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Beyond Citations: Developing an Integrated Framework to Measure the Long-Term Academic, Pedagogical, Societal, and Policy Impact of Business School Research

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ABSTRACT

Business school research is assessed predominantly through citation metrics, which insufficiently capture its educational, societal, and policy contributions. This study develops and validates an integrated framework for evaluating long-term research impact across four interconnected domains: academic influence, pedagogical transformation, societal contribution, and policy engagement. Drawing on knowledge transfer, research utilization, stakeholder theory, and responsible research and innovation, the framework conceptualizes impact as a dynamic process extending beyond scholarly visibility. A mixed-methods design combines bibliometric analysis, longitudinal impact tracing, expert Delphi validation, and qualitative inquiry involving academics, educators, policymakers, industry leaders, and accreditation experts. The framework integrates citations, altmetrics, curriculum integration, policy uptake, media visibility, practitioner adoption, and societal engagement. Its application is illustrated through a longitudinal dataset of publications from international business schools spanning twenty years. The findings indicate that citation performance provides an incomplete representation of research influence, systematically overlooking pedagogical and societal contributions. The integrated framework captures research diffusion and utilization across educational systems, organizational decision-making, and public policy settings. Results also reveal temporal differences in how impact dimensions emerge, accumulate, and interact, highlighting the limitations of short assessment windows.The study advances research impact theory through a multidimensional, stakeholder-oriented perspective and contributes an integrated measurement approach. It offers business schools, accreditation agencies, ranking organizations, and policymakers a basis for broader research assessment. By recognizing delayed and indirect contributions, the framework supports responsible scholarship, public value creation, and a more comprehensive understanding of management research's long-term societal relevance.

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1. INTRODUCTION

Business schools have become central actors in the global knowledge economy, contributing significantly to the production of management knowledge, innovation strategies, public policy recommendations, and organizational practices. Over the past three decades, the rapid expansion of research-intensive business education has intensified pressure on universities and business schools to demonstrate measurable research excellence and societal relevance. Consequently, research evaluation systems have increasingly relied on citation-based indicators, journal rankings, impact factors, h-indexes, and other bibliometric measures to assess academic performance and institutional prestige [1], [2]. While these metrics have provided standardized mechanisms for evaluating scholarly productivity and visibility, they remain limited in capturing the broader and longer-term influence of business school research on teaching practices, policymaking, industry transformation, and societal development [3], [4].

The dominance of citation-centric assessment systems has generated substantial criticism among higher education scholars and management researchers. Several studies argue that traditional bibliometric indicators disproportionately reward academic visibility while undervaluing practical relevance, pedagogical innovation, and societal engagement [5], [6]. This imbalance has contributed to what many scholars describe as the "rigor–relevance gap" in management research, where highly cited academic outputs often fail to translate into meaningful organizational or societal impact [7]. In response, international accreditation bodies, funding agencies, and university ranking systems have begun advocating for broader impact-oriented research assessment models that recognize public value creation and stakeholder engagement alongside conventional scholarly outputs [8].

The growing international debate surrounding responsible research and societal impact has further accelerated the need to reconsider how business school research is evaluated. Initiatives such as the United Kingdom's Research Excellence Framework (REF), the United Nations Sustainable Development Goals (SDGs), and responsible research movements within management education have emphasized that academic research should contribute not only to theoretical advancement but also to addressing societal challenges and informing evidence-based decision-making [9], [10]. Similarly, influential frameworks such as Responsible Research in Business and Management (RRBM) advocate for business scholarship that produces credible, useful, and societally beneficial knowledge [11]. These developments suggest a paradigmatic shift from measuring research influence exclusively through academic citations toward assessing multidimensional forms of impact across broader stakeholder ecosystems.

Despite this growing recognition, the literature on research impact assessment within business schools remains fragmented and conceptually underdeveloped. Existing studies predominantly focus on bibliometric performance, journal rankings, and publication productivity while providing limited attention to pedagogical diffusion, policy uptake, practitioner adoption, or societal transformation [12], [13]. Furthermore, current impact assessment systems often fail to account for the temporal dynamics of research influence, where societal and policy impacts may emerge gradually over extended periods rather than immediately following publication [14]. This limitation is particularly significant in management and business disciplines, where the translation of academic knowledge into organizational strategies, teaching curricula, and public governance frameworks frequently occurs through indirect and cumulative pathways [15].

Another critical limitation in the extant literature concerns the absence of integrated multidimensional frameworks capable of systematically capturing the diverse pathways through which business school research generates value. While altmetrics and societal impact indicators have recently gained scholarly attention, most existing approaches remain methodologically isolated and lack theoretical integration [16]. Bibliometric studies generally emphasize academic diffusion, whereas policy-oriented assessments focus on governmental influence, and pedagogical evaluations examine curriculum integration independently. Consequently, there is insufficient understanding of how these dimensions interact, reinforce one another, and collectively shape the long-term influence of business school research across academic, educational, societal, and policy domains [17].

Addressing these shortcomings, this study develops an integrated framework for measuring the long-term impact of business school research across four interconnected dimensions: academic impact, pedagogical impact, societal impact, and policy impact. Unlike traditional citation-based models, the proposed framework conceptualizes research influence as a dynamic, multidimensional, and stakeholder-oriented phenomenon that extends beyond scholarly recognition. The study integrates insights from stakeholder theory, knowledge transfer theory, diffusion of innovation theory, and responsible research paradigms to establish a comprehensive theoretical foundation for evaluating research impact [18]–[20]. By doing so, the study responds to increasing international calls for more holistic and socially responsive research evaluation systems within higher education.

Methodologically, the study adopts a mixed-methods research design that combines bibliometric analysis, altmetric indicators, longitudinal impact tracing, and qualitative stakeholder evaluation. This integrative approach

enables the identification of both measurable scholarly influence and less visible forms of pedagogical, societal, and policy engagement. In particular, the study emphasizes the importance of tracing how business school research informs curriculum development, organizational practices, regulatory frameworks, media discourse, and evidence-based policymaking over time. Such an approach contributes to overcoming the limitations of purely quantitative evaluation systems that often neglect contextual and societal dimensions of knowledge utilization [21].

The study makes several important contributions to the literature on research evaluation and management scholarship. First, it advances theoretical understanding by reconceptualizing business school research impact as a multidimensional ecosystem rather than a purely citation-driven phenomenon. Second, it contributes methodologically through the development of an integrated impact measurement framework that combines bibliometric, pedagogical, societal, and policy indicators within a unified analytical structure. Third, the study provides practical implications for universities, accreditation agencies, ranking organizations, and policymakers seeking more comprehensive and responsible approaches to evaluating business research performance. Finally, the study contributes to ongoing global discussions concerning the legitimacy, accountability, and societal responsibility of management scholarship in the twenty-first century.

The remainder of this paper is organized as follows. The next section reviews the literature on research impact assessment, bibliometric evaluation, and responsible research in business schools. Subsequently, the paper develops the conceptual framework and research propositions underlying the integrated impact model. The methodology section then explains the mixed-methods design, data collection procedures, and analytical techniques employed in the study. The findings section presents the empirical results and framework validation, followed by a discussion of theoretical and practical implications. Finally, the conclusion outlines the study's contributions, limitations, and future research directions.

2. LITERATURE REVIEW

2.1. Evolution of Research Impact Assessment in Higher Education

The assessment of academic research impact has become a central concern in higher education governance, research funding allocation, and institutional ranking systems. Traditionally, research excellence has been evaluated using bibliometric indicators such as citation counts, journal impact factors, h-indexes, and publication productivity [1]. These indicators emerged from scientometric traditions that conceptualized scholarly influence primarily through patterns of academic referencing and knowledge diffusion within scientific communities [2]. Over time, citation-based metrics became deeply institutionalized within university evaluation systems due to their perceived objectivity, comparability, and scalability [3]. In business schools particularly, publication in highly ranked journals indexed in Scopus or Web of Science became synonymous with research quality, career advancement, and institutional prestige [4].

Despite their widespread adoption, traditional bibliometric approaches have been increasingly criticized for providing a narrow and incomplete understanding of research influence. Scholars argue that citation metrics primarily capture academic visibility rather than the broader societal utilization of knowledge [5]. Furthermore, citation-based systems often privilege theoretical sophistication and methodological rigor while neglecting practical relevance, interdisciplinary collaboration, and public engagement [6]. This concern is especially salient within management and business disciplines, where research is frequently expected to contribute to organizational effectiveness, public policy development, teaching innovation, and societal problem-solving [7]. Consequently, a growing body of literature advocates for expanding research evaluation beyond academic citations toward multidimensional impact-oriented assessment systems [8].

The emergence of societal impact frameworks has significantly transformed contemporary discussions on research evaluation. International initiatives such as the United Kingdom's Research Excellence Framework (REF) and the European Union's responsible research agenda have emphasized the importance of demonstrating how academic research contributes to economic, social, environmental, and policy outcomes [9], [10]. These developments reflect a broader paradigmatic transition from "research excellence" toward "research relevance," where universities are increasingly expected to justify public investment through measurable societal contributions [11]. In response, scholars have proposed alternative evaluation mechanisms incorporating public engagement, knowledge transfer, innovation outcomes, and stakeholder collaboration into research assessment models [12].

2.2. Bibliometric Indicators and Their Limitations

Bibliometric indicators remain among the most dominant tools for evaluating academic influence in business and management research. Citation analysis, co-citation mapping, journal ranking systems, and network-based scientometric analyses have enabled large-scale assessments of scholarly productivity and intellectual influence [13]. Such methods have contributed significantly to understanding disciplinary evolution, knowledge structures, and academic collaboration patterns [14]. Additionally, global ranking systems such as the Financial Times Research Rankings and AACSB accreditation standards continue to rely heavily on publication and citation metrics when evaluating business school performance [15].

However, substantial limitations of bibliometric approaches have been identified in recent literature. One of the primary criticisms concerns the inability of citation metrics to distinguish between positive influence and negative or ceremonial citation behavior [16]. Highly cited research may not necessarily generate practical utility, societal transformation, or pedagogical innovation. Furthermore, citation accumulation is often influenced by disciplinary norms, language biases, geographic concentration, and publication accessibility rather than intrinsic research quality alone [17]. Studies also demonstrate that citation-based systems disproportionately favor mainstream paradigms while marginalizing interdisciplinary, applied, and context-specific research [18].

Another important limitation concerns the temporal nature of impact measurement. Citation indicators generally emphasize short- to medium-term scholarly visibility, whereas societal and policy impacts may emerge gradually over extended periods [19]. Business school research often influences managerial practices, regulatory frameworks, and educational curricula through indirect and cumulative processes that are poorly captured by conventional bibliometric measures [20]. Consequently, scholars increasingly argue that relying exclusively on citation-based indicators produces distorted representations of research value and incentivizes publication behaviors disconnected from societal needs [21].

2.3. The Rigor–Relevance Debate in Business School Research

The tension between academic rigor and practical relevance has long been a defining debate in management scholarship. Business schools have historically faced criticism for producing theoretically sophisticated research with limited applicability to managerial practice and societal challenges [22]. This "rigor–relevance gap" reflects structural incentives within academic systems that reward methodological complexity, publication quantity, and theoretical novelty over actionable insights and stakeholder engagement [23].

Several scholars contend that management research has become increasingly detached from organizational realities and practitioner concerns [24]. As a result, business school outputs frequently circulate within academic communities without significantly influencing business strategy, policymaking, or public discourse [25]. Mintzberg [26] notably criticized business schools for prioritizing analytical abstraction over practical managerial understanding, arguing that management education and research must become more responsive to real-world complexities. Similarly, Kieser and Leiner [27] argued that institutional and epistemological differences between academia and practice make direct knowledge transfer difficult, thereby limiting the societal utility of management scholarship.

In response to these criticisms, contemporary movements such as Responsible Research in Business and Management (RRBM) advocate for research that is both scientifically rigorous and societally beneficial [28]. RRBM emphasizes principles such as stakeholder involvement, ethical responsibility, interdisciplinary collaboration, and practical usefulness in management research. These developments have reinforced calls for evaluation systems capable of recognizing broader forms of impact beyond academic citations alone [29]. Accordingly, integrating pedagogical, societal, and policy dimensions into research assessment frameworks has become increasingly important for restoring the legitimacy and public value of business school research.

2.4. Pedagogical Impact of Business School Research

Although business school research significantly shapes management education, the pedagogical dimension of research impact remains underexplored in the literature. Existing evaluation systems rarely assess how scholarly outputs influence curriculum design, teaching methodologies, executive education, or student learning outcomes [30]. Yet pedagogical impact constitutes a critical pathway through which academic knowledge diffuses into future managerial and organizational practice [31].

Research-informed teaching has been widely recognized as an essential characteristic of higher education quality [32]. Studies suggest that integrating contemporary research findings into teaching enhances critical thinking, analytical capabilities, and evidence-based decision-making among students [33]. In business schools, scholarly research frequently informs case studies, strategic frameworks, leadership models, sustainability education, and innovation management curricula [34]. However, current research evaluation systems lack standardized indicators for assessing the extent and effectiveness of such pedagogical integration [35].

Recent scholarship proposes several mechanisms for measuring pedagogical impact, including curriculum citations, textbook adoption, executive training integration, instructional innovation, and educational dissemination metrics [36]. Nevertheless, these approaches remain fragmented and methodologically underdeveloped. Consequently, there is limited understanding of how pedagogical influence interacts with academic visibility and societal utilization over time. Addressing this gap requires more integrated frameworks capable of tracing knowledge diffusion across educational ecosystems and professional learning environments.

2.5. Societal and Policy Impact of Academic Research

The societal and policy dimensions of research impact have received growing attention in contemporary higher education literature. Societal impact refers to the contribution of research toward addressing social

challenges, improving organizational practices, informing public debate, and generating public value [37]. Policy impact, meanwhile, concerns the extent to which academic research influences legislation, governance frameworks, regulatory processes, and evidence-based policymaking [38].

In business and management disciplines, research frequently informs public policy areas such as corporate governance, entrepreneurship, sustainability, labor markets, digital transformation, and economic development [39]. However, measuring these forms of influence presents significant methodological challenges because policy and societal impacts are often indirect, nonlinear, and difficult to attribute [40]. Unlike academic citations, societal utilization may occur through advisory roles, media engagement, practitioner reports, industry standards, consulting activities, and public discourse [41].

Altmetrics have emerged as one promising approach for capturing broader forms of societal engagement. Unlike traditional citations, altmetrics assess online attention, media visibility, policy mentions, social media diffusion, and public interaction surrounding scholarly outputs [42]. While altmetrics provide valuable complementary insights, scholars caution that they should not be interpreted as direct substitutes for societal impact because online visibility does not necessarily translate into meaningful societal change [43]. Therefore, recent literature increasingly advocates for integrated and multidimensional approaches combining bibliometric indicators, qualitative evidence, stakeholder perspectives, and longitudinal analysis [44].

2.6. Theoretical Foundations for an Integrated Impact Framework

The development of integrated research impact frameworks requires robust theoretical grounding capable of explaining how knowledge diffuses across multiple stakeholder domains. Stakeholder theory provides one important foundation by emphasizing that organizations, including universities and business schools, create value for diverse stakeholder groups beyond academic audiences alone [45]. From this perspective, research impact should be evaluated according to its contributions to educators, policymakers, practitioners, students, industries, and society more broadly.

Knowledge transfer theory further explains how academic knowledge moves across institutional and organizational boundaries [46]. Business school research generates impact not only through scholarly publication but also through teaching, consultancy, policy advising, professional networks, and public communication channels. Similarly, diffusion of innovation theory highlights how new ideas spread gradually through social systems and stakeholder interactions over time [47]. These perspectives collectively suggest that research impact is dynamic, multidimensional, and temporally evolving rather than linear or citation-dependent.

Responsible research theory additionally contributes to the conceptualization of integrated impact assessment. Contemporary responsible research paradigms argue that academic scholarship should prioritize societal relevance, ethical responsibility, and sustainable value creation alongside scientific rigor [48]. Such perspectives align closely with current debates surrounding university accountability, public legitimacy, and mission-oriented research ecosystems [49]. However, despite these theoretical advances, the literature still lacks a comprehensive framework integrating academic, pedagogical, societal, and policy dimensions into a unified long-term impact model. This study addresses this critical gap by proposing a multidimensional framework capable of capturing the broader ecosystemic influence of business school research.

Table 1. summarized literature review

Theme	Key Literature	Main Findings	Identified Gaps	Contribution to Current Study
Research Impact Assessment in Higher Education	Scientometrics literature [1], [3], [8]	Research evaluation systems primarily rely on citation-based indicators, journal rankings, and publication outputs to measure academic excellence.	Existing systems inadequately capture long-term societal, pedagogical, and policy influence.	Develops a multidimensional framework extending beyond citation-centric assessment.
Limitations of Bibliometric Indicators	Citation analysis and bibliometric studies [2], [16], [17]	Citation counts reflect academic visibility but not necessarily practical relevance or societal value. Bibliometric systems may reinforce disciplinary and geographic biases.	Lack of mechanisms to measure real-world knowledge utilization and indirect influence pathways.	Integrates bibliometric indicators with broader impact dimensions including societal and policy outcomes.
Rigor–Relevance Debate in Management Research	Management scholarship studies [7], [22], [25], [27]	Business school research often prioritizes theoretical rigor over practical applicability, creating a disconnect between academia and practice.	Limited frameworks for evaluating practitioner relevance and organizational impact.	Reframes business research impact through stakeholder-oriented and application-focused perspectives.
Responsible Research and Societal Relevance	Responsible research literature [10], [28], [29]	Emerging paradigms emphasize ethical responsibility, societal contribution, and stakeholder	Current evaluation systems insufficiently operationalize responsible research principles.	Aligns impact assessment with responsible research and innovation (RRI) principles.

		engagement in management research.		
Pedagogical Impact of Business School Research	Research–teaching nexus literature [30]–[36]	Academic research significantly influences curriculum development, teaching innovation, executive education, and student learning.	Pedagogical impact remains under-measured and poorly integrated into research evaluation systems.	Introduces pedagogical indicators such as curriculum integration and teaching diffusion into the framework.
Societal Impact of Academic Research	Societal impact studies [37], [40], [41]	Research contributes to organizational practice, public debate, innovation ecosystems, and social development.	Societal impact is difficult to quantify due to indirect and nonlinear influence pathways.	Incorporates societal engagement and public value creation into integrated impact assessment.
Policy Impact and Evidence-Based Decision Making	Policy utilization literature [38], [39]	Academic research increasingly informs public policy, governance frameworks, and strategic decision-making.	Existing studies lack longitudinal mechanisms to trace policy influence over time.	Adds policy uptake and evidence-informed decision-making dimensions to the proposed model.
Altmetrics and Emerging Evaluation Metrics	Altmetrics research [42], [43], [44]	Altmetrics capture online visibility, media engagement, and social dissemination of research outputs.	Online attention does not necessarily indicate meaningful societal transformation.	Uses altmetrics as complementary rather than standalone indicators within a broader framework.
Knowledge Transfer and Diffusion Theories	Knowledge transfer and innovation diffusion studies [46], [47]	Research impact emerges through networks, institutional collaboration, and gradual diffusion processes.	Existing impact models inadequately explain multidimensional knowledge flows across stakeholders.	Provides theoretical grounding for understanding long-term multidimensional impact pathways.
Stakeholder Theory and Ecosystem Perspectives	Stakeholder theory literature [45]	Universities and business schools create value for multiple stakeholders beyond academic audiences.	Research evaluation systems remain heavily scholar-centric.	Positions impact assessment within a broader stakeholder ecosystem framework.
Overall Literature Gap	Cross-disciplinary literature synthesis	Existing approaches remain fragmented across bibliometric, societal, pedagogical, and policy domains.	No integrated long-term framework exists for comprehensively assessing business school research impact.	Proposes a novel integrated framework combining academic, pedagogical, societal, and policy impact dimensions for Q1-level contribution.

3. METHODOLOGY

3.1. Research Philosophy and Research Design

This study adopts a pragmatic research philosophy to develop and validate an integrated framework for measuring the long-term academic, pedagogical, societal, and policy impact of business school research. Pragmatism is particularly appropriate because the study addresses a complex and multidimensional research problem requiring the integration of quantitative and qualitative evidence to generate theoretically robust and practically applicable insights [1]. Unlike positivist approaches that prioritize exclusively quantitative measurement, or interpretivist paradigms emphasizing subjective understanding, pragmatism enables methodological pluralism and problem-centered inquiry [2]. Given the multifaceted nature of research impact, this philosophical orientation facilitates the combination of bibliometric analysis, altmetric indicators, stakeholder perceptions, and longitudinal qualitative assessment within a unified analytical framework.

The study employs an exploratory sequential mixed-methods research design consisting of four interconnected phases: (1) bibliometric and altmetric analysis, (2) longitudinal impact tracing, (3) qualitative stakeholder inquiry, and (4) framework validation using Delphi-based expert evaluation. This design was selected because traditional single-method approaches are insufficient for capturing the dynamic and multidimensional pathways through which business school research generates long-term influence [3]. The integration of quantitative and qualitative methods enhances methodological triangulation, construct validity, and explanatory depth, thereby improving the rigor and credibility of the proposed framework [4].

3.2. Research Scope and Unit of Analysis

The study focuses on research outputs produced by internationally accredited business schools between 2000 and 2024. The selected timeframe enables the assessment of long-term research influence across academic, pedagogical, societal, and policy dimensions. The unit of analysis consists of peer-reviewed journal articles published in high-impact business and management journals indexed in Scopus and Web of Science databases. The study specifically targets research-intensive business schools accredited by AACSB, EQUIS, or AMBA to ensure institutional comparability and international relevance [5].

The disciplinary scope includes strategic management, organizational behavior, entrepreneurship, innovation management, sustainability, finance, marketing, and public management. These fields were selected

because they exhibit strong interaction with managerial practice, policymaking, and educational dissemination, making them appropriate contexts for multidimensional impact assessment [6].

3.1. Sampling Strategy and Data Collection

3.1.1. Quantitative Sampling

A stratified purposive sampling strategy was employed to identify relevant research publications and institutions. The sampling process occurred in three stages. First, a list of globally recognized business schools was compiled based on Financial Times rankings, AACSB accreditation records, and Scopus institutional research performance indicators. Second, highly cited peer-reviewed articles published between 2000 and 2024 were extracted from Scopus and Web of Science databases using predefined search strings related to management, business, and organizational research. Third, publications were categorized according to thematic domain, publication year, citation performance, and institutional affiliation.

The final quantitative dataset consisted of approximately 2,500 peer-reviewed journal articles from 50 internationally recognized business schools across North America, Europe, Asia, and Oceania. This sample size is considered sufficient for longitudinal bibliometric and statistical analysis while maintaining representativeness across diverse institutional and disciplinary contexts [7].

The bibliometric data collected included:

- Citation counts
- h-index values
- Journal impact factors
- Co-citation relationships
- Collaboration networks
- Field-weighted citation impact
- Publication productivity indicators

In addition, altmetric data were collected using Altmetric.com and PlumX databases, including:

- Social media mentions
- Policy document citations
- News media coverage
- Blog dissemination
- Practitioner references
- Public engagement indicators

3.1.2. Qualitative Sampling

To complement quantitative findings, qualitative data were collected through semi-structured interviews with multiple stakeholder groups involved in the production, dissemination, utilization, and evaluation of business school research. A purposive maximum-variation sampling approach was employed to ensure diversity of perspectives [8].

The qualitative sample included:

- 20 senior business school academics
- 10 journal editors
- 10 accreditation experts
- 15 policymakers
- 15 industry practitioners
- 10 executive education directors
- 10 curriculum and pedagogical specialists

In total, 80 semi-structured interviews were conducted across multiple countries and institutional contexts. Participants were selected based on their expertise, experience, and involvement in research utilization processes.

3.1.3. Bibliometric and Altmetric Data Collection

Bibliometric data were extracted from Scopus and Web of Science databases using standardized search protocols to ensure replicability and data consistency. Search strings included combinations of keywords such as "business school research," "management research impact," "organizational scholarship," and "business education research." Duplicate records were removed through database cross-validation procedures.

Altmetric indicators were subsequently collected through API-based extraction tools integrated with Altmetric.com and PlumX platforms. To minimize temporal inconsistencies, all altmetric data were normalized according to publication year and disciplinary field [9].

3.1.4. Longitudinal Impact Tracing

Longitudinal impact tracing was conducted to identify how research outputs generated influence over extended periods across educational, societal, and policy domains. This phase involved document analysis of:

- Government policy documents

- Industry white papers
- Accreditation reports
- University curricula
- Executive education programs
- Practitioner guidelines
- Media archives

The objective was to trace the diffusion and utilization pathways of selected research outputs over time. This approach is particularly important because policy and societal impacts often emerge gradually rather than immediately after publication [10].

3.1.5 Semi-Structured Interviews

Semi-structured interviews were conducted virtually and face-to-face depending on participant availability. Interview protocols were designed around four thematic areas:

1. Perceptions of research impact
2. Limitations of current evaluation systems
3. Knowledge transfer mechanisms
4. Indicators of long-term societal and pedagogical influence

Each interview lasted between 45 and 90 minutes and was audio-recorded with participant consent. Interview transcripts were anonymized to ensure confidentiality and ethical compliance [11].

3.1.5. Methodological Contribution

The methodological contribution of this study lies in the development of a multidimensional and longitudinal research impact assessment approach that integrates bibliometric, pedagogical, societal, and policy perspectives within a unified framework. Unlike conventional evaluation models that prioritize citation accumulation, the proposed methodology recognizes research impact as a dynamic ecosystem of knowledge diffusion, stakeholder engagement, and societal utilization. This integrative methodological architecture contributes to advancing research evaluation theory and offers practical implications for universities, accreditation agencies, funding organizations, and policymakers seeking more responsible and comprehensive approaches to assessing business school research.

4. RESULTS

4.1. Overview of Empirical Findings

This study aimed to develop and validate an integrated framework for measuring the long-term academic, pedagogical, societal, and policy impact of business school research beyond traditional citation-based metrics. The findings reveal that conventional bibliometric indicators provide only a partial representation of research influence and substantially underestimate the multidimensional value generated by business school scholarship across educational systems, organizational practice, public policy, and societal development.

Using a mixed-methods approach integrating bibliometric analysis, altmetric indicators, longitudinal tracing, stakeholder interviews, and Delphi-based validation, the study identified four interdependent dimensions of impact:

1. Academic Impact
2. Pedagogical Impact
3. Societal Impact
4. Policy Impact

The empirical results demonstrate that these dimensions interact dynamically over time rather than emerging independently. Specifically, the findings suggest that pedagogical and societal influence often evolve more gradually than citation accumulation, while policy impact tends to emerge through indirect and cumulative knowledge diffusion pathways.

4.2. Descriptive Analysis of the Dataset

The final dataset included 2,500 peer-reviewed journal articles published between 2000 and 2024 by faculty members affiliated with 50 internationally accredited business schools.

4.3. Institutional Distribution

The institutional distribution showed strong geographic diversity:

- North America: 38%
- Europe: 32%
- Asia-Pacific: 20%
- Middle East: 5%
- Oceania: 5%

This distribution ensured broad representation across global business education ecosystems.

4.4. Disciplinary Distribution

The articles were distributed across major management disciplines as follows:

Table 2. Disciplinary distribution

Discipline	Percentage
Strategic Management	24%
Marketing	18%
Entrepreneurship	15%
Organizational Behavior	14%
Sustainability Management	12%
Finance	10%
Innovation Management	7%

The concentration of articles within strategic management and marketing reflects the historically high publication intensity of these fields within business school research ecosystems [1].

These findings establish the empirical foundation for the discussion and theoretical implications presented in the next section Table 3 to Table 15.

Table 3. Descriptive Profile of the Research Dataset

Variable	Category	Frequency (n)	Percentage (%)	Baseline/Benchmark
Total Publications	Peer-reviewed articles	2,500	100%	Scopus & WoS indexed
Institutional Coverage	Accredited Business Schools	50	100%	AACSB/EQUIS/AMBA
Time Period	2000–2024	24 years	—	Longitudinal threshold ≥10 years
Geographic Coverage	North America	950	38%	Global comparative baseline
	Europe	800	32%	
	Asia-Pacific	500	20%	
	Middle East	125	5%	
	Oceania	125	5%	
Discipline Distribution	Strategic Management	600	24%	Highest publication concentration
	Marketing	450	18%	FT50 benchmark discipline
	Entrepreneurship	375	15%	Innovation-focused benchmark
	Organizational Behavior	350	14%	Human capital benchmark
	Sustainability Management	300	12%	ESG and SDG benchmark
	Finance	250	10%	Citation-intensive discipline
	Innovation Management	175	7%	Policy-oriented benchmark

Table 4. Bibliometric Performance Metrics

Metric	Mean	SD	Minimum	Maximum	Benchmark/Baseline
Citation Count per Article	146	212	5	2,340	Scopus FWCI global average = 1.00
h-index	28	12	4	81	Q1 benchmark >20
Journal Impact Factor	6.4	3.2	1.2	18.7	ABS/FT50 journals
Field-Weighted Citation Impact (FWCI)	2.18	0.91	0.56	5.80	FWCI >1 indicates above world average
International Collaboration Rate	61%	—	—	—	OECD collaboration baseline = 45%
Co-authorship Density	4.3 authors/article	1.8	1	14	Global management average = 3.1
Citation Velocity	11.7/year	6.5	0.5	48.2	Longitudinal citation benchmark
Open Access Ratio	42%	—	—	—	Scopus business benchmark = 35%

Table 5. Co-Citation and Knowledge Network Analysis

Intellectual Cluster	Centrality Score	Citation Strength	Growth Trend	Baseline Interpretation
Strategic Competitiveness	0.82	High	Stable	Traditional dominant domain
Innovation Ecosystems	0.76	High	Increasing	Cross-sector collaboration growth
Sustainability & Responsible Management	0.91	Very High	Rapidly Increasing	SDG-aligned research surge
Organizational Transformation	0.68	Moderate	Stable	Management adaptation focus
Evidence-Based Policymaking	0.73	Moderate-High	Increasing	Policy integration expansion

Table 6. Altmetric and Public Engagement Performance

Altmetric Indicator	Mean Score	High-Impact Threshold	Best Performing Domain	Baseline
Policy Mentions	8.7	>5	Sustainability	Altmetric global average = 2.4
News Media Citations	21.4	>15	Digital Transformation	Media visibility benchmark
Social Media Mentions	340	>250	ESG Governance	Public engagement baseline
Blog Dissemination	14.6	>10	Leadership Studies	Knowledge diffusion benchmark
Practitioner References	18.9	>12	Strategic Management	Executive adoption threshold
Executive Education Integration	11.3	>8	Innovation Management	Pedagogical transfer baseline
Public Engagement Index	74.2	>60	Sustainability Research	Strong societal visibility

Table 7. Longitudinal Impact Trajectories

Impact Type	Initial Emergence	Peak Influence Period	Long-Term Persistence	Baseline Interpretation
Academic Citation Impact	2–4 years	5–8 years	Moderate decline	Traditional bibliometric cycle
Pedagogical Impact	3–6 years	8–15 years	High persistence	Curriculum diffusion effect
Societal Impact	1–3 years	4–10 years	Moderate persistence	Public discourse engagement
Policy Impact	5–12 years	10–18 years	Very high persistence	Institutional adoption delay

Table 8. Pedagogical Impact Metrics

Pedagogical Indicator	Mean Value	Benchmark Threshold	Interpretation
Curriculum Integration Rate	63%	>50%	Strong educational diffusion
MBA Program Adoption	58%	>40%	Significant management education influence
Executive Education Usage	47%	>35%	Practitioner learning integration
Teaching Case Development	31%	>20%	Applied educational contribution
Simulation-Based Learning Integration	24%	>15%	Digital pedagogy adoption
Textbook Citation Frequency	19.8	>10	Long-term educational relevance
Student Learning Influence Score	4.28/5	>4.0	Strong capability development

Table 9. Societal Impact Metrics

Societal Indicator	Mean Score	Benchmark	Interpretation
Corporate Governance Adoption	44%	>30%	Organizational policy influence
ESG/Sustainability Integration	52%	>40%	Sustainability-oriented impact
Industry Framework Utilization	38%	>25%	Practitioner implementation
Public Discourse Visibility	68.5	>50	Societal resonance
NGO/Think Tank Citations	16.4	>10	Cross-sector knowledge utilization
Organizational Transformation Influence	4.11/5	>4.0	Applied managerial value
Responsible Leadership Contribution	4.36/5	>4.0	Ethical and societal relevance

Table 10. Policy Impact Metrics

Policy Indicator	Mean	Benchmark	Interpretation
Government Policy Citations	12.7	>8	Strong policy visibility
Regulatory Framework References	9.8	>5	Governance integration
International Organization Mentions	14.5	>10	Global policy diffusion
Advisory Board Participation	22%	>15%	Policy engagement activity
Legislative Consultation Frequency	8.4	>5	Evidence-informed governance
Average Policy Uptake Delay	7.8 years	5–12 years	Longitudinal diffusion pattern
Policy Relevance Score	4.24/5	>4.0	High evidence-based contribution

Table 11. Structural Equation Modeling (SEM) Results

Hypothesized Relationship	Path Coefficient (β)	t-value	p-value	Result
Academic Impact → Overall Research Impact	0.41	12.84	<0.001	Supported
Pedagogical Impact → Overall Research Impact	0.28	8.76	<0.001	Supported

Societal Impact → Overall Research Impact	0.22	7.11	<0.001	Supported
Policy Impact → Overall Research Impact	0.19	6.42	<0.001	Supported

Table 12. Measurement Model Assessment

Construct	Cronbach's Alpha	Composite Reliability	AVE	HTMT Ratio	Threshold
Academic Impact	0.91	0.93	0.72	0.81	Acceptable
Pedagogical Impact	0.88	0.91	0.69	0.78	Acceptable
Societal Impact	0.90	0.92	0.74	0.79	Acceptable
Policy Impact	0.87	0.89	0.66	0.76	Acceptable
Overall Framework	0.93	0.95	0.77	0.83	Strong validity

Table 13. Delphi Expert Validation Results

Validation Dimension	Consensus Level (%)	Benchmark	Interpretation
Framework Comprehensiveness	85%	>75%	Strong consensus
Indicator Relevance	88%	>75%	Highly relevant
Conceptual Clarity	86%	>75%	Strong conceptual validity
Practical Applicability	82%	>75%	Operational feasibility confirmed
Stakeholder Representation	84%	>75%	Inclusive ecosystem approach
Longitudinal Relevance	87%	>75%	Temporal robustness validated

Table 14. Comparative Assessment: Traditional vs Integrated Framework

Evaluation Dimension	Citation-Based Models	Proposed Integrated Framework
Academic Visibility	Strong	Strong
Pedagogical Influence	Weak	Strong
Societal Contribution	Weak	Strong
Policy Influence	Very Weak	Strong
Longitudinal Tracking	Limited	Comprehensive
Stakeholder Integration	Low	High
Responsible Research Alignment	Moderate	Very High
Public Value Assessment	Limited	Comprehensive
Knowledge Transfer Recognition	Partial	Integrated
Ecosystem Perspective	Absent	Strong

Table 15. Overall Integrated Research Impact Index

Impact Dimension	Weight (%)	Mean Contribution Score	Standardized Impact Index
Academic Impact	41%	4.42	0.88
Pedagogical Impact	28%	4.17	0.83
Societal Impact	22%	4.05	0.81
Policy Impact	19%	3.96	0.79
Overall Integrated Impact	100%	4.15	0.83

5. DISCUSSION

5.1. Overview of the Study and Principal Findings

This study set out to reconceptualize how business school research impact is understood and evaluated by developing an integrated multidimensional framework extending beyond traditional citation-based metrics. The findings provide strong empirical evidence that the long-term influence of business school scholarship cannot be adequately captured through bibliometric indicators alone. Instead, research impact emerges through interconnected academic, pedagogical, societal, and policy pathways that evolve dynamically across stakeholder ecosystems over time.

The results demonstrate that while citation-based indicators remain important measures of scholarly visibility and intellectual influence, they systematically underestimate broader forms of value creation generated by business school research. Specifically, the study identified substantial pedagogical diffusion, societal engagement, and policy uptake among many research outputs that exhibited only moderate citation performance. These findings challenge the long-standing dominance of citation-centric evaluation systems within higher education and contribute to growing international debates concerning responsible research assessment, university legitimacy, and societal accountability [1], [2].

The discussion that follows interprets these findings in relation to existing theory and literature while highlighting the study's theoretical, methodological, practical, and policy contributions.

5.2. Reconceptualizing Research Impact Beyond Citations

One of the most significant contributions of this study lies in demonstrating that research impact is fundamentally multidimensional rather than exclusively academic. Traditional scientometric approaches have historically conceptualized research influence primarily through citation accumulation and journal prestige [3]. While such measures remain useful for assessing scholarly recognition, the present findings reveal that they provide only a partial representation of long-term research influence.

The results indicate that pedagogical integration, organizational adoption, societal engagement, and policy utilization frequently occur independently of high citation performance. This finding aligns with prior critiques arguing that bibliometric systems privilege academic visibility while neglecting broader stakeholder relevance and practical applicability [4]. In particular, the study reinforces concerns surrounding the rigor–relevance gap in management scholarship, where theoretically sophisticated research may achieve strong academic recognition without generating meaningful societal or organizational transformation [5].

Importantly, the findings suggest that business school research generates impact through multiple overlapping diffusion mechanisms. Academic influence occurs primarily through scholarly communication networks, whereas pedagogical impact emerges through curriculum integration and executive education. Societal influence develops through media engagement, practitioner adoption, and public discourse, while policy impact evolves through institutional consultation, advisory systems, and evidence-based governance processes. These multidirectional pathways challenge linear models of research dissemination and support ecosystemic conceptualizations of knowledge diffusion [6].

The study therefore advances research evaluation theory by proposing that impact should be understood not as a singular outcome but rather as a dynamic ecosystem of interconnected stakeholder relationships, institutional processes, and temporal trajectories.

5.3. Theoretical Contributions

The findings extend research impact theory by integrating academic, pedagogical, societal, and policy contributions within a multidimensional, longitudinal, and stakeholder-oriented framework. Rather than treating these dimensions separately, the study conceptualizes research influence as an interconnected process shaped by interactions among scholars, students, practitioners, policymakers, accreditation agencies, and society [7–9]. This perspective also contributes to knowledge transfer and diffusion theory by showing how research utilization develops through indirect, nonlinear pathways mediated by advisory bodies, professional associations, educational institutions, and media networks [10,11]. The temporal differences across these pathways challenge short-term evaluation models, particularly where pedagogical and policy contributions emerge later than academic recognition [12]. Furthermore, the stronger multidimensional impact observed for research addressing sustainability, ethics, inclusion, governance, and societal resilience supports responsible research principles and suggests that scholarly rigor and societal relevance can reinforce one another [13]. Pedagogical influence represents a particularly enduring contribution, as research-based frameworks continue shaping curricula, executive education, teaching practices, and professional capabilities beyond their peak citation periods [14]. Societal contributions similarly develop through industry collaboration, public engagement, practitioner networks, and organizational applications, positioning public value creation as an important dimension of research excellence [15–17]. Policy influence, meanwhile, operates through consultation, expert networks, and institutional intermediaries, with reported delays of approximately 5–12 years between publication and observable uptake underscoring the need for longitudinal assessment [18].

Methodologically, the study combines bibliometrics, altmetrics, longitudinal tracing, documentary analysis, stakeholder interviews, and Delphi validation to capture research contributions beyond citation-based visibility [19]. Integrating quantitative indicators with qualitative accounts and evidence of utilization provides a broader basis for assessing how knowledge reaches different stakeholders and generates educational, societal, and policy outcomes. The framework also offers practical implications for business schools, accreditation agencies, policymakers, and funding organizations. Business schools could broaden promotion and performance criteria to recognize curriculum development, executive education, public scholarship, interdisciplinary collaboration, and policy engagement alongside publication and citation performance [20]. Accreditation bodies, including AACSB, EQUIS, and AMBA, could draw on evidence of curriculum diffusion, stakeholder engagement, policy uptake, and societal contribution when assessing institutional impact. Funding agencies and policymakers could likewise adopt longer assessment windows and recognize indirect knowledge-transfer pathways, while maintaining expectations of scientific rigor and credible evidence of contribution [21]. These changes would support evaluation systems that better reflect the diversity and timing of research influence.

Several limitations qualify these contributions. The focus on internationally accredited business schools may restrict generalizability to emerging or non-accredited institutions, while attribution difficulties and contextual variation complicate the measurement of societal and policy influence. Altmetrics may privilege digitally visible engagement over offline utilization, and longitudinal tracing cannot always disentangle the contribution of individual studies from wider institutional processes. Future research should therefore examine disciplinary and regional differences, particularly in emerging economies, and investigate cross-sector stakeholder perspectives, sustainability-oriented indicators, dynamic knowledge networks, and the ethical implications of impact assessment. AI-assisted analytics may offer additional opportunities to trace dissemination and utilization, although their validity and potential biases require careful examination. Overall, the study positions business school research impact as a multidimensional and evolving process involving education, organizational practice,

societal engagement, and governance. Its integrated framework provides a foundation for developing more comprehensive evaluation approaches, subject to further validation across institutional and geographical contexts.

6. CONCLUSION

This study set out to address a fundamental limitation in contemporary research evaluation systems by developing an integrated framework capable of measuring the long-term academic, pedagogical, societal, and policy impact of business school research beyond conventional citation-based metrics. The findings provide compelling empirical evidence that traditional bibliometric indicators, while useful for assessing scholarly visibility and intellectual diffusion, are insufficient for capturing the broader and more complex forms of value generated by management scholarship across educational systems, organizational practice, public governance, and societal development.The study demonstrates that business school research generates multidimensional influence through interconnected stakeholder ecosystems involving academics, educators, practitioners, policymakers, accreditation bodies, media institutions, and society at large. Rather than emerging through linear and isolated dissemination pathways, research impact evolves dynamically over time through recursive processes of knowledge transfer, pedagogical diffusion, societal engagement, and institutional adoption. Consequently, the findings challenge the longstanding dominance of citation-centric evaluation systems and support a broader reconceptualization of research excellence grounded in multidimensional and stakeholder-oriented value creation.

One of the most significant conclusions arising from this study is that pedagogical, societal, and policy impacts frequently remain underrecognized despite their substantial long-term contributions. The empirical analysis revealed that many research outputs demonstrating strong curriculum integration, organizational adoption, public engagement, and policy relevance exhibited only moderate citation performance. This finding reinforces growing international concerns that existing university ranking systems and research performance metrics may systematically undervalue socially relevant and practice-oriented scholarship [1], [2].

The study further highlights the importance of temporal dynamics in understanding research impact. Citation accumulation generally occurs relatively early within academic knowledge networks, whereas pedagogical and policy influence often emerge gradually over extended periods. In particular, policy uptake frequently materializes through indirect institutional mechanisms such as advisory systems, international organizations, professional associations, and intermediary governance structures. The identified delay between publication and observable policy influence underscores the inadequacy of short-term evaluation windows commonly employed within higher education performance systems [3].

Theoretically, this research contributes to advancing research impact literature by proposing a multidimensional and ecosystemic understanding of scholarly influence. By integrating stakeholder theory, knowledge transfer theory, diffusion of innovation theory, and responsible research paradigms, the study reconceptualizes business school research impact as a dynamic process of interconnected societal value creation rather than merely academic recognition. The findings therefore extend existing scholarship on scientometrics and research evaluation by demonstrating that impact should be interpreted through broader educational, societal, and governance-oriented perspectives [4], [5].

The study also contributes significantly to responsible research debates within management scholarship. The findings indicate that research addressing sustainability, ethics, inclusion, digital transformation, and societal resilience generated stronger multidimensional impact patterns than narrowly technical or highly abstract theoretical studies. This observation supports contemporary calls for more responsible and societally engaged business research ecosystems capable of addressing complex global challenges and contributing to public value creation [6]. Importantly, the results suggest that scholarly rigor and societal relevance should not be viewed as competing objectives; rather, impactful management research often combines intellectual excellence with practical and societal usefulness. This integrative methodological design advances research evaluation practices by overcoming the limitations of single-method approaches and enabling more robust assessment of long-term multidimensional research influence. The proposed framework therefore offers a scalable and adaptable model for evaluating research impact across higher education systems and disciplinary contexts.The practical implications of this study are substantial. For business schools, the findings suggest the need to reconsider promotion systems, research incentives, and institutional performance metrics that disproportionately reward publication quantity and citation accumulation while neglecting broader forms of societal contribution. Similarly, accreditation bodies such as AACSB, EQUIS, and AMBA may benefit from incorporating multidimensional impact indicators into institutional assessment frameworks. The proposed model offers practical guidance for operationalizing responsible research evaluation systems aligned with contemporary expectations surrounding societal accountability, sustainable development, and public value creation [7].

For policymakers and funding agencies, the findings reinforce the importance of adopting longer-term and more holistic approaches to research evaluation. Publicly funded research should increasingly be assessed according to its capacity to generate meaningful societal outcomes, inform evidence-based policymaking, support educational advancement, and contribute to sustainable organizational transformation. Consequently, future

research assessment systems should balance scholarly rigor with stakeholder relevance and societal responsiveness.Despite its contributions, the study acknowledges several limitations. The analysis focused primarily on internationally accredited and research-intensive business schools, potentially limiting generalizability to smaller or regionally focused institutions. Additionally, some dimensions of societal influence remain inherently difficult to quantify due to attribution complexity and contextual variation. Future research should therefore explore comparative disciplinary studies, regional impact ecosystems, AI-assisted evaluation systems, and dynamic network-based approaches to multidimensional impact assessment.

Overall, this study argues that the future legitimacy and sustainability of business school research will increasingly depend on its capacity to demonstrate broad societal value beyond academic citations alone. In an era characterized by complex societal challenges, digital transformation, sustainability pressures, and growing demands for public accountability, management scholarship must evolve toward more responsible, inclusive, and impact-oriented forms of knowledge production.The integrated framework proposed in this study provides an important step toward achieving this objective by offering a theoretically grounded, empirically validated, and practically applicable model for assessing the long-term academic, pedagogical, societal, and policy impact of business school research. By moving beyond citations, the study contributes to advancing a more comprehensive and socially responsive understanding of research excellence within global higher education systems.

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