

## The Evolution of Dynamic Capabilities in the Digital and Innovation Era: A Bibliometric and Systematic Review

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### ABSTRACT

*Dynamic capabilities have become a critical concept in understanding how organizations adapt and sustain competitive advantage in rapidly changing environments. This study aims to systematically examine the development, key themes, and future research directions of dynamic capability literature. A systematic literature review (SLR) approach was employed using data retrieved from the Scopus database, yielding 6,255 documents related to “dynamic capability.” The selection process followed the PRISMA framework to ensure transparency and rigor, while bibliometric analysis was conducted using VOSviewer to identify key research clusters and influencing factors. The findings reveal that innovation, firm performance, and knowledge management are the primary factors influencing dynamic capabilities. Furthermore, emerging research trends highlight the growing importance of social capital, dynamic managerial capabilities, and human capital as key areas for future investigation. This study contributes to the literature by providing a comprehensive overview of dynamic capability research and offering insights into its strategic role in organizational development and adaptability. The results also provide a valuable reference for researchers and practitioners in designing future studies and implementing dynamic capability frameworks in organizations.*

**Keywords:** *dynamic capability; systematic literature review; bibliometric analysis; organizational performance; innovation.*

## Evolusi Kapabilitas Dinamis di Era Digital dan Inovasi: Sebuah Tinjauan Bibliometrik dan Sistematis

### ABSTRAK

Kapabilitas dinamis telah menjadi konsep penting dalam memahami bagaimana organisasi beradaptasi dan mempertahankan keunggulan kompetitif di tengah lingkungan yang berubah dengan cepat. Penelitian ini bertujuan untuk mengkaji secara sistematis perkembangan, tema utama, serta arah penelitian masa depan dalam literatur kapabilitas dinamis. Pendekatan yang digunakan adalah *systematic literature review* (SLR) dengan memanfaatkan data yang diperoleh dari basis data Scopus, yang menghasilkan 6.255 dokumen terkait “*dynamic capability*”. Proses seleksi dilakukan menggunakan kerangka PRISMA untuk memastikan transparansi dan ketelitian, sementara analisis bibliometrik dilakukan dengan bantuan perangkat lunak VOSviewer untuk mengidentifikasi kluster penelitian utama serta faktor-faktor yang memengaruhi. Hasil penelitian menunjukkan bahwa inovasi, kinerja perusahaan, dan manajemen pengetahuan merupakan faktor utama yang memengaruhi kapabilitas dinamis. Selain itu, tren penelitian yang berkembang menyoroti pentingnya modal sosial, kapabilitas manajerial dinamis, dan modal manusia sebagai area utama untuk penelitian di masa depan. Penelitian ini memberikan kontribusi dengan menyajikan tinjauan komprehensif terhadap

penelitian kapabilitas dinamis serta memberikan wawasan mengenai peran strategisnya dalam pengembangan dan adaptabilitas organisasi. Hasil penelitian ini juga dapat menjadi referensi penting bagi peneliti dan praktisi dalam merancang studi lanjutan serta mengimplementasikan kerangka kapabilitas dinamis dalam organisasi.

**Kata Kunci:** kapabilitas dinamis; *systematic literature review*; analisis bibliometrik; kinerja organisasi; inovasi.

## PENDAHULUAN

Dynamic capability has emerged as one of the most influential and widely discussed concepts in the field of strategic management (Albort-Morant et al., 2018). The growing attention to this concept is driven by its relevance in explaining how organizations adapt to rapidly changing and uncertain environments, particularly in the context of digital transformation and global competition (Mikalef et al., 2021). Organizations that effectively develop dynamic capabilities are better positioned to respond to market changes, sustain competitiveness, and achieve superior performance (AlQershi et al., 2022). From an economic standpoint, the role of organizations has evolved from traditional managed economies characterized by efficiency, scale, and resource optimization toward entrepreneurial economies that emphasize innovation, flexibility, and knowledge as primary drivers of growth (Audretsch & Thurik, 2001). In this evolving landscape, organizations must continuously adapt and realign their strategies in response to dynamic environmental changes to sustain competitive advantage (Eisenhardt & Martin, 2000). At the same time, organizations are increasingly exposed to a wide range of risks, including operational, financial, strategic, and environmental uncertainties, which can significantly affect their performance and long-term sustainability (Verbano & Venturini, 2013; Bromiley et al., 2015). These challenges are further intensified by rapid technological advancements, market volatility, and human-related factors, thereby requiring organizations to develop dynamic, adaptive, and proactive capabilities to remain resilient and competitive (Warner & Wäger, 2019).

Dynamic capability plays a critical role in addressing these challenges by enabling organizations to integrate, build, and reconfigure internal and external competencies effectively (Inan & Bititci, 2015). It encompasses various dimensions, including organizational routines, resource reconfiguration, managerial decision-making, and learning mechanisms, which collectively determine an organization's ability to adapt to environmental changes (Albort-Morant et al., 2018). Despite its importance, the concept of dynamic capability still requires further exploration, particularly in relation to organizational performance and historical development (Wang & Ahmed, 2004). The theoretical foundation of dynamic capability emphasizes its role in creating sustainable competitive advantage by transforming organizational resources into strategic assets (Eisenhardt & Martin, 2000). Furthermore, dynamic capabilities are closely linked to innovation processes, as organizations must continuously develop new products, services, and processes to remain competitive (Farzaneh et al., 2022). Innovation itself is a complex and context-dependent process, requiring organizations to manage both internal capabilities and external resources effectively (Bergfors & Larsson, 2018).

In addition, organizations are increasingly required to foster employee-driven innovation and maintain high-quality human resources to support long-term sustainability (Opland et al., 2022). The integration of dynamic capabilities with human resource

management practices has also been recognized as a key factor in enhancing organizational performance and adaptability (Apascaritei & Elvira, 2022).

Given the growing complexity of dynamic capability research, a systematic approach is needed to synthesize existing studies and identify key trends. A systematic literature review (SLR) provides a structured and transparent method for analyzing and integrating previous research findings (Sastypratiwi & Nyoto, 2020). This method allows researchers to classify, evaluate, and summarize empirical evidence while minimizing bias (Latifah & Ritonga, 2020). The SLR process typically consists of three main stages: planning, conducting, and reporting, which ensure the rigor and reliability of the review (Pramesti et al., 2022). Based on this approach, this study aims to systematically examine the development, key determinants, and future research directions of dynamic capability. By integrating bibliometric analysis and systematic review techniques, this study seeks to provide a comprehensive understanding of the intellectual structure of dynamic capability research and its implications for organizational strategy and performance.

## METODE

### 3.1 Research Questions

This study aims to provide a comprehensive mapping of the development of *dynamic capability* literature. To achieve this objective, several research questions are formulated to systematically guide the review process. These questions focus on identifying leading journals, influential authors, publication trends, geographical distribution, key influencing factors, commonly used research methods, and potential future research directions.

### 3.2 Search Strategy

This study employs a Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize relevant literature. The SLR method is chosen because it ensures a structured, transparent, and replicable process, thereby reducing potential bias (Sastypratiwi & Nyoto, 2020; Latifah & Ritonga, 2020). The data were collected from the Scopus database, which is widely recognized as a reputable source of international scientific publications. The search was conducted using the keyword “*dynamic capability*”, applied to titles, abstracts, and keywords. The publication period was limited to 1995–2022 to capture the longitudinal development of the research field. The research procedure follows three main stages: *planning*, *conducting*, and *reporting* (Pramesti et al., 2022). In addition, the study adopts the PRISMA framework to ensure transparency, consistency, and rigor in the article selection process (Hadi et al., 2020).

### 3.3 Study Selection

The study selection process was carried out using clearly defined inclusion and exclusion criteria to ensure the relevance and quality of the analyzed articles. This approach is essential in SLR studies to produce reliable and valid findings (Hadi et al., 2020). The inclusion criteria consist of research articles that explicitly discuss *dynamic capability*, cover various industrial sectors, and provide cross-country perspectives. Additionally, recent publications were prioritized to capture current theoretical and empirical developments. Meanwhile, the exclusion criteria include articles with irrelevant titles, non-English publications, studies without full-text access, abstracts that do not specifically address *dynamic capability*, and non-empirical research.

### 3.4 Data Collection

The data used in this study are secondary data obtained from the Scopus database. The collection process involved systematically identifying relevant articles using

predefined keywords, followed by extracting and organizing metadata for further analysis.

### 3.5 Data Analysis

The data were analyzed using a bibliometric analysis approach supported by VOSviewer software. This method enables the visualization of relationships among publications, identification of research clusters, and exploration of thematic trends in *dynamic capability* studies. Through this analysis, the study identifies influential authors, conceptual linkages, and collaboration patterns. Bibliometric methods are widely applied in literature studies as they provide a comprehensive structural and visual overview of knowledge development within a specific research domain.

### 3.6 Deviation from Protocol

All stages of the research were conducted in accordance with the initial protocol. No significant deviations occurred during the implementation process, ensuring consistency and maintaining the validity of the study findings.

## HASIL DAN PEMBAHASAN

### 4.1 Results of the Searching Process

The initial search using the keyword *dynamic capabilities* in the Scopus database, limited to the subject areas of Business, Management, and Accounting, resulted in 3,255 documents. These publications span from 1995 to 2022 and involve contributions from 160 journals, 160 authors, and 104 countries. The application of the PRISMA framework enabled a systematic filtering process based on predefined inclusion and exclusion criteria, resulting in 11 articles selected for further analysis. The use of systematic review procedures ensures transparency and reduces bias in the selection process ([Sastypratiwi & Nyoto, 2020](#)).

### 4.2 Results of Inclusion and Exclusion Criteria Selection

The filtering process followed the PRISMA flow diagram to ensure methodological rigor. Articles were evaluated based on relevance, accessibility, and alignment with the concept of dynamic capabilities. This structured selection process is essential in ensuring the validity and reliability of systematic literature reviews ([Latifah & Ritonga, 2020](#)).

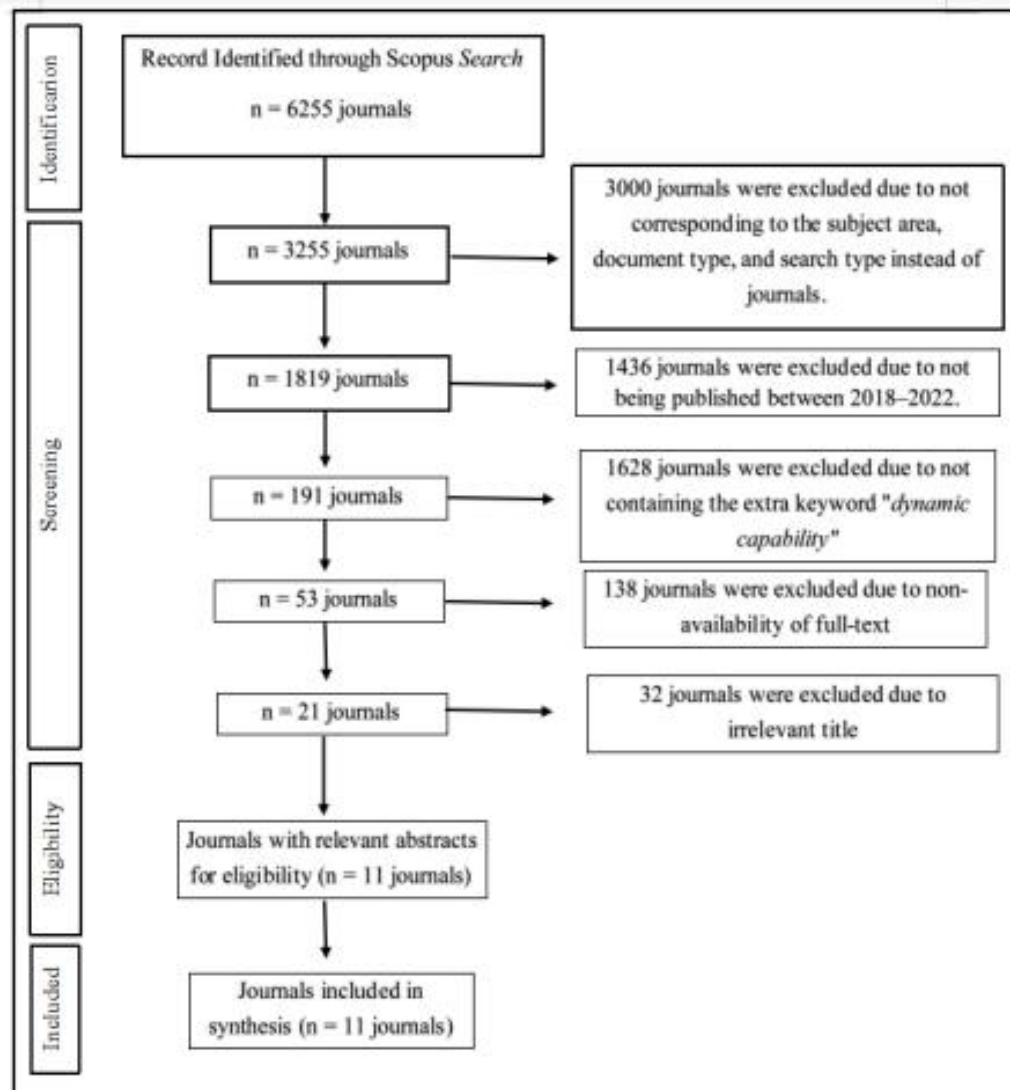


**Figure 1.** Flow Chart Information of Systematic Review (PRISMA)

### 4.3 Data Analysis and Discussion

#### 4.3.1 Leading Journals in Dynamic Capabilities Research (RQ1)

The findings indicate that the Journal of Business Research demonstrates the highest publication intensity in the field of dynamic capabilities, with a total of 114 articles. This suggests that the journal plays a significant role in shaping the discourse of dynamic capability research. Previous bibliometric studies confirm that dynamic capabilities research has been widely disseminated in high-impact journals focusing on strategic management and innovation (Albort-Morant et al., 2018).

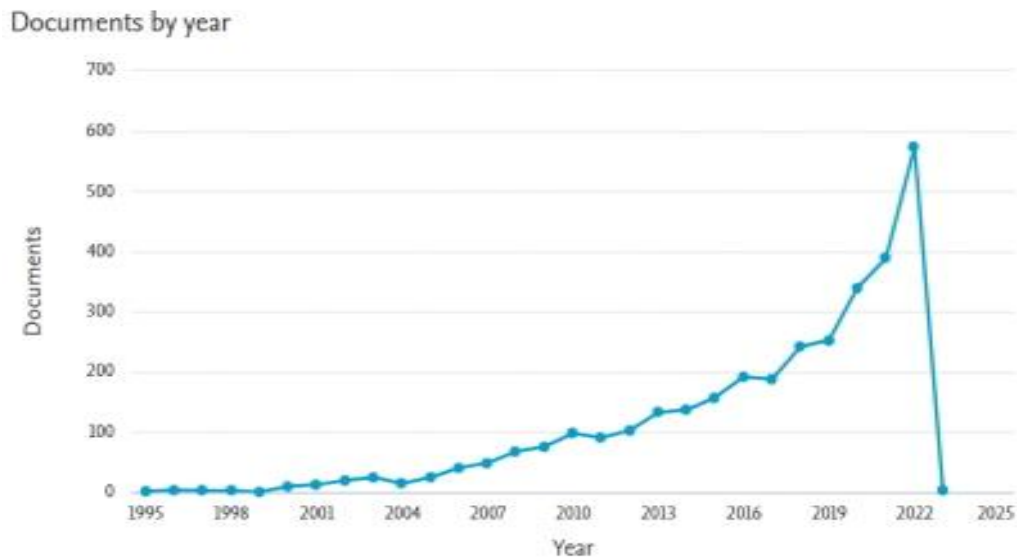


**Figure 2.** Graph of Dynamic Capabilities Journal (Year)

#### 4.3.2 Most Influential Authors (RQ2)

The analysis reveals that David J. Teece is the most influential scholar in this field, with the highest number of publications. This finding aligns with earlier studies identifying Teece as a pioneer in dynamic capability theory (Sukaris et al., 2019). The concept of dynamic capabilities was initially introduced in the early 1990s and later formalized as a strategic framework explaining how firms adapt to rapidly changing environments (Eisenhardt & Martin, 2000).

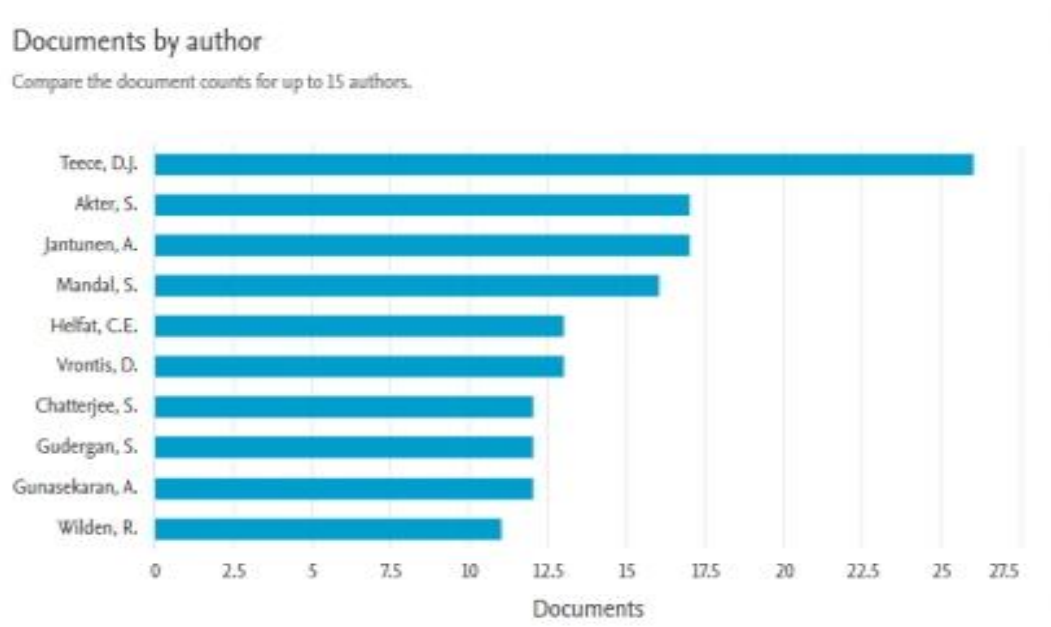


**Figure 3.** Chart Bar of Dynamic Capabilities Journal (Author)

#### 4.3.3 Research Trends Over Time (RQ3)

The trend analysis shows a significant increase in publications on dynamic capabilities, particularly after 2015, with the highest number recorded in 2022. This upward trend indicates growing academic and practical interest in understanding organizational adaptability. This development reflects the increasing relevance of dynamic capabilities in responding to environmental uncertainty, technological disruption, and competitive pressures (Mikalef et al., 2021).

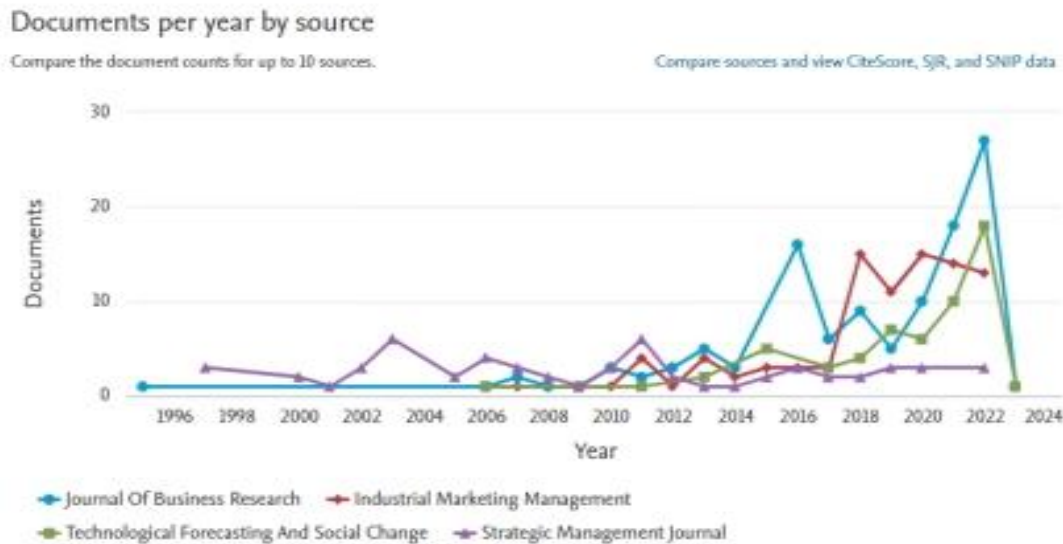


**Figure 4.** Dynamic Capability Pubication Year Graph

#### 4.3.4 Geographic Distribution of Research (RQ4)

The results show that the United States leads in the number of publications, followed by the United Kingdom. This indicates that research on dynamic capabilities is predominantly concentrated in developed economies. Such dominance is consistent with prior findings that advanced economies tend to contribute more significantly to strategic management research due to stronger research infrastructure and funding (Griffith & Harvey, 2001).

### Documents by country or territory

Compare the document counts for up to 15 countries/territories.

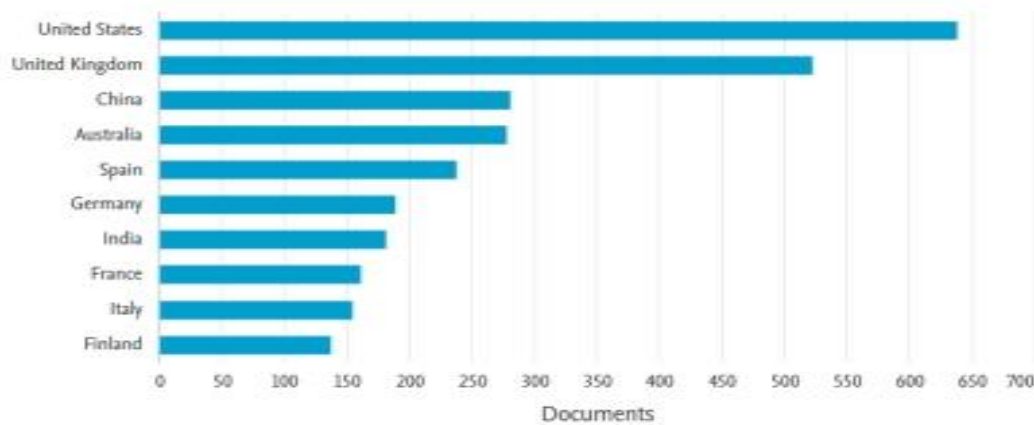


**Figure 5.** Country Bar Charts Researching Dynamic Capabilities

#### 4.3.5 Key Factors Influencing Dynamic Capabilities (RQ5)

The VOSviewer analysis identifies several key factors influencing dynamic capabilities, including innovation, knowledge management, competitive advantage, technological capability, and firm performance. These findings are consistent with prior studies emphasizing that dynamic capabilities are closely linked to innovation processes and organizational learning mechanisms (Opland et al., 2022). Furthermore, the integration of digital technologies and big data analytics has been shown to significantly enhance dynamic capabilities by improving decision-making and organizational responsiveness (Mikalef et al., 2021).

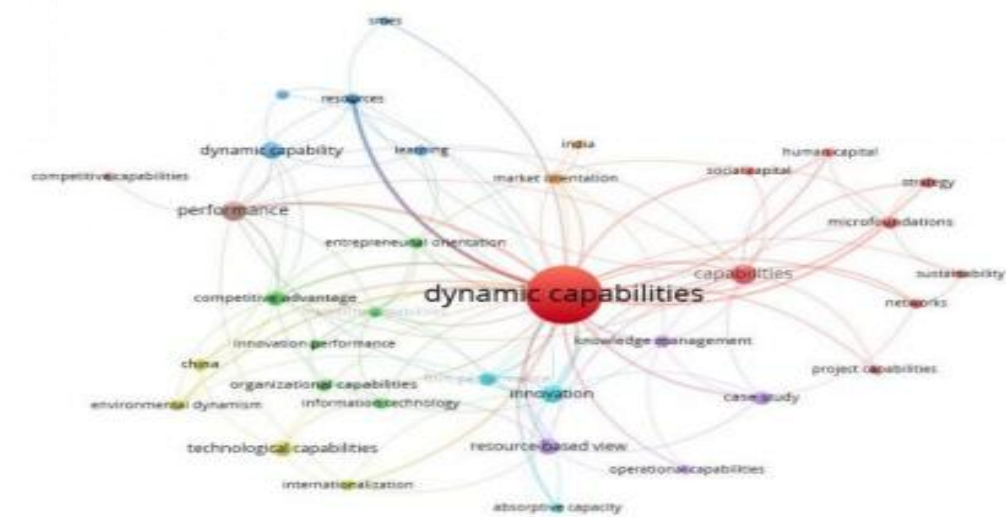


**Figure 6.** Results of Vosviewer Factors Affecting Dynamic Capabilities

#### 4.3.6 Research Methods in Dynamic Capabilities Studies (RQ6)

The findings reveal that both quantitative and qualitative methods are widely used in dynamic capability research. However, quantitative approaches particularly Structural Equation Modeling (SEM) and regression analysis are more dominant. Empirical studies frequently rely on survey data and statistical modeling to examine relationships between

dynamic capabilities and organizational outcomes (Chatterjee et al., 2022). Meanwhile, qualitative approaches such as interviews and case studies provide deeper insights into organizational processes and capability development (Foerstl et al., 2021).

**Table 1.** Summary of Research Methods in Dynamic Capability Studies (Paraphrased)

| No | Study                                                                                               | Research Design                                 | Sample/Population                         | Key Variables                                                                            |
|----|-----------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------|
| 1  | Dynamic capability, ambidexterity, and social network—evidence from SMEs in China (He et al., 2022) | Quantitative using multiple regression analysis | 350 SMEs in China                         | Dynamic capability, ambidextrous innovation, social networks                             |
| 2  | Resource integration and dynamic capability during COVID-19 (Chatterjee et al., 2022)               | Quantitative using PLS-SEM                      | 412 frontline employees (Asia & EMEA)     | Dynamic capability, engineering management, organizational performance, job satisfaction |
| 3  | Learning culture and dynamic capability on team performance (Gonzalez, 2022)                        | Quantitative using PLS approach                 | 201 industrial firms in Brazil            | Dynamic capability, learning culture, team performance                                   |
| 4  | Brand innovation and marketing dynamic capability in hotels (Hariandja & Sartika, 2022)             | Quantitative using questionnaires and SmartPLS  | 530 hotel customers in Indonesia          | Brand innovation, marketing dynamic capability, brand experience, performance            |
| 5  | Dynamic capability in Indonesian hotels under COVID-19 (Amar et al., 2021)                          | Quantitative using PLS-SEM                      | 329 hotel managers in Indonesia           | Resources, innovation norms, dynamic capability                                          |
| 6  | Supply market orientation as a dynamic capability (Foerstl et al., 2021)                            | Qualitative using semi-structured interviews    | 43 large firms (manufacturing & services) | Supply market orientation, dynamic capability                                            |

|    |                                                                       |                                                     |                                |         |                                                                  |
|----|-----------------------------------------------------------------------|-----------------------------------------------------|--------------------------------|---------|------------------------------------------------------------------|
| 7  | Environmental management and product innovation (Mahmud et al., 2020) | Quantitative using survey method                    | 106 manufacturing managers     | UK      | Environmental management, product innovation, dynamic capability |
| 8  | Ecosystem management for service innovation (Lütjen et al., 2019)     | Mixed qualitative (survey & interviews)             | 133 managers from 28 companies |         | Service innovation, value co-creation                            |
| 9  | Digital leadership and dynamic capability (Mihardjo et al., 2019)     | Quantitative using questionnaires                   | 88 managers in Indonesia       | telecom | Digital leadership, innovation, dynamic capability               |
| 10 | Entrepreneurship and dynamic capability in SMEs (Yi et al., 2018)     | Quantitative using survey                           | 352 SMEs in South Korea        |         | Dynamic capability, technical performance                        |
| 11 | Operations capability and business performance (Yu et al., 2018)      | Qualitative conceptual approach using archival data | 193 UK automotive firms        |         | Operational capability, productivity, dynamic capability         |

#### 4.3.7 Future Research Directions (RQ7)

The analysis suggests that future research on dynamic capabilities should focus on digital transformation, technological innovation, and organizational agility. The increasing role of digital leadership and ecosystem-based innovation highlights the need for organizations to continuously adapt their capabilities in response to technological advancements (Mihardjo et al., 2019). Additionally, dynamic capabilities are expected to play a critical role in enhancing organizational resilience and performance in uncertain environments, such as during global crises (Amar et al., 2021).

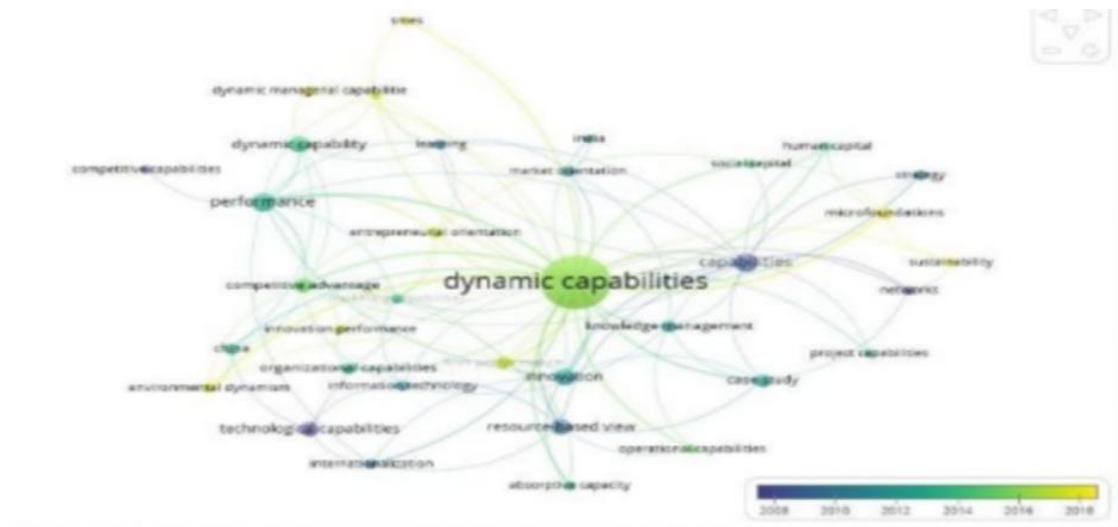


**Figure 7.** Result of VosViewer Overlay Visualization

## KESIMPULAN

This study systematically reviews the literature on dynamic capabilities using the PRISMA framework and bibliometric analysis based on the Scopus database. The findings confirm that dynamic capability has become a key concept in strategic management, particularly in helping organizations adapt to rapidly changing environments. The research trend shows significant growth, with a peak in 2022, and highlights the United States as the leading contributor in this field. The results also identify *The Journal of Business Research* as the most influential publication outlet and *David J. Teece* as the most prominent scholar. Key factors influencing dynamic capabilities include innovation, firm performance, and knowledge management, which play a crucial role in enhancing organizational competitiveness. Furthermore, the dominance of empirical research indicates methodological maturity, while future studies are expected to explore emerging topics such as social capital, dynamic managerial capabilities, and human capital. Overall, this study strengthens the understanding of dynamic capabilities and provides both theoretical and practical insights for developing adaptive and sustainable organizational strategies.

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