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Mapping Strategic Orientations in Educational Innovation: A Systematic Review and Conceptual Model

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Abstract

This study aims to conduct a systematic review of the literature on strategic orientation to educational innovation (SOEI), with particular attention to its methodological approaches and conceptual foundations. The review followed four main macro-processes: identification of relevant studies, extraction and organization of information, in-depth analysis through pattern grouping and characterization, and dissemination of findings. Relevant publications were retrieved from the Scopus and Web of Science databases. The initial search produced 63 records, which were subsequently subjected to a quality assessment based on seven inclusion and exclusion criteria. This process resulted in a final corpus of 19 studies for detailed analysis. From a methodological perspective, the reviewed studies are predominantly qualitative, commonly adopting educational institutions as the primary unit of analysis. Pedagogical and institutional documents emerge as the most frequently used data sources, while descriptive forms are the most widely applied data collection instruments. Conceptually, the analysis reveals three core components of SOEI: strategic objectives, mediating mechanisms, and associated outcomes. This article synthesizes the existing body of knowledge on SOEI, offers an integrative definition of the construct, and introduces a novel conceptual model that incorporates its key strategic objectives, mediating processes, and outcomes. As such, it provides a valuable foundation for future empirical research aimed at examining innovation in educational institutions and explaining its results.

Keywords: Educational innovation, Strategic orientation, Innovation, Education

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Introduction

Educational institutions must engage in continuous innovation to enhance the performance of students, teaching staff, stakeholders, and the organization as a whole [1, 2]. As noted by Lacleta *et al.* [3], innovation within educational contexts should effectively and efficiently address the demands of the learning process and the expectations of relevant stakeholders, while ensuring long-term sustainability and the transferability of outcomes to other settings.

Consequently, innovation in educational organizations cannot be limited to sporadic or isolated initiatives undertaken by individual members of the academic community. Rather, it should be driven by intentional, structured, and carefully planned processes [4]. In this sense, educational innovation must be understood through the lens of strategic orientation, a concept that emphasizes deliberate intent, systematic action, and proactive behavior [5]. This perspective gives rise to the notion of strategic orientation to educational innovation (hereafter, SOEI), which reflects a strategic posture that shapes how educational institutions define, enact, and achieve innovation.

Despite the growing relevance of this topic, research on strategic orientation has traditionally been concentrated in the business domain, where it is commonly associated with financial performance, market outcomes, and the development of new products or services [6, 7]. In contrast, empirical studies addressing strategic orientation within educational institutions remain scarce (e.g., Edwards *et al.* [8]; Kormakova *et al.* [9]; Zeer *et al.* [10]). As a result, SOEI is still insufficiently conceptualized in terms of its definition, core dimensions, and practical manifestations. This gap limits both the advancement of empirical research and the capacity of educational leaders to recognize and integrate innovation as a central strategic priority.

In response to this limitation, the present study undertakes a systematic literature review aimed at organizing and clarifying how SOEI has been addressed in prior research, with the ultimate goal of developing a conceptual model of the construct. Accordingly, this article seeks to answer the following research questions:

(Q1) What strategic objectives are associated with SOEI, based on the purposes identified in empirical studies conducted in educational contexts?

(Q2) What outcomes can be attributed to SOEI, considering the results reported in these studies?

(Q3) What mediating mechanisms—such as initiatives or processes—facilitate the transformation of SOEI objectives into observable outcomes?

The systematic review follows established guidelines and recommendations from recognized institutions and methodological contributions, including those of the Iberoamerican Cochrane Centre in the health sciences, as well as foundational works on systematic reviews in software engineering [11, 12] and organizational studies [13]. This approach encompasses key stages such as review planning, study identification and selection using explicit inclusion and exclusion criteria, evidence analysis and synthesis, and report writing. More specifically, the methodological framework proposed by Pérez-Rave [14] is adopted, which operationalizes these principles through a process management perspective involving four macro-processes and 24 steps structured around PDCA (plan–do–check–act) cycles.

By rigorously addressing the proposed research questions, this study makes two main contributions. First, it systematically defines and characterizes the objectives, mediating mechanisms, and outcomes associated with SOEI using transparent and replicable methods, thereby offering practical insights to support educational leaders in adopting innovation in a deliberate, systematic, and proactive manner. Second, it introduces a conceptual model that integrates the objectives, mediators, and outcomes of SOEI, providing a foundation for future empirical research aimed at explaining innovation outcomes in educational institutions from both strategic and tactical perspectives.

The remainder of the article is organized as follows. Section 2 outlines the conceptual framework underpinning the study. Section 3 describes the methodological procedure in detail. Section 4 presents and discusses the evidence derived from the systematic review. Section 5 introduces the proposed conceptual model linking the objectives, mediating mechanisms, and outcomes of SOEI. Finally, Section 6 concludes the paper by summarizing the main findings, discussing limitations, and suggesting directions for future research.

Conceptual framework

This section briefly introduces three key concepts that are essential for understanding the remainder of the article, beginning with the notion of strategic orientation to innovation and concluding with its adaptation and application within the educational context.

Strategic orientation to innovation

In organizational studies, orientation denotes a persistent disposition or guiding mindset toward a particular course of action, rather than the attainment of outstanding results in that area. Strategy, on the other hand, refers to a deliberately formulated course of action aimed at reaching defined objectives, emerging from prior analytical reflection and exerting a decisive influence on organizational performance [15, 16].

When these notions are combined, strategic orientation represents a foundational mechanism through which organizations establish guiding principles that shape behaviors, decisions, and resource allocation in pursuit of desired outcomes. This orientation functions as a central driver enabling organizations, including those in the educational sector, to align actions with long-term performance goals [17, 18].

Within this framework, strategic orientation to innovation (SOI) refers to an organization's systematic inclination to pursue novel or nontraditional solutions through the development of new or significantly improved offerings. This inclination is supported by intensive knowledge creation and learning processes, as well as a forward-looking and opportunity-seeking stance toward idea generation and experimentation [19, 20]. While the SOI construct has been extensively examined in business research, its assumptions and manifestations cannot be directly transferred to educational organizations due to fundamental differences in mission, governance structures, and operational logics.

Educational institutions and educational innovation

Educational institutions operate as complex social organizations whose primary purpose is the production, transmission, and application of knowledge. Their activities—centered on teaching, research, and knowledge exchange—are designed to create value not only for the institution itself but also for a broad constellation of stakeholders, including learners, educators, administrators, support staff, families, employers, public authorities, and other educational systems [21, 22]. In this context, continuous innovation becomes a necessary condition for sustaining institutional effectiveness and fulfilling societal expectations [1, 23].

Educational innovation can therefore be conceived as an ongoing, purpose-driven process involving coordinated decisions and actions that seek to transform existing educational structures and practices. Such processes may involve changes in institutional culture, pedagogical assumptions, curricular design, instructional models, and professional practices, with the intention of improving learning experiences and organizational outcomes [5, 24, 25].

In practice, innovation in educational settings manifests in multiple ways. These include the strategic adoption of digital technologies to enhance instructional and learning processes [26]; the systematic redesign of teaching approaches and learning environments [9, 10], which is particularly significant given the strong influence of instructional practices on student learning trajectories [27-29]; and the continuous revision of curricula to better align educational content with the evolving needs, expectations, and contexts of diverse stakeholder groups. Such adaptations can strengthen knowledge assimilation, promote positive learning dispositions, and increase confidence in the relevance of educational outcomes [8].

Taken together, educational innovation functions as a strategic lever that enables institutions to respond effectively to the changing demands of students, academic staff, graduates, employers, and society more broadly [30].

Strategic orientation to educational innovation

This study seeks to provide a formal conceptualization of strategic orientation to educational innovation (SOEI), which is approached as an extension of the strategic orientation to innovation (SOI) traditionally developed within the business literature. However, given the distinctive characteristics of educational institutions, this extension requires conceptual adjustments to ensure contextual relevance.

Several foundational elements of SOI underpin the subsequent formulation of SOEI. First, SOI captures an organization's openness and willingness to generate new ideas and actively promote innovation [20, 31]. Second, it encompasses patterns of organizational behavior oriented toward recognizing emerging stakeholder needs and determining appropriate responses through innovative, often technology-based, solutions [24, 32]. Third, a strong proactive posture is inherent to SOI, reflecting an anticipatory rather than reactive approach to change [33]. Fourth, SOI involves systematic efforts to identify, access, and adopt new technologies that enable the development of novel offerings [17]. Finally, SOI facilitates the anticipation of shifts in stakeholder expectations, thereby mitigating uncertainty in dynamic environments [34].

Drawing on these conceptual dimensions and translating them to the educational domain, SOEI is defined in this study as follows:

Strategic orientation to educational innovation refers to the extent to which an educational institution demonstrates shared values, guiding principles, leadership practices, and organizational support directed toward understanding and responding in innovative ways to the needs and expectations of diverse stakeholder groups. This orientation is operationalized through the strategic use of technologies, processes, curricular content, pedagogical approaches, instructional practices, and other institutional resources and capabilities, with the aim of enhancing student outcomes and overall institutional performance.

Materials and Methods

To address the research objectives, a systematic literature review was conducted. Compared with traditional narrative reviews, systematic reviews offer several advantages, including comprehensive identification of relevant studies, the application of transparent and replicable inclusion and exclusion criteria, and explicit documentation of each stage of the review process [12, 35].

Following the delimitation of the research topic and the formulation of research questions, the review was carried out in accordance with the four macro-processes proposed by Pérez-Rave [14]: identification, description, in-depth analysis, and dissemination. These macro-processes structure the review as a managed process, integrating iterative plan–do–check–act (PDCA) cycles. An adapted version of this procedure is illustrated in **Figure 1**.

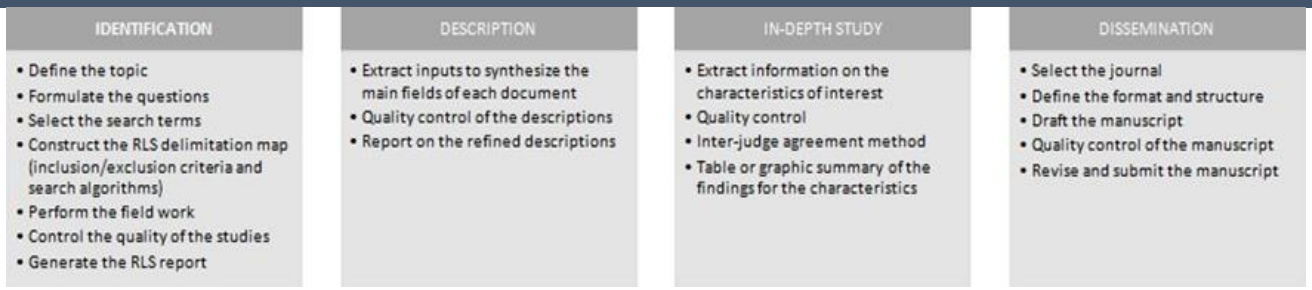

Figure 1. Systematic literature review process (adapted from Pérez-Rave [14])

The methodological details associated with each macro-process depicted in **Figure 1** are explained in the following subsections.

Identification

The identification phase commenced with the selection of search terms intended to delimit the Relevant Literary Space (RLS). These terms were drawn from three conceptual families: education, innovation, and strategy. Based on this search strategy, explicit inclusion and exclusion criteria were established to guide the selection of studies for review.

First, only articles published in peer-reviewed journals indexed in Scopus or Web of Science (WoS) were considered, ensuring compliance with recognized academic quality standards, such as rigorous editorial processes, citation impact, and publication regularity [36-38]. Second, the review was restricted to primary empirical studies that clearly followed an IMR&D structure or an equivalent format, thereby excluding conceptual or non-empirical contributions.

Third, studies were required to explicitly address strategic orientation within educational contexts, a condition facilitated by the presence of relevant search terms in the article title. Fourth, the selected studies needed to examine strategic orientation in educational settings where innovation was a central component, as indicated by innovation-related terminology appearing in the title, abstract, or keywords. Fifth, strategic orientation had to be reflected through at least one of two lenses: organizational culture (e.g., values, beliefs, norms, and behaviors) or strategic planning over the medium to long term (e.g., policies, plans, mission, vision, or objectives). Finally, studies were excluded if their innovation-related initiatives were not grounded in a strategic perspective but were instead limited to isolated design or implementation of educational practices.

The first two criteria are consistent with prior systematic reviews in related fields [38-40], while criteria three through six are directly aligned with the constructs and contextual focus of the present study, namely strategic orientation to innovation in educational institutions.

Table 1 summarizes the search strings employed to identify the initial pool of publications and outlines the successive filtering stages that led to the final sample of studies included in the review.

Table 1. Search Strategies Applied in Scopus and Web of Science and Study Selection Procedure

Source	**Search Query Description**	**Records Retrieved**
Scopus	Title-based search combining education-related terms (e.g., education, teaching-learning, school, teacher, student, academic) with strategy-related expressions (e.g., strategic orientation, strategic planning, strategic vision, strategic objectives) and innovation-related keywords (e.g., innovation, innovative, R&D variants). Only articles and conference papers were retained.	44
Web of Science (WoS)	Title and topic search including strategy-related terms (e.g., strategic management, strategic direction, strategic thinking), innovation-related concepts (e.g., innovation, R&D variants), and education-related keywords (e.g., education, teaching-learning, school, professor, student).	19
Total records identified	Combined results from Scopus (n_1) and Web of Science (n_2) prior to screening.	63
Non-duplicated records	Records remaining after removing duplicate publications indexed in both databases and internal duplicates within Scopus.	54
Studies addressing strategic orientation in education	Records retained after excluding studies that did not explicitly examine strategic orientation within an educational context.	46
Studies linking strategic orientation and innovation	Records remaining after removing studies that, although situated in educational settings, did not address innovation-related initiatives or scenarios.	30
Primary empirical studies	Records retained after excluding secondary sources such as literature reviews, conceptual papers, editorials, and conference summaries.	23
Strategically driven innovation studies	Final sample obtained after excluding studies in which innovation initiatives were not grounded in a strategic perspective.	19

The search strategies presented in **Table 1** were executed on January 13, 2022, using the Scopus and Web of Science bibliographic databases. This process yielded an initial total of 63 publications, comprising 44 records from Scopus and 19

from Web of Science. As part of the quality assurance process, all retrieved documents underwent a manual screening based on the predefined inclusion and exclusion criteria (criteria 3–6). This screening was supported by a binary quality assessment matrix, in which each criterion was coded as either satisfied (1) or not satisfied (0). Following this evaluation, a final set of 19 studies was retained. This collection constitutes the Relevant Literary Space (RLS) targeted by the present investigation.

Description

Each study included in the review was subjected to a narrative synthesis guided by a structured set of analytical questions: When and by whom was the study conducted? What motivated the research? What actions were undertaken? Which methodological procedures were employed? What findings were reported, including stated limitations and future challenges? In parallel, common shortcomings typically observed in document synthesis—such as ambiguity, poorly articulated insights, distortion of core messages, unnecessary verbosity, and lack of internal coherence—were systematically identified and corrected [14].

This descriptive phase enabled a deeper understanding of each document within the RLS, facilitating the identification of contextual elements as well as lexical and syntactic patterns characterizing the selected literature [39, 40]. Moreover, the outcomes of this stage provided essential theoretical and methodological inputs for the subsequent phase of the review, namely the in-depth analysis, which focused on identifying the defining features of SOEI in terms of objectives, mediating mechanisms, and outcomes.

In-depth analysis

The primary aim of this macroprocess was to uncover latent patterns within the RLS. To achieve this, each selected study was examined in detail to identify critical incidents. In line with prior methodological applications [39-41], a critical incident was defined as an explicit description of a relevant attribute of strategic orientation to innovation reported in the reviewed studies. All potential critical incidents identified during the close reading were systematically recorded in a spreadsheet, with each incident linked to one of the focal characteristics of SOEI. Subsequently, the research team, together with an external expert holding a doctoral degree in industrial engineering and management research, conducted a semantic review of the recorded incidents. This validation process ensured that each incident clearly and accurately represented the intended SOEI characteristic, leading to the elimination of ambiguous statements and the identification of additional incidents that had not been initially detected.

Following this refinement, an inter-rater agreement procedure was implemented [39, 40, 42] to facilitate pattern identification. During this stage, attention was directed toward three central analytical dimensions: strategic objectives, mediating mechanisms, and outcomes of SOEI. For strategic objectives, the analysis focused on how innovation-related intentions were articulated through institutional plans, policies, missions, visions, macro-level goals, and values. In examining mediating mechanisms, emphasis was placed on identifying the actions, initiatives, or processes through which planned innovation efforts were operationalized. Regarding outcomes, the analysis sought to determine the intended institutional effects of strategically driven innovation initiatives.

In a second analytical round, a top-down classification approach was applied, whereby a different researcher assigned the critical incidents to the previously established dimensions. Dimensions were retained only when a minimum inter-rater agreement of 70% was achieved across both rounds [39-41]. The validated dimensions were then labeled and used to perform basic frequency analyses related to the three defining characteristics of SOEI.

Dissemination

The dissemination phase involved the integration and synthesis of all findings related to the three core dimensions of SOEI identified in this study. Based on this consolidated evidence, an initial manuscript draft was produced. This draft underwent multiple rounds of validation, during which aspects such as conceptual justification, originality, methodological transparency, replicability, clarity, linguistic accuracy, and overall writing quality were critically assessed by the authors and through peer review. This iterative refinement process continued until the final version of the manuscript was achieved.

Results and Discussion

This section presents the findings derived from the application of the methodological framework described above, following the sequential stages outlined in **Figure 1**.

Identification of the Relevant Literary Space (RLS)

Table 2 summarizes the 19 studies that comprise the Relevant Literary Space examined in this systematic review.

Table 2. Final RLS

Reference	Study Title	Disciplinary Focus	Source (Journal / Conference)	Indexing Database	Country of Publication	Journal Quartile
Novikova *et al.* [43]	Strategic pathways for stimulating academic entrepreneurship in contemporary mega-universities: The Ukrainian context	Innovation Studies	Science and Innovation	Scopus	Ukraine	N/A
Evmenov *et al.* [44]	Development of a strategic planning system for the socio-economic and innovative advancement of higher education organizations	Environment, Energy, Earth Sciences	E3S Web of Conferences	Scopus	France	N/A
Zeer *et al.* [10]	Strategic orientations in the training of pedagogical staff for lifelong vocational education systems	Health Professions; Psychology	Obrazovanie i Nauka	Scopus	Russia	Q2
Yáñez *et al.* [45]	Sustainability reporting as a core instrument for an integrated strategic vision in higher education institutions	Environmental Sciences	Journal of Cleaner Production	Scopus	United Kingdom	Q1
Wolfe *et al.* [29]	Strategic planning to enhance scholarly productivity among medical students, residents, and faculty	Medicine; Health Professions	Journal of the American Podiatric Medical Association	Scopus	United States	Q3
Siswono [26]	Impact of information systems adoption and capability on innovation and strategic planning in private higher education institutions	Computer Science; Engineering; Social Sciences	Proceedings of the International Conference on Information Management and Technology	Scopus	United States	N/A
Mursidi [46]	Strategic management best practices for educational development in teacher training colleges	Social Sciences (Education)	International Journal of Learning, Teaching and Educational Research	Scopus	Mauritania	Q4
Yureva *et al.* [47]	Methodological perspectives on strategic management in higher education systems	Business; Management; Accounting	Academy of Strategic Management Journal	Scopus	United States	Q3
Kaya & Sagsan [48]	"Knowledgization" as a basis for building strategic vision in higher education: Evidence from Northern Cyprus	Social Sciences (Education)	Eğitim ve Bilim	Scopus	Turkey	Q3
Kormakova *et al.* [9]	Conceptual foundations of strategic management training for future professionals in higher education	Engineering; Earth Sciences	Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu	Scopus	Ukraine	Q2
Popescu [49]	From standardization to diversification: A strategic quality approach in Romanian higher education institutions	Social Sciences	Administrație și Management Public	Scopus	Romania	Q2
Mill [28]	Strategic management of distance education systems in Brazil and Portugal: Implications for educational flexibility	Social Sciences (Education)	Educação & Sociedade	Scopus	Brazil	Q3
Evans *et al.* [50]	Faculty-led strategic planning for excellence in nursing education	Nursing; Social Sciences	International Journal of Nursing Education Scholarship	Scopus	Germany	Q2
Erasmus *et al.* [51]	Strategic management of information technology: An analysis of IT	Business; Management; Accounting	PICMET Proceedings	Scopus	United States	N/A

	alignment in a tertiary education institution					
Schwartzstein *et al.* [52]	Design and implementation of a comprehensive strategic plan for medical education in an academic medical center	Medicine; Education	Academic Medicine	Web of Science	United States	Q1
Pennathur & Everett [53]	Integrating student learning, faculty development, and engineering curricula: A framework for strategic instructional planning	Environmental Sciences; Social Sciences	ASEE Annual Conference & Exposition	Scopus	United States	N/A
Galleli & Junior [54]	Human competencies for sustainable strategic management: Empirical evidence from Brazil	Business; Decision Sciences	International Journal of Process Management and Benchmarking	Web of Science	United Kingdom	Q3
Fantauzzi *et al.* [55]	Sustainable strategic planning in Italian higher education institutions: A content analysis	Social Sciences (Education)	International Journal of Sustainability in Higher Education	Web of Science	United Kingdom	Q2
Almuiñas Rivero & Galarza López [56]	Assessment of strategic planning processes in Cuban higher education institutions	Social Sciences	Estudios del Desarrollo Social – Cuba y América Latina	Web of Science	Cuba	N/A

Quartile information is based on the 2020 Scimago Journal & Country Rank (SJR), using data available as of February 2, 2022. When a journal is indexed in more than one disciplinary area (such as business, management, or education), the highest quartile ranking was retained.
N/A: Studies published in journals without an assigned quartile.

According to the data presented in **Table 2** and the Scimago Journal & Country Rank (SJR) query conducted on February 2, 2022, just over two thirds of the studies included in the Relevant Literature Space (68.5%) were published in academic journals, while the remainder were disseminated through proceedings of well-established conferences. Within the journal publications, 53.8% appear in outlets ranked in either the first or second quartile, whereas 46.2% fall within the third or fourth quartiles.

From a chronological standpoint, nearly half of the reviewed studies (47%) were produced during the 2017–2021 period, highlighting a recent increase in scholarly attention. In terms of geographical distribution, research activity is mainly concentrated in the United States (31.5%) and the United Kingdom (16%), with additional contributions originating from Brazil, France, Germany, Mauritania, Romania, Russia, Turkey, and Ukraine.

Figure 2. Yearly distribution of publications included in the reviewed RLS

Methodological characteristics of the RLS

This section outlines the main methodological features of prior studies on SOEI that constitute the RLS. Specifically, it considers aspects such as the research design, unit of analysis, institutional context, data sources, and the instruments employed.

Research design

Table 3 presents a synthesis of the different types of research designs identified among the studies included in the RLS.

Table 3. Types of RLS studies

Research approach	Key studies	Frequency (n)	Cumulative share	Relative share
Quantitative methods	Evans *et al.* [50]; Evmenov *et al.* [44]; Fantauzzi *et al.* [55]; Kaya & Sagsan [48]; Pennathur & Everett [53]; Popescu [49]; Yáñez *et al.* [45]; Siswono [26]; Schwartzstein *et al.* [52]	9	47%	47%

Qualitative methods	Almuiñas Rivero & Galarza López [56]; Erasmus *et al.* [51]; Galleli & Junior [54]; Kormakova *et al.* [9]; Mill [28]; Mursidi [46]; Novikova *et al.* [43]; Wolfe *et al.* [29]; Yureva *et al.* [47]; Zeer *et al.* [10]	10	100%	53%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

As reflected in **Table 3**, qualitative research designs predominate within the reviewed RLS (53%), suggesting that in-depth understanding of SOEI relies heavily on researchers' interpretations, contextual interactions, and subjective meanings derived from the studied phenomena. At the same time, nearly half of the analyzed studies (47%) adopt quantitative approaches, employing data collection strategies grounded in numerical indicators and statistical procedures to empirically examine research hypotheses [57].

Units of analysis

Table 4 summarizes the analytical units considered across the studies included in the reviewed RLS.

Table 4. Units of analysis

Analytical focus	Representative studies	Count (n)	Cumulative percentage	Percentage
Assessment frameworks	Pennathur & Everett [53]	1	100%	5%
Educational organizations	Erasmus *et al.* [51]; Fantauzzi *et al.* [55]; Galleli & Junior [54]; Kaya & Sagsan [48]; Mill [28]; Mursidi [46]; Popescu [49]; Siswono [26]; Schwartzstein *et al.* [52]; Yáñez *et al.* [45]; Yureva *et al.* [47]; Zeer *et al.* [10]	12	63%	63%
Instructional practices	Almuiñas Rivero & Galarza López [56]; Evmenov *et al.* [44]; Novikova *et al.* [43]; Wolfe *et al.* [29]	4	84%	21%
Curricular structures	Evans *et al.* [50]; Kormakova *et al.* [9]	2	95%	11%

Note: CFR = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

According to **Table 4**, nearly two-thirds of the reviewed studies (63%) adopt the educational institution itself as the main unit of analysis. This predominance indicates that strategic orientation to innovation is primarily examined at the institutional level, where innovation initiatives are framed, coordinated, and aligned with long-term objectives. Within this perspective, several analytical emphases emerge. These include: (a) holistic leadership and governance approaches in higher education organizations [45, 52, 54, 55]; (b) the strategic role of information systems, particularly their adoption and innovative capacity [26, 46, 51]; (c) evaluations of institutional development strategies, missions, and key accomplishments [47]; (d) the strengthening of absorptive capacity for knowledge within universities [48]; (e) the promotion of educational flexibility, especially in public higher education institutions [28]; and (f) system-level analyses aimed at designing flexible strategies that enable innovation in teaching, learning, and related academic processes [10, 49].

By contrast, a more limited number of studies adopt narrower analytical foci: four investigations concentrate on teaching methodologies, two examine curricular structures, and only one addresses assessment systems.

Nature of the institutions

Table 5 summarizes the institutional characteristics of the educational organizations considered in the reviewed RLS.

Table 5. Nature of the institutions

Institutional type	Studies	Absolute frequency	Cumulative relative frequency	Relative frequency
Public institutions	Almuiñas Rivero & Galarza López [56]; Erasmus *et al.* [51]; Evans *et al.* [50]; Evmenov *et al.* [44]; Fantauzzi *et al.* [55]; Galleli & Junior [54]; Mill [28]; Mursidi [46]; Novikova *et al.* [43]; Yáñez *et al.* [45]; Yureva *et al.* [47]	11	58%	58%
Private institutions	Kaya & Sagsan [48]; Siswono [26]	2	68%	10%
Unspecified ownership	Kormakova *et al.* [9]; Pennathur & Everett [53]; Popescu [49]; Schwartzstein *et al.* [52]; Wolfe *et al.* [29]; Zeer *et al.* [10]	6	100%	32%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

As indicated in **Table 5**, public educational institutions account for the majority of cases examined in the selected studies (58%), suggesting that this category of institutions holds significant strategic importance at the national level.

Table 6 presents the types of data sources employed across the studies included in the review.

Table 6. Sources of information used for the studies

Data source category	Representative studies	Absolute frequency (n)	Cumulative relative frequency (%)	Relative frequency (%)
Institutional stakeholders (internal actors)	Erasmus *et al.* [51]; Mill [28]; Popescu [49]; Schwartzstein *et al.* [52]; Siswono [26]; Yáñez *et al.* [45]	6	32%	32%
Institutional and pedagogical documentation	Almuiñas Rivero & Galarza López [56]; Evans *et al.* [50]; Evmenov *et al.* [44]; Fantauzzi *et al.* [55]; Galleli & Junior [54]; Kormakova *et al.* [9]; Novikova *et al.* [43]; Pennathur & Everett [53]; Wolfe *et al.* [29]; Yureva *et al.* [47]; Zeer *et al.* [10]	11	90%	58%
Faculty members and learners	Kaya & Sagsan [48]	1	95%	5%
Learners only	Mursidi [46]	1	100%	5%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

Table 6 indicates that in the majority of the selected studies (58%), data were gathered through the analysis of official institutional documents. These documents typically outline the institution's procedures, reflective practices, and strategic approaches to management and continuous improvement.

A substantial portion of the studies (32%) relied on information obtained from internal stakeholders within the educational institution, including chancellors, deans, program directors, students, faculty members, and academic committee members.

In the remaining studies, data collection focused exclusively on students (5%) or on both professors and students (5%).

Data collection instruments

Table 7 presents the various instruments employed in the reviewed studies for collecting, storing, recording, and disseminating data.

Table 7. Instruments

Data collection tool	Representative studies	Absolute frequency (n)	Cumulative relative frequency (%)	Relative frequency (%)
Self-administered survey instruments	Erasmus *et al.* [51]; Kaya & Sagsan [48]; Mursidi [46]; Popescu [49]; Schwartzstein *et al.* [52]; Siswono [26]; Yáñez *et al.* [45]	7	37%	37%
Other methodological instruments	Kormakova *et al.* [9]; Mill [28]; Pennathur & Everett [53]	3	100%	16%
Structured description templates	Almuiñas Rivero & Galarza López [56]; Evans *et al.* [50]; Evmenov *et al.* [44]; Fantauzzi *et al.* [55]; Galleli & Junior [54]; Novikova *et al.* [43]; Wolfe *et al.* [29]; Yureva *et al.* [47]; Zeer *et al.* [10]	9	84%	47%

Note: AF = absolute frequency. RF = relative frequency. CRF = cumulative relative frequency

Table 7 indicates that nearly half of the reviewed studies (47%) employed description forms as a methodological tool to document indicators or characteristics of the studied reality.

A significant proportion (37%) of the studies utilized structured questionnaires specifically for data collection. In two studies, the instruments used for gathering information were not specified, while in one of the 19 studies in the sample, a combination of interview questionnaires and direct observation was applied.

Conceptual aspects of the SOEI

Table 8 provides a summary of the objectives, key conclusions, and challenges identified in the reviewed studies.

Table 8. Objectives, findings, and limitations of the studies included in the RLS

ID	Author(s)	main finding	research objective	challenges/ limitations
1	Evmenov *et al.* [44]	The adoption of structured strategic planning in higher education institutions mitigates internal and external pressures, enhances innovation capacity, improves service quality, strengthens international visibility, and	To outline the theoretical and methodological foundations underlying the design of strategic planning systems in higher education, emphasizing elements such as mission, vision, objectives, and strategic analysis, and their interaction with organizational structures.	Not explicitly reported.

		supports compliance with global standards.		
2	Novikova *et al.* [43]	Clearly articulated strategic principles enable the construction of a novel methodological framework for marketing university-generated knowledge, aligned with global trends and national scientific contexts.	To propose strategic orientations for the commercialization of academic research outputs in large universities, emphasizing intensified research activity and international academic entrepreneurship.	The analysis focuses on large, modern universities; replication in institutions with different profiles is recommended.
3	Yáñez *et al.* [45]	Social responsibility practices support institutional leaders in defining and strengthening strategic action lines, fostering a holistic and future-oriented institutional vision.	To highlight how social responsibility management can contribute to the establishment and consolidation of long-term strategic planning in higher education institutions.	Based on a single case study; nevertheless, findings may inform further research on sustainability and strategic development in universities.
4	Zeer *et al.* [10]	Vocational education effectiveness depends on the systemic integration of its subsystems, supported by continuous professional development as a unifying mechanism.	To identify strategic pathways for innovation in vocational education, particularly in the training of highly qualified teaching staff.	Results are particularly useful for practitioners and managers in vocational education contexts.
5	Wolfe *et al.* [29]	Implementation of the proposed strategy led to a notable increase in scholarly collaboration and academic productivity.	To present a transferable strategic research model aimed at strengthening research engagement among students, residents, and faculty in health-related education institutions.	The model should be tested in additional health education institutions to assess broader applicability.
6	Siswono [26]	Information system capabilities positively affect innovation and strategic planning, contributing to competitive advantage, particularly in private universities.	To examine how information system adoption and capability influence innovation capacity, strategic planning, and competitive advantage in higher education institutions.	Conducted exclusively in private institutions; future studies should include public universities.
7	Mursidi [46]	Two dominant strategic management approaches were identified: a factual strategic management model and a set of innovation-oriented strategies.	To conceptually describe strategic management practices implemented at an Indonesian teacher education institution.	Not explicitly reported.
8	Yureva *et al.* [47]	University strategic management should balance cultural, economic, and social responsibilities while ensuring acceptable quality-of-life conditions for stakeholders.	To analyze challenges related to strategic management within higher education systems.	Not explicitly reported.
9	Kormakova *et al.* [9]	A results-oriented strategic management approach enhances the effectiveness of innovation in specialized professional training.	To design a strategic management model supporting the development of professional education in higher education institutions.	Further refinement is needed to address technological change, diagnostic systems, and sociocultural quality indicators.
10	Kaya & Sagsan [48]	Human capital and IT infrastructure significantly enhance organizational knowledge absorption capacity and strategic positioning.	To develop a strategic vision for higher education institutions based on the concept of "knowledgization."	Broader geographic replication is suggested, along with the development of practical guidelines for implementation.
11	Mill [28]	Gradual virtualization of teaching and learning increases curricular flexibility, enabling more personalized and democratic educational pathways.	To examine curricular organization, time, and space as strategic dimensions of flexibility in educational innovation.	Calls for deeper investigation into curricular flexibility and its implications for pedagogy, evaluation, and planning.
12	Popescu [49]	Quality standards must be integrated into broader strategic management processes; standardization alone does not foster innovation.	To demonstrate how a quality-oriented strategic approach supports diversification and innovation in higher education institutions.	Not explicitly reported.
13	Evans *et al.* [50]	Academic curricula must be strategically transformed to respond to evolving healthcare demands and global dynamics.	To describe a participatory, multi-level process for developing a future-oriented strategic plan for a nursing degree program.	Limited communication strategies reduced broader faculty engagement.

14	Erasmus *et al.* [51]	Effective alignment between IT and institutional strategy remains insufficiently understood and implemented in higher education.	To explore business–IT alignment in a higher education institution as a means to improve educational processes.	Findings are based on a single institution, limiting generalizability.
15	Pennathur & Everett [53]	The proposed framework supports innovative approaches to assessment planning in engineering education.	To propose a framework for planning and modeling evaluation interventions in engineering education.	Data were collected over a short period; longer-term studies are needed.
16	Schwartzstein *et al.* [52]	Rigorous strategic planning processes are essential for mission alignment, faculty motivation, and program innovation.	To position institutional mission as a central driver for strategic planning in medical education.	Future research should incorporate multiple academic programs and stakeholder perspectives.
17	Galleli & Junior [54]	Human competencies are critical for sustainable strategic management, yet remain underdeveloped even in sustainability-oriented institutions.	To examine the relationship between human competencies and sustainable strategic management in organizations, including educational institutions.	Cultural and behavioral factors require deeper analysis in future studies.
18	Fantauzzi *et al.* [55]	While many institutions reference social responsibility, explicit sustainability objectives remain limited.	To analyze how Italian universities articulate mission statements and sustainability commitments in official documents.	Reliance on official documents suggests the need to examine additional sources, such as sustainability reports.
19	Almuiñas Rivero & Galarza López [56]	Strategic planning implementation can substantially enhance institutional management quality.	To evaluate and compare strategic planning practices across Cuban universities.	Identifies multiple avenues for future research, including strategic quality management, innovation management, and monitoring tools.

To obtain a preliminary understanding of strategic orientation to innovation within educational contexts, this study focuses on three core dimensions: the objectives pursued by SOEI, the mediating mechanisms through which it operates, and the outcomes it generates.

Objectives of the SOEI

An examination of the underlying thematic patterns present in the studies summarized in **Table 8** reveals the existence of four distinct categories of objectives related to SOEI. The distribution of these objective groups, along with their corresponding frequencies and supporting references, is presented in **Table 9**.

Table 9. Groups of objectives of the SOEI

Objective category	Key references	AF	FR	CRF
Focus on strengthening student competences	Kormakova *et al.* [9], Zeer *et al.* [10], Mill [28], Wolfe *et al.* [29], Novikova *et al.* [43], Yureva *et al.* [47], Pennathur and Everett [53]	7	37%	37%
Emphasis on educational quality enhancement	Evmenov *et al.* [44], Mursidi [46], Popescu [49], Schwartzstein *et al.* [52], Almuiñas Rivero and Galarza López [56]	5	26%	63%
Orientation toward information and knowledge governance	Siswono [26], Kaya and Sagsan [48], Evans *et al.* [50], Erasmus *et al.* [51]	4	21%	84%
Commitment to sustainability and long-term development	Yáñez *et al.* [45], Galleli and Junior [54], Fantauzzi *et al.* [55]	3	16%	100%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

Table 9 reveals that in roughly one third of the studies, the objectives centered on fostering student competencies, with the remaining objectives receiving comparatively less emphasis. **Figure 3** illustrates the specific terms and directions associated with each identified objective.

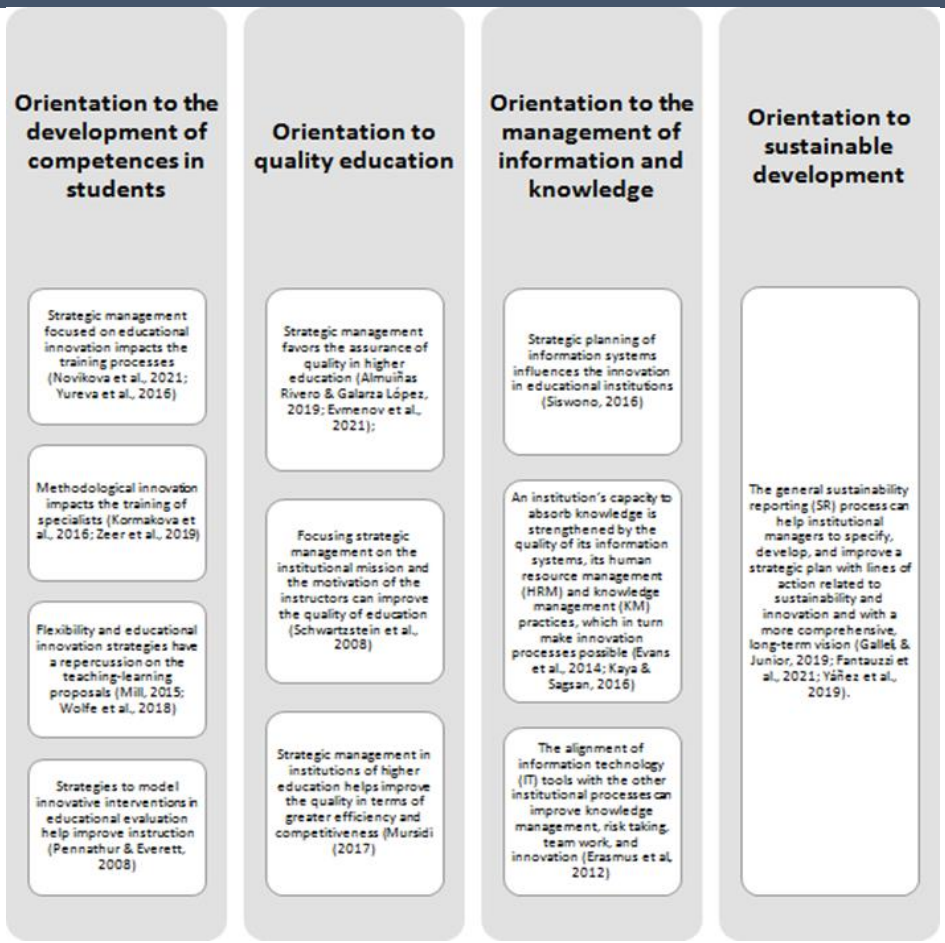

Figure 3. Conceptual focus areas associated with SOEI objectives

Mediating mechanisms of the SOEI

Table 10 presents the mediating mechanisms—understood as the actions, initiatives, or processes—through which strategic orientation to educational innovation is operationalized and its intended effects are amplified within educational institutions.

Table 10. Mediators of the SOEI

Mediating mechanism category	Key references	AF	FR	CRF
Knowledge and information management processes	Siswono [26], Kaya and Sagsan [48], Evans *et al.* [50], Erasmus *et al.* [51]	4	21%	58%
Instructional and pedagogical practices	Kormakova *et al.* [9], Zeer *et al.* [10], Mill [28], Wolfe *et al.* [29], Novikova *et al.* [43], Yureva *et al.* [47], Pennathur and Everett [53]	7	37%	37%
Quality assurance and educational management practices	Evmenov *et al.* [44], Mursidi [46], Popescu [49], Schwartzstein *et al.* [52], Almuiñas Rivero and Galarza López [56]	5	26%	84%
Sustainability-oriented management practices	Yáñez *et al.* [45], Galleli and Junior [54], Fantauzzi *et al.* [55]	3	16%	100%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency

The reviewed studies can be classified into four categories of mediating practices, with instructional and pedagogical practices emerging as the most prominent (37%). This predominance suggests that the strategic intent underlying innovation in educational institutions is most visibly manifested in the interactions among instructors, learners, and curricular content. Moreover, because these strategies are designed to generate meaningful transformations in teaching and learning processes, they offer a concrete means to assess the actual impact of the innovations introduced.

Figure 4 summarizes the thematic areas addressed by the studies in the RLS with respect to SOEI mediating mechanisms.

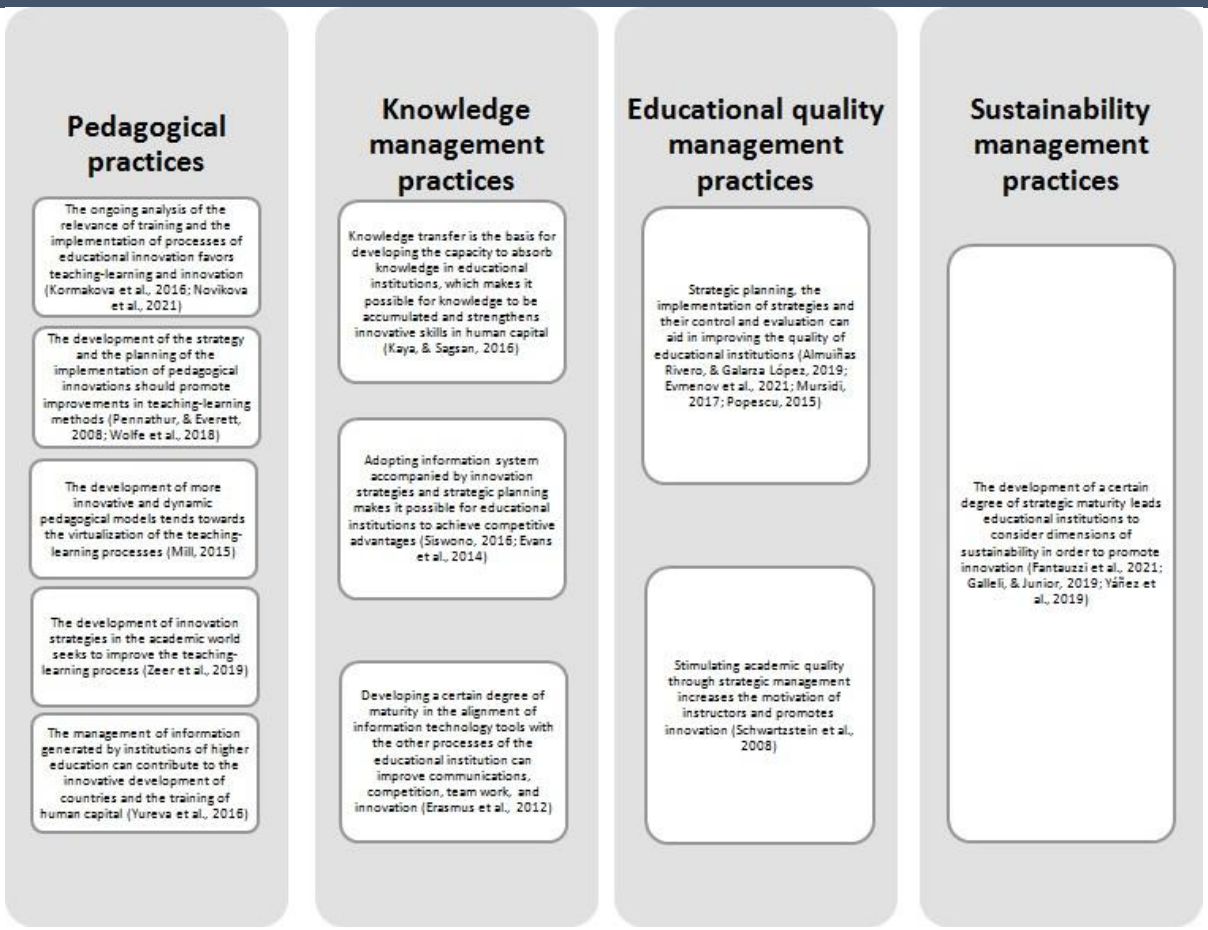

Figure 4. Thematic content of SOEI mediators

Results of the SOEI

Table 11 presents the outcomes derived from the implementation of SOEI in educational contexts.

Table 11. Results of the SOEI

Results category	Key references	AF	FR	CRF
Strengthening of information-related performance	Siswono [26], Erasmus *et al.* [51]	2	11%	74%
Strategic coherence and institutional alignment	Yáñez *et al.* [45], Yureva *et al.* [47], Evans *et al.* [50], Galleli and Junior [54], Fantauzzi *et al.* [55]	5	26%	100%
Enhancement of overall educational quality	Evmenov *et al.* [44], Mursidi [46], Popescu [49], Schwartzstein *et al.* [52], Almuiñas Rivero and Galarza López [56]	5	26%	63%
Improvement in educational performance	Kormakova *et al.* [9], Zeer *et al.* [10], Mill [28], Wolfe *et al.* [29], Novikova *et al.* [43], Kaya and Sagsan [48], Pennathur and Everett [53]	7	37%	37%

Note: CRF = cumulative relative frequency. RF = relative frequency. AF = absolute frequency.

It should be emphasized that the review indicates the SOEI has mainly impacted academic performance, while also exerting a notable effect on overall educational quality and strategic alignment, and a more limited effect on informational performance. **Figure 5** presents the key elements of the SOEI results.

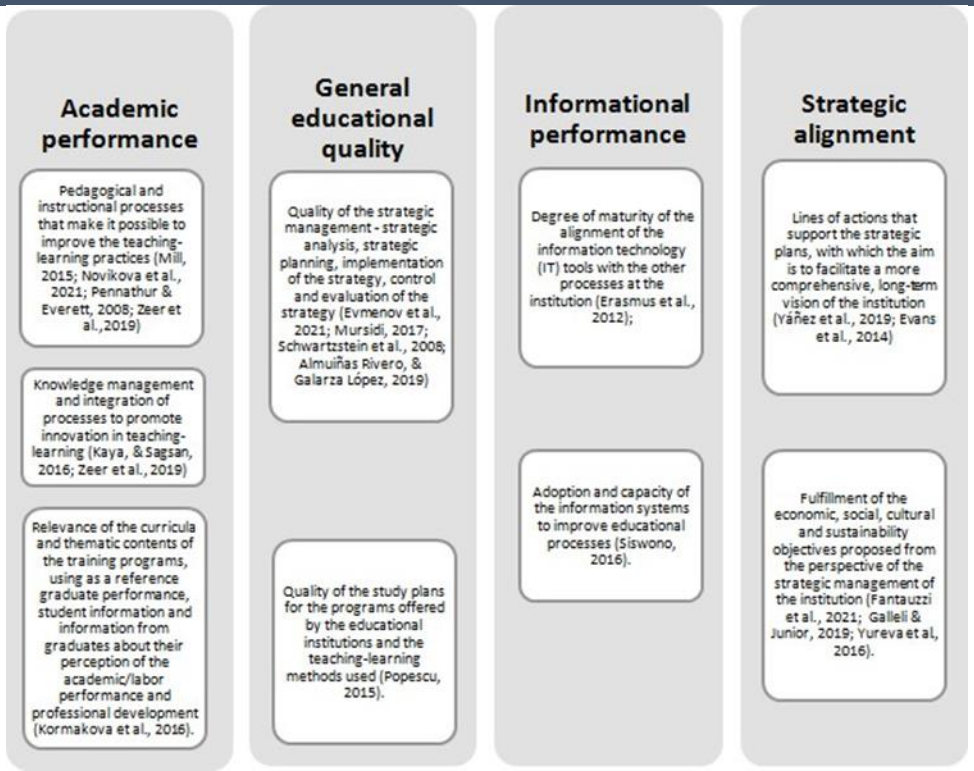

Figure 5. Overview of the SOEI results

Conceptual model of the SOEI's objectives, mediating factors, and outcomes

Based on the results discussed above, a conceptual model of the SOEI is proposed. This model employs constructs to represent the key concepts that underpin the three research questions addressed in this study.

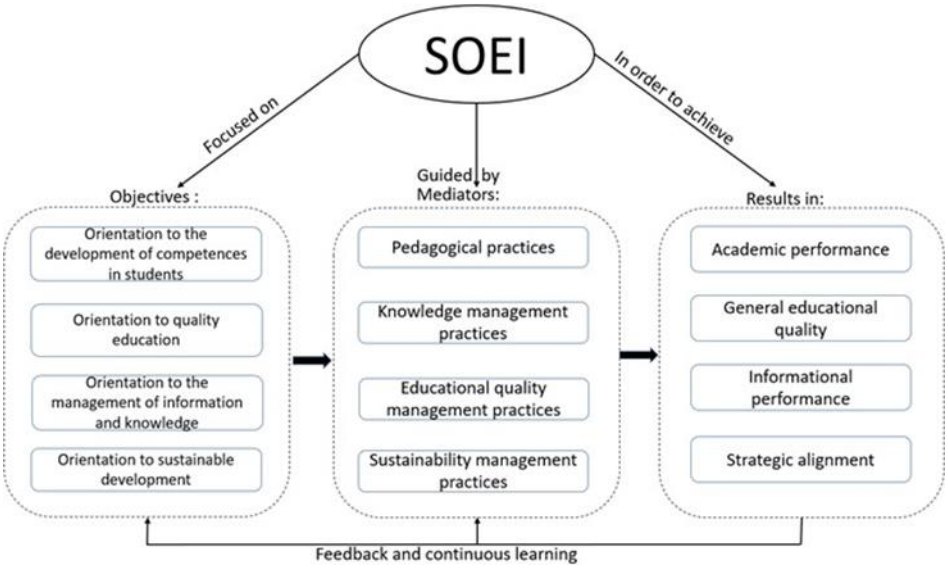

Figure 6. Conceptual model

As illustrated in **Figure 6**, the SOEI conceptual model is composed of three core components—objectives, mediators, and results—whose content has been defined on the basis of the systematic literature review. Regarding the objectives, these encompass the aims achieved through the SOI in educational settings, where innovation—understood both as a process and as an outcome—has been intentionally designed, desired, conceptualized, and planned from a strategic management perspective. This approach aligns with a proactive view of innovation, which seeks to anticipate the latent needs of students and other stakeholders, as well as emerging regulations and legislative changes, among other opportunities, rather than relying on reactive strategies.

Through these objectives, the purpose is to identify the challenges and needs that contemporary society places on educational institutions. Several of these challenges are outlined in **Table 12**.

Table 12. Objectives of the SOEI in addressing social challenges

Objectives	Challenges / Needs
Commitment to quality education	Adapting continuously to changes in the educational context to maintain and improve the quality of training processes [44, 46, 52]. Developing more advanced and globally oriented teaching–learning processes to strengthen institutional competitiveness [49, 56].
Focus on developing student competences	Designing innovative approaches that actively engage students in their own learning processes [9]. Applying active and experiential teaching methodologies that enhance student learning outcomes [53]. Creating interactive learning environments that foster creativity and support competence development [28, 29, 43]. Encouraging student creativity as a pathway to meaningful and deep learning [10, 47].
Sustainable development orientation	Introducing improvements in teaching–learning processes that are sustainable, transferable, effective, and efficient over time [45]. Strengthening the alignment of training processes with the needs of industry, society, and other key stakeholders [54, 55].
Orientation toward information and knowledge management	Aligning educational management practices with institutional development strategies [51]. Implementing diverse training pathways across face-to-face, online, and virtual modalities to attract a broader student population and enhance teaching–learning processes [26, 48, 50].

Similarly, through the use of mediating mechanisms, the aim is to determine the key components that should be implemented within educational institutions to effectively respond to the needs and challenges of contemporary society. These mediating mechanisms are presented in **Table 13**.

Table 13. Mediating mechanisms of the SOEI and their components

Mediators	Intervening Components
Knowledge management practices	Processes focused on the effective management of information and the enhancement of institutional absorptive capacity to foster innovation within educational organizations [26, 48, 50, 51].
Pedagogical practices	Teaching–learning approaches aimed at strengthening student competence development. Recommended methodologies include challenge-based learning, experiential learning, collaborative learning, and competence-oriented education, all of which actively involve students in the learning process [9, 10, 28, 29, 43, 47, 53].
Sustainability management practices	Measures aimed at the design, implementation, and continuous evaluation of environmental, social, and governance (ESG) strategies and reporting systems, ensuring that institutional practices align with sustainable development principles [45, 54, 55].
Educational quality management practices	Initiatives designed to improve the quality of training processes, including actions that promote the integration of information and communication technologies into teaching–learning activities to enhance effectiveness and efficiency [44, 46, 49, 52, 56].

The mediating mechanisms represent key actions, initiatives, and processes designed to enhance the outcomes of the SOEI. These mediators function as driving forces across institutional processes and hierarchical levels, enabling the SOEI objectives to be achieved effectively. Moreover, through these mediating mechanisms, it becomes possible to identify how the objectives of the SOEI are translated into tangible innovation outcomes within educational institutions, as illustrated in **Table 14**.

Table 14. Materialization of SOEI Outcomes

Results	Intervening Components
Academic achievement	Outcomes associated with the attainment of intended learning objectives and student competences upon completion of the teaching–learning process [9, 10, 28, 29, 43, 48, 53].
Overall educational quality	In line with Schmelkes [58], outcomes linked to educational quality across multiple dimensions, including relevance, sense of belonging, internal and external effectiveness, impact, adequacy, efficiency, and equity [44, 46, 49, 52, 56].
Information performance	Results related to the effective use of information systems that support academic and administrative management processes within the educational institution [26, 51].
Strategic alignment	Outcomes associated with enhanced creativity and innovation across academic and administrative processes, contributing to the alignment of institutional strategies and sustainable development objectives [45, 47, 50, 54, 55].

Regarding the outcomes of the Strategic Orientation toward Educational Innovation (SOEI), these refer to the deliberate, long-term accomplishments through which educational institutions demonstrate the effects of SOEI and build competitive edges. The conceptual framework shown in **Figure 6** comprises three interconnected construct types, positing causal links that demonstrate how a strategically defined SOEI (with clear objectives), pursued with purpose and structure, generates SOEI outcomes moderated by mediating factors.

It is important to note that the model does not limit itself to unidirectional causal paths ("objectives → mediators → outcomes"). It also incorporates feedback loops ("outcomes → mediators → objectives") that support organizational learning

and ongoing enhancement. This reflects the logical view that tracking SOEI outcomes produces valuable insights drawn from individual and collective experiences, knowledge, and capabilities. These insights, in turn, inform decision-making and enable corrections to deviations from intended goals.

Lastly, since the proposed conceptual framework emerges from a systematic literature review (SLR) with its inherent constraints and difficulties, it is appropriate to acknowledge that the most frequently cited limitation in the reviewed studies is the necessity for broader empirical scope—such as additional case studies [26, 43, 45, 51], larger participant samples [50, 52], extended time frames [53], or more extensive document analysis [55].

To address these identified challenges, Zeer *et al.* [10] recommend that vocational education experts and institutional leaders apply the findings in their administrative practices, echoing Wolfe *et al.*'s [29] suggestion for health-sector educational organizations. Kormakova *et al.* [9] emphasize the importance of prioritizing technological advancements and information systems. Meanwhile, Kaya and Sagsan [48] argue that universities need clear guidelines to develop a strategic vision and evolve into genuine knowledge hubs.

Emerging research directions include examining organizational culture and human behavior as potential influencers of the anticipated interrelationships [54], incorporating greater spatial, temporal, and curricular flexibility [28], and directing future investigations toward strategic planning, organizational learning, and quality management, among other areas [56].

Conclusion

This study centers on the Strategic Orientation toward Educational Innovation (SOEI) and offers a dedicated definition of the concept. Given the lack of prior direct definitions, it draws on established conceptualizations of strategic orientation in the corporate domain and theoretical insights into educational innovation. Accordingly, SOEI is defined as the extent to which an educational institution demonstrates guiding principles, values, beliefs, leadership, and support directed at creatively addressing the needs and expectations of diverse stakeholders through innovative uses of technology, processes, content, methodologies, pedagogical approaches, and other resources and capabilities—all aimed at enhancing student outcomes and overall institutional performance.

Through a systematic literature review, this research has identified, synthesized, documented, organized, conceptually modeled, and analyzed the treatment of SOEI across a selection of pertinent studies that satisfied seven predefined inclusion/exclusion criteria.

The work provides meaningful contributions on two key dimensions. First, it examines the methodological characteristics of the studies included in the SLR, noting that SOEI has been explored via both quantitative and qualitative approaches, predominantly using the educational institution as the unit of analysis (whether public or private), relying mainly on internal stakeholders as data sources, and employing questionnaires or descriptive forms as primary data-collection tools. These insights sketch a profile of prior SOEI research and offer methodological guidance for future investigations.

The second major contribution addresses conceptual elements of SOEI (objectives, mediators, and outcomes), responding to three core research questions designed to deepen understanding of the field's current status and challenges.

Concerning the first question—identifying SOEI objectives—this review outlines the strategic aspirations that institutional leaders seek to realize through planned, collective innovative actions (reflecting proactive strategic intent). This aligns with calls from Kormakova *et al.* [9] and Almuiñas Rivero and Galarza López [56] for further exploration of these ideas. Within the reviewed studies, four objective categories emerged: fostering student competency development, pursuing educational quality, promoting sustainable development, and managing information and knowledge effectively.

As for the mediators that translate objectives into SOEI outcomes, five categories were identified and characterized: pedagogical practices, knowledge management practices, educational quality management practices, adoption of information systems, and sustainability management practices. Highlighting these mediators supports suggestions by Mill [28] and Galleli and Junior [54] to investigate them more thoroughly.

Turning to the third question—outcomes achieved via SOEI—the analysis reveals impacts manifested in academic performance, overall educational quality, informational effectiveness, strategic alignment, and innovative performance. These constitute the planned, systematically pursued accomplishments tied to SOEI's strategic directions.

By addressing these three questions, the study presents a conceptual model that explains educational innovation outcomes as shaped by strategic orientation, which can be facilitated or hindered depending on mediator maturity. The model's components (objectives, mediators, and outcomes) are contextualized within educational institutions and serve as a foundation for developing and validating SOEI measurement instruments, as well as for formulating hypotheses about structural relationships among the components.

The primary findings carry practical implications for educational institutions and policymakers. Beyond advancing academic understanding of SOEI, they provide actionable insights for strategic decision-making, including typologies of objectives that leaders can use to articulate and prioritize innovation-related intentions. Additionally, the integrated conceptual model equips

strategists and leaders with a more robust framework for defining, advancing, monitoring, and realizing long-term educational innovation outcomes. It also highlights causal and feedback dynamics that can drive continuous improvement.

Nevertheless, the study's limitations must be recognized. Chief among them is the restriction to sources published in Spanish and English, potentially excluding valuable contributions in other languages. Furthermore, despite careful selection of search terms to isolate SOEI-related phenomena, some relevant terminology may have been overlooked due to semantic complexities.

Future research can transform these limitations into opportunities by expanding language coverage and refining search strings, while also incorporating institutional strategic plans, university policies, and data from global educational innovation observatories on pedagogical and technological trends in subsequent replications. Although the proposed model—linking objectives, mediators, and outcomes—represents a significant step forward for theory and practice, its empirical testing requires operationalizing each component to address gaps in earlier work. This opens avenues for forthcoming studies to develop specific items for each dimension, structure them within a response scale, create a measurement tool, psychometrically validate it, and test structural hypotheses using diverse samples of institutions (varying in location, level, size, and ownership), involving key stakeholders and triangulating multiple data sources.

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