

# Unveiling the Intellectual Structure of Investment Opportunity Set (IOS) Research: A Bibliometric Assessment of Corporate Finance Literature

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<b>Keywords:</b>	
Bibliometric Analysis; Corporate Finance; Growth Opportunities; Investment Opportunity Set	<p>This paper endeavors to shed light on the intellectual framework and trajectory of Investment Opportunity Set (IOS) studies in the literature of corporate finance using a bibliometric analysis. Through using publication statistics obtained from Scopus, a citation analysis, co-author analysis, and co-citation analysis, and analysis of co-occurrences of keywords have been performed. The results show that IOS studies have strong roots in mainstream corporate finance streams of profitability analysis, capital structure analysis, dividend policy analysis, and growth theory and have evolved into strategic management studies, sustainability, and technology support for decision-making, as well as policy-based investment analysis. Through interlinking loosely connected IOS literature into a unified intellectual framework and landscape, this paper can help in theory-building exercises and can be of great help to researchers aiming to position their forthcoming studies within a dynamic framework of corporate finance literature.</p>

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## 1. INTRODUCTION

Investment Opportunity Set (IOS) has long been recognized as a central concept in corporate finance, representing the collection of growth opportunities available to a firm that are expected to generate future returns [1]. Since its early conceptualization, IOS has served as a crucial theoretical bridge linking firm value, investment decisions, capital structure, dividend policy, and corporate governance [2]. Scholars have employed IOS to explain variations in managerial behavior, financing choices, and market valuation, particularly in environments characterized by information asymmetry and agency conflicts [3]. As a forward-looking construct, IOS

captures the strategic dimension of corporate decision-making, distinguishing firms with high growth prospects from those operating in more mature stages of development.

Over time, IOS research has expanded substantially, both in theoretical depth and empirical scope. Early studies primarily focused on identifying suitable proxies for IOS such as market-to-book ratios, earnings-price ratios, or capital expenditure intensity to empirically test its implications. Subsequent research extended IOS applications across diverse corporate finance topics, including executive compensation, risk-taking behavior, payout policies, and mergers and acquisitions. This expansion

reflects the versatility of IOS as a conceptual lens through which scholars interpret firm behavior under uncertainty [4], [5]. As a result, IOS has evolved from a narrow investment-related construct into a multidimensional framework embedded within broader corporate finance discourse.

The growing volume of IOS-related studies has been accompanied by increasing methodological diversity. Researchers have adopted advanced econometric techniques, cross-country datasets, panel data models, and more recently, machine learning approaches to better capture the latent nature of investment opportunities. Additionally, IOS research has transcended traditional developed-market settings, encompassing emerging economies where institutional frameworks, financial constraints, and governance mechanisms differ substantially. This geographical and methodological diversification has enriched the literature but has also contributed to fragmentation, making it difficult to discern dominant research streams, theoretical foundations, and intellectual linkages within the field. In parallel with the expansion of IOS research, bibliometric methods have gained prominence as powerful tools for mapping the intellectual structure of scientific fields. Bibliometric analysis enables scholars to systematically evaluate large bodies of literature by examining citation patterns, co-authorship networks, keyword co-occurrences, and thematic evolution over time. In corporate finance, bibliometric studies have been used to uncover knowledge clusters, influential authors, and emerging research trends in areas such as capital structure, corporate governance, and financial innovation [6], [7]. However, despite the methodological suitability of bibliometric techniques for synthesizing fragmented research domains, their application to IOS literature remains limited.

The absence of a comprehensive bibliometric assessment of IOS research creates a significant gap in understanding how this body of knowledge has developed intellectually. Without a structured mapping of the literature, it is challenging to identify

foundational works, dominant theoretical paradigms, or shifts in research emphasis over time. Moreover, the lack of an intellectual overview hinders scholars' ability to position new studies effectively, potentially leading to conceptual redundancy or underexplored research avenues. A bibliometric approach can address these limitations by revealing the underlying structure of IOS research and clarifying how different themes and methodologies interrelate within the corporate finance literature.

Given the strategic importance of IOS in explaining firm behavior and value creation, a systematic examination of its intellectual landscape is both timely and necessary. As corporate finance continues to integrate insights from behavioral finance, institutional theory, and data-driven analytics, understanding how IOS research has adapted and contributed to these developments becomes increasingly important. A bibliometric assessment can not only summarize past contributions but also illuminate emerging directions, thereby supporting theory development and guiding future empirical inquiry in corporate finance. Despite the extensive and growing body of literature on Investment Opportunity Set (IOS), existing research lacks a comprehensive synthesis that systematically maps its intellectual structure, key knowledge clusters, and evolutionary trends within corporate finance. The literature remains fragmented across themes, methodologies, and geographical contexts, making it difficult for scholars to identify foundational works, dominant research streams, and emerging topics. This absence of an integrative bibliometric perspective limits theoretical consolidation, hinders cumulative knowledge development, and reduces the clarity of future research directions in IOS studies. The objective of this study is to unveil the intellectual structure of Investment Opportunity Set (IOS) research within the corporate finance literature through a bibliometric assessment.

## 2. METHOD

This study employs a bibliometric research design to systematically analyze the intellectual structure of Investment Opportunity Set (IOS) research within the corporate finance literature. Bibliometric analysis is particularly suitable for synthesizing large and heterogeneous bodies of academic work, as it enables the quantitative examination of publication patterns, citation relationships, and thematic linkages among scholarly contributions. The study focuses on peer-reviewed journal articles to ensure the quality and reliability of the analyzed data. Publications related to IOS were identified using carefully constructed keyword combinations that capture variations of the term "investment opportunity set" and its commonly used proxies within corporate finance research. The selected time span covers the full evolution of IOS literature, allowing for a longitudinal assessment of its development.

The bibliographic data were extracted from Scopus database. After data retrieval, a rigorous screening process was conducted to

eliminate duplicate records, non-relevant publications, and documents outside the scope of corporate finance. The final dataset was then standardized to address inconsistencies in author names, journal titles, and keyword usage. Several bibliometric techniques were applied, including citation analysis to identify influential publications, co-citation analysis to reveal foundational theoretical linkages, and keyword co-occurrence analysis to uncover dominant research themes and emerging topics. These techniques collectively provide a multidimensional perspective on the structure and dynamics of IOS research. To visualize and interpret the bibliometric results, VOSviewer was utilized to generate knowledge maps and network diagrams. Network-based visualizations were employed to illustrate relationships among authors, publications, and research themes, with clustering algorithms used to identify coherent knowledge groups within the literature.

## 3. RESULT AND DISCUSSION

### 3.1 Co-Authorship Analysis

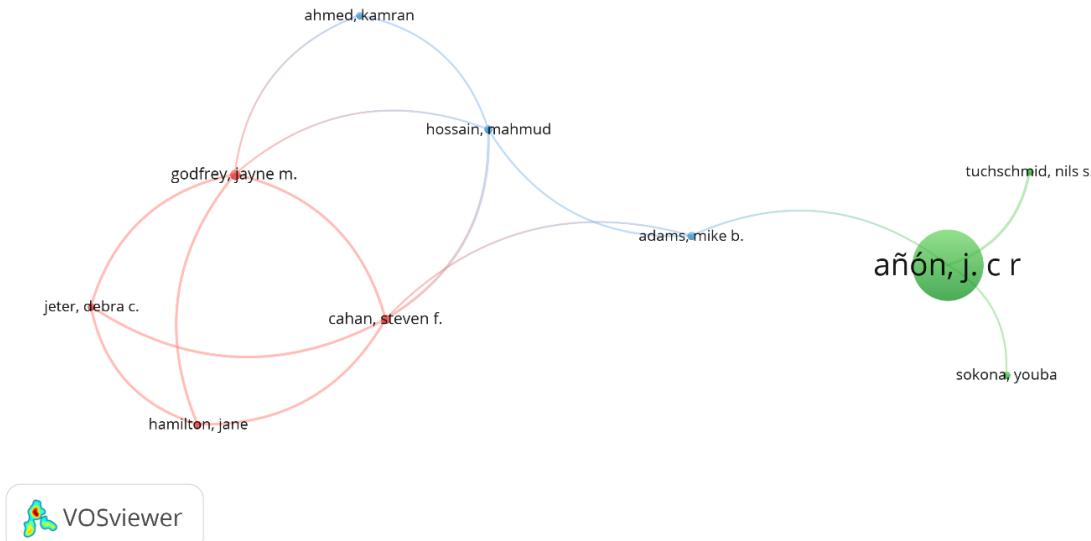


Figure 1. Author Visualization

Source: Data Analysis

Figure 1 shows a relatively fragmented intellectual structure of IOS-related corporate finance research, with a number of clusters of authors who are differentially connected. The strongest

node is that of J.C.R. Anon; thus, this is an influential or highly cited author whose contribution is representative of a clearly distinct cluster, but with only few direct links into the other clusters, suggesting a

specialized or foundational stream of IOS research. On the left-hand side, an internally strongly connected cluster involving authors such as Godfrey, Jeter, Hamilton, and Cahan suggests a coherent research community, probably focusing on accounting-based perspectives of IOS, firm valuation, or earnings-related proxies, with strong internal ties

reflecting sustained collaboration or high levels of co-citation. Bridging these two areas are authors such as Mike B. Adams, Mahmud Hossain, and Kamran Ahmed, who seem to function as intellectual brokers between accounting-oriented IOS research and broader corporate finance or governance debates.

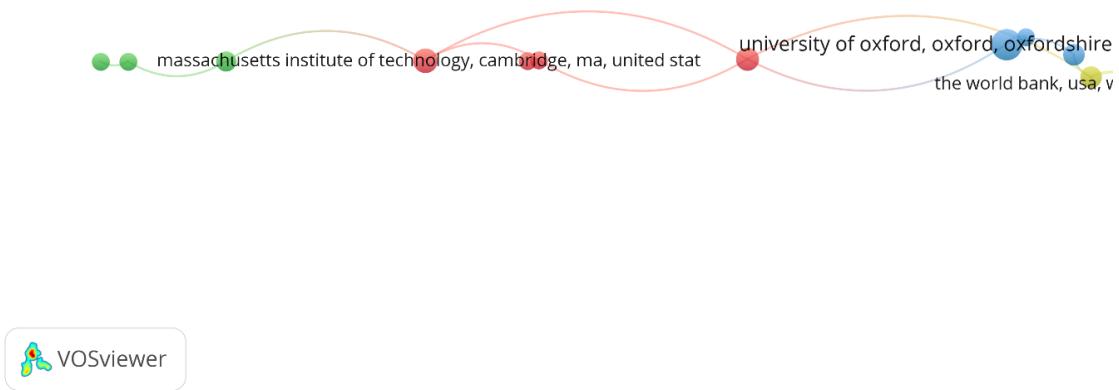


Figure 2. Institution Visualization

Source: Data Analysis

From Figure 2, the structure of IOS-related corporate finance literature appears rather highly centralized and selective, comprising prominent research institutions in the world. The University of Oxford appears as the prominent research organization in this area of study, placed at the center of the diagram and playing the role of a knowledge translator or intermediary between knowledge-driven and practical knowledge in various research fields. Its tight connection to The World Bank suggests knowledge and intellectual outputs in IOS field of study stretching out of corporate finance theories in the

fields of development finance and financial interactions at the macro and micro levels. On the other hand, MIT appears rather peripheral but still part of the IOS-related corporate finance study diagram, indicating its engagement at the higher level of impact in this area of expertise. This suggests limited institutional involvement and cooperation in IOS-related corporate finance, and those who do can easily reach the objective of being at the elite level and undertake knowledge translation and generation in association only at the best institutions in the world.

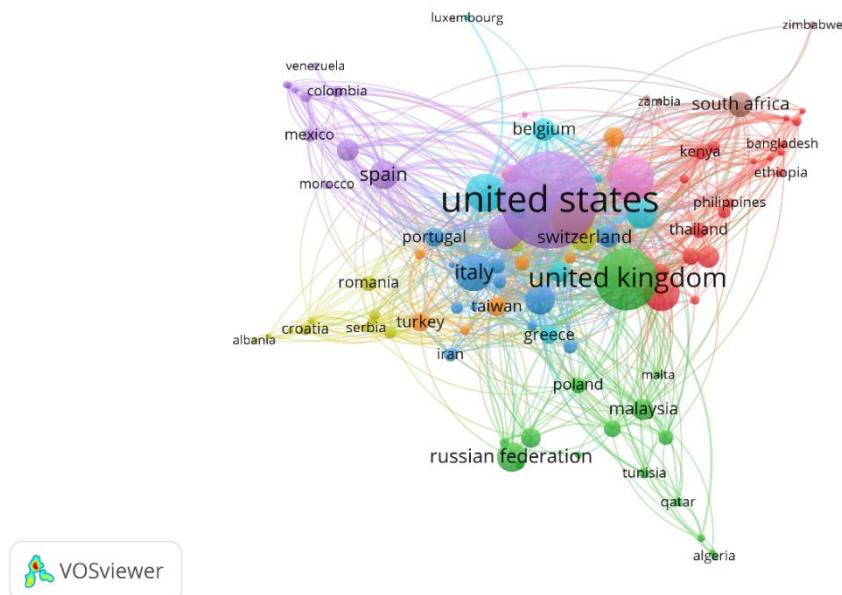


Figure 3. Country Visualization

Source: Data Analysis

In Figure 3 below, a strongly globalized and integrated pattern of IOS literature can be seen. A strongly centralized and hegemonic position of the United States can be noted. A prominent and significant location for the United Kingdom, Italy, and Switzerland can also be identified. A strongly integrated and prominent position for emerging and developing nations like Malaysia, Kenya, and Bangladesh can also be identified. A

regional subgroup for Southern Europe (Spain, Portugal, and Greece) can also be seen. A regional subgroup for other countries like Poland and Romania can also be identified. A subgroup for African nations such as South Africa and Kenya can also be observed. A subgroup for Zambia can also be identified. A subgroup for other nations such as the Philippines can also be identified.

### 3.2 Citation Analysis

Table 1. Most Cited Article

Citations	Author and Year	Title
2035	[8]	The investment opportunity set and corporate financing, dividend, and compensation policies
1397	[9]	What are the learning affordances of 3-D virtual environments?
1234	[10]	The dynamics of learning alliances: Competition, cooperation, and relative scope
984	[11]	International Asset Allocation With Regime Shifts
926	[12]	The geographies of community disaster resilience
840	[13]	Customer satisfaction, productivity, and profitability: Differences between goods and services
699	[14]	Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies
650	[15]	On the Determinants of Corporate Hedging
607	[16]	Burden of disease scenarios for 204 countries and territories, 2022–2050: a forecasting analysis for the Global Burden of Disease Study 2021
605	[17]	Computational thinking for youth in practice

Source: Scopus, 2025

Table 1 illustrates the intellectual foundations and inter-disciplinary ranges of Investment Opportunity Set (IOS) literature through the most cited papers in Scopus, which relate specifically to the field of IOS literature. By far, the most cited paper in Scopus corresponds to the pioneering work of Añón and Añón (2,035 citations), which identifies comprehensively the overall foundation of IOS in the study of corporate financing, dividends, and compensation policies. This reference not only illustrates the overall foundations of the topic but also indicates through additional empirical evidence (699 citations) its revival and

standardization in contemporary finance research as one of the essential variables in defining and interpreting firms' growth opportunities and financial decisions. Nevertheless, the existence of highly cited papers in Scopus in fields not directly associated with corporate finance, such as learning alliances, international asset allocation, disaster resilience, public health forecasting, and computational thinking, suggests overall the interaction of IOS-related citation patterns and ranges of overall economics, strategies, and applications of associated fields of social science.

### 3.3 Keyword Co-Occurrence Network

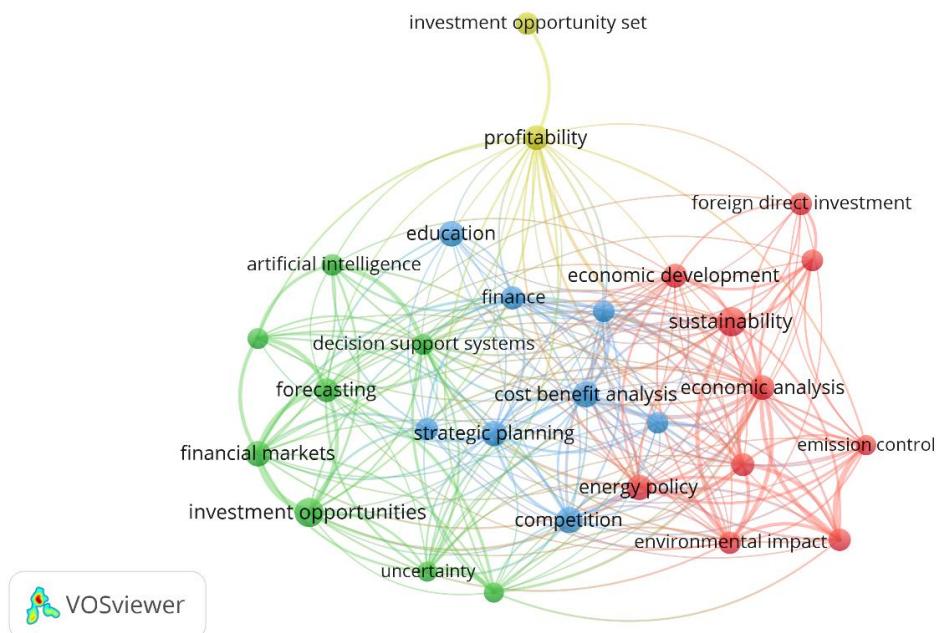


Figure 1. Network Visualization

Source: Data Analysis

Figure 1 illustrates that the research on the Investment Opportunity Set (IOS) is theoretically grounded on profitability, which emerges as the key keyword that ties all the research together in a map. This indicates that the investment opportunity set is largely seen as a means whereby firms can harness their growth opportunities to inform their profitability. The fundamental link between investment opportunity set and profitability thus shores up the conventional theory that investment

opportunity set proxies are a measure of firms' expected future returns on investments. A second key thematic grouping of keywords can be identified in the green category. These keywords include decision making under uncertainty, artificial intelligence, decision support systems, forecasting, investment markets, and investment opportunities. These keywords suggest that the field of research on investment opportunity set has seen a growing integration of analytical techniques aimed

at informing investment decisions using a range of predictive models inspired by artificial intelligence.

The blue cluster represents a strategic and managerial finance area, linking finance, strategic planning, cost-benefit analysis, competition, and energy policy. This reveals that the IOS has been employed in more generic strategic decision-making settings where companies evaluate long-run investment opportunities, competitive structures, and policy constraints. The appearance of energy policy and competition in this cluster indicates that IOS is commonly employed in analyzing investment allocation decisions in the public utility or capital-intensive sectors. The red cluster depicts the emergence of a macroeconomic/sustainability-focused stream of IOS literature. The words economic development, foreign direct

investment, sustainability, environmental impact, and emission control in this cluster reveal the IOS has now ventured into development economics and environmental finance segments from its typical corporate finance focus.

The network reflects that IOS research has become a multidimensional and interdisciplinary area, where profitability and firm-level investment decisions are still the core; however, the newer themes of digital decision tools, strategic management, sustainability, and economic development became increasingly interlinked. This structure points to good opportunities for future research to integrate IOS, digital transformation, and sustainable finance by positioning IOS as a unifying construct across corporate finance, strategy, and policy-oriented investment research.

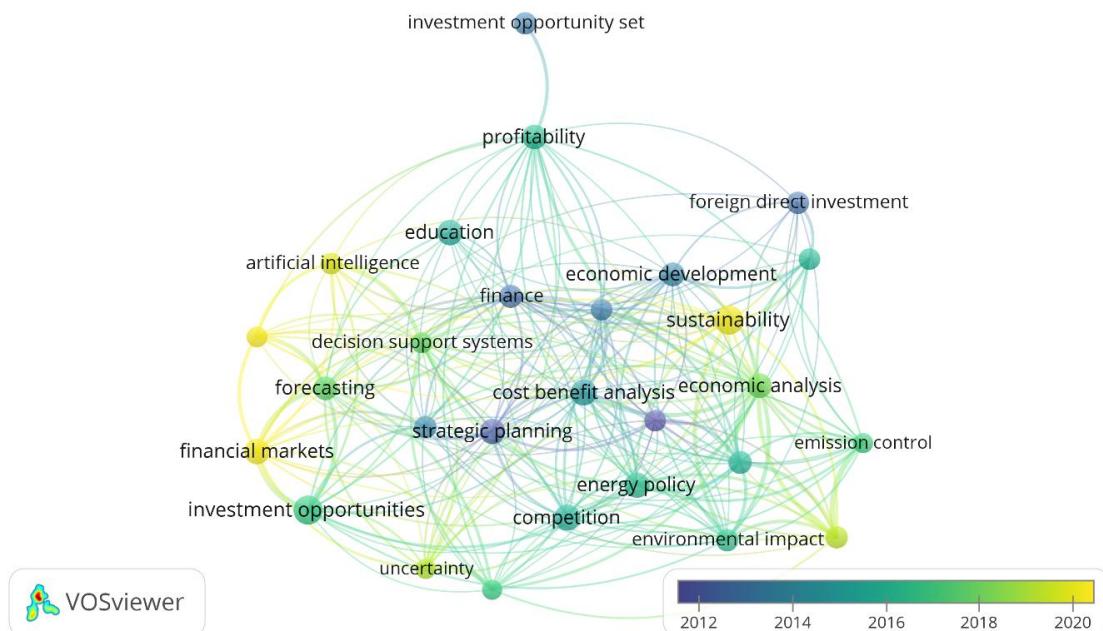


Figure 2. Overlay Visualization

Source: Data Analysis

Figure 2 describes the evolution of the IOS literature themes over time (investment opportunity set and profitability as the themes in earlier literature studies appear in darker blue hues). This suggests that the IOS literature began with the focus on firm-level

financial fundamentals, where the contribution of growth options in determining profitability was paramount. These studies laid the foundation for the IOS as the essential variable by which future firm performance could be proxied. With the evolution of the

literature into the mid-2010s (appearing in greenish hues), the focus has broadened to the analytic and strategic fronts, with keywords including finance, economic development, cost-benefit analysis, strategic planning, and foreign direct investment.

Even more recent IOS studies (yellow colors) place great emphasis on technology-driven decision-making as

well as sustainability issues. The words used as keywords reveal the focus on integrating technology and sustainability factors into decision-making with regard to IOS. Such words as artificial intelligence, decision support systems, forecasting, environmental impact, and emission control reveal IOS has grown as an investigative subject from its earlier stages into this advanced level.

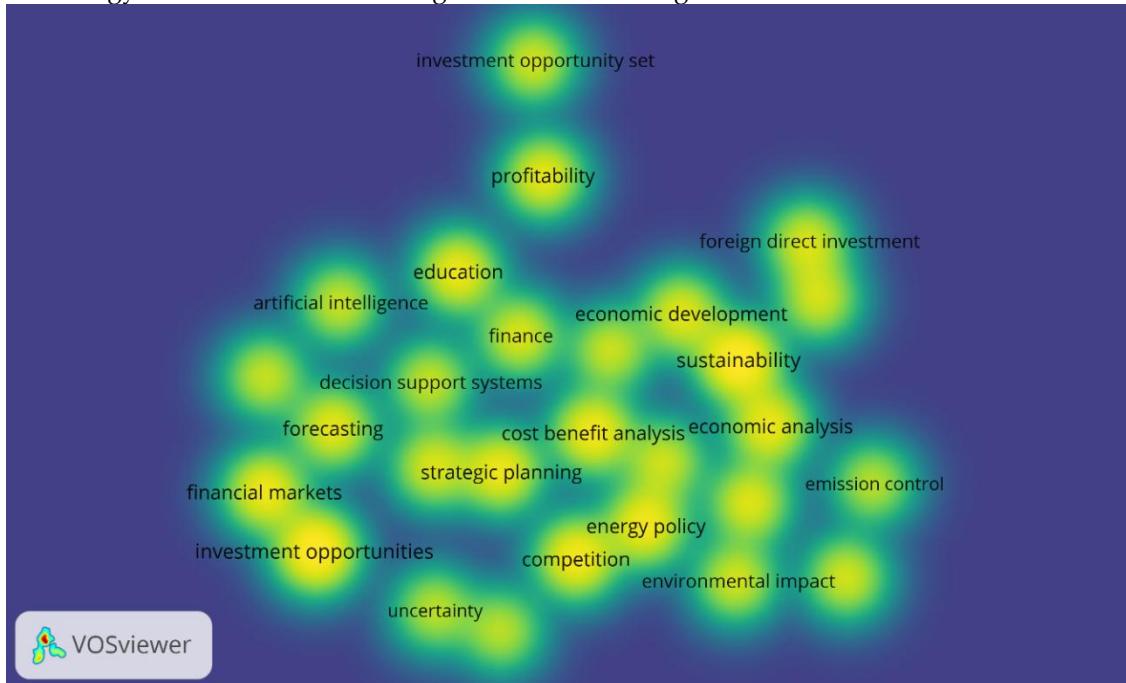


Figure 6. Density Visualization

Source: Data Analysis

Figure 6 reveals the core and high-density concentration areas within IOS research, with the highest-intensity areas of focus on profitability, finance, and investment opportunity set in itself. These bright clusters show that IOS has most frequently been studied under investigation in regard to firms' financial performance, growth prospect, and capital allocation decisions. Likewise, the prominence of strategic planning, cost-benefit analysis, and investment opportunities confirms that the literature strongly emphasizes IOS as a strategic financial construct employed in evaluating and prioritizing long-term investments under uncertainty. Apart from such core themes, secondary high-density areas emerge around

sustainability, economic development, foreign direct investment, and environmental impact, suggesting a growing consolidation of IOS research in the sustainability-oriented and policy-relevant contexts. The density of artificial intelligence, decision support systems, and forecasting reflects equally growing scholarly attention towards technology-enabled investment evaluation.

### 3.4 Discussion

#### a. Overview of Findings

From this bibliometric study, it appears that the field of Investment Opportunity Set (IOS) has grown into a mature area, but with a tendency towards becoming increasingly interdisciplinary. The results

demonstrate that the field of IOS is theoretically grounded in firm-level financing issues, such as profitability, capital structure, dividend theory, and growth theory, but increasingly deals with management, sustainability, and technology-driven decision-making. The co-citation, keywords, and citation network maps demonstrate that several thematic clusters exist, ranging from mainstream corporate finance, strategic planning, and competitiveness, with new themes centered on issues of sustainable decision-making, big data, and other digital approaches. The time-series and density plots, on the other hand, clearly demonstrate that, over time, the initial literature studies on IOS were rather static, with a tendency towards modern, dynamic, technological, and policy-oriented approaches being increasingly prevalent.

#### **b. Practical implications**

From a managerial and pragmatic perspective, the implication of the empirical outcomes of this study and the rapidly evolving relationship between IOS and other issues such as sustainability and foreign direct investment could mean that IOS can be used by management as a tool for making maximum profits and making investment decision strategies consistent with sustainability and regulatory requirements. The relationship between decision support systems and the advancement in the field of artificial intelligence could offer IOS researchers and practitioners the opportunity to improve the measurement and usage of IOS by utilizing the power of decision support systems and artificial intelligence.

#### **c. Theoretical Contribution**

The study offers a theoretical contribution by integrating scattered

IOS literature into a rational intellectual framework that defines IOS perspectives through various lenses such as agency theory, signaling theory, and strategic investment theories. By tracing IOS developments via this study, IOS have evolved from a proxied-based construct to a holistic construct that relates financial theory at a firm-level with strategic management and transformation concepts along with a focus on sustainability and investment areas at a policy and macro-economic investment levels. Such a synthesis increases IOS relevance at a theoretical standpoint and defines IOS as a construct that can reconcile financial theory at a firm-level with investment theories at a micro-economic policy and investment perspective.

#### **d. Limitation of Study**

Conversely, in spite of its many contributions, this particular study faces various limitations. First, this study only targets publication sources indexed in Scopus; in this case, it may be possible that important IOS research is left behind in sources that are unindexed or in local databases. Second, this particular bibliometric analysis is more focused on citation intensity and the like. This approach may or may not be very comprehensive in understanding theoretical assertions as well as methodologies in particular IOS research. Finally, this current analysis does not break down different proxies or contexts of IOS research in terms of finer detail. These points may be further explored in subsequent research through literature analysis or even meta-analysis.

## **4. CONCLUSION**

This paper presents a holistic bibliometric synthesis of the intellectual

framework and development dynamics of Investment Opportunity Set (IOS) literature within the realm of corporate finance studies. The results show that IOS has sustained its pivotal position as a proxy measure of the growth and investment opportunities of firms over the years, gradually diversifying into the realms of strategic, sustainable, and technological studies. By unearthing critical clusters of themes, major authors, and evolution over time, this paper shows that IOS

has diversified from a specific financial concept to a multi-faceted approach, ensnaring corporate finance, strategic studies, and investment-relevant studies within its fold. On a broader perspective, the results of this paper emerge as a badge of honor, indicating that the area of IOS can further be enriched through the integration of digital techniques and global insights into its current framework of thought.

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