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Strategic orientation to educational innovation:
A systematic review and conceptual model

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Abstract

Purpose: To carry out a systematic literature review on strategic orientation to educational innovation (SOEI), considering methodological and conceptual aspects.

Design/methodology: Four macro-processes were implemented: identification (study location), description (information extraction), in-depth analysis (grouping and characterization patterns) and dissemination. The studies were identified through Scopus and Web of Science. The search expressions yielded 63 documents; afterwards, quality control was carried out using seven inclusion/exclusion criteria; the final sample consisted of 19 documents subject to review.

Findings: With regard to methodological aspects, qualitative studies stand out, with the educational institution as the unit of analysis, and pedagogical documents as the most frequent source of information. Likewise, the description form proves to be the most commonly used data collection instrument. In terms of the conceptual aspects of the SOEI, findings include strategic purposes, mediating mechanisms and the results of said construct.

Originality/value: This article portrays the state of the art of the SOEI, proposes a comprehensive definition of said construct and proposes a new conceptual model of the SOI that takes into account its main strategic purposes, mediating mechanisms and results. Therefore, it is a reference for future empirical works that seek to study innovation in educational institutions and explain their results.

Keywords: Innovation, Strategic orientation, Education, Educational innovation

Jel Codes: O3, I2

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1. Introduction

Educational institutions require constant innovation in order to improve the levels of performance of students, instructors, interest groups and the institution in general (Chou, Shen, Hsiao & Chen, 2010; Fidalgo-Blanco, Sein-Echaluce & García-Peñalvo, 2019). According to Lacleta, Blanco and Peñalvo (2014), innovation in these institutions must meet the needs of the training process and the expectations of the interest groups, effectively and efficiently, with sustainability over time and results that can be transferred to other contexts.

Therefore, innovation in educational institutions must go beyond "intermittent actions" carried out by some members of an academic community. It must be guided by deliberate, intentional processes with a high degree of planning (Muñoz, 2016). In other words, innovation in the field of education needs to be framed within the concept of "strategic orientation," in order to thus connote the intentionality, systematicity and proactiveness that it must have, according to Carbonell (2013) and Jiménez (2017). This enables us to consider a strategic orientation to educational innovation (hereafter, SOEI), which suggests a strategic position that defines the existence, stance, behavior and achievement with regard to innovation in this type of institution.

In spite of the importance of this topic, the previous studies on strategic orientation in a general sense have mainly been in the field of business, focusing on financial and commercial performance and the development of new products and services, to name a few (Giuri, Munari, Scandura & Toschi, 2019; Jaakson, Tamm & Hämmal, 2011). There are relatively few works on this construct in educational institutions (see the research by Edwards, Anstey, Kelly & Hopkinson, 2016; Kormakova, Musaelyan & Romanov, 2016; Zeer, Tretyakova & Miroshnichenko, 2019, for example) and the concept is still poorly understood in terms of its meaning, components and manifestations of SOEI, which limits the empirical studies on SOEI and also restricts the possibility that the administrative teams of educational institutions can comprehend, conceive and assume innovation as a priority within the strategy.

As a result, this work carries out a systematic literature review to systematize and understand how SOEI has been approached, in order to later conceptually model it. With this goal in mind, the objective of this article is to answer the following three research questions:

> (Q1) What objectives can be attributed to SOEI, taking into account the purposes reported by empirical studies that consider strategic orientation in educational settings?

> (Q2) What results can SOEI generate, considering the achievements reported by the aforementioned empirical studies?

> (Q3) What are the mediating mechanisms (initiatives or processes) that can transform these objectives into results of the SOEI?

The overall focus of the systematic review employed follows the principles and recommendations of organizations such as the IberoamericanCochrame Centre (in the health field), and systematic review studies, such as those by Kitchenham (2004) and Torgerson (2003) in software engineering and Denyer and Tranfield (2009) in organizational administration. This overall focus includes basically planning the review (questions and review protocol), locating and selecting the studies (with inclusion/exclusion criteria), analyzing and synthesizing the evidence and writing the report. In terms of the detailed methodological framework, that proposed by Pérez-Rave (2012; 2019) was followed, which adopts the focus described, framing it and implementing it from the perspective of process management, in four macroprocesses and 24 steps that open and close PDCA cycles (plan, do, check, act).

By obtaining answers to the questions of interest, with the rigor of the systematic review, this work makes two contributions: (1) it defines, describes and characterizes the objectives of the SOEI, its mediators and results, using reliable, reproducible methods that are open to scrutiny; this proves useful for obtaining information that can guide institutional directives in their approach to the SOEI, in the intentional, systematic and proactive manner that is required; and (2) it proposes a conceptual model that relates the aims of the SOEI, its mediators and results, in order to inspire new empirical studies that seek to explain the results of the innovation, based on tactical and strategic antecedents of the educational institutions.

This work is structured in six sections. The second section provides a brief conceptual framework. The third section presents the procedure as it was carried out. The fourth section presents the evidence found for the questions being studied, accompanied by the discussion. The fifth section provides a conceptual model that relates the objectives, mediators and results of the SOEI. The sixth section presents the conclusions to the study, its limitations and future lines of research.

2. Conceptual framework

This section briefly describes three fundamental concepts for the comprehension of the rest of the article, starting with the concept of "strategic orientation to innovation" and ending with its adaptation to the educational setting.

2.1. Strategic orientation to innovation

The concept "orientation" refers to an intention or conviction to continue to do something, which does not necessarily need to be a top performance in this regard. "Strategy," in turn, can be understood as a plan to achieve certain goals, derived from a conscious analysis that is made explicit before being put into practice, as one of the main determining factors of organizational results (Matioson, 2019; Porter & Strategy, 1980).

Strategic orientation is thus understood as the basic tool for organizations (including educational institutions) to design various directives in search of specific behaviors that lead them to achieve superior performance (Gatignon & Xuereb, 1997; Mwaura & K'Obonyo, 2018).

Accordingly, strategic orientation to innovation (hereafter, SOI) can be defined as a company's tendency to develop new products, services and products that differ from the traditional way in which businesses are approached, through a knowledge-intensive process and a receptive, proactive attitude towards developing new ideas (González-Sánchez & García-Muiña, 2011; Perdomo-Ortiz, González-Benito & Galende, 2009). In most of the studies reviewed so far, the SOI has been considered mainly in the field of business. Nevertheless, this cannot be generalized as such to the field of education, since these two contexts present substantial differences in strategic and operational terms.

2.2. Educational institutions and educational innovation

Educational institutions are knowledge-managing organizations whose mission is training, research and knowledge transfer, in order to make contributions to the institution in general, as well as to interest groups: students, instructors, administrators, service staff, suppliers, parents, companies, governments and other educational systems (Ortiz-Riaga & Morales-Rubiano, 2011; Sandison, 1996). Therefore, these institutions are called upon to constantly innovate for the purpose of improving their levels of performance in order to achieve the established objectives and positively impact their interest groups (Chou et al., 2010; Rajapathirana & Hui, 2018).

Educational innovation can be understood as a series of interventions, decisions and proactive processes, with a certain degree of intentionality and systematicity, which seek to modify attitudes, ideas, cultures, contents, models and pedagogical practices, in order to generate changes in people and educational processes to favor new competitive advantages (Carbonell, 2013; Hurley & Hult, 1998; Tidd & Bessant, 2018).

We thus find practices of educational innovation in the incorporation of information and communication technologies aimed at assisting the teaching-learning process (Siswono, 2016); the reconfiguration of pedagogical practices (Kormakova et al., 2016; Zeer et al., 2019), which is supported by the fact that the way in which instructors implement their instructional processes affects the way in which the students learn (Carvalho et al.,2020; Mill, 2015; Wolfe, Wolfe, Smith, Yoho & Vardaxis, 2018); and the modification of the curricular content according to the needs and peculiarities of the different interest groups, which can promote better absorption of knowledge, learning attitudes and confidence in the value and suitability of their practical implications (Edwards, et al., 2016).

In general, it can be said that educational innovation is a crucial vehicle to meet the needs and expectations of students, instructors, graduates, companies and society as a whole (Oviedo Rivero et al., 2016).

2.3. Strategic orientation to educational innovation

An effort has been made to formally define SOEI, which will be dealt with as an extension of the strategic orientation to innovation (SOI) in the field of business, but generating adaptations to specific features of the educational setting.

As a result, among the conceptual aspects which support SOI for later definition of SOEI, the following can be cited:

a) The SOI reflects the receptiveness and predisposition of a company to developing new ideas and fostering innovation (Perdomo-Ortiz et al., 2009; Tejeiro Koller, 2014).

b) The SOI involves organizational behaviors that lead to the identification and comprehension of the emerging needs of clients and to defining how to meet then through new technological solutions (Hurley & Hult, 1998; Talke, Salomo & Kock, 2011).

c) The SOI implicitly has a high level of proactiveness (Laforet, 2008).

d) The SOI reflects behaviors involved in the identification and acquisition of new technologies for the development of new products (Gatignon & Xuereb, 1997).

e) The SOI makes it possible to anticipate changes and the evolution of client needs and expectations and thus reduces the uncertainty associated with the market (Arias-Pérez, Hernández & Charry, 2017).

Based on the previous conceptual elements of SOI and applying them to the educational context, the SOEI will be understood in this study as:

The degree to which the educational institution evidences guidelines, values, beliefs, leadership and support aimed at understanding and meeting in a novel manner the needs and expectations of the different interest groups, through technology, processes, contents, methodologies, pedagogical practices and other resources and capacities, which are intended to improve student performance and that of the institution in general.

3. Methods

A systematic review was carried out for the present study, which has several advantages over the traditional review (or narrative); among them are reporting on available studies, the use of impartial and reproducible procedures for the inclusion/exclusion of studies and reporting on the review stages (Oermann & Hays, 2015; Torgenson, 2003).

Once the topic has been defined and the research questions formulated, the review procedure was executed according to the four macroprocesses proposed by Pérez-Rave (2012; 2019): identification, description, in-depth study and dissemination. Figure 1, with slight variations, summarizes the contents of these macroprocesses.

IDENTIFICATION
- Define the topic
- Formulate the questions
- Select the search terms
- Construct the RLS delimitation map (inclusion/exclusion criteria and search algorithms)
- Perform the field work
- Control the quality of the studies
- Generate the RLS report

DESCRIPTION
- Extract inputs to synthesize the main fields of each document
- Quality control of the descriptions
- Report on the refined descriptions

IN-DEPTH STUDY
- Extract information on the characteristics of interest
- Quality control
- Inter-judge agreement method
- Table or graphic summary of the findings for the characteristics

DISSEMINATION
- Select the journal
- Define the format and structure
- Draft the manuscript
- Quality control of the manuscript
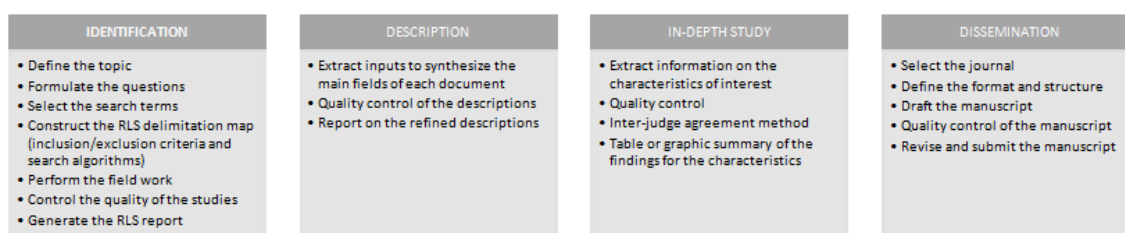- Revise and submit the manuscript

Figure 1. Systematic review procedure (Pérez-Rave, 2012; 2019)

Greater detail is provided below on the methodological aspects of the macroprocesses shown in Figure 1.

3.1. Identification

This stage began with the selection of the search terms in order to define the Relevant Literary Space (RLS), considering words belonging to the families of the following concepts: "education", "innovation", "strategy". The inclusion/exclusion criteria for locating and selecting the studies subject to review are presented below:

1. Studies published in journals indexed in Scopus or Web of Science (WoS) that meet the academic quality standards for publication (for example, see "The Curation Process for the Web of Science Core Collection™" [28 standards to evaluate journals], Clarivate™, 2021) use a peer review system (for example, academic contribution to the field, citation indexes), have a prestigious editorial team and are on time regarding publication (Clarivate™, 2021; Elsevier®, 2021; Munodawafa & Johl, 2019).

2. Only primary studies making explicit reference to at least the IMR and DO structure or similar (excluding articles that do not provide empirical evidence).

3. Studies in which the main focus is on strategic orientation in the educational context, which is favored by the fact that the documents contain in the title the search terms associated with these topics.

4. Studies in which the approach to strategic orientation in educational contexts occurs in at least one scenario that promotes innovation, which was favored by the inclusion of terms on innovation in at least one of the following fields: title, abstract, key words.

5. Studies where the strategic orientation is reflected from at least one of the following perspectives: cultural aspects (values, beliefs and behavior) or medium- or long-term planning (plans, policies, mission, vision, values, objectives).

6. Excluded are those studies whose initiatives/interventions to generate innovation are not preconceived from a strategic perspective, rather merely from that of the design/development of practices (e.g. educational).

The first two criteria (1, 2) are supported by systematic reviews of the previous literature (Arroyave, Redondo & Dasí, 2021; García-Cardona & León-Darder, 2022; Munodawafa & Johl, 2019). Criteria 3 – 6 correspond to the constructs and context of interest, which for the present study is the strategic orientation to innovation in educational settings.

Table 1 shows the search algorithms used to locate the initial sample of studies of interest and the inclusion/exclusion process to obtain the final sample.

Database	Algorithm	Number of articles
Scopus	"#1 TITLE (education OR educative OR skill OR competence OR "teaching-learning" OR school OR teacher OR professor OR scholar OR student OR academic)" AND TITLE ("strategic orientation" OR "strategic management" OR "strategic planning" OR "strategic plan" OR "strategic approach" OR "strategic direction" OR "strategic guidelines" OR "strategic objectives" OR "strategic vision" OR "strategic mission" OR "strategic values" OR "strategic principles" OR "strategic thinking" OR "strategic definition") AND TITLE-ABS-KEY (innovation OR innovative OR "r&d" OR "r&d&i" OR "r+d+1" OR "rd1" OR "r-d-i")" AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "cp"))	44
WoS	Algorithm: TI=("strategic orientation" OR "strategic management" OR "strategic planning" OR "strategic plan" OR "strategic approach" OR "strategic direction" OR "strategic guidelines" OR "strategic objectives" OR "strategic vision" OR "strategic mission" OR "strategic values" OR "strategic principles" OR "strategic thinking" OR "strategic definition") AND TS=(innovation OR innovative OR "r&d" OR "r&d&i" OR "r+d+i" OR "rdi" OR "r-d-i") AND TI=(education OR educative OR skill OR competence OR "teaching-learning" OR school OR teacher OR professor OR scholar OR student OR academic)	19
Both	Scopus (n1), WoS (n2)	63
Unique documents	Sample size, eliminating those documents from WoS that were in Scopus and those documents that were repeated in Scopus	54
EO documents in an educational context	Sample size, eliminating those documents from WoD and Scopus that did not consider strategic orientation in an educational context.	46

Database	Algorithm	Number of articles
EO documents that promote innovation in educational contexts	Sample size, eliminating those documents that while addressing strategic orientation in educational contexts, do not include at least one scenario that pursues innovation	30
Primary documents	Sample size eliminating non-primary documents (review studies, reflections, editorial notes, conference summaries).	23
Documents that do not include initiatives/interventions to generate innovation	Sample size eliminating documents whose initiatives/interventions to generate innovation are not preconceived from a strategic perspective	19

Table 1. Search algorithms implemented in Scopus and Web of Science on January 13, 2022
and the inclusion/exclusion process

By running the algorithms that are shown in Table 1 on January 13, 2022 on the Scopus and Web of Science bibliographic databases, a total of 63 documents (44 and 19, respectively) were found, which as part of the quality control process were subjected to manual review, considering the other preset inclusion/exclusion criteria (3 – 6), with the support of a quality control matrix of a binary nature (1=Meets the criterion, 0=Does not meet the criterion). In this way, the final sample size was 19 documents, which represent the RLS that is the study objective.

3.2. Description

The narrative synthesis of each document included in the review was carried out by responding to the following questions: When was it done and by whom? Why was it done? What was done? How was it done? What was found, including the limitations and challenges proposed? In addition, the main errors were verified and corrected that are usually made in the synthesis of a document: vagueness; imprecise lessons learned; message manipulation; superfluous language and lack of coherence, among others (Pérez-Rave, 2012, 2019). The description of the RLS contributed to the better comprehension of each document reviewed and generated the opportunity to recognize its context and lexical (in terms of words) and syntactic (in terms of phrases) composition (Arroyave et al., 2021; García-Cardona & León-Darder, 2022). Furthermore, they served as theoretical-methodological supports for planning and moving on to the next stage (in-depth study), which was focused on discovering information related to the characteristics of interest of the SOEI in the selected sample: objectives, mediators and results.

3.3. In-depth study

The objective of this macroprocess is to discover the underlying patterns in the RLS (Pérez-Rave, 2019). Thus a detailed reading was made of each document included in the RLS to identify critical incidents. Based on the findings of Arroyave et al. (2021), García-Cardona and León-Darder (2022) and Hayes (1999), a critical incident in the context of this study is a specific description of the characteristics of interest of the SOI reported in the selected documents. After the detailed reading of the documents, the list of potential critical incidents identified was recorded in an Excel file, in association with each characteristic of interest of the SOEI.

In the next step, the authors and an additional expert (PhD) in industrial engineering and management research performed a semantic examination of the incidents in order to ensure that they clearly and unambiguously represented each of the characteristics of interest of the SOEI. This validation led to the elimination of some 'apparent' critical incident statements and the creation of others that were initially not identified.

The inter-judge agreement method (Arroyave et al., 2021; García-Cardona & León-Darder, 2022; Hayes, 1995) was then applied, in order to perform a pattern discovery procedure, in which the researcher paid attention to three questions: strategic objectives, mediating mechanisms and SOEI results. With regard to objectives, the guiding question was in what way the desires for innovation were reflected in the plans, policies, objectives, reason for being, macrogoals and institutional values. With regard to the SOEI mediators, the goal was to find out the actions, initiatives or processes through which the search for the previously planned innovation was

leveraged. For the SOEI results, the objective was to identify the ultimate purposes in the institution when it came to strategically planning the innovation. Next, following a top-down approach (round two), another researcher used the previously defined dimensions to classify the critical incidents. Finally, the dimensions were accepted with an agreement rate of at least 70% between the two rounds (Arroyave et al., 2021; García-Cardona and León-Darder, 2022; Hayes, 1999) and the labels were created that were used to carry out the basic counting operations with regard to the three characteristics of the SOEI.

3.4. Dissemination

This macroprocess consolidates all the information and findings identified for the three characteristics of interest for the SOEI defined in this study. In this manner, a first draft of the manuscript was created, which was then subjected to a validation process, evaluating the justification, originality, reproducibility, clarity, grammar and style, both from the authors' perspective and from that of the peer review, resulting in new versions of the manuscript until the final version was obtained.

4. Results and discussion

Below are the results of applying the proposed methodology, following the stages shown in Figure 1.

4.1. Relevant Literary Space (RLS) identified

Table 2 shows the 19 studies that make up the RLS reviewed.

Citation	Title	Journal/ Conference	Area	Journal country	Database	Quartile
Evmenov, Krolivetsky, Sazneva and Sorvina (2021)	Creation of a strategic planning system for the socio-economic and innovative development of organizations of higher education	E3S Web of Conferences	Environment, energy and earth sciences	France	Scopus	N/A
Novikova, Zhylinska, Osetskyi and Bediukh (2021)	Strategic approaches to activating academic entrepreneurship in modern mega-universities: prospects for Ukraine	Science and Innovation	Innovation	Ukraine	Scopus	N/A
Yáñez, Uruburu, Moreno and Lumbreras (2019)	The sustainability report as an essential tool for the holistic and strategic vision of higher education institutions	Journal of Cleaner Production	Environmental science	United Kingdom	Scopus	Q1
Zeer et al. (2019)	Strategic directions of pedagogical personnel training for the system of continuing vocational education	Obrazovaniei Nauka	Health professions Psychology	Russia	Scopus	Q2
Wolfe et al. (2018)	A Strategic Plan for Increasing Scholarly Activity Among Medical Students, Residents, and Faculty	Journal of the American Podiatric Medical Association	Medicine, health professions	United States	Scopus	Q3

Citation	Title	Journal/ Conference	Area	Journal country	Database	Quartile
Siswono (2016)	Influence of IS Adoption and IS Capability to IS Innovation and IS Strategic Planning and Its Implications to Competitive Advantage of Private Higher Education Institution	Proceedings of 2016 International Conference on Information Management and Technology	Computer sciences Engineering Social sciences	United States	Scopus	N/A
Mursidi (2017)	Best Practice Strategic Management of Educational Development in the College of Teacher Training and Education Singkawang	International Journal of Learning, Teaching and Educational Research	Social sciences (education)	Mauritania	Scopus	Q4
Yureva, Yureva and Burganova (2016)	Strategic management in higher education systems: Methodological approaches	Academy of Strategic Management Journal	Business, management and accounting	United States	Scopus	Q3
Kormakova et al. (2016)	Strategic management training of future specialists in the system of higher education: conceptual basis	Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu	Engineering Earth and planetary sciences	Ukraine	Scopus	Q2
Kaya and Sagsan (2016)	The Concept of 'knowledgization' for Creating Strategic Vision in Higher Education: A Case Study of Northern Cyprus	Egitimve Bilim	Social sciences (education)	Turkey	Scopus	Q3
Mill (2015)	Strategic Management of Distance Education Systems in Brazil and Portugal: about educational flexibility	Educacao e Sociedade	Social sciences (education)	Brazil	Scopus	Q3
Popescu (2015)	From Standardization to Diversification of the Romanian Higher Education Institutions through the Quality Strategic Approach	Administratiesi Management Public	Social sciences	Romania	Scopus	Q2
Evans, Shackell, Kerr-Wilson, Doyle, McCutcheon and Budz (2014)	A faculty-created strategic plan for excellence in nursing education	International Journal of Nursing Education Scholarship	Nursing Social sciences	Germany	Scopus	Q2

Citation	Title	Journal/ Conference	Area	Journal country	Database	Quartile
Erasmus, Parappat and Weeks (2012)	Strategic Management of Information Technology: An Investigation into IT Alignment at a Tertiary Education Institution	2012 Proceedings of Portland International Center for Management of Engineering and Technology: Technology Management for Emerging Technologies	Business, management and accounting	United States	Scopus	N/A
Pennathur and Everett (2008)	Aligning Student Learning, Faculty Development and Engineering Content: A Framework For Strategic Planning Of Engineering Instruction and Assessment	In 2008 Annual Conference & Exposition	Environmental science, social sciences	United States	Scopus	N/A
Schwartzstein, Huang and Coughlin (2008)	Development and implementation of a comprehensive strategic plan for medical education at an academic medical center	Academic Medicine	Medicine Social sciences (education)	United States	Web of Science	Q1
Galleli and Junior (2019)	Human competences for sustainable strategic management: evidence from Brazil	International Journal of Process Management and Benchmarking	Business, management and accounting Decision sciences	United Kingdom	Web of Science	Q3
Fantauzzi, Colasanti, Fiorani and Frondizi (2021)	Sustainable strategic planning in Italian higher education institutions: A content analysis	International Journal of Sustainability in Higher Education	Social sciences (education)	United Kingdom	Web of Science	Q2
Almuiñas Rivero and Galarza López (2019)	Evaluation of Strategic Planning in Higher Education Institutions in Cuba	Estudios del Desarrollo Social-Cuba y América Latina. Volume: 8	Social sciences	Cuba	Web of Science	N/A

*2020 classification (as of February 02, 2022); in the case of journals that appear in more than one field (business, management, education), the most favorable quartile has been selected.

N/A: Studies published in journals without an assigned quartile.

Table 2. Final RLS

Table 2 shows that, in accordance with the Scimago Journal & Country Rank (SJR), for the query performed on February 2, 2022, 68.5% of the RLS studies were published in journals (the remaining percentage come from the proceedings of recognized conferences); among them, 53.8% are classified in the first or second quartile, and 46.2% are in the third or fourth quartile. It is also observed that 47% of the studies belonging to the RLS were published between 2017 and 2021. The geographical areas in which the publications are concentrated correspond to the United States (31.5%) and the United Kingdom (16%), followed by France, Russia, Mauritania, Ukraine, Turkey, Brazil, Romania and Germany.
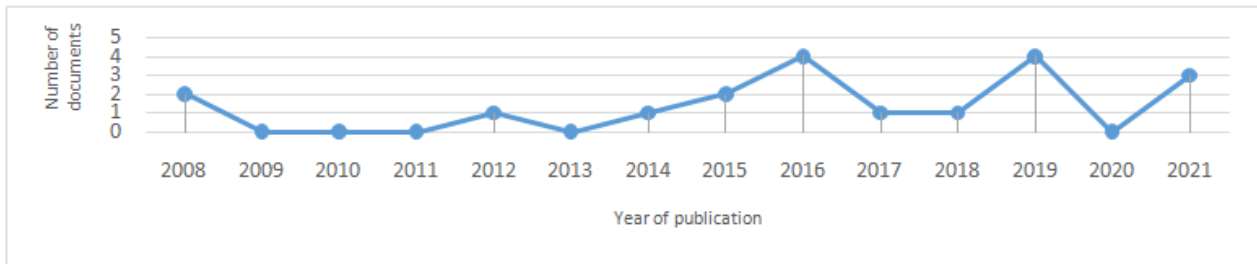
Figure 2. Annual behavior of publications from the RLS reviewed

4.2. Methodological aspects of the RLS

This section provides a snapshot of the methodological criteria used for the previous SOEI works that make up the RLS, taking into account the type of study, unit of analysis, nature of the institutions, sources of information, instruments used.

4.2.1. Type of study

Table 3 summarizes the typology of the studies in the reviewed RLS.

Type of study	References	AF	RF	CRF
Quantitative	Evans et al. (2014); Evmenov et al. (2021); Fantauzzi et al. (2021); Kaya and Sagsan (2016); Pennathur and Everett (2008), Popescu (2015); Yáñez et al. (2019); Siswono (2016); Schwartzstein et al. (2008).	9	47%	47%
Qualitative	Almuiñas Rivero and Galarza López (2019); Erasmus et al. (2012); Galleli and Junior (2019); Kormakova et al. (2016); Mill (2015); Mursidi (2017); Novikova et al. (2021); Wolfe et al. (2018); Yureva et al. (2016); Zeer et al. (2019)	10	53%	100%

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

Table 3. Types of RLS studies

Table 3 shows a tendency toward qualitative methods (53%), which indicates that the perceptions, interactions and interpretations of the researcher and the observed objects are valuable for the comprehension of the SOEI. It is also seen that 47% of the studies use data collection techniques that help test the hypothesis, based on numerical measurement and statistical analysis (Hernández Sampieri, Fernández & Baptista, 2010).

4.2.2. Units of analysis

Table 4 shows the units of analysis taken into account in the studies of the RLS reviewed.

Unit of analysis	References	AF	FR	CRF
Educational institution	Erasmus et al. (2012); Fantauzzi et al. (2021); Galleli and Junior (2019); Kaya and Sagsan (2016); Mill (2015); Mursidi (2017); Popescu (2015); Siswono (2016); Schwartzstein et al. (2008); Yáñez et al. (2019); Yureva et al. (2016); Zeer et al. (2019)	12	63%	63%
Teaching methods	Almuiñas Rivero and Galarza López (2019); Evmenov et al. (2021); Novikova et al. (2021); Wolfe et al. (2018);	4	21%	84%
Curriculum	Evans et al. (2014); Kormakova et al. (2016)	2	11%	95%
Evaluation systems	Pennathur and Everett (2008)	1	5%	100%

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

Table 4. Units of analysis

Table 4 shows that in most (63%) of the studies reviewed, the unit of analysis was the educational institution, which evidences that it is in the general context of the institution where the SOI must be understood and approached in order to orient innovation processes. The aspects that stand out when analyzing educational institutions are: (a) the comprehensive management and leadership in the institutions of higher education (Fantauzzi et al., 2021; Galleli & Junior, 2019; Yáñez et al., 2019; Schwartzstein et al., 2008); (b) the adoption and capacity of the information systems in terms of innovation and strategic capacity (Erasmus et al., 2012; Mursidi,

2017; Siswono, 2016); (c) the analysis of the development strategy, the mission and the main achievements of the university (Yureva et al., 2016); (d) the development of the capacity to absorb knowledge in institutions of higher education (Kaya & Sagsan, 2016); (e) the principles of educational flexibility in public institutions of higher learning (Mill, 2015); and (f) the analysis of the university system in order to define strategies of flexibility and thus innovate in instruction, learning and other processes (Popescu, 2015; Zeer et al., 2019).

Four studies were focused on teaching methods, two on curriculum and one on evaluation systems.

4.2.3. Nature of the institutions

Table 5 shows the nature of educational institutions found in the reviewed RLS.

Nature	References	AF	FR	CRF
Public	Almuiñas Rivero and Galarza López (2019); Erasmus et al. (2012); Evans et al. (2014); Evmenov et al. (2021); Fantauzzi et al. (2021); Galleli and Junior (2019); Mill (2015); Mursidi (2017); Novikova et al. (2021); Yáñez et al. (2019); Yureva et al. (2016)	11	58%	58%
Private	Kaya and Sagsan (2016); Siswono (2016)	2	10%	68%
Not stated	Kormakova et al. (2016); Pennathur and Everett (2008); Popescu (2015); Schwartzstein et al. (2008); Wolfe et al. (2018); Zeer et al. (2019)	6	32%	100%

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

Table 5. Nature of the institutions

Table 5 shows that most educational institutions present in the selected studies (58%) are public in nature, which leads us to believe that this type of institutions are of strategic value to the countries.

Table 6 shows the source of information used by the reviewed studies.

Source of information	References	AF	FR	CRF
Internal users	Erasmus et al. (2012); Mill (2015); Popescu (2015); Schwartzstein et al. (2008); Siswono (2016); Yáñez et al. (2019);	6	32%	32%
Instructional documents	Almuiñas Rivero and Galarza López (2019); Evans et al. (2014); Evmenov et al. (2021); Fantauzzi et al. (2021); Galleli and Junior (2019); Kormakova et al. (2016); Novikova et al. (2021); Pennathur and Everett (2008); Wolfe el al. (2018); Yureva et al. (2016); Zeer et al. (2019)	11	58%	90%
Professors and students	Kaya and Sagsan (2016)	1	5%	95%
Students	Mursidi (2017)	1	5%	100%

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

Table 6. Sources of information used for the studies

Table 6 shows that in 58% of the studies selected, information was obtained by means of the analysis of instructional documents, where the educational institution sets out its processes of action and reflection aimed at the strategic management for improvement. In another considerable number of studies (32%), information was obtained through internal users of the educational institution, among them, chancellors, deans, directors of studies, students, professors and members of the academic committee. In the remaining studies, the information was compiled through students (5%) and professors and students (5%) of the educational institutions.

4.2.5. Data collection instruments

Table 7 shows the instruments used in the studies reviewed to collect, save, re-write and transmit the data.

Instrument	References	AF	FR	CRF
Self-completed questionnaire	Erasmus et al. (2012); Kaya and Sagsan (2016); Mursidi (2017); Popescu (2015); Schwartzstein et al. (2008); Siswono (2016); Yáñez et al. (2019)	7	37%	37%
Description form	Almuiñas Rivero and Galarza López (2019); Evans et al. (2014); Evmenov et al. (2021); Fantauzzi et al. (2021); Galleli and Junior (2019); Novikova et al. (2021); Wolfe et al. (2018); Yureva et al. (2016); Zeer et al. (2019)	9	47%	84%
Miscellaneous	Kormakova et al. (2016); Mill (2015); Pennathur and Everett (2008)	3	16%	100%

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

Table 7. Instruments

Table 7 reflects that approximately half of the studies (47%) cite the use of description forms as a methodological resource or means to register indications or marks of the reality of the case studied. Another important number of the studies reviewed (37%) specifically use structured questionnaires. In two of the studies, the use of instruments was not specified for collecting information, and in one of the 19 studies of the sample, interview questionnaires and direct observation were used.

4.3. Conceptual aspects of the SOEI

The objectives, main conclusions and challenges proposed by the reviewed studies are summarized in Table 8.

ID	Author(s)	Summary of the objective	Main conclusion	Challenges-(limitations)
1	Evmenov et al. (2021)	The article seeks to show the theoretical and methodological provisions for the composition of the technological elements of the strategic planning system, such as the strategic analysis, mission, vision and strategic objective, among others, and their interaction with the organizational components of higher education (in the example of the Universities of Voronezh and St. Petersburg).	The systematic strategic planning in institutions of higher education counteracts, neutralizes and levels the playing field for the negative influences found in the external and internal environments; it increases the level of innovation, national and international recognition, the quality of their services and compliance with international standards.	(Not shown)
2	Novikova et al. (2021)	Formulates strategic focuses for the marketing of research products in modern mega-universities, through the intensification of research activities in the context of international academic business education as an important factor for the development of a high-tech economy model, targeting exports and socially responsible behavior.	The formulation of strategic principles makes the development of a new methodological model possible for the marketing of the results if the intellectual work of universities, taking into account development trends around the world and the characteristics of national science.	The study is conducted in large, modern universities. It might be useful to replicate it in other universities with different characteristics.

ID	Author(s)	Summary of the objective	Main conclusion	Challenges-(limitations)
3	Yáñez et al. (2019)	Stresses the most relevant aspects of how social responsibility (SR) management can significantly help administrative teams at institutions of higher education to establish the long-term strategic planning processes.	It was concluded that social responsibility management can help governing bodies to define, develop and improve the successive lines of action that support strategic plans, and thus facilitate a more comprehensive, long-term vision of the institution.	Even though this research consisted of a single case, what has been learned can be useful for other institutions of higher education that undertake further research on the significance of the sustainability in universities, the relevant problems and the key aspects through the sustainable development of the institutions or the potential benefits of sustainability reports.
4	Zeer et al. (2019)	Determines the strategic directions of innovative development in vocational education and the preparation of highly qualified instructional staff.	It was found that the main defining factor in vocational education is the close integration of all its processes and subsystems (pre-vocational training - secondary vocational education - institutions of higher education - postgraduate training), the integrity of which is provided by continuous advanced training.	The research materials can be useful for specialists in the field of vocational education and managers of educational organizations, in order to develop and make management decisions and to effectively organize the vocational training process of instructional faculty.
5	Wolfe et al. (2018)	Describes a strategic research plan that can be replicated for educational institutions in the health sector, in order to increase their research groups among medical students, residents and professors.	After implementing the strategic research plan, a significant increase in the academic activity was observed through the collaboration among students, residents and professors.	Replicating the model in other educational institutions in the health sector, in order for them to expand their research management among their academic teams.
6	Siswono (2016)	Analyzes the influence of adopting information systems (IS) on the capacity for innovation and strategic planning, as well as their implications for the competitive advantage of institutions of higher education.	It was concluded that the adoption and capacity of information systems influence innovation and strategic planning, which has implications for obtaining a competitive advantage for private institutions of higher education.	The study was conducted in private universities. It could be replicated in public universities to corroborate the results.
7	Mursidi (2017)	Provides a conceptual representation of the aspects of strategic management of education adopted by the College of Training and Instructor Education at STKIP Singkawang University in Indonesia.	It was concluded that there are two practices of strategic management that are applied at STKIP Singkawang University: the application of a factual model of strategic management and several types of innovative strategies.	(Not shown)
8	Yureva et al. (2016)	Addresses problems of strategic management in the higher education system.	It was concluded that the strategic management of universities must be oriented towards the implementation of their cultural and economic objectives, complying with their social obligations to the population and employees and the creation of conditions at the desired level and with quality of life for its main interest groups.	(Not shown)

ID	Author(s)	Summary of the objective	Main conclusion	Challenges-(limitations)
9	Kormakova et al. (2016)	Creates a model of strategic management for the development of professional training in institutions of higher education.	It was concluded that a strategic management model focused on the results of the educational and industrial practice would improve the effectiveness of the innovative development of highly qualified specialized training.	The concept of strategic management should be further developed for the training of professionals at institutions of higher education, in line with considering the challenges of technological upgrades, development and validation of diagnostic information and strategic management systems that integrate sociocultural indicators of the quality of professional training.
10	Kaya and Sagsan (2016)	Creates a strategic vision in higher education, through the appropriation of the "knowledgization" concept.	The conclusion of the study is that human capital is one of the important aspects of the "knowledgization" concept. The IT capacity in elements such as infrastructures and electronic platforms also has a positive impact on the absorption capacity of an organization.	It will be beneficial to conduct this research in other cities and universities in order to permit a more global evaluation. It would be useful to have a guide to convert universities into knowledge centers through the concept of "knowledgization", which will be a strategic advantage for institutions of higher education.
11	Mill (2015)	Analyzes the curricular space, time and organization, conceived of as fundamental strategic elements of flexibility for educational innovation.	It was concluded that the virtualization of instruction and learning must be gradual and can be thought of and implemented in a scaled fashion. Virtual spaces-times make more flexible and open means of curricular organization possible, making more personalized, democratic and individualized training possible.	The author suggests continuing to investigate spatial, temporal and curricular flexibility, including topics such as: student autonomy, mobility, redundancy, learning styles, learning objects, repositories, learning units, individualization, curricular mainstreaming, just-in-time material/content production or content dynamics, valuation of experience and prior knowledge, etc. These concepts warrant a more precise analysis in terms of teaching, learning, evaluation, methodology, instruction, organization, planning, efficiency and objectives.
12	Popescu (2015)	Demonstrates that the implementation of the strategic focus on quality model can result in: i) allowing more varied learning options for students to better meet their needs; ii) allowing a greater level of flexibility for universities in light of changes that occur on a social level; iii) providing opportunities for social mobility, more adequately meeting the needs of different labor markets and providing the necessary opportunities for innovation.	It was concluded that standardization must occur as part of a global effort to integrate the strategic focus on quality with the overall strategic focus of the university. It was also concluded that the standard by itself cannot stimulate creativity and innovation; a strategic management process is required.	(Not shown)

ID	Author(s)	Summary of the objective	Main conclusion	Challenges-(limitations)
13	Evans et al. (2014)	Describes an iterative, creative multi-level process that takes advantage of the participation of instructors to develop a strategic plan focused on the future for the Bachelor of Science in Nursing (BSN) degree program at the British Columbia Institute of Technology (BCIT).	It was found that new strategies are required so that academic institutions can transform their curricula in order to meet the needs of dynamic healthcare and a changing global setting in order to provide a quality education to students.	A communications strategy was not used to promote the participation of large focus groups, which could have promoted a broader exchange and greater commitment from the group of professors as a whole.
14	Erasmus et al. (2012)	Investigates the concept of business alignment/IT in the context of an institution of higher education, specifically to identify improvements in the educational processes.	It was concluded that the successful alignment of IT and business continues to be a generalized problem in the higher education sector. The value of alignment between business and IT within the institution is not recognized, nor is it completely understood.	It must be indicated that the results of the research study essentially emanated from a restricted empirical study that consisted of a single institution of higher education, which may not reflect the situation if a larger number of institutions is considered.
15	Pennathur and Everett (2008)	Develops an innovative framework for modeling and planning interventions for evaluation in engineering education.	As a result, an innovative framework is presented for modeling and planning interventions for evaluation in engineering	The study only presents the analysis of information for a short period of time (August to October). It is important to cover a longer range of time in order to measure the consistency of the results.
16	Schwartzstein et al. (2008)	Establishes the mission for an institution of higher education in the health sector as a central element by which to create recommendations based on data for reorganization, programs and financing.	It was found that in order to focus the mission, motivate the faculty and lead innovative programs, the application of a rigorous process of strategic planning is necessary in the educational institution.	Future studies must include all college programs to measure the perceptions of the different interest groups in terms of the strategic planning at the institution of higher education.
17	Galleli and Junior (2019)	Identifies how human competences are associated with sustainable strategic management (SSM) within institutions and organizations.	In spite of the importance of human competences in sustainable strategic management (SSM), the authors find evidence that this concept has not been developed, even for companies and educational institutions with a consolidated position in sustainability. Human competences are a requirement for effective SSM.	The elements of culture and human behavior in institutions can influence the dynamics of the expected interrelationships between human competences and sustainability management; these elements must be analyzed in greater depth in future studies.
18	Fantauzzi et al. (2021)	Analyses the extent to which Italian institutions of higher education state their mission on official documents; it goes on to examine their content and finally, it researches whether the mission statements include considerations related to dimensions of sustainability.	The findings suggest that 36% of the 98 Italian universities state their commitment to social problems, but only 3 of them mention sustainability objectives in their mission statements.	The study is based exclusively on information shared by institutions of higher education and in terms of future perspectives, the objective may be to investigate more official documents, especially with regard to sustainability reports.

ID	Author(s)	Summary of the objective	Main conclusion	Challenges-(limitations)
19	Almuiñas Rivero and Galarza López (2019)	Shows the procedure used to characterize and evaluate the current practice at Cuban universities, based on a global, comparative analysis between the participating institutions, as well as the main results obtained.	After the characterization and evaluation of the current practice at the universities, it was concluded that the implementation of strategic planning is a process that could help improve the quality of the management model at the universities.	The study proposes various topics that could be subjects for future research, namely: prospective and strategic planning; strategic planning, results-based management and organizational learning; risk management and strategic planning; consequences of strategic planning processes, evaluation and accreditation and internal control over institutional development; management of/by processes and strategic planning; integrated management system from a strategic perspective; strategic quality management; innovation management in strategic university processes; strategic information systems and organizational communication; evaluation of strategic management; tools for strategy monitoring and control, among others.

Table 8. Objectives, conclusions and challenges of the RLS

In order to have an initial overview of the SOI in educational settings, reference is made to three fundamental characteristics: objectives of the SOEI, mediators of the SOEI and results of the SOEI.

4.3.1. Objectives of the SOEI

The analysis of latent patterns in the content of the studies shown in Table 8 makes it possible to identify 4 groups of objectives, the frequencies and references of which are summarized in Table 9.

Objectives	References	AF	FR	CRF
Orientation to the development of competences in students	Kormakova et al. (2016); Mill (2015); Novikova et al. (2021); Pennathur and Everett (2008); Wolfe et al. (2018); Yureva et al. (2016); Zeer et al. (2019)	7	37%	37%
Quality education orientation	Almuiñas Rivero and Galarza López (2019); Evmenov et al. (2021); Mursidi (2017); Popescu (2015); Schwartzstein et al. (2008)	5	26%	63%
Orientation to the management of information and knowledge	Erasmus et al. (2012); Evans et al. (2014); Kaya and Sagsan (2016); Siswono (2016)	4	21%	84%
Sustainable development orientation	Fantauzzi et al. (2021); Galleli and Junior (2019); Yáñez et al. (2019)	3	16%	100%

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

Table 9. Groups of objectives of the SOEI

Table 9 shows that in approximately one third of the studies, the objectives have focused on the development of student competences and, to a lesser extent, on the rest of the objectives. Figure 3 shows the terms toward which each of the objectives has been oriented.
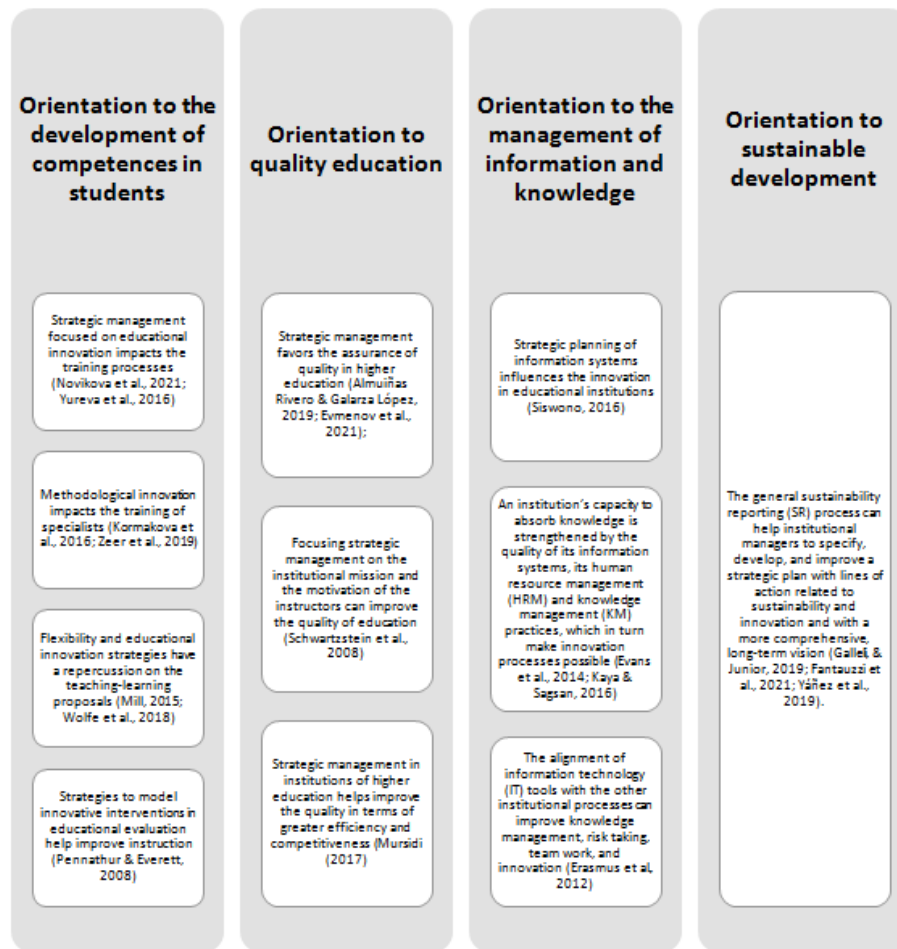
Figure 3. Terms of orientation for the objectives of the SOEI

4.3.2. Mediators of the SOEI

Table 10 shows the mediators, i.e., the actions, initiatives or processes through which an attempt is made to leverage the efforts of the SOEI in educational settings.

Mediators	References	AF	FR	CRF
Pedagogical practices	Kormakova et al. (2016); Mill (2015); Novikova et al. (2021); Pennathur and Everett (2008); Wolfe et al. (2018); Yureva et al. (2016); Zeer et al. (2019)	7	37%	37%
Knowledge management practices	Erasmus et al. (2012); Evans et al. (2014); Kaya and Sagsan (2016); Siswono (2016)	4	21%	58%
Educational quality management practices	Almuiñas Rivero and Galarza López (2019); Evmenov et al. (2021); Mursidi (2017); Popescu (2015); Schwartzstein et al. (2008)	5	26%	84%
Sustainability management practices	Fantauzzi et al. (2021); Galleli and Junior (2019); Yáñez et al. (2019)	3	16%	100%

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

Table 10. Mediators of the SOEI

The studies analyzed are grouped into four practices that serve as mediators, with the main ones being pedagogical practices (37%). This explains that the intentionality that the innovation strategies might have in an educational institution is perhaps made evident in the relationship among the instructors, students and thematic contents; furthermore, because said strategies seek to promote significant changes in the teaching-learning, it makes it possible to measure the true contribution of the innovations that have been implemented.

Figure 4 once again presents the contents the RLS studies refer to in terms of the SOEI mediators.
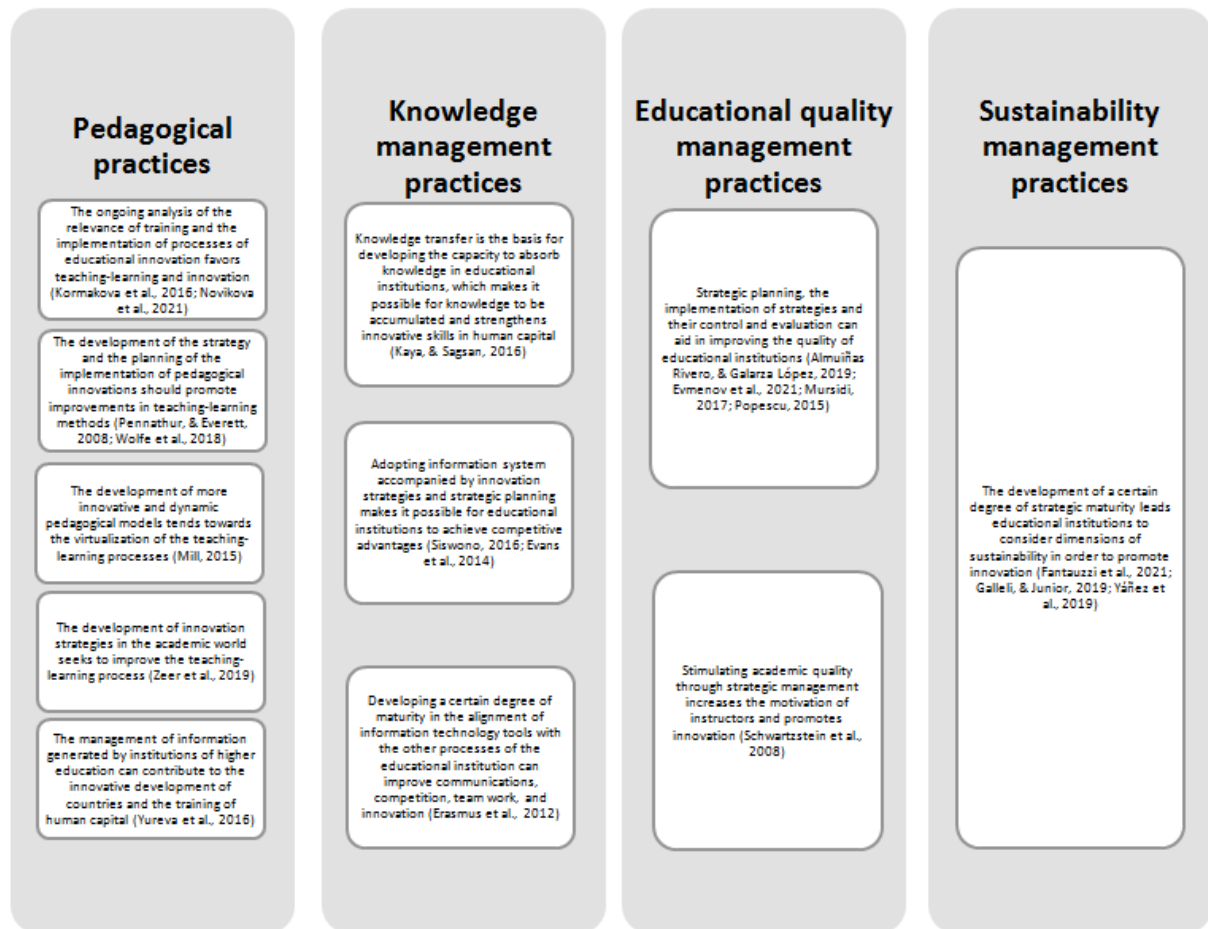
Figure 4. Contents of mediators of the SOEI

4.3.3. Results of the SOEI

Table 11 shoes the results obtained from the SOI in educational settings

Results	References	AF	FR	CRF
Educational performance	Kaya and Sagsan (2016); Kormakova et al. (2016); Mill (2015); Novikova et al. (2021); Pennathur and Everett (2008); Wolfe et al. (2018); Zeer et al. (2019)	7	37%	37%
General educational quality	Almuiñas Rivero and Galarza López (2019); Evmenov et al. (2021); Mursidi (2017); Popescu (2015); Schwartzstein et al. (2008)	5	26%	63%
Informational performance	Erasmus et al. (2012); Siswono (2016)	2	11%	74%
Strategic alignment	Evans et al. (2014); Fantauzzi et al. (2021); Galleli and Junior (2019); Yáñez et al. (2019); Yureva et al. (2016)	5	26%	100%

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

Table 11. Results of the SOEI

It is important to stress that, according to the review carried out, the SOEI has had effects primarily on academic performance, although it has also had a significant influence on the educational quality in general, on strategic alignment and, to a lesser extent, on informational performance. Figure 5 shows the main contents of the results of the SOEI.
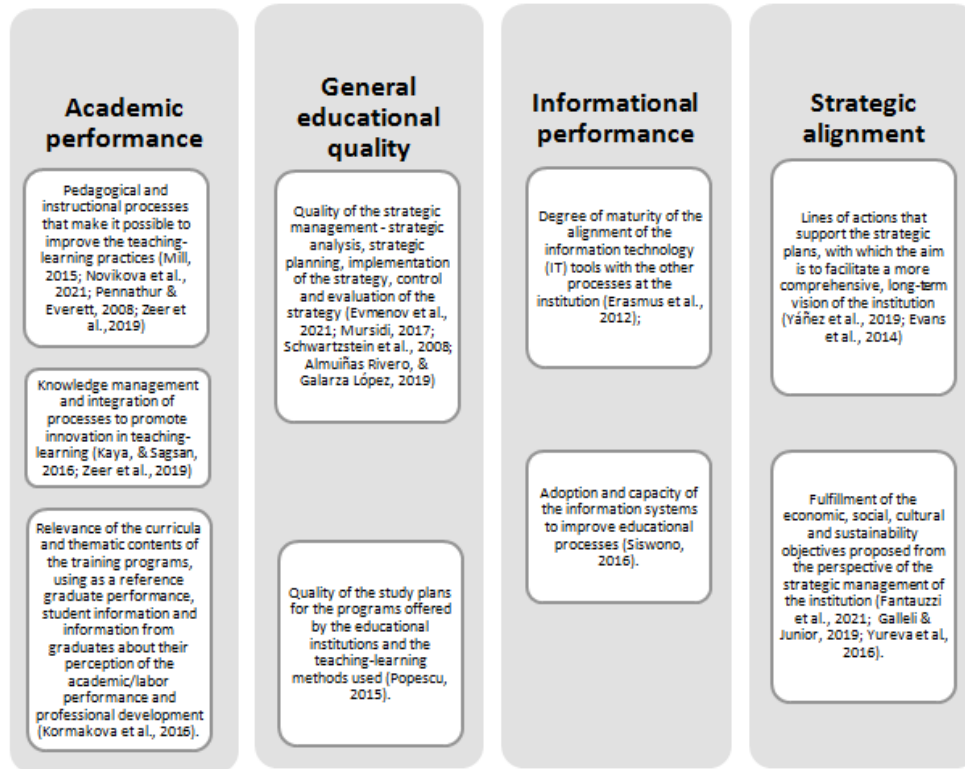
Figure 5. Contents of results of the SOEI

5. Conceptual model of objectives, mediators and results of the SOEI

In light of the results presented above, the following conceptual model of the SOEI is presented, in which constructs are used to represent the concepts that guide the three questions proposed for this study.
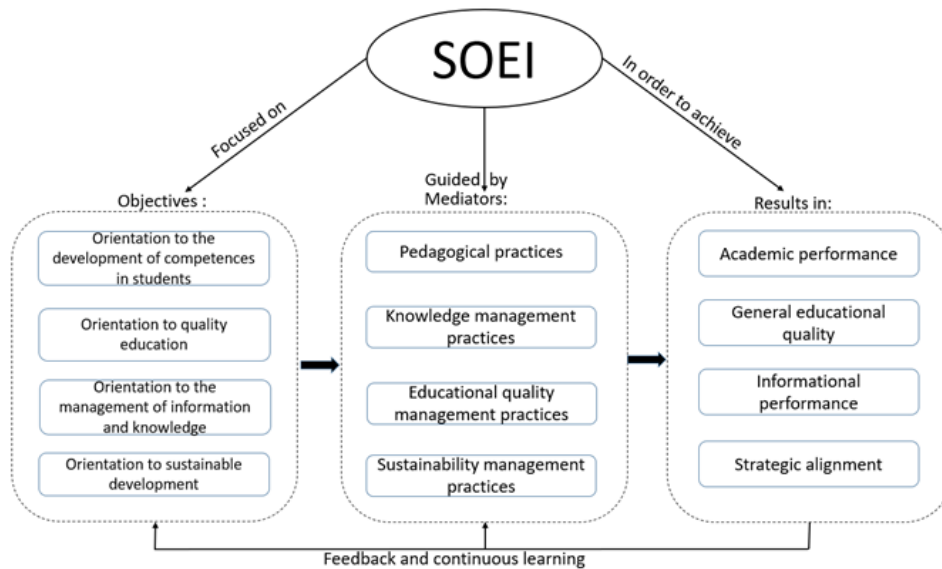

Figure 6. Conceptual model

As can be seen in Figure 6, the conceptual model of the SOEI consists of the three fundamental elements, the content of which has been described based on the systematic literature review: objectives, mediators and results.

With regard to the *objectives*, these include those pursued thanks to the SOI in educational contexts, in which innovation, as both a process and a result, has been properly devised, desired, conceived and planned from the perspective of strategic management. This is consistent with the proactive focus of innovation, with which an attempt is made to anticipate the latent needs of students and other interest groups, as well as new regulations and legislation, among other opportunities, leaving aside more reactive approaches.

Through these objectives, the aim is to identify what challenges/needs are demanded of educational institutions by today's society. Some of these are described in Table 12.

Objectives	Challenges/needs
Orientation to the development of competences in students	Developing novel strategies to involve students in their own learning process (Kormakova et al., 2016). Implementing teaching practices based on active and experiential methodologies that facilitate learning by students (Pennathur & Everett, 2008) Generating interactive class spaces that stimulate creativity and make it possible to develop competences in students (Mill, 2015; Novikova et al., 2021; Wolfe et al., 2018) Promoting creativity in students in order to achieve significant learning (Yureva et al., 2016; Zeer et al., 2019).
Orientation to quality education	Responding to constant changes in the educational environment in order to ensure the quality of training processes (Evmenov et al., 2021; Mursidi, 2017; Schwartzstein et al., 2008) Developing teaching-learning processes that are increasingly more advanced and globalized in order to improve compitetiveness (Almuiñas Rivero and Galarza López, 2019; Popescu; 2015).
Orientation to the management of information and knowledge	Orienting to educational management articulated around institutional development (Erasmus et al., 2012) Implementing training paths in multiple modalities (face-to-face, online, virtual), through which to attract more students and boost training-learning processes in educational institutions (Evans et al., 2014; Kaya & Sagsan, 2016; Siswono, 2016)
Sustainable development orientation	Introducing changes for the improvement of teaching-learning processes and for those changes to be sustainable, transferable, effective and efficient (Yáñez et al., 2019) Articulating more training processes with the needs of companies, society and other interest groups (Fantauzzi et al., 2021; Galleli and Junior, 2019).

Table 12. Objectives of the SOEI to tackle social challenges

Likewise, through mediating mechanisms, the goal is to identify the components that must intervene in educational institutions in order to meet the needs and challenges demanded by today's society. Table 13 shows the mediating mechanisms.

Mediators	Intervening components
Pedagogical practices	The teaching-learning methodologies to promote the development of competences in students. The implementation of the following has been suggested: challenge-based learning, experiential learning, collaborative learning, competence-based training (Kormakova et al., 2016; Mill, 2015; Novikova et al., 2021; Pennathur and Everett, 2008; Wolfe et al., 2018; Yureva et al., 2016; Zeer et al., 2019).
Knowledge management practices	Information management and the development of the absorption capacity to promote innovation in the educational institution (Erasmus et al., 2012; Evans et al., 2014; Kaya and Sagsan, 2016; Siswono, 2016).
Educational quality management practices	Actions aimed at improving training processes The actions aimed at integrating information technology tools with teaching-learning processes (Almuiñas Rivero and Galarza López, 2019; Evmenov et al., 2021; Mursidi, 2017; Popescu, 2015; Schwartzstein et al., 2008).
Sustainability management practices	Actions targeting the design, implementation and systematic review of environmental, social and governance reports (Fantauzzi et al., 2021; Galleli and Junior, 2019; Yáñez et al., 2019)

Table 13. SOEI mediating mechanisms and their components

The *mediators* correspond to fundamental actions, initiatives or processes intended to boost the results of the SOEI. These mediators operate as drivers throughout the processes and hierarchical levels so that the objectives of the SOEI attain the expected results.

Finally, through the mediators, an attempt is made to determine how the objectives can be materialized in the results of the innovations in educational institutions, as shown in Table 14.

Results	Intervening components
Academic performance	Achievements related to attaining these objectives (competences) at the end of the teaching-learning process (Kaya and Sagsan, 2016; Kormakova et al., 2016; Mill 2015; Novikova et al., 2021; Pennathur and Everett, 2008; Wolfe et al., 2018; Zeer et al., 2019)
General educational quality	According to Schmelkes (2018), the achievements are related to educational quality in dimensions such as: belonging, relevance, internal effectiveness, external effectiveness, impact, sufficiency, efficiency and equity (Almuiñas Rivero and Galarza López, 2019; Evmenov et al., 2021; Mursidi, 2017; Popescu, 2015; Schwartzstein et al., 2008)
Informational performance	Achievements in relation to the use of information systems that support the academic-administrative management processes of the educational institution (Erasmus et al., 2012; Siswono, 2016).
Strategic alignment	Achievements related to creativity and innovation in the different academic-administrative processes of the educational institution (Evans et al., 2014; Fantauzzi et al., 2021; Galleli and Junior, 2019; Yáñez et al., 2019; Yureva et al., 2016)

Table 14. Materialization of the results of the SOEI

In relation to the *results* of the SOEI, they represent those achievements promoted intentionally and over the long term, with which educational institutions evidence the impact of the SOEI and foster competitive advantages

The conceptual model presented in Figure 6 consists of three types of constructs that are connected, assuming causal relationships that illustrate how a strategically proposed SOEI (*objectives*), with a certain intentionality and systematic approach, triggers results of the SOEI, which are guided by means of *mediators*.

It should be observed that the causal relationships "*objectives–mediators–results*" are not the only ones that are considered by the model, since feedback relationships ("results – mediators – objectives") are also being considered that promote the learning and continuous improvement. This is seen by reasonably understanding that the monitoring of the results of the SOEI generates information provided by both individual and group experiences, knowledge and capacities. In turn, this information serves as inputs for decision-making, promoting the adjustment of deviations in the established goals.

Finally, given that the proposed conceptual model stems from an RLS with is corresponding limitations and challenges, it would seem fit to also state that the most common limitation recognized in the analyzed works is the need to expand the research to additional cases (Novikova et al., 2021; Yáñez et al., 2019; Siswono, 2016; Erasmus et al., 2012), to a greater number of participants (Evans et al., 2014; Schwartzstein et al., 2008), a broader time horizon (Pennathur & Everett, 2008) or to more documents (Fantauzzi et al., 2021).

In response to the challenges proposed, Zeer et al. (2019) suggest that specialists in vocational education and those responsible for educational institutions use the results in their management tasks, similar to the recommendation proposed by Wolfe et al. (2018) in educational institutions in the health sector. Kormakova et al. (2016) indicate the efforts that must be focused on technological upgrades and information systems. Finally, Kaya and Sagsan (2016) maintain that universities should have a guide for creating a strategic vision and becoming true centers of knowledge.

New lines of research suggest analyzing culture and human behavior as elements that can influence the dynamics of the expected interrelationships (Galleli & Junior, 2019), spatial, temporal and curricular flexibility (Mill, 2015)

and focusing future studies on strategic planning, organizational learning and quality management, among other aspects (Almuiñas Rivero & Galarza López, 2019).

6. Conclusions

This work focuses on the study of the SOEI and proposes a definition of this concept, which in light of the absence of direct contributions in this regard, was based on previous conceptualizations of the SO in the business sector, as well as on theoretical contributions to educational innovation. SOEI is therefore understood as the degree to which the educational institution evidences guidelines, values, beliefs, leadership and support aimed at understanding and meeting in a novel manner the needs and expectations of the different interest groups, through technology, processes, contents, methodologies, pedagogical practices and other resources and capacities, which are intended to improve student performance and that of the institution in general.

Based on a systematic literature review, the approach to SOEI has been identified, synthesized, documented, systematized, conceptually modeled and discussed in a set of relevant studies that have meet the seven inclusion/exclusion criteria.

Specifically, information of value has been contributed on two fronts. First, the focus was placed on methodological aspects of the studies that make up the RLS, taking into account the fact that it has been approached from both the perspective of quantitative and qualitative studies, using primarily the educational institution as the unit of analysis, in either public or private institutions, with internal users serving as sources of information and primarily questionnaires or description forms as instruments of data collection. These results help develop a portrait of who the previous works have been carried out with regard to the SOEI, and they also help to stimulate and methodologically guide future studies.

The second contribution of value of this work is focuses on conceptual aspects of the SOEI itself (objectives, mediators and results), seeking to provide answers to three fundamental questions that would aid in a better comprehension of the current state and challenges faced by SOEI studies.

In relation to the first question, which seeks to identify the *objectives* of the SOEI, this study paints a portrait of the strategic intentions that the leaders of the educational institution strive to fulfill through future collective actions, founded on innovation processes with sights on achieving innovative results (strategic intentionality from a proactive focus). This reinforces the demand by Kormakova et al. (2016) and Almuiñas Rivero and Galarzo López (2019) to continue to delve deeper into these concepts. In those studies that make up the RLS of this systematic review, four categories of objectives of the SOEI were identified and described: orientation to the development of student competences, orientation to educational quality, orientation to the sustainable development and orientation to information and knowledge management.

With regard to the *mediators* that have internalized and promoted the objectives in order to achieve the results of the SOEI, five categories have been identified and described: pedagogical practices, knowledge management practices, educational quality management practices, adoption of information systems and sustainability management practices. The identification of the mediators and their primary consideration in the SOEI reinforces the proposals made by Mill (2015) and Galleli and Junior (2019) to investigate these matters in greater depth.

Alluding to the third question, regarding what *results* have been achieved through the SOEI, it has been found that the impact of the SOEI has been reflected in results related to academic performance, general educational quality, informational performance, strategic alignment and innovative performance. These represent the achievements planned and achieved in relation to the SOEI, through systematic actions derived from the strategic intentionalities.

This study has articulated the main answers to the three questions posed, providing a conceptual model that seeks to explain the results of the educational innovation through a strategic orientation that can be promoted or inhibited, based on the maturity of the mediators. The components (objectives, mediators and results) of this conceptual model have been described in the context of the educational institution. On the same token, it is a

guide for developing and validating SOEI measurement scales, as well as for establishing proposals and hypotheses on the structural relationships among its components.

The main findings revealed by this study have implications for the strategies of educational institutions and educational authorities. First, in addition to contributing to a better academic comprehension of SOEI, these findings also constitute operational information with repercussions for strategic decision-making in educational institutions, as well as demonstrating the typologies of objectives that serve as a guide to leaders to express and prioritize their strategic intentions in relation to innovation in this type of institutions. Second, articulating the findings revealed in the proposed conceptual model, strategists and educational leaders will have a more comprehensive and well-founded conception when it comes to defining, promoting, monitoring and achieving the results of the educational innovation, with a long-term vision. Through these findings, causal assumptions and those stemming from feedback could also be recognized, which would facilitate the continuous improvement processes.

However, the limitations of this work should be kept in mind. The most relevant of these derives from the fact that the systematic review carried out only considered documents in Spanish and English, so potentially relevant works written in other languages could have been left out. Likewise, even though a considerable effort was made to use appropriate search terms and those protected as much as possible from other phenomena of interest, it is possible that other relevant terms have not been included, especially taking into account the complexities of semantics.

Future works should take advantage of these two limitations (language and search terms) and turn them into opportunities, and also include strategic plans and university policies, as well as information from educational innovation observatories around the world, with regard to pedagogical and technological trends when replication the study in other periods. While the proposed model to synthesize and join together objectives, mediators and results of the SOEI constitutes an important advance for academia and organizations, its empirical observation merits the operationalization of each of the components in an attempt to overcome the shortcomings of previous works. It therefore opens up a line of research for future studies to focus on defining specific items for each components and frame them on a response scale, so that a measurement instrument can be obtained in order to psychometrically validate it and use it to substantiate structural hypotheses in a sufficient sample of educational institutions in different locations, at different levels and of different sizes and ownership types, with the participation of all the primary stakeholders and triangulating information from different sources.

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