguring, and sensing again,” rather than treating the three as mutually isolated determinants.

The theoretical significance of these findings lies in moving beyond a static understanding of patient capital based solely on funding scale, investment horizon, or ownership stability and interpreting it instead as a dynamic arrangement jointly constituted by opportunity recognition, sustained resource commitment, and adaptive renewal. The findings also have practical implications. Managers should combine sustained R&D with prudent selection, cross-organizational collaboration, commercialization of results, and timely adjustment. Investors and policymakers, while providing stable support for early-stage and long-cycle innovation, can establish evaluation, fault-tolerance, and incentive mechanisms suited to long-term value creation and improve governance arrangements and diversified exit channels. Combining the supply of capital with effective governance helps absorb innovation uncertainty while preventing patient capital from deteriorating into passive holding or prolonged inefficient investment.

This study has several limitations. First, the reported proportions reflect only the explicit frequency of relevant factors within a pre-screened corpus. They neither represent their prevalence across all corporate disclosures nor establish causal effects on operating performance. Second, the four classification metrics are derived from internal calibration on the same manually labelled sample rather

than out-of-sample testing on an independent test set. Future research could introduce independent samples, inter-coder reliability tests, traceable firm-year source information, and panel data to examine further the relationships between the three capabilities and innovation outputs, long-term performance, and risk-taking. Comparisons could also be conducted across industries, ownership types, regions, and stages of development to clarify the boundaries of applicability of the framework.

References

- [1] Deeg, R., & Hardie, I. (2016). What is patient capital and who supplies it? *Socio-Economic Review*, 14(4), 627–645. <https://doi.org/10.1093/ser/mww025>
- [2] Cremers, M., & Pareek, A. (2016). Patient capital outperformance: The investment skill of high active share managers who trade infrequently. *Journal of Financial Economics*, 122(2), 288–306. <https://doi.org/10.1016/j.jfineco.2016.08.003>
- [3] Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187–221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)
- [4] Keynes, J. M. (1936). *The general theory of employment, interest and money*. Macmillan.
- [5] Thaler, R. H., Tversky, A., Kahneman, D., & Schwartz, A. (1997). The effect of myopia and loss aversion on risk taking: An experimental test. *The Quarterly Journal of Economics*, 112(2), 647–661. <https://doi.org/10.1162/003355397555226>
- [6] Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
- [7] Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- [8] Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374. <https://doi.org/10.2307/1882010>
- [9] Connolly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management*, 37(1), 39–67. <https://doi.org/10.1177/0149206310388419>
- [10] Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128–152. <https://doi.org/10.2307/2393553>
- [11] Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850. <https://doi.org/10.1002/smj.2247>
- [12] Warner, K. S. R., & Wäger, M. (2019). Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal. *Long Range Planning*, 52(3), 326–349. <https://doi.org/10.1016/j.lrp.2018.12.001>
- [13] Schilke, O. (2014). On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism. *Strategic Management Journal*, 35(2), 179–203. <https://doi.org/10.1002/smj.2099>
- [14] Bushee, B. J. (1998). The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review*, 73(3), 305–333.
- [15] La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, 106(6), 1113–1155. <https://doi.org/10.1086/250105>
- [16] Rodrik, D. (1991). Policy uncertainty and private investment in developing countries. *Journal of Development Economics*, 36(2), 229–242. [https://doi.org/10.1016/0304-3878\(91\)90034-S](https://doi.org/10.1016/0304-3878(91)90034-S)