International Journal of Evaluation and Research in Education (IJERE)
Vol. 14, No. 2, April 2025, pp. 926~937
ISSN: 2252-8822, DOI: 10.11591/ijere.v14i2.31810

Exploring the relationship between strategic planning and educational performance: a systematic literature review

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Article Info

Article history:

Received Jun 24, 2024
Revised Oct 7, 2024
Accepted Oct 17, 2024

Keywords:

Achievement
Education achievement
Educational performance
Strategic planning
Systematic review

ABSTRACT

In the evolving landscape of education, strategic planning has emerged as a critical tool for enhancing institutional performance and achieving educational excellence. This systematic literature review aims to explore the intricate link between strategic planning and educational performance by synthesizing findings from a diverse array of studies. The review addresses the pressing need for a structured approach to improving educational outcomes. To achieve this, we conducted an extensive search of scholarly articles from reputable databases such as Scopus and Web of Science, focusing on studies published between 2020 and 2024. The flow of the study based on the preferred reporting items for systematic reviews and meta-analyses (PRISMA) framework. The database found (n=28) final primary data was analyzed. The finding was divided into three themes which are: i) competency development and assessment in education; ii) strategic planning and management in higher education; and iii) technological integration and innovation in education. The results highlight the significance of implementing a comprehensive and flexible framework for strategic planning that aligns with the specific requirements and environments of educational institutions. In conclusion, this research offers insightful information to educators, administrators and policymakers who want to use strategic planning to support long-term improvements in student performance and eventually advance the larger objective of educational excellence.

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1. INTRODUCTION

In the rapidly evolving landscape of education, strategic planning has emerged as a pivotal mechanism for enhancing institutional performance and achieving educational excellence [1], [2]. The intricate relationship between strategic planning and educational performance has garnered significant attention from scholars, policymakers, and practitioners alike. Strategic planning, often characterized by its forward-looking approach, involves setting long-term objectives, identifying necessary resources, and formulating actionable plans to achieve desired outcomes. In the context of education, these outcomes focused on improving student learning experiences, fostering academic excellence, and ensuring institutional sustainability. Educational institutions, ranging from primary schools to universities, operate in increasingly complex environments

characterized by rapid technological advancements, shifting demographic trends, and evolving societal expectations [3]–[5]. In such a dynamic setting, strategic planning provides a structured framework for institutions to navigate uncertainties, capitalize on opportunities, and mitigate potential risks. Empirical evidence underscores the positive impact of strategic planning on educational performance [6], [7]. Studies have demonstrated that institutions with well-defined strategic plans are more likely to achieve higher levels of academic performance, student satisfaction, and operational efficiency. These institutions tend to exhibit greater adaptability to change, improved resource allocation, and enhanced stakeholder engagement. Further, strategic planning fosters a culture of continuous improvement, wherein institutions regularly assess their performance against established benchmarks and make necessary adjustments to their strategies [8], [9].

Despite its recognized benefits, the implementation of strategic planning in education is not without challenges. Common obstacles include limited resources, resistance to change, and the complexity of aligning diverse stakeholder interests. Addressing these challenges requires a concerted effort from institutional leaders, policymakers, and educators to cultivate a strategic mindset and foster a supportive environment for strategic initiatives [10], [11]. This underscores the need for robust frameworks and best practices that can guide institutions in effectively integrating strategic planning into their operational fabric. The concept of strategic planning has expanded in recent years to include shaping educational policies and practices that have a direct impact on student outcomes [12]–[14]. As educational institutions place a greater emphasis on accountability and measurable results, strategic planning offers an essential tool for managing institutional objectives with pedagogical approaches, and resource management. This alignment ensures that all aspects of an educational institution, from curriculum design to faculty development and infrastructure, work in harmony towards common objectives. The holistic nature of strategic planning thus enables institutions to create a cohesive educational environment where every decision and action is directed towards enhancing student learning and success [15]–[17]. Additionally, strategic planning is not just a static, one-time exercise but a dynamic, iterative process that requires continuous assessment and adaptation. Strategic planning empowers institutions to anticipate future trends and challenges, allowing them to innovate and stay ahead of the curve [18], [19].

The link between strategic planning and performance has been extensively studied in higher education. These findings are confirmed by García-Feijoo *et al.* [20] who advocate for shared strategic reflection as a means to adapt to social, economic, and technological changes in business schools. The integration of strategic planning with budgeting and financial autonomy underscores its critical importance in the educational context, where effective resource management directly correlates with performance improvements. Habeeb and Eyupoglu [21] argue that transformational leadership mediates the relationship between strategic planning and organizational performance in Nigerian higher education institutions, highlighting the need for leaders to adopt strategic thinking to maintain educational quality. Similarly, Al-Aamri *et al.* [22] revealed that motivation and involvement in strategic planning are key drivers of academic staff performance in Omani higher education institutions, with transformational leadership playing a significant role in facilitating these processes. Johnsen *et al.* [23] add to this by demonstrating that performance measurement systems act as a crucial link between strategic planning and performance information use in public sector organizations, including higher education.

In strategic planning, using analytical tools and frameworks is crucial for ensuring that educational institutions can effectively evaluate their strategies and make informed decisions. Phadermrod *et al.* [24] discussed the application of strength, weakness, opportunity, and threats (SWOT) analysis, enhanced by importance-performance analysis (IPA) to prioritize strategic actions in higher education institutions. This approach allows institutions to identify key areas for improvement based on customer satisfaction, thereby refining their strategic plans. The impact of strategic planning on specific educational outcomes is further demonstrated in studies examining the role of strategic initiatives in enhancing teaching and learning. Research by Conroy *et al.* [25] explore how behavior change techniques in mobile apps for physical activity can be strategically designed to improve user engagement and educational outcomes. This is mirrored in the work of Willemse *et al.* [26] who highlight the challenges and successes in engaging families in the implementation of school wide positive behavioral interventions and supports (SWPBIS) in Dutch primary schools. The strategic inclusion of families in these initiatives are shown to contribute to students' academic achievement and social-emotional development.

This article aims to study deeper into the connection between strategic planning and educational performance, exploring both theoretical perspectives and practical implications. By synthesizing existing literature and presenting empirical findings, this study seeks to provide a comprehensive understanding of how strategic planning can be leveraged to enhance educational outcomes. This exploration will contribute to the ongoing discourse on educational improvement and inform future strategic initiatives within the educational sector. To further explore the role of strategic planning in education, this study is guided by the following research questions:

i) How do various competency development strategies across different educational sectors influence the effectiveness of educational outcomes?
ii) How do strategic responses of higher education institutions vary across different countries?
iii) What is the impact of innovative educational methods on student engagement and learning outcomes, and how do they contribute to addressing broader societal and environmental challenges?

By addressing these questions, the study aims to contribute to the broader discourse on educational improvement, offering practical recommendations for leveraging strategic planning to foster educational excellence. Ultimately, this exploration will contribute to the ongoing discourse on educational improvement and inform future strategic initiatives within the educational sector. The studies reviewed emphasize the need for effective leadership, stakeholder engagement, and the use of analytical tools to ensure that strategic plans are both realistic and impactful. The integration of financial autonomy, budgeting practices, and performance measurement systems further strengthens the link between strategic planning and educational outcomes. By aligning institutional goals with operational activities and stakeholder needs, educational institutions can achieve significant performance improvements, fulfilling their educational missions more effectively.

2. METHOD

The author commences this section by detailing the preferred reporting items for systematic reviews and meta-analyses (PRISMA) publication standards. Following this, the research provide an in-depth discussion on the formulation of the research question, the methodologies used for identifying, screening, and determining the eligibility of systematic searches, together with the approaches for quality assessment, data collection, and analysis.

2.1. Identification

To choose a sizable volume of relevant literature for this investigation, several crucial phases in the systematic review process were used. Following the selection of keywords, a search for associated terms was conducted through dictionaries, thesauri, encyclopedias, and prior research. Search strings for the Scopus and Web of Science (WoS) databases were created and all pertinent phrases were found as presented in Table 1. Two databases were successfully used to extract 1,176 publications that were pertinent to the study issue during the first phase of the systematic review.

Table 1. The search string

Source	
Scopus	TITLE-ABS-KEY (("Strategic planning" OR "strategic educational planning" OR "strategic planning in education" OR "educational strategic planning") AND ("performance" OR "achievement" OR "accomplishment") AND "education") AND PUBYEAR > 2019 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA , "SOCI")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (LANGUAGE , "English")) Date of access: Jun. 2024
Web of Science	TS= (("Strategic planning" OR "strategic educational planning" OR "strategic planning in education" OR "educational strategic planning") AND ("performance" OR "achievement" OR "accomplishment") AND "education") (Topic) and Open Access and 2024 or 2023 or 2022 or 2021 or 2020 (Publication Years) and Article (Document Types) and Education Educational Research (Web of Science Categories) and English (Languages) Date of access: Jun. 2024

2.2. Screening

During the screening process, potentially relevant research items are evaluated to determine their alignment with the predefined research questions. One of the commonly employed content-related criteria at this stage involves selecting research topics that explore the relationship between strategic planning and educational performance. Duplicate papers are now eliminated from the search results. A total of 1,102 publications were eliminated in the first screening stage, and 74 papers were reviewed in the second stage using different study-specific exclusion and inclusion criteria as shown in Table 2. Since research papers are the major source of actionable advice, the literature was the key criterion that was used. This also included conference papers, novels, book series, reviews, meta-syntheses, and meta-analyses, as well as materials that were not included in the latest study. Additionally, the review was limit to publications in English. Due to duplication, seven articles in total were rejected.

Table 2. The selection criterion in searching

Criterion	Inclusion	Exclusion
Languages	English	Non-English
Time line	2020-2024	<2020 and <2025
Literature type	Journal (Article)	Conference, book, review
Subject	Social science	Besides social science

2.3. Eligibility

In the third phase, known as the eligibility assessment, a total of 67 articles were collected. During this phase, the titles and main content of these articles were thoroughly examined to verify their compliance with the inclusion criteria and their relevance to the research objectives. As a result, 39 articles were excluded due to factors such as being outside the scope of the study, having titles of minimal significance, containing abstracts not aligned with the study's aims or lacking full-text access supported by empirical evidence. Finally, 28 articles were retained for the subsequent stage of the review.

2.4. Data abstraction and analysis

An integrative analysis was used as one of the assessment strategies in this study to examine and synthesize a variety of research designs (quantitative methods). The goal of the competent study was to identify relevant topics and subtopics. The stage of data collection was the first step in the development of the theme. Figure 1 shows how the authors methodically analyzed a compilation of 28 publications for assertions or material relevant to the topics of the current study. The authors then evaluated the current significant studies related to relationship between strategic planning and educational performance. The methodology used in all studies, as well as the research results, are being investigated. Next, the author collaborated with other co-authors to develop themes based on the evidence in this study's context. Finally, the authors compared the results to see if there were any inconsistencies in the theme design process. It is worth noting that, if there are any disagreements between the concepts, the authors discuss them amongst themselves.

The generated themes were eventually refined to ensure consistency. Two experts in human resource development and management conducted the analysis to assess and confirm the validity of the issues. During the expert review phase, the clarity, significance and appropriateness of each subtheme were validated to establish domain validity. In order to reconcile any differences in the theme generating procedure, the authors carefully compared the results. The writers worked together to resolve any differences that might have emerged between the topics. In order to guarantee coherence, the developed themes were finally modified. Two specialists, one with expertise in strategic management, performed exams to verify the authenticity of the difficulties. By establishing domain validity, the expert review step guaranteed the significance, sufficiency, and clarity of each sub-theme. Changes were implemented according to the authors' judgment and the experts' input.

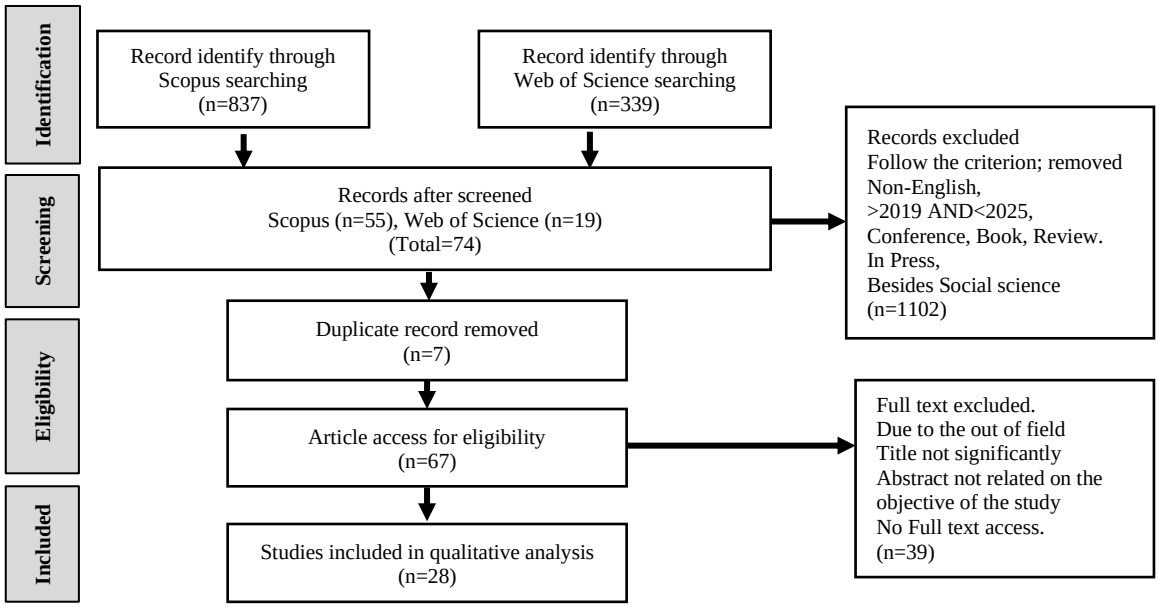

Figure 1. Flow diagram of the proposed searching study [27]

3. RESULTS AND DISCUSSION

The review identified three key themes concerning the relationship between strategic planning and educational performance. These themes were: i) competency and performance assessment in education (theme 1); ii) strategic planning and management in higher education (theme 2); and iii) technological integration and innovation in education (theme 3). The findings for each theme, as presented in Tables 3-5, offer a thorough analysis of the connection between strategic planning and educational outcomes.

Table 3. The research article finding based on the proposed searching criteria for theme 1

No	Authors	Title
1	Ho and Chen [28]	Developing the e-commerce competency for entrepreneurship education from a gamified competition
2	Fulton *et al.* [29]	Competency assessment of an undergraduate program using a third-party, objective pre-post examination
3	S. S. Posangi [30]	Supervisory performance approach in improving the professional competence of Islamic religious education teachers in Madrasah Aliyah, Gorontalo Province, Indonesia
4	Le *et al.* [31]	A study on factors affecting school principals' competencies in Vietnam's mountainous provinces
5	Andrews *et al.* [32]	Using self-regulated learning microanalysis to examine regulatory processes in clerkship students engaged in practice questions
6	Fan [33]	An importance–performance analysis (IPA) of teachers' core competencies for implementing maker education in primary and secondary schools
7	L. Pylväs *et al.* [34]	Vocational students' perceptions of self-regulated learning in work-based VET

Table 4. The research article finding based on the proposed searching criteria for theme 2

No	Authors	Title
1	Gharsi *et al.* [35]	Better autonomy for better performance: the role of strategic planning capability mediating the relationship between financial autonomy and organisational performance in Indian private universities
2	Kenno *et al.* [36]	Budgeting, strategic planning and institutional diversity in higher education
3	Ahmad and Yee [37]	The applicability factors on the implementation of performance based funding mechanism at Malaysian public universities
4	Do [38]	An overview of strategic responses of Vietnamese higher education institutions
5	Paletta *et al.* [39]	How principals use a new accountability system to promote change in teacher practices: evidence from Italy
6	Mattos *et al.* [40]	Effectiveness and sustainability indicators in higher education management
7	Shaulska *et al.* [41]	Performance management at Ukrainian university: A case of the KPIs use
8	Sribanasarn *et al.* [42]	The sustainable development goals for education and research in the ranking of green universities of Mahasarakham University
9	O'Shea and O'Hara [43]	The impact of Ireland's new higher education system performance framework on institutional planning towards the related policy objectives
10	Paños-Castro *et al.* [44]	An analysis of the entrepreneurial university in the faculties of education in Spain: Self-perception among deans
11	Moreno-Carmona *et al.* [45]	Applying the open government principles to the university's strategic planning: A sound practice
12	Karadağ and Balkar [46]	An investigation of mission differentiation and specialization in Turkish universities in the context of strategic objectives
13	Dhaen [47]	The use of information management towards strategic decision effectiveness in higher education institutions in the context of Bahrain
14	Ramaditya *et al.* [48]	Improving private higher education strategies through fuzzy analytical hierarchy process: insight from Indonesia

Table 5. The research article finding based on the proposed searching criteria for theme 3

No	Authors	Title
1	Sabit *et al.* [49]	The techno-strategy of the management information system and its role in enhancing risk management in the general directorate of school and sport activity
2	Park and Shin [50]	Analysis of importance of and satisfaction with the values and major achievements of urban agriculture
3	Pérez-Sanagustín *et al.* [51]	A MOOC-based flipped experience: Scaffolding SRL strategies improves learners
4	Azanza *et al.* [52]	Enhancing learning in tourism education by combining learning by doing and team coaching
5	Burgher and Hamers [53]	A quantitative optimization framework for market-driven academic program portfolios
6	Demir *et al.* [54]	Using simulation modelling to transform hospital planning and management to address health inequalities
7	Ford and Ihrke [55]	Determinants of priority conflict on city school boards

3.1. Competency and performance assessment in education

The dynamic capabilities required for e-commerce are critical for contemporary entrepreneurship education. The study by Ho and Chen [28] investigated the development of e-commerce competency through the Yahoo e-commerce idea competition (ECIC), focusing on gamified e-commerce competitions. The

competencies identified included e-marketing strategy, live streaming, operational management and strategic planning. Their findings indicated that these competencies significantly contribute to e-commerce performance, providing both theoretical and practical insights into how gamified competitions can enhance competency development in entrepreneurship education. This aligns with the broader trend of integrating practical, hands-on experiences to develop crucial entrepreneurial skills, as highlighted by previous research that underscores the importance of real-world applications in educational settings [28].

Competency assessment in education, particularly in medical education, presents unique challenges. Fulton *et al.* [29] discussed the implementation of a third-party, objective pre-post examination to assess competencies in an undergraduate medical education program. The study demonstrated significant improvements in competencies, particularly in strategic planning and leadership with the average student showing a notable increase in scores. This objective assessment method not only validates the effectiveness of the educational program but also highlights the necessity of multiple assessment methods to capture the comprehensive competency development of students. The study's findings are consistent with other research that advocates for diverse assessment tools to ensure a holistic evaluation of student competencies [29].

Supervisory performance plays a crucial role in enhancing the professional competence of teachers. Research by Posangi [30] explored this in the context of Islamic religious education teachers in Gorontalo Province, Indonesia. The study highlighted that effective supervision, characterized by a cooperative and partnership-oriented approach, significantly improved the professional competence of teachers. The supervisors not only provided guidance but also fostered a conducive work environment, encouraging collaboration, and mutual commitment. However, several internal and external obstacles, such as awareness and responsibility of supervisors and teachers' attitudes towards supervision, were identified as challenges. These findings underscore the importance of strategic planning and continuous improvement in supervisory practices to enhance teacher competencies [30]. The competencies of school principals are pivotal for school performance.

Study by Le *et al.* [31] examined the factors affecting school principals' competencies in Vietnam's mountainous provinces. The study identified both internal factors (such as gender, experience, health, family, and IT skills) and external factors (including school location, demographics, and facilities) as significant influencers of principal competency. Interestingly, academic qualifications were found to have no correlation with competency levels, suggesting that practical experience and personal attributes play a more critical role. These insights align with other studies that emphasize the multifaceted nature of leadership competencies in educational settings [31].

Self-regulated learning (SRL) is essential for academic success, particularly in medical education. Andrews *et al.* [32] conducted a study using SRL microanalysis to examine the regulatory processes in clerkship students. The findings revealed that while students engaged in higher-order diagnostic reasoning during the performance phase, their self-reflections often focused negatively on their abilities, potentially reducing self-efficacy. This highlights the need for educational strategies that encourage positive self-reflection and attribution to controllable factors, thereby enhancing SRL processes. These results are consistent with other research that emphasizes the critical role of SRL in fostering independent learning and adaptive expertise [32]. Maker education aims to foster creativity, problem-solving, and hands-on skills in students. Fan [33] conducted a study on the core competencies of teachers for implementing maker education in primary and secondary schools in Taiwan. The study found that while teachers recognized the importance of these competencies, their self-assessment scores were lower than the perceived importance, indicating a gap in competency implementation. Successful maker education requires teachers to integrate professional knowledge, technological skills, and interdisciplinary connections to facilitate project-based learning. This study's findings resonate with broader educational trends that advocate for professional development programs to equip teachers with the necessary competencies for effective maker education [33].

In vocational education, SRL is crucial for students' cognitive engagement and motivation. Research by Pylväs *et al.* [34] examined vocational students' perceptions of SRL in work-based settings. The study found that students who engaged in goal setting, strategic planning, and performance monitoring reported higher levels of cognitive engagement and motivation. However, the study also identified shortcomings in SRL behavior, highlighting the need for better support and feedback from teachers and workplace trainers. These findings align with existing research that emphasizes the importance of SRL in vocational education and the role of supportive learning environments in enhancing student outcomes [34].

The reviewed literature presents valuable insights into competency and performance assessment in education, yet it reveals a fragmented understanding of the subject across different educational contexts. While some studies effectively highlight the significance of practical experiences and diverse assessment methods in developing competencies, such as in e-commerce and medical education, there is a noticeable inconsistency in how these competencies are evaluated and implemented across various disciplines. For example, the emphasis on SRL in medical and vocational education underscores the need for individualized assessment strategies, yet the integration of these strategies seems uneven. Additionally, the recognition of

competency gaps among teachers in maker education points to a broader issue of inadequate professional development. Despite these contributions, the literature lacks a unified approach to assessing and enhancing competencies across educational levels, which could lead to uneven educational outcomes. Thus, future research should aim to harmonize competency assessment methodologies to ensure more consistent and comprehensive educational performance across different settings.

3.2. Strategic planning and management in higher education

Financial autonomy significantly influences the strategic planning capability and organizational performance of higher education institutions. Gharsi *et al.* [35] explored this dynamic in the context of Indian private universities, revealing that financial autonomy positively impacts strategic planning capability, which in turn enhances organizational performance. Using partial least square structural equation modelling (PLS-SEM), the study demonstrated that strategic planning capability mediates the relationship between financial autonomy and organizational performance. These findings highlight the crucial role of financial independence in fostering effective strategic planning, which is essential for achieving institutional goals and improving performance in the competitive landscape of higher education [35]. Budgeting practices play a vital role in strategic planning across higher education institutions, as evidenced by the study conducted by Kenno *et al*. [36]. This research investigated the use of budgeting for strategic planning in 38 Canadian universities, uncovering a heterogeneous mix of budgeting practices driven by institutional size, decentralization, and reputation. The findings indicate that while some institutions adopt performance management through budgeting, others use it primarily for control, communication, and regulatory compliance. The study supports a contingency perspective, suggesting that the effectiveness of budgeting practices depends on the specific organizational context and strategic objectives of each institution [36].

Performance-based funding (PBF) mechanisms are increasingly used to align institutional objectives with government goals. Ahmad and Yee [37] examined the applicability factors influencing the implementation of PBF in Malaysian public universities, identifying government objectives, level of understanding, and autonomy as key drivers. The study found significant positive relationships between these drivers and the successful implementation of PBF mechanisms. This aligns with other research emphasizing the strategic role of government policies in shaping higher education funding and ensuring alignment with broader national objectives. The insights gained from this study can inform future policy development and implementation strategies in higher education [37]. Strategic planning in Vietnamese higher education institutions is often reactive and lacks thorough environmental analysis. Research by Do [38] reviewed the strategic management practices of Vietnamese universities, using Porter's five forces framework to analyze the external environment. The study concluded that the effectiveness of strategic reforms is hindered by insufficient environmental analysis, resulting in prevalent skill shortages, staff insufficiency, and poor quality. Additionally, the strategies developed by institutions are primarily responsive to state directives, without considering sustainability. This highlights the need for a more proactive and comprehensive approach to strategic planning that includes thorough environmental assessments and long-term sustainability considerations [38].

The introduction of accountability systems can significantly impact strategic planning and management in schools. Paletta *et al.* [39] examined how the new accountability system in Italy influences principal leadership and teacher practices. The study found that principal leadership indirectly promotes changes in teacher practices through increased instructional leadership. The results suggest that principals play a central role in building organizational capacity for school improvement by utilizing self-evaluation and improvement processes. This research underscores the importance of distributed leadership in fostering a collaborative culture and enhancing the overall effectiveness of educational management [39]. The integration of sustainability indicators into higher education management is crucial for achieving long-term effectiveness. Study by Mattos *et al*. [40] analyzed the determinants of effectiveness and sustainability indicators at the Federal University of Santa Catarina using the Baldrige excellence model. The study highlighted that leadership, student focus, and societal focus directly affect strategic planning and management effectiveness. Transparency and management by competencies also play significant roles in enhancing work processes. These findings emphasize the need for higher education institutions to adopt comprehensive quality models that incorporate sustainability principles to meet the increasing demands for performance and excellence [40].

Implementing performance management systems, such as key performance indicators (KPIs), poses several challenges in higher education institutions. Shaulska *et al.* [41] investigated the implementation of KPIs at Vasyl' Stus Donetsk National University, identifying organizational obstacles such as resistance to change, poor communication, and lack of motivation. The study recommends fostering a culture of productive dialogue and effective management interactions to enhance KPI implementation. These findings highlight the importance of addressing both organizational and behavioral factors to improve the

effectiveness of performance management systems in higher education [41]. The alignment of strategic planning with sustainable development goals (SDGs) is essential for modern higher education institutions. Sribanasarn *et al.* [42] reviewed the operations of Mahasarakham University, focusing on its alignment with green university criteria. The study found that while the university's policies and strategies supported sustainable development, continuous review and adaptation are necessary to address changing contexts and budget constraints. The findings underscore the importance of integrating sustainability into strategic planning to drive suitable development activities and meet long-term objectives [42].

The higher education system performance framework (HESPF) in Ireland aims to enhance institutional planning towards national policy objectives. O'Shea and O'Hara [43] examined the implementation of the HESPF, finding that it has fostered constructive relationships between the higher education authority (HEA) and institutions. However, the framework's impact on performance improvement has been limited by the lack of enabling/incentive funding. The study suggests that while the HESPF is a valuable concept, its effectiveness depends on adequate financial support and strategic-level operations to drive meaningful performance improvements [43]. Universities are increasingly integrating entrepreneurship into their strategic planning. Paños-Castro *et al.* [44] analyzed the self-perceptions of deans in Spanish faculties of education regarding their entrepreneurial initiatives. The study found that while some faculties are developing active methodologies and strategic missions related to entrepreneurship, there is still resistance due to a lack of entrepreneurial culture and understanding. The results highlight the need for targeted initiatives to foster entrepreneurship across all university disciplines, ensuring comprehensive development and alignment with the entrepreneurial university model [44].

Incorporating open government principles into university strategic planning enhances governance and stakeholder engagement. Moreno-Carmona *et al.* [45] described an innovative approach at a Spanish public university, utilizing web platforms for stakeholder participation and monitoring. This approach promotes collaborative workflow, participation, and learning, aligning with corporate goals and enhancing commitment to the strategic plan. The adoption of such practices exemplifies effective governance models that support sustainable strategic management in higher education institutions [45]. Mission differentiation and specialization based on regional development are critical for strategic planning in higher education. Karadağ and Balkar [46] examined the strategic objectives of Turkish universities involved in a mission differentiation project. The study found that these universities focused on local and regional development, enhancing community service studies. However, similarities in strategic objectives across universities suggest the need for a clear framework to guide mission differentiation. The results indicate that universities must establish unique strategic objectives to contribute effectively to regional development [46].

Effective information management is vital for strategic decision-making in higher education institutions. Dhaen [47] explored the impact of information management on decision effectiveness in Bahraini HEIs. The study found that decision importance positively influences decision effectiveness, mediated by rationality and decentralization. However, the negative effects of decentralization highlight the complexity of decision-making processes. These findings underscore the need for well-structured information management systems to support strategic planning and enhance institutional performance [47]. Strategic planning is essential for improving the performance of private higher education institutions. Study by Ramaditya *et al.* [48] applied the fuzzy analytical hierarchy process (FAHP) to determine key strategies for enhancing performance in Indonesian private universities. The study identified strategic planning and human resource competencies as critical factors. The findings suggest that focusing on talent management and aligning strategic objectives with market needs can significantly improve institutional performance. This approach provides valuable insights for similar institutions in developing countries [48].

The reviewed literature on strategic management and planning in higher education presents a diverse range of viewpoints but also highlights significant gaps in implementation and contextual understanding. While other studies [35], [36] underscored the importance of financial autonomy and budgeting practices, they reveal a lack of consensus on how these elements should be consistently applied across different institutional contexts. Additionally, the analysis of strategic planning approaches in Turkish and Vietnamese universities points out the reactive nature of current strategies, which often lack thorough environmental analysis and distinct mission objectives. Although the incorporation of sustainability and PBF strategies is commendable, O'Shea and O'Hara [43] demonstrated that adequate financial and structural support is still crucial for these efforts to succeed. The research suggests that higher education requires more integrated and context-sensitive strategic planning frameworks that not only focus on institutional goals but also address the broader socioeconomic and environmental challenges facing the sector.

3.3. Technological integration and innovation in education

The role of techno-strategy in enhancing risk management within educational organizations is critical. Research by Sabit *et al.* [49] explored the implementation of information technology systems (ITS) in the general directorate of sports and school activity in the Ministry of Education. Their research

emphasized the importance of adopting techno-strategy to achieve strategic goals and improve performance. The study found that strategic planning, efficiency of information technology, and human resources skills were closely linked to effective risk management. These findings underscore the necessity for educational institutions to integrate techno-strategy comprehensively to enhance their operational efficiency and risk management capabilities [49]. Urban agriculture has emerged as a significant aspect of sustainable urban development, with educational institutions playing a pivotal role in promoting awareness and implementation. Park and Shin [50] conducted an importance–performance analysis to evaluate the values and achievements of urban agriculture, particularly its health, social-cultural, environmental-ecological, and economic functions. The study highlighted the need for strategic planning to enhance urban agriculture's impact, recommending sustained education, publicity efforts, and improved networks. This aligns with broader strategic objectives in educational management, where integrating urban agriculture can foster sustainability and community engagement [50].

The flipped classroom model, especially when integrated with massive online open courses (MOOCs), presents significant opportunities, and challenges in higher education. Pérez-Sanagustín *et al.* [51] investigated a MOOC-based flipped classroom approach in an engineering course, emphasizing the importance of SRL strategies. Their study found that while there was no significant difference in academic achievement between the experimental and control groups, the experimental group showed higher engagement and better strategic planning. This suggests that incorporating SRL technological scaffolds can enhance student engagement and time management, crucial for the successful implementation of flipped classroom methodologies [51]. Combining experiential learning methods such as learning by doing (LBD) and team coaching can significantly enhance educational outcomes in tourism education. Azanza *et al.* [52] explored this approach by involving students in a practical project on strategic planning for sustainable tourism. The study demonstrated that LBD and team coaching improved students' professional skills, communication, and problem-solving abilities. Such methodologies not only make learning more engaging but also align educational outcomes with real-world professional expectations, thereby bridging the gap between theoretical knowledge and practical application [52].

Optimizing academic program portfolios is essential for aligning educational offerings with market demands. Burgher and Hamers [53] introduced a quantitative optimization framework using integer linear programming to enhance the financial and non-financial performance of academic programs. Their study demonstrated that this model could nearly double the financial surplus while achieving higher scores in mission alignment, student demographics, and faculty characteristics. This approach provides a robust decision support tool for educational institutions, enabling strategic planning that meets both financial goals and educational quality standards [53]. Simulation modelling can transform hospital planning and management to address health inequalities, a significant issue influenced by socio-economic factors. Demir *et al.* [54] developed the SimulEQUITY framework, which uses discrete-event simulation to model hospital operations comprehensively. This approach allows for the evaluation of diverse scenarios, helping decision-makers identify effective intervention strategies to reduce healthcare disparities. The integration of such advanced modelling techniques in educational curricula can prepare future healthcare professionals to tackle complex challenges in health equity [54]. Strategic planning plays a critical role in mitigating priority conflicts within urban school boards. Ford and Ihrke [55] analyzed the determinants of priority conflict, finding that continuous strategic planning among board members significantly reduces conflicts. This insight is valuable for educational administrators and policymakers, as it highlights the importance of strategic planning in maintaining cohesive and focused governance in urban school districts. Effective strategic planning can align diverse priorities and enhance the overall governance and performance of educational institutions [55].

While the reviewed literature on technological integration and innovation in education covers a broad array of applications, it lacks consensus on how these innovations can be consistently implemented across various educational settings. Although previous studies [49], [51] effectively illustrate the advantages of incorporating technology into risk management and learning strategies, the impact appears to vary depending on the specific technology used and the institutional context. Moreover, despite the flipped classroom model’s potential to enhance student engagement, its scalability and overall effectiveness are questioned due to the lack of significant improvements in academic performance. Additionally, while the research underscores the importance of human resource development and strategic planning for successful technology integration, it fails to provide a comprehensive implementation framework applicable across different educational contexts. This highlights the need for more in-depth research that can offer a standardized approach to integrating technology in education, ensuring that innovations are not only adopted but also tailored to suit diverse learning environments.

4. CONCLUSION

In conclusion, the study explored the relationship between strategic planning and educational performance, focusing on studies published between 2020 and 2024. The review identified three key themes: competency development and assessment in education, strategic planning and management in higher education and technological integration and innovation in education. The findings underscore the critical role of strategic planning in enhancing educational outcomes, particularly when plans are adaptable, context-sensitive and aligned with institutional goals, and stakeholder needs. The study reveals that effective strategic planning in education is not only about setting long-term goals but also about continuously assessing and refining these strategies to meet evolving challenges. Competency development emerged as a vital component, emphasizing the need for educational institutions to focus on both academic and soft skills. Additionally, the integration of technology was found to significantly impact student engagement and learning outcomes, highlighting the importance of embracing innovative educational methods. This study highlights the critical role of competency development, financial autonomy and innovative educational strategies in improving both individual and institutional performance across various educational sectors. The integration of techno-strategy and sustainability initiatives further underscores the importance of strategic planning in achieving long-term educational and societal goals.

Eventually, the analyzed studies emphasize the value of flexibility in strategic planning, especially in context of recent global disruptions like the COVID-19 pandemic that have had a major influence on educational systems around the globe. The growing importance of technology in education also emphasizes the necessity of developing strategic plans that include cutting-edge techniques and resources to improve learning outcomes and student engagement. This review provides valuable insights for policymakers, administrators, and educators seeking to leverage strategic planning to foster educational excellence. The implications of these findings extend beyond the immediate educational context, offering practical recommendations for future research and strategic initiatives in education. By aligning strategic planning with the dynamic needs of modern education, institutions can achieve sustained improvements in performance, contributing to the broader goal of educational excellence.

ACKNOWLEDGEMENTS

The authors sincerely acknowledge the financial support provided by the Ministry of Education (KPM.BT.700-30/23/91 (5)). We are deeply grateful to the Faculty of Cognitive Sciences and Human Development (FSKPM) and Universiti Malaysia Sarawak (UNIMAS) Malaysia for providing the necessary resources and support upon successful completion of this study.

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