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Dynamic Capabilities and Organizational Competitiveness: A Bibliometric Analysis Approach

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Abstract:

Purpose: *This study aimed at conducting a comprehensive bibliometric examination on dynamic capabilities and organizational competitiveness exploring their evolution, trends and impact from 1997 to 2025.*
Design/Methodology/Approach: *A total sample of 3093 articles was obtained from Scopus and Web of Science databases through a structured methodological approach. The study used tools like VOSviewer and Bibliometix in R to apply citation analysis, co-authorship analysis, keyword co-occurrence, performance analysis and trend analysis.*
Findings: *Findings reveal increasing scholarly interest, dominant contributions from the USA, China, and the UK, and underrepresentation from African and Middle Eastern regions. The study identifies thematic clusters, emerging topics like resilience and eco-innovation, and highlights various gaps including sustainability and digital transformation integration.*
Practical Implications: *This research is unique in combining dynamic capabilities with organizational competitiveness while using dual databases, offering fresh insights for future research.*
Originality value: *There is a growing interest in dynamic capabilities research driven by the need for adaptation and attaining competitive advantage amidst turbulent business landscapes.*

Keywords: *Dynamic capabilities, organizational competitiveness, VOS viewer, strategic management, bibliometric analysis.*

JEL codes: *L25, M10, O32, C89, D21.*

Paper type: *Research article.*

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1. Introduction

Do organizations view the business landscape as static or do they recognize the need to continuously adopt to meet various evolving business set ups? Competitive advantage serves as the foundation for a profitable company and a fundamental factor that successful investors use to choose which initiatives to fund thus finding and creating a sustained competitive advantage is pivotal for any company (Sariyev, 2021).

Dynamic capabilities (DC) research is a thriving field of study in the strategic management sector (Albort-Morant *et al.,* 2018). The business landscape keeps on changing and it is eminent that any organization looking a long-term survival needs not only to vest in its resources as foundations of competitive advantage but also be able to adapt and survive in different business dynamics. The challenges of competition are growing these days, and managers are required to implement business-sustaining tactics (Petts, 1997).

Perhaps the most important theoretical stances in modern strategic management involve the DC view, which makes the use of bibliometric techniques necessary (Marco-Lajara *et al.,* 2022)

It is vital to view DC as non-stop renews systems. Businesses' success or failure in market competitiveness is explained by the dynamic capability theory (Denrell & Powell, 2015; Teece, 2017). The business environment keeps on changing, we cannot tell with 100% confidence that an organization is able to compete favourably in a turbulent business environment if it is dynamically incapable. Identifying the opportunity or need for change, coming up with a strategy to deal with it, and executing the required actions is what DCs is concerned with (Helfat *et al.,* 2009).

The couple of years have seen a sharp increase in interest in DC (Schilke *et al.,* 2018). The idea of dynamic capabilities (DC) is typically thought of as an expansion of the resource-based perspective (Schilke, 2014). Teece maintained that the resource-based approach was "inherently static" since it concentrated on acquiring and preserving advantages in baseline capabilities (Teece, 2007)

In putting out a dynamic capability hypothesis it was contended that current theories were unable to articulate competitive advantage in the face of rapidly obsolescent resource-based advantages and competitive pressures, hence failing to fulfil 21st century's needs of competition (Teece *et al.,* 1997)

The notion was first formally introduced by Teece and others in their 1997 article entitled "Dynamic Capabilities and Strategic Management." They defined dynamic capabilities as "ability of an organization to build, integrate and reconfigure both its internal and external competencies in response to the changing business environment so as to achieve competitiveness" (Teece *et al.,* 1997).

Eisenhardt *et al.* (2000) define organizational and strategic processes that enable businesses to combine new resources, giving them a competitive advantage depending on the resource configurations created by managers. DCs as a strategy paradigm are influenced by a number of theoretical traditions, most notably resource-based (Shiferaw and Amentie, 2024).

The competitive analytical tools developed by Michael Porter (2008) particularly the Five Forces model help organizations analyze industry structures together with competitive dynamics. The approaches have specific challenges which include their static design, oversimplification complex market dynamics and their inefficacy to detect quick environmental modifications (Forbes Advisor, 2022).

In dynamic situations, the Five Forces architecture has built-in shortcomings (Teece (2007). The analysis tool frequently fails to consider how business organizations can adjust their internal development capabilities when industry markets transform (Konsyse, 2023)

Dynamic capabilities offer a corrective solution by showing how organizations can unite and create new and alter competencies from internal sources combined with external elements to manage evolving business environments. An organization needs to remain adaptable while continuously innovating because this perspective stands as vital for sustaining competitive advantage (Teece *et al.,* 1997)

The on-going discourse on dynamic capabilities and organizational competitiveness underscores the need for a comprehensive bibliometric analysis to map the evolution and current state of this field (Di Stefano *et al.,* 2010). Such an analysis elucidates the prevailing research trends, influential studies, and potential areas for future investigation. For instance, Marco-Lajara *et al.* (2021) systematically reviews publications on dynamic capabilities, offering a detailed overview of the topic's development and highlighting its significance in strategic management while applying a bibliometric approach.

1.1 Purpose of the Study

This study aimed at conducting a comprehensive bibliometric examination on dynamic capabilities and organizational competitiveness exploring their evolution, trends and impact from 1997 to 2025, thus uncovering hidden themes and emerging topics in the research domain.

1.2 Research Questions

The study was guided by the following research questions:

i) What is the trend in scientific production of publishing research since conception of dynamic capacities (1997 to present)?

ii) Which are the influential intellectual contributors and leading sources in dynamic capabilities research?
iii) Which journals have the highest impact in publishing research on dynamic capabilities and organizational competitiveness?
iv) What are the major thematic clusters in dynamic capabilities research?
v) How has the research on dynamic capabilities and organizational competitiveness evolved over time?
vi) What are the gaps and future research directions in dynamic capabilities and competitiveness?

2. Bibliometric Literature Review on Dynamic Capabilities

Bibliometric techniques have been extensively employed to offer thorough maps of the knowledge structure within certain literary streams (Rialti *et al.,* 2019). The growing interest in the field of dynamic capabilities has called for several studies using a bibliometric approach so as to give a broad understanding on the present-day state of the DC domain.

Di Stefano *et al.* (2010) conducted a bibliometric analysis on DC investigating the developments, origin and research domain's future direction. The study used a sample of 281 papers obtained from Web of Science database and after applying the filters, the study finally ended up with 225 papers that were eligible for analysis. The study employed a co-citation analysis technique that made sense on how the research domain was taking shape.

The study was limited in that focused on articles published in the years 1995 to 2007 and only included one database (Web of science) thus having a smaller perspective. Further the study only concentrated on dynamic capabilities and did not incorporate organizational competitiveness.

Another study conducted by Rialti and others (2019) conducted a bibliometric study on big data and dynamic capabilities. A sample of 170 articles was obtained from Web of science data base and analysed the data using VoS Viewer software. The analysis revealed for clusters on big data and dynamic capabilities. However the study was limited in that it only concentrated on one database thus missing some wider perspective that other articles from other databases could have addressed.

Otola and Szczepańczyk (2023) presented a conference paper entitled "Bibliometric Analysis of Dynamic Capabilities and Resilience Using VOSviewer". The article's goal was to pinpoint the current lines of inquiry that resilience and dynamic capabilities share. The Scopus database's 2020–2023 data set was utilized. Using a sample of 168 articles from WoS database, the study applied a keyword co-occurrence analysis and research trends, and the data was visualized using VOSviewer software.

The paper was however limited in that it only used a single database. Further the period of the data extracted was a short period of only 4 years and was could not have captured major trends in the research domain.

Another study conducted by Albort-Morant *et al.* (2018) sought to evaluate the origin, development, and the future of DC literature. The a sample of 3852 studies including 2808 articles obtained from Web of Science database (WoS) was used and applied a bibliometric analysis on the date focussing on publications for the years 1991 to 2015.

The results showed that a number of publications on dynamic capacities increased exponentially between 2000 and 2012. The study concluded that even if this trend has slowed after 2012, there are still a significant number of publications on this subject. The study however only captured studies from a single data base and included those for the period 2000 to 2012 and may not include the present trends in the domain.

A study done by Correggi *et al.* (2024) entitled "Rethinking dynamic capabilities in light of sustainability: A bibliometric analysis" is probably one of the latest bibliometric papers touching on DC. The study used a bibliometric approach to assess the literature's growth, give a summary of its theoretical and empirical progress, and pinpoint potential directions for future research.

A sample of 602 scholarly articles from Scopus published between January 2002 and May 2023 was used. The findings demonstrated that the dynamic capabilities framework was sufficient for comprehending how sustainability is integrated into company plans while providing fresh insights. The study however used a single database giving it a smaller dimension / perspective.

Denisse *et al.* (2024) conducted a bibliometric study on DC using data obtained from WoS for the period 1992 to 2018. Using a sample of 3974 articles obtained from WoS, the study applied. The study applied citation analysis co-citation, bibliographic coupling, and co-occurrence of author keywords in a descriptive analysis. VOS viewer software was used to analyse the data. The study found that Teece was the leading author and USA was the leading contributor in the number of publications. However the study was also limited as it used only data collected form a single database.

Sánchez Martínez *et al.* (2025) adopted a bibliometric approach in his study titled "Dynamic capabilities and circular economy in organizations: a bibliometric analysis" the study used a sample of 128 articles obtained from both WoS and Scopus databases for the period 2015–2022. The results revealed that The US, Asia, and Europe were regarded to have produced 85% of these articles. Africa and Latin America produced the remaining 15%.

While the study had some important findings, it only concentrated on DC in line of circular economy and did not explore DC in relation to organizational competitiveness.

Other several studies (Marco-Lajara *et al.,* 2021; Pennetta *et al.,* 2024; Vogel and Güttel, 2013; Latukismo *et al.,* 2024) have been used a bibliometric approach to explore the DC domain. However none of them has explored it in relation to organizational competitiveness. Further a single database has been used and the period captured is not a present one. Table 1 below shows the summary of the literature on DC studies that have used a bibliometric approach.

Table 1. *Summary of literature review and research gaps*

Author(s)	**Focus**	**Database used**	**Study sample and scope**	**Gap**
Di Stefano et al., (2010)	Developments origin and DC and future direction	WoS	225 articles for the period 1995 - 2007	▪ The 1995-2007 period Focuses on early conceptualization; misses digital transformation and sustainability evolution ▪ Only one data base was used hence a small perspective. ▪ Did not focus on DC in respect to organizational competitiveness
Rialti et al., (2019)	DC in the context of Big data analytics	WoS	170 articles	▪ Only one data base was used hence a small perspective. ▪ Did not focus on DC in respect to organizational competitiveness
Otola & Szczepańc zyk (2023)	DC and Resilience	WoS	168 articles for the period 2020-2023	▪ Only one data base was used hence a small perspective. ▪ Did not focus on DC in respect to organizational competitiveness ▪ The study Captures recent trends but lacks historical context and longitudinal insights.
Albort-Morant et al., (2018)	origin, development, and the future of DC literature	WoS	3852 articles for the period 1991-2015	▪ Only one data base was used hence a small perspective. ▪ Study overlooks post-2015 may have missed out the most recent papers and

				development in the research domain ▪ Did not focus on DC in respect to organizational competitiveness
Correggi *et* al., (2024)	DC in light of sustainability	Scopus	602 articles for the period Jan 2002 – May 2023	▪ Only one data base was used hence a small perspective. ▪ Did not focus on DC in respect to organizational competitiveness ▪ Broad, but overlooks early conceptual roots from the 1990s.
Denisse et al., (2024)	DC	WoS	3974 articles for the period 1992-2018	▪ Only one data base was used hence a small perspective. ▪ Did not focus on DC in respect to organizational competitiveness ▪ The study misses out any relevant article published after the year 2018, thus may have missed out the most recent papers and development in the research domain
Sánchez Martínez et al., (2025)	DC in light of circular economy in organization	WoS & Scopus	128 articles for the period 2015-2022	▪ Did not focus on DC in respect to organizational competitiveness
Marco-Lajara *et* al., (2021)	Identifying intellectual structure of DC within the field of Strategic Managment	WoS	823 articles for the period 1995-2020	▪ Only one data base was used hence a small perspective.
Pennetta *et* al., (2024)	Mapping the Field of Entrepreneuria l Versus Managerial Abilities	WoS	3423 articles for the period 2005-2022	▪ Only one data base was used hence a small perspective.
Vogel & Güttel, (2013)	DC view in Strategic Management	SSCI	1152 articles for the period 1994-2011	▪ Only one data base was used hence a small perspective.

Latukismo *et* al (2024)	Organizational agility and Dynamic capabilities	Scopus	59 articles for the period 1999-2000	▪ Only one data base was used hence a small perspective. ▪ The window period (1999-2000) is too narrow and only captures early conceptual emergence

Source: *Own study.*

3. Research Methodology

Bibliometrics aid in the analysis of scholarly literature and the description of publishing trends in a certain scientific domain (Marco-Lajara *et al.,* 2022). The study of bibliometrics involves analyzing patterns in the publishing and use of documents using statistical and mathematical methods. McBurney and Novak, (2002) define bibliometrics as "the study of publication patterns through statistical analyses".

This study uses bibliometrics analysis in its methodology and analysis of data. Because of the wide variety of the articles -9,993-, the bibliometric analysis's breadth is warranted, since the dataset is too big for a manual examination (Ramos-Rodrıguez and Ruız-Navarro, 2004). Furthermore, the scope is vast since it encompasses both the DC and organizational competitiveness areas (Donthu, Kumar, and Mukherjee, 2021).

The first prerequisite for conducting a bibliometric analysis is obtaining a wealth of information pertaining to the study's topic. For this, the study extracted data from WoS and Scopus. Marzi *et al.* (2018) asserted that the Scopus and WoS databases are widely acknowledged as the ones that contain the majority of articles published in reputable journals across time, including the majority of manuscripts that journals have lately accepted.

The data extraction process and filtering followed a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework proposed by Moher *et al.* (2009) for identifying, screening, filtering and selecting papers. According to Moher *et al.* (2009), PRISMA is a systematic review methodology that minimises bias and a transparent mechanism for finding, screening and choosing publications for review. The methodology entailed various steps as outlined below:

STEP 1: As earlier stated, WoS and Scopus databases were chosen as the sources of the information. The first step after selecting the information source is to find a body of literature that reflects the research. This study searched for "dynamic capabilit*" AND "competit*" from the article title, abstract and/or keyword. To get around issues brought on by plural forms or other linguistic variances, we utilized the shortened form of a term (using the "*" sign).The same search query was applied to

all the two databases. The search yielded 2517 and 2997 documents from Scopus and WoS respectively

STEP 2: This step involved specifying the requirements for inclusion in the documents that will be used in this research. Researcher application of filters during this stage resulted in obtaining quality documents for study evaluation. The study maintained a document selection for the time period spanning from 1997 to 2025. Research analysts chose 1997 as their preferred year because it represented the historical point of dynamic capabilities' official introduction to extract valuable data for trend analysis.

Using the filter the researchers obtained 2512 documents from Scopus while WoS generated 2997 documents. The filtering process narrowed the documents to consist of article publications together with article reviews and both books and book chapters and conference papers. The database search for Scopus resulted in 2492 documents while WoS produced 2960 documents.

The document selection included only materials published in English language. The applied filter resulted in 2447 documents from Scopus as well as 2935 documents from WoS. The next stage of analysis included Business and Management as the only accepted subject domain in the database. The study organized its exploration of the research domain through the strategic management perspective because this aspect belongs to Business management field.

The search resulted in 1725 articles from Scopus together with 2093 articles from WoS. A total number of 3818 articles were extracted from both Scopus and WoS databases. The study merged both article collections and eliminated any duplicates. 696 duplicates were removed thus remaining with a total of 3122 documents. A title and abstract screening was further done and 29 documents were excluded thus ending up with 3093 documents that were taken for the next step for analysis.

STEP 3: The bibliometric indicators, such as journal output annually and citations by year, were included in the study. The h-, m-, and g-indices, which are used to indicate the significance of the top 10 authors and journals, are also included.

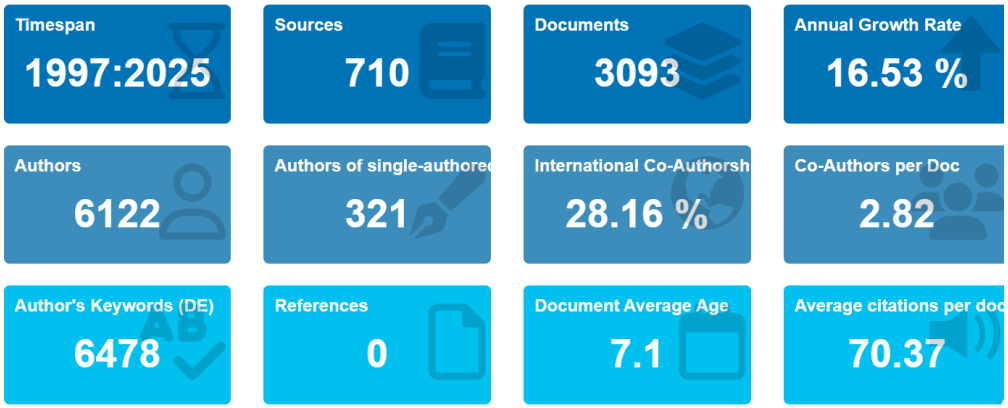
4. Bibliometric Analysis' Results and Discussion

4.1 Bibliometric Data Overview

Figure 1 below shows various bibliometric indicators with regards to DC research. The time span of the articles was from 1997 to 2025 where 3093 articles were obtained from 710 different sources. The annual growth rate is 16.53% with 6122 authors with most of the works done by multiple authors since only 321 articles were done by single authors, thus suggesting that there exist a good collaboration interests in the domain.

The average of 70.37 citations per document implies that there is a growing interest in the research domain. There have been observed authors' collaborations in exploring the research domain with international co-authorship of 28.16%. This gives weight to the global nature of the research domain. An understanding of the fundamental ideas, approaches, and applications investigated within the study topic is provided by the analysis of 6478 distinct key words.

Figure 1. *Bibliometric data overview*



Source: *Researcher's data (2025).*

4.2 Trends in Annual Scientific Production

Figure 2 illustrates the pattern of growth in research publications between 1997 and 2025. This analysis was conducted as of March 2025 and excluded the remainder of 2025. It is noted that there is clear increasing numbers of publications produced every year suggesting an upward trend.

The year 1997 (when the concept of DC was introduced) had few publications, but the number of publications continued to rise thereafter with the year 2024 having the most number of publications. The trajectory for the year 2025 could be higher as the study was only up to March 2025. This implies that there is a scholarly attention in the study domain.

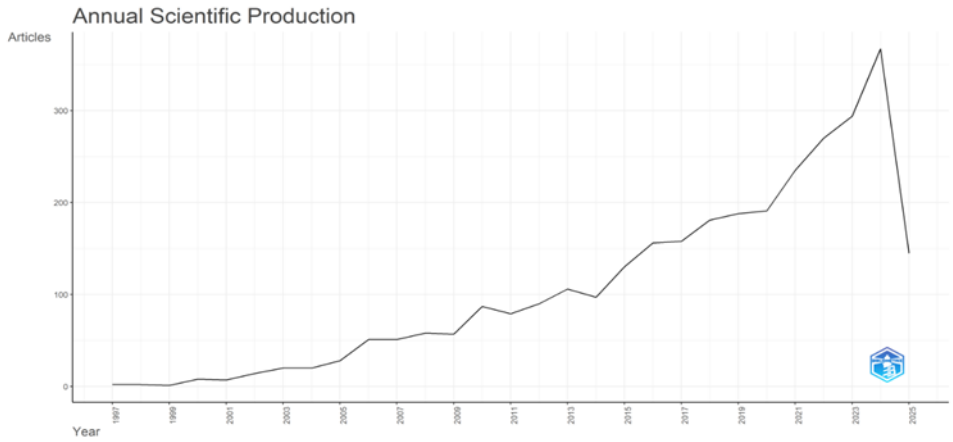
4.3 Most influential Leading Institutions, Authors, Journals, Sources and Countries

4.3.1 Most Leading Journals

Table 2 below shows the 10 most relevant journals in the research domain. These are the sources that have majorly published articles in the dynamic capabilities – organizational competitiveness domain. It is observed that the journal of business research leads the list, with 134 articles. It is paramount to note that the journal names depict a mix of those that specialise in strategy, business, technology,

marketing, management, environment and innovation, which are the core 'body builders' that enhance dynamic capabilities.

Figure 2. *Trends in Annual scientific production*



Source: *Researcher's data (2025).*

Table 2. *Top 10 Most leading Journals by number of publications*

S/NO	**Sources**	**Articles**
1	JOURNAL OF BUSINESS RESEARCH	134
2	INDUSTRIAL MARKETING MANAGEMENT	82
3	MANAGEMENT DECISION	66
4	STRATEGIC MANAGEMENT JOURNAL	61
5	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	60
6	JOURNAL OF BUSINESS & INDUSTRIAL MARKETING	48
7	IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	45
8	JOURNAL OF KNOWLEDGE MANAGEMENT	45
9	BUSINESS STRATEGY AND THE ENVIRONMENT	38
10	EUROPEAN JOURNAL OF INNOVATION MANAGEMENT	37

Source: *Own study.*

4.3.2 Core Sources

As per Bradford's law, the sources fall in to core zones. Zone 1 consists of few sources that have the most relevance. From Table 3, there are a total of 710 sources identified as core sources that fall in to a total of three distinct core zones. It is observed that 3.66% of the sources which is equivalent to 26 sources contribute more relevant articles thus falling under core zone 1. These sources consist of the ones that are most relevant and most impactful in the research domain. Table 4 further presents the sources that fall under core zone one.

Table 3. *Bradford's law – Core zone one*

Core zones	No. of articles	No. of sources	Percentage	Cumulative no. of sources
Zone 1	1033	26	3.66%	26
Zone 2	1040	92	12.96%	118
Zone 3	1020	592	83.38%	710
TOTAL	**3093**	**710**	**100%**	

Source: *Own study.*

Table 4. *Core sources under core zone 1*

SOURCES	Rank	Freq	cumFreq	Zone
JOURNAL OF BUSINESS RESEARCH	1	134	134	Zone 1
INDUSTRIAL MARKETING MANAGEMENT	2	82	216	Zone 1
MANAGEMENT DECISION	3	66	282	Zone 1
STRATEGIC MANAGEMENT JOURNAL	4	61	343	Zone 1
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	5	60	403	Zone 1
JOURNAL OF BUSINESS & INDUSTRIAL MARKETING	6	48	451	Zone 1
IEEE TRANSACTIONS ON ENGINEERING MANAGEMENT	7	45	496	Zone 1
JOURNAL OF KNOWLEDGE MANAGEMENT	8	45	541	Zone 1
BUSINESS STRATEGY AND THE ENVIRONMENT	9	38	579	Zone 1
EUROPEAN JOURNAL OF INNOVATION MANAGEMENT	10	37	616	Zone 1
INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT	11	36	652	Zone 1
INTERNATIONAL BUSINESS REVIEW	12	31	683	Zone 1
TECHNOVATION	13	31	714	Zone 1
INTERNATIONAL JOURNAL OF LOGISTICS MANAGEMENT	14	30	744	Zone 1
INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT	15	28	772	Zone 1
BRITISH JOURNAL OF MANAGEMENT	16	26	798	Zone 1
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	17	25	823	Zone 1
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	18	25	848	Zone 1
INFORMATION & MANAGEMENT	19	24	872	Zone 1
JOURNAL OF STRATEGIC INFORMATION SYSTEMS	20	24	896	Zone 1
LONG RANGE PLANNING	21	24	920	Zone 1
ORGANIZATION SCIENCE	22	24	944	Zone 1

JOURNAL OF ENTERPRISE INFORMATION MANAGEMENT	23	23	967	Zone 1
JOURNAL OF WORLD BUSINESS	24	23	990	Zone 1
JOURNAL OF MANAGEMENT	25	22	1012	Zone 1
CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL MANAGEMENT	26	21	1033	Zone 1

Source: *Own study.*

4.3.3 Most Influential Sources / Journals

Table 5 below shows top 10 most impactful sources. The "journal of Business research" and "Strategic management journal" are the top most journals with h-index of 57 and 48 respectively. This implies that the "journal of business research" has had 57 artifices cited at least 57 times each and 48 documents in the strategic management journal have each been cited 48 times or more. The g-index of 114 in the "journal of business research" shows that its top 114 articles are cited at least 114^2 or 12,996 times.

It is furthermore observed that although the "journal of business research" has a higher m-index as compared to the "journal of strategic management", the m- index of 1.655 in the "journal of strategic management" signifies long-term as supported by the total citation of 48,874.

The "journal of business industrial marketing" and the "international business review" are some of the new journals that have shown a great impact within a short period as evidenced by the number of citations (1072 and 1484) respectively and most importantly the m-indices of 1.5 each.

Table 5. *Sources' local impact*

Source	h_index	g_index	m_index	TC	NP	PY_start
JOURNAL OF BUSINESS RESEARCH	57	114	3	13241	134	2007
STRATEGIC MANAGEMENT JOURNAL	48	61	1.655	48874	61	1997
INDUSTRIAL MARKETING MANAGEMENT	42	70	2.1	5007	82	2006
MANAGEMENT DECISION	31	54	1.476	3006	66	2005
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	29	60	1.45	3998	60	2006
JOURNAL OF KNOWLEDGE MANAGEMENT	27	45	1.174	2710	45	2003
INTERNATIONAL JOURNAL OF OPERATIONS & PRODUCTION MANAGEMENT	26	36	1.13	1972	36	2003
INFORMATION & MANAGEMENT	21	24	0.955	2266	24	2004
INTERNATIONAL BUSINESS REVIEW	21	31	1.5	1484	31	2012
JOURNAL OF BUSINESS & INDUSTRIAL MARKETING	21	32	1.5	1072	48	2012

Source: *Own study.*

4.3.4 Most Relevant Institutions

Table 6 below shows the top institutions in the DC's field with the University System of Ohio taking the lead having 53 articles. It is further noted that most of the top 10 institutions are from USA. This implies that there is need to embrace the field in Africa, and Middle East countries so as to make the domain have a global picture.

Table 6. *Most leading institutions*

Affiliation	Articles
UNIVERSITY SYSTEM OF OHIO	53
INDIAN INSTITUTE OF MANAGEMENT (IIM SYSTEM)	51
STATE UNIVERSITY SYSTEM OF FLORIDA	43
UNIVERSITY OF CALIFORNIA SYSTEM	42
UNIVERSITY OF LONDON	39
COPENHAGEN BUSINESS SCHOOL	38
UNIVERSITY OF LEEDS	37
UNIVERSITY SYSTEM OF GEORGIA	35
UNIVERSITY OF CALIFORNIA BERKELEY	34
INDIAN INSTITUTE OF TECHNOLOGY SYSTEM (IIT	27

Source: *Own study.*

4.3.5 Sources' Production over Time

Table 7 below shows the sources' production over time. It is observed that since inception -1997 – up to the year 2004, only the strategic management journal had published articles. The total number of published articles was 11 before the other sources gained momentum in to producing DC literature. It is also observed that as time went by, more journals gained interent in producing DC literature and the "journal of business research" took with 134 publications as at the time of the study (March 2025).

Table 7. *Sources' production over time*

Year	JOURNAL OF BUSINESS RESEARCH	INDUSTRIAL MARKETING MANAGEMENT	MANAGEMENT DECISION	STRATEGIC MANAGEMENT JOURNAL	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE
1997	0	0	0	1	0
1998	0	0	0	1	0
1999	0	0	0	1	0
2000	0	0	0	2	0
2001	0	0	0	2	0
2002	0	0	0	5	0
2003	0	0	0	10	0
2004	0	0	0	11	0
2005	0	0	1	13	0
2006	0	1	1	15	1
2007	1	3	5	17	1
2008	2	3	5	18	1

2009	3	3	5	19	1
2010	8	3	7	23	1
2011	11	7	14	25	2
2012	16	8	14	26	3
2013	22	9	18	32	4
2014	25	9	20	33	4
2015	26	12	23	36	8
2016	45	15	27	40	10
2017	52	18	29	47	12
2018	61	27	30	51	13
2019	68	41	38	55	19
2020	76	56	40	57	24
2021	96	60	42	57	30
2022	115	66	45	57	39
2023	127	76	51	61	49
2024	131	78	60	61	57
2025	134	82	66	61	60

Source: *Own study.*

4.3.6 Leading Authors by Number of Publications

Table 8 below shows the 10 most leading authors in the field of DC and organizational competitiveness. This study has only considered those that have published more than 10 articles. It is observed that Teece D has the most publications. This author has published vast articles in the DC research including introducing the concept itself in 1997 (Teece *et al.,* 1997).

Table 8. *Most relevant authors (with more than 10 articles)*

Authors	**Articles**	**Articles (%)**
TEECE, D	33	24.58
WANG, Y	22	9.27
FERREIRA, J	18	6.78
CHATTERJEE, S	16	4.45
VRONTIS, D	16	4.06
CHEN, J	15	5.7
CHAUDHURI, R	13	3.45
CHEN, Y	13	5
KHAN, Z	12	3.45
WEERAWARDENA, J	12	3.82
ZHANG, Y	12	3.47
LIU, H	11	4.67
LIU, Y	11	4.07
LUO, Y	11	6.12
RAHMAN, M	11	3.54
WU, L	11	5.7
LIU, X	10	2.82
MIKALEF, P	10	3.87
WANG, C	10	4.07

ZHANG, J	10	2.98

Source: *Own study.*

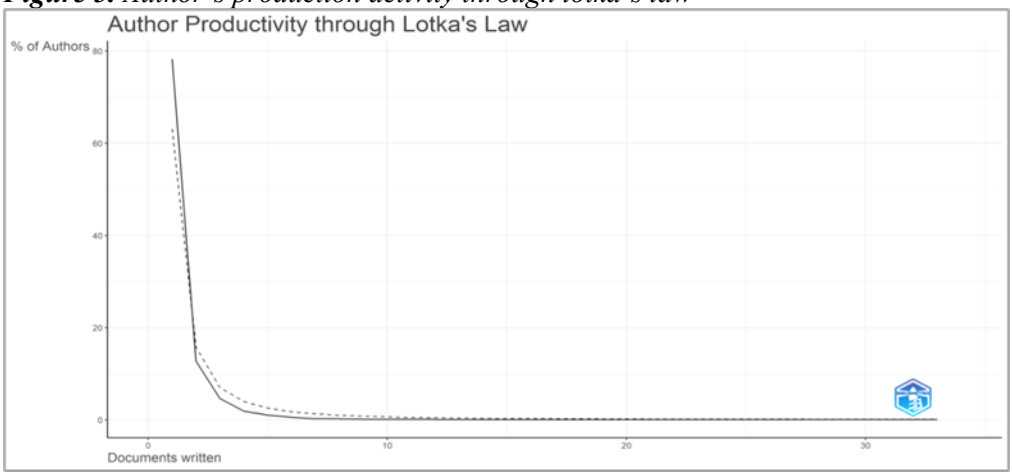
4.3.7 Author Productivity through Lotka's Law

According to Lotka's law, many authors only publish few documents each while few authors publish many articles each. This suggests that the few authors that produce more articles are the once with more influence and knowledge in the research domain.

In Figure 3, it is observed that the number of authors reduce with the increase of the individual documents written. So many authors have only written 1 document totalling to 4792 articles. It is clear from Table 9 that 78.28% of the authors under this domain have only written 1 document each. In fact the authors that have written 2 or less than 2 documents only comprise of 91.02%, the remaining 9.08% consisting of those authors that published more than 2 documents.

The most relevant authors that have produced at least 10 articles each are a total of 20 authors only comprising of a total of 0.34% of the total number of authors with the leading author having 33 documents.

Figure 3. *Author's production activity through lotka's law*



Source: *Own study.*

Table 9. *Author's production activity through lotka's law*

Documents written	Number of Authors	Proportion of Authors (%)
1	4792	78.28
2	780	12.74
3	283	4.62
4	116	1.89
5	63	1.03

6	34	0.56
7	13	0.21
8	13	0.21
9	8	0.13
10	4	0.07
11	5	0.08
12	3	0.05
13	2	0.03
15	1	0.02
16	2	0.03
18	1	0.02
22	1	0.02
33	1	0.02

Source: *Own study.*

4.3.8 Most Influential Authors in Dynamic Capabilities and Organizational Competitiveness Research

Table 10 below show top 10 most influential authors with their impact measured by the h-index, g-index and m-index. Teece D stands out to be the most influential author with a total of 29,883 citations. His works start form 1997 forming the foundational work in the field of DC. The h-index of 23 implies 23 citations of at least for each of his 23 documents.

The g-index of 33 for Teece D means that his top 33 articles have at least 33^2 i.e. 1089 citations. The m-index of 0.793 i.e. (h-index averaged by number of years of scholarly writings) indicates a consistent strong academic influence throughout many years of research activity thus revealing a long-lasting scholarly effects which becomes challenging to maintain for significant periods. It is worth noting that there are some authors with a higher m-index than Teece D but this is because they have been in the writings for a short period of time.

Although the concept of DC has its roots in Teece D., Vrontis D. and Ferreira J. are emerging as prominent researchers based on their high m-indices. Authors Akter S., Gunasekaran A. and Hitt M., all have earned many citations per individual paper because their limited number of published research articles contains impactful content.

Table 10. *Authors' Local impact*

Author	h_index	g_index	m_index	TC	NP	PY_start
TEECE, D	23	33	0.793	29883	33	1997
WANG, Y	13	22	0.684	1072	22	2007
FERREIRA, J	12	18	1.2	835	18	2016
CHEN, J	11	15	0.55	1023	15	2006

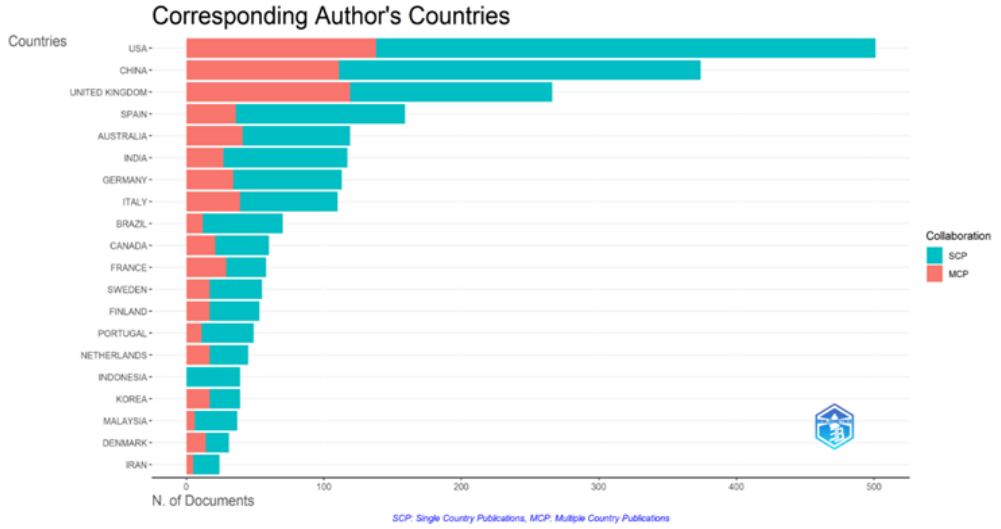
WEERAWARDENA, J	11	12	0.579	1368	12	2007
VRONTIS, D	10	16	1.667	494	16	2020
WU, L	10	11	0.5	1419	11	2006
AKTER, S	9	9	1	1750	9	2017
GUNASEKARAN, A	9	9	1	2599	9	2017
HITT, M	9	9	0.391	3366	9	2003

Source: *Own study.*

4.3.9 Corresponding Author's Countries

Figure 4 shows the corresponging authors in the first 20 countries. USA shows to have the most number of total authors in the research domain. Further the country has the larges number of single country publications and multiple country publications as well. This shows that there is greater collaboration interstes in the field. It is also observed that among the top 20 countries, there has been collaboration by authors from multiple countries except Indonesia.

Figure 4. *Corresponding author's countries*



Source: *Own study.*

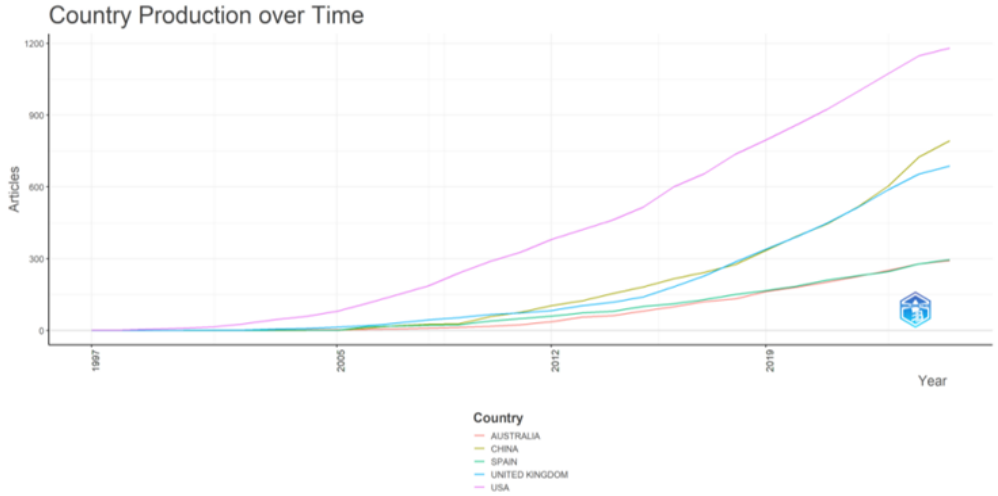
4.3.10 Country's Production Over Time

The study further sought to explore the production of research publications by various countries over time. It was found that there is a general increase of number of publication with increase in time. This positive trend in the increasing publication is an indication of the growing interest in the research domain (Figure 5).

From the graph below, USA is leading as it has the most upward curve. China gained momentum and recently supersedes United Kingdom though there is a very small gap. This could be attributed to various evolving business landscapes that

necessitate the need for continues adaptation to change amidst digitalization, and modern technological advancements.

Figure 5. *Countries' production over time*



Source: *Own study.*

4.3.11 Most Cited Countries

It is observed from Table 3 below that the USA is the most cited country with a total citation of 105540 and an average article citation of 210.70. This means that most influential authors and/or institutions in the research domain come from USA. Table 11 below shows that top 10 most cited countries.

Table 11. *Most cited countries*

Country	TC	Average Article Citations
USA	105540	210.70
CHINA	15651	41.80
UNITED KINGDOM	15192	57.10
SPAIN	10230	64.30
GERMANY	6506	57.60
AUSTRALIA	5608	47.10
NETHERLANDS	5480	121.80
ITALY	4977	45.20
CANADA	4312	71.90
SWEDEN	3493	63.50

Source: *Own study.*

5. Analysis of Trend Topics and Keywords

Figure 6 below shows the wordcloud in the research domain. This is a show of the most occurrin keywords in the DC literature. It is observed that words are different in terms of position, font size and colour as shown below.

Figure 6. *Word cloud for most occurring keywords.*

Source: *Own study.*

Position**:** The central terms of the field stand as main concepts whereas peripheral and newly developing topics exist in the external regions. The term "Dynamic Capabilities" occupies the central and biggest position which validates its status as the fundamental concept within the collected data and core subject of academic research. The topics in the outer region e.g. product development, entrepreneurial orientation, product innovation e.t.c indicates new or developing topics that have recently been linked with DC.

Font size: The size of text indicates how often a word occurs in the underlying data. Dynamic capabilities stand alongside competitive advantage and resource-based view as the most pervasive subjects which demonstrate their importance among scholarly discussions. Some minor terms including “moderating role” and “value creation” occur rarely throughout the text although they maintain their thematic significance and represent developing subtopics.

Colour: The colours group the keywords in to categories or clusters. Keywords with similar colour belong to the same cluster and hence have the same theme. For example, the set of blue terms including competitive advantage as well as performance and absorptive-capacity are directly linked to firm performance and strategic outcomes.

Similarly, is it observed that the term dynamic capabilities and resource based view fall under the same theme. This is supports the fact that dynamic capabilities came as a result of the limitations of the resource based view.

6. Trend Topics in Dynamic Capabilities – Organizational Competitiveness Domain

The graph in Figure 7 below shows the topic trends emergence and evolution over time. The bubble chart demonstrates how major research terms have developed throughout the period between 2004 and 2024. It is observed that although the DC research started in 1997, there was no any topic that emerged until 2004 when there was a gradual surge.

The Y-axis positions each term and the X-axis shows the series of years. Term duration is displayed by blue lines which extend from their first publication appearance until most recent use in academic literature while bubble size represents yearly publication frequency.

The research fields of "Dynamic capabilities", "Firm performance", "Innovation" and their associated terms "resource based view", "competitive advantage" together with "management" and "strategy" draw the greatest amounts of interest from academia in recent research activity, as they have larger research bubbles. These therefore represent the high impact concepts

Period 2004 – 2014:- ***Declining or foundational topics:*** This period contains topics with smaller bubbles and smaller presence indicated by lines with shorter length on the graph. These are concepts that mostly form the foundational topics or declining topics. The frequency of usage appears to have reached its maximum earlier on but now remains scarce because their usage might be shrinking steadily.

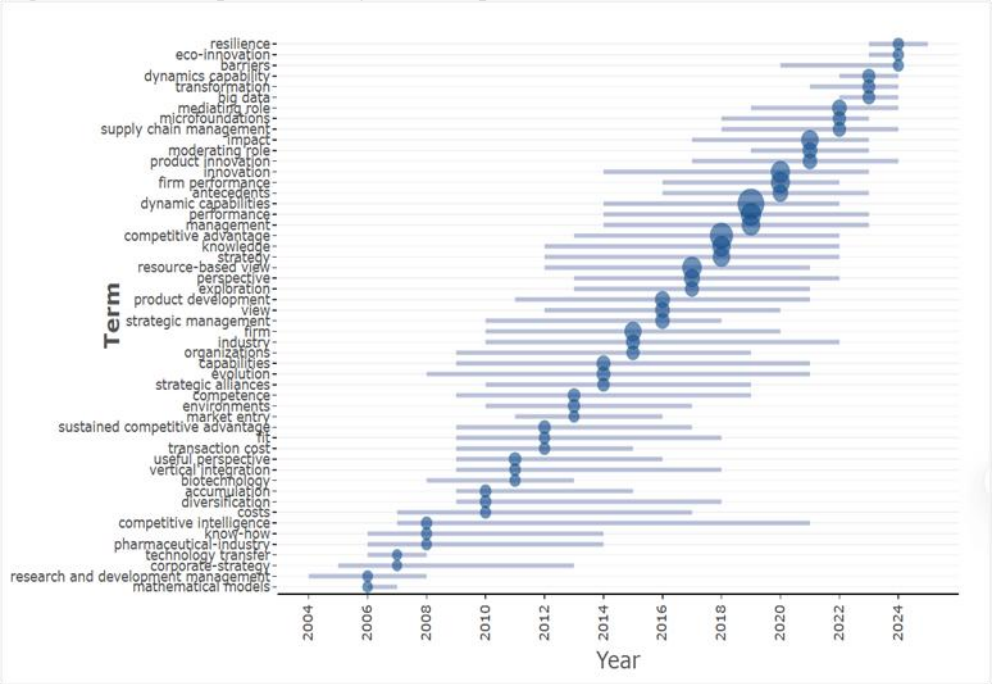
Examples of the these terms are “mathematical models” “research and development management”, “corporate strategy”, “technology transfer” , “biotechnology” e.t.c. it is worth noting that some other concepts developed in during this period are still in and their usage has not declined so far use (as evidenced by long lines in the graph). However, the impact is still small as the burbles are smaller. Example is “competitive intelligence”.

Period 2014 – 2020: ***Maturing topics****:* The period consists of topics persist throughout time through their visible large bubbles which reflect heightened interest. These topics exist at the fundamental level of strategic management and organizational studies. Examples include “Dynamic capabilities”, ‘Innovation”,” Supply chain management”,” Firm performance”, “Product innovation”,” Competitive advantage” e.t.c.

Period 2018 – Onwards: - ***Emerging topics / trends:*** This consists of terms that more recently used in the current duration as indicated by smaller bubbles thus indicating an emerging research area. New research directions about these topics have emerged possibly due to sustainability, climate change and adaptable business

modelling trends. Examples of such topics are "resilience", "Eco-innovation", "Dynamic capability", "big data", "transformation", "barriers" e.t.c

Figure 7. *Trend topics in the dynamic capabilities domain*



Source: *Own study.*

6.1 Most frequent words

Table 12 below shows the most frequently used keywords in the dynamic capabilities and organizational competitiveness field. It is observed that "dynamic capabilities" is most occurring in the literature with a frequency of 1497 followed by competitive advantage. These more occurrences on these two words signify the centrality of the research domain. The 10 most used topics are shown in Table 12 below and form the core of the maturing topics in the research domain.

Table 12. *Mostly frequent keywords*

Words	**Occurrences**
dynamic capabilities	1497
competitive advantage	895
performance	578
resource-based view	480
innovation	444
firm performance	433

management	399
knowledge	365
strategy	302
absorptive-capacity	298

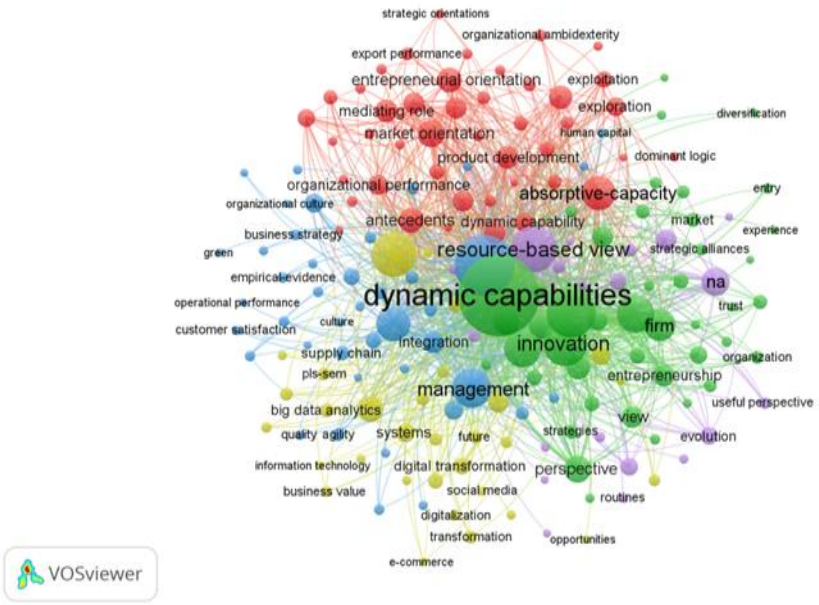
Source: *Own study.*

6.2 Keyword Co-Occurrence

The visual framework depicts patterns of research interconnections between dynamic capabilities and organizational competitiveness from VOSviewer. The size of nodes influences frequency while colour clusters display groups of similar keywords in the analysis. The most frequently used keyword has the biggest node and is dynamic capabilities. This shows the central theme.

Other frequently used keywords e.g., innovation, resource based view, management e.t.c are also represented by larger noted. The smaller nodes represent less frequently used keywords and signify new or developing topics. Most of these are at the outer side of the map. Examples are strategic orientation, organizational ambidexterity, e.t.c The visual connections between keywords indicate their mutual appearance in academic literature. The research falls in to 5 clusters (themes) each represented by a different colour as shown in Figure 8.

Figure 8. *Keyword co-occurrence map*



Source: *Own study.*

The Green Cluster emphasizes strategic foundations based on Resource-Based View theory and dynamic capabilities which drive firm performance and innovation outcomes. Keywords like dynamic capabilities, innovation, firm, market, perspective e.t.c fall under this cluster

The Red cluster's emphasis is strategic orientation market orientation and ambidexterity. Keywords under this cluster include product development, organizational ambidexterity, market orientation, absorptive capacity, e.t.c

The blue cluster represents on performance metrics operational research. Keywords like, operational performance, customer satisfaction business strategy, e.t.c all fall under this cluster.

The Yellow Cluster contains keywords like big data analytics, digital transformation, systems, agility, social media, IT, PLS-SEM e.t.c showing a growing attention to digital enablement of dynamic capabilities through Big Data analysis and IT systems yet it demonstrates a lack of knowledge on digital disruption detection which future studies should address by building models about digital preparedness and data-based decision systems.

The fifth cluster is the purple cluster. Research on ecosystem-level dynamic capabilities is necessary because the Purple Cluster fails to integrate these concepts alongside its analysis of inter-organizational dynamics like strategic alliances and organizational experience.

7. Gaps and Future Research Directions in Dynamic Capabilities and Competitiveness

The results of this study points out various gaps in the research domain. The production records demonstrate USA, China and United Kingdom control the greatest share of articles. Most African nations together with countries from the middle-east have minimal research output in this field. Research on dynamic capabilities-organizational competitiveness in Africa and Middle East countries would create enhanced international reach in this scientific field.

Keyword co-occurrence analysis demonstrates that scholars have not thoroughly investigated the connection between dynamic capabilities and sustainability practices as well as green innovation needs. More studies are needed to understand exactly how dynamic capabilities achieve sustainable business operations alongside green supply chain development and execution of ESG strategies.

This study discovered new forthcoming subjects in the domain which will guide upcoming research investigations. The examination of resilience and big data as well as transformation and dynamic capabilities and eco-innovation helps understand how organizations can use dynamic capabilities to adapt in different situations in

changing business environments. This study recommends that system thinking should be applied by future researchers to study dynamic capabilities operating within open innovation networks.

The awareness about digital enablers of dynamic capabilities including Big Data analysis and IT systems is increasing yet researchers lack information on digital disruption detection methods. Future studies should address this by building models about digital preparedness and data-based decision systems

The purple cluster of the keyword co-occurrence analysis has revealed that Dynamic capabilities at an ecosystem level are scarcely integrated across innovation networks with multiple partners. Future studies could consider researching on ecosystem-level dynamic capabilities to integrate inter-organizational dynamics like strategic alliances and organizational experience

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