Navigating curriculum reform: Approaches and challenges of academic leaders in Malaysian higher education

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Abstract: The study explores the roles, approaches, and challenges faced by academic leaders in managing curriculum change and innovation in higher education institutions. A qualitative multiple-case design was employed for this study, where each leader from four mature private higher-education institutions was invited to participate in semi-structured interviews. Data were analyzed using Braun and Clarke's Reflexive Thematic Analysis with iterative coding aligned to the two research questions of this study, which discuss the approaches used to manage curriculum change and innovation, as well as obstacles or resistance faced during implementation. Overall, the study highlighted that academic leaders occupy a pivotal position in steering curriculum initiatives, ensuring alignment with regulatory requirements, and responding to evolving industry and educational demands. However, despite the structured and participatory approaches adopted, the study revealed several persistent obstacles that hinder effective curriculum implementation, including limited staffing and resources, time constraints, lengthy approval processes, technology gaps, and insufficient stakeholder engagement. The findings of this study underscore that successful curriculum reform in higher education relies on institutional commitment, inclusive stakeholder engagement, efficient processes, and strong leadership. Future research is needed to explore these dynamics across diverse contexts and digital transformations.

Keywords: Approaches, Challenges, Curriculum change, Educational reforms, Leadership.

1. Introduction

In the 21st century, curriculum change is significantly influenced by rapid technological advancements, necessitating digital literacy as a core skill. The emergence of online and blended learning models has transformed traditional educational frameworks, offering more personalized and flexible learning experiences. Students are now expected to adeptly utilize various digital tools for research, communication, and critical thinking, preparing them for a job market increasingly dependent on digital competencies. The integration of Science, Technology, Engineering, Arts, and Mathematics (STEAM) emphasizes a holistic education that nurtures both analytical and creative thinking. Student-centered instructional approaches, such as active learning strategies, have been shown to enhance success in STEM fields by positively influencing student attitudes, motivation, and goals. A meta-analysis by Theobald, et al. [1] found that active learning strategies significantly improve student performance and reduce failure rates in STEM subjects.

Modern curriculum changes also prioritize global and multicultural education, equipping students to thrive in an interconnected world by incorporating diverse cultural perspectives and addressing international issues. Simultaneously, there's a growing emphasis on Social and Emotional Learning (SEL), aiming to develop students' emotional intelligence, self-awareness, and interpersonal skills,

which are crucial for academic and social success. Research by Todd [2] highlights the importance of SEL in fostering students' overall development, especially in challenging times. Critical thinking and problem-solving skills have become essential, leading to their integration across various subjects through project-based and experiential learning methods. Additionally, curricula are evolving to be more personalized and inclusive, addressing the diverse needs of all students, including those with special needs and from varied backgrounds. Competency-based education models are gaining traction, focusing on skill mastery over time spent in classrooms, allowing students to progress at their own pace.

Environmental and sustainability education is increasingly incorporated, reflecting a heightened awareness of global ecological issues. Education systems are also promoting lifelong learning and continuous skill development to adapt to the evolving job market. Interdisciplinary approaches are breaking down traditional subject boundaries, providing students with a comprehensive understanding of complex topics. Given these dynamic shifts, this research paper aims to examine the role of academic leaders in leading and managing curriculum change within Malaysian higher education institutions offering similar programs. The study focuses on their processes for managing curriculum changes and their leadership roles in addressing the challenges associated with such transformations.

1.1. Research Aim

The aim of this study was to study the role of academic leaders in leading and managing curriculum change in higher education institutions in Malaysia that offered same programs. Their curriculum change management process and leadership role in managing curriculum change were studied and compared to find out how the academic leaders responded to the curriculum change challenges in their respective institutions.

Specifically, the research intended to identify the approaches used by academic leaders in managing curriculum change and innovation in their higher education institutions and discover the obstacles or resistance encountered when implementing new curriculum initiatives.

Based on the above, this study's research questions therefore were:

a) *What were the approaches used by academic leaders in managing curriculum change and innovation in their higher education institutions?*

b) *What are the obstacles or resistance encountered when implementing new curriculum initiatives?*

2. Literature Review

2.1. Roles of Academic Leaders in Driving Change

Leadership is defined as being able to influence the team members, getting everyone engaged to complete a task for achieving the desired goals [3]. Whereby, academic leadership pertains to individuals in academic environments or educational institutions, such as top executives, presidents, principals, chancellors, deans, or department heads, who play a role in decision-making across various organizational levels. According to Sidhu [4] the academic leader model in the 21st century is expected to exhibit a strong presence, articulate a distinct mission and vision, create student-focused timetables, offer assistance in curriculum execution, and evaluate the curriculum's impact within the institution. The leader shall be empowered to drive curriculum change and others who are within the line of authority to participate in the change process. Leong [5] posited that leaders should engage people early through communication, provide solutions to enhance confidence, establish clear communication, implement constant monitoring, and perform evaluation by adapting and engaging in continuous learning. On the opposing view, Buchashvili, et al. [6] pointed out that although believed to be the responsibility of leaders to drive and manage change, change can only happen if all stakeholders cooperate and drive the change at individual and personal levels.

2.2. Curriculum Leadership

Curriculum leadership is a key factor in deepening curriculum reform and promoting the sustainable development of teachers and universities in tertiary education. Sorenson, et al. [7] defined curriculum leadership as integrating curriculum, instruction, assessment, and evaluation to improve learning and understanding to enhance the curriculum's quality, efficiency, and effectiveness. Curriculum leadership has its roots in the mid-1800s and was initially introduced by Professor Harry Paso. The fundamental concept revolves around transforming the conventional model of curriculum leadership, which aims to facilitate schools and educational systems in enhancing the quality of students' learning outcomes. From the perspective of curriculum, some scholars believe that it is the ability of teachers' awareness of the curriculum, their curriculum behaviour, as well as their systematic grasp of curriculum design and implementation [8].

Within the education system, there are multiple leadership roles, prompting questions about who should take the lead in shaping the curriculum. Harris and Jones [9] argue that the school principal serves as the primary decision-maker when it comes to curriculum, being at the helm of pedagogical choices within the school. However, Ylimaki [10] points out that the responsibility of curriculum leadership cannot rest solely on the shoulders of the school principal, as the curriculum extends beyond the boundaries of teaching practices within the school setting. The curriculum encompasses a wide array of functions and influences, including sociocultural and political factors that impact educational content decisions [10]. Therefore, effective curriculum leadership should involve collaboration with various stakeholders beyond those directly involved in the day-to-day implementation of the curriculum. This collaborative approach to curriculum leadership aims to enhance and uphold the quality of curriculum design, development, and implementation, covering aspects of learning, teaching, and the educational environment.

The literature does not specify the individual responsible for curriculum leadership, but we argue that it should be clearly defined within schools to ensure effective curriculum implementation. It is recommended that teachers and other stakeholders refer to existing literature to establish a common definition of curriculum leadership, which can then be used to shape school policy and distribute roles and responsibilities. Nevertheless, the level of consensus among teachers and school leaders regarding curriculum leadership warrants further investigation.

2.3. Comparative studies - Perspectives on Curriculum Change

There were several comparative studies conducted nationally and internationally. Firstly, Zainal, et al. [11] conducted a comparative study of History Education Curriculum in Malaysia and Indonesia. The primary distinction in the History Education curriculum between Malaysia and Indonesia lies in the assessment requirements. In Malaysia, students must pass the subject as it is considered an academic subject. Conversely, in Indonesia, students are encouraged to embody Historical Values without receiving academic grades for assessment. Consequently, it is crucial to analyse and compare the curricula of these two countries. The comparison made in this paper enables the scholars to see the effectiveness and ways to improve teaching in both countries. The comparison gave ideas to enhance educators' understanding and knowledge on how to translate History Education curriculum effectively. This paper served as a valuable resource for upcoming scholars seeking insights into the History curriculum of Malaysia and Indonesia, with the aim of enhancing the educational experience in both nations.

Followed by another study by Mohammad and Ismail [12] was to make judgments about Technical and Vocational Education and training (TVET) systems of Malaysia and Nigeria. The idea was to see what makes Malaysian system successful and how Nigeria addressed its TVET problems. The research results indicated that the educational philosophy and policy of Malaysia are centered on achieving intellectual, spiritual, emotional, and physical equilibrium through a strong commitment and dedication to God. In contrast, the educational philosophy and policy of Nigeria are primarily focused on intellectual and physical advancement. The TVET curriculum in Malaysia incorporates employability

skills such as core skills, generic skills, and personal attributes, whereas the TVET curriculum in Nigeria lacks integration of such employability skills. This disparity in TVET curriculum may have contributed to the high incidence of poverty and unemployment rates across all educational levels in Nigeria.

Furthermore, Paramasivam [13] study examined the management of curriculum change and implementation of the History curriculum for Year Four Primary Schools Standard-Based Curriculum. A total of 28 educators were interviewed and 3 officers from Curriculum Development Division, State Education Department, and District Education. The results revealed that certain History educators continue to engage in the traditional one-way approach to teaching and learning, without adapting their values, norms, and methods. This suggests deficiencies in the curriculum change management framework and strategy employed in overseeing curriculum modifications in Malaysia. Further the study revealed that the school does not have an explicit model for curriculum design and management. Researchers concluded that it will more effective if the models and strategies can be clearly identified and their role be explained to stakeholders, particularly the teachers so that they have a better understanding and sense of direction of their role in managing curriculum change.

In addition, Sathappan and Gurusamy [14] study results indicate that both Higher Learning Institutions prioritize subject matter, professional standards, and practical training. Additionally, both institutions agree that changes in the curriculum have led to the development of higher quality teachers. The study foresees further innovative changes in curriculum development at Higher Learning Institutions in the future. Nevertheless, it suggests incorporating more classroom activities for students. Similarly, a comparative study on various TESL programs offered at several public universities in Malaysia to identify common trends among these universities and highlight the specific strengths of each institution [15]. The comparison was focused on program outcomes (PO), core courses within the discipline, delivery methods, and assessment strategies. The findings revealed that that not all the universities are integrating digital technology and smart applications in conducting student assessments. Therefore, it showed the respective institutions should reform the curriculum to meet the demand of Industry Revolution 4.0.

2.4. Theoretical Framework

This study is underpinned by two theoretical models: Weber's Model (1996) and Lewin's Change Theory. Weber's Model, adapted from Murphy [16] emphasizes the need for instructional leadership across all levels of educational institutions, including higher education. While originally centered on school principals, the model is applicable to academic leaders in universities and colleges, as they too are responsible for defining institutional mission, managing academic programs, fostering a positive academic culture, overseeing teaching and learning practices, and evaluating program effectiveness. These domains are particularly relevant in the context of curriculum change, where academic leaders play a critical role in guiding and supporting academic staff through transitions.

In parallel, Lewin's 3-Phase Change Model [17] is used to frame the process of implementing curriculum reforms. Lewin's model offers a structured approach that can help academic leaders understand and manage the emotional, strategic, and operational aspects of change. In higher education, curriculum reform often requires breaking away from entrenched disciplinary norms and pedagogical traditions, making the unfreezing stage particularly challenging. Academic leaders must be able to clearly articulate the need for change, create a shared vision among stakeholders, and support academic staff as they adapt to new curricular demands.

Thus, these two models together provide a comprehensive lens through which to examine how academic leaders initiate, navigate, and sustain curriculum change within their institutions. The theoretical framework highlights the importance of leadership preparedness, strategic planning, and continuous engagement in ensuring the successful implementation of curriculum reforms.

3. Methodology

3.1. Research Design

This study employed the qualitative multiple-case research design [18] utilizing an in-depth interview approach situated within the qualitative paradigm [19] to explore the role of academic leaders in leading and managing curriculum change in their respective institutions. A qualitative multiple-case research design was most appropriate for this study as it intended to gain in-depth understanding of real-world contexts [19] enhance validity through cross-case comparison [20] provide flexibility in exploring emerging themes [21] as well as contextualized findings [18] related to strategies and approaches used by academic leaders in managing curriculum change and innovation to gain contextualized insights.

3.2. Participants

The selected higher education institutions (HIEs) were private and mature, operating for more than twenty years with approximately five thousand students. These four HEIs were purposely selected to gain further understanding and to provide immediate recommendations and comprehensive perspectives for future research. The target population for this study comprised four leader educators from four different HIEs in Malaysia. These participants plays key role in leading and managing the curriculum change and innovation in their HEIs. The participants were selected using purposive sampling to ensure the selection of people with characteristics who will better be able to assist with the relevant research [22]. This non-probability sampling technique enabled the researchers to intentionally choose individuals who met predefined criteria, thereby enhancing the relevance and richness of the data collected [18].

3.3. Instrumentation

Open-ended questions adapted and modified from Sim Poh Thong and Chang Hui Chung [23] were employed in this study for data collection purposes. The questions are detailed in Table 1.

Table 1.
List of Open-ended questions.

Research Questions(RQ)	Interview Questions
Interviewee's' Profile	**Question 1** Briefly describe your role as the academic leader in your university.
RQ1: What were the approaches used by academic leaders in managing curriculum change and innovation in their respective higher education institutions.	**Question2** In your role as an academic leader, what are the approaches used in managing curriculum change and innovation that was implemented by in your school/department?
RQ2: What are the obstacles or resistance encountered when implementing new curriculum initiatives?	**Question 3** What are some common obstacles or resistance you encounter when implementing new curriculum initiatives? Can you share an example of a particularly challenging curriculum change project you've managed? **Potential follow-up queries.** How did you overcome obstacles to achieve success using your authority?

3.4. Data Collection and Data analysis

The researcher conducted semi-structured interviews to gather qualitative data from the respondents. The interviews were conducted through Google Meet application. All the interviews were video recorded with the permission of all the participants. Each interview session lasted approximately 40 to 45 minutes. In accordance with the agreement made with the participants, their identities will remain confidential. As such, they will be referred to using coded identifiers [24] namely Interviewee

1,2,3 and 4. The qualitative data were analyzed based on the sequence of the research questions using Braun and Clarke's Reflexive Thematic Analysis approach [25, 26].

4. Findings and Discussion

First and foremost, the respondents were asked to describe their role as the academic leader in their respective institutions. As shown in Table 2, the respondents consistently outlined their responsibilities as academic leaders within their respective higher education institutions. They emphasized their roles in offering guidance and advice to colleagues and other stakeholders across various levels. Additionally, all respondents were subject to comparable regulatory and accreditation standards, leading to their adherence to similar requirements.

Table 2.
Respondents' description of the role as academic leader.

Respondents	Current role in HEI	Respondents' description of role as academic leader
Interviewee 1	Associate Dean	"Advise the Dean and Head of School on accreditation matters that require management attention to fulfil requirements as stipulated by accreditation bodies"
Interviewee 2	Programme leader	"My role is to facilitating curriculum enhancement to meet requirements from internal and external stakeholders"
Interviewee 3	Head of department	"My role involves overseeing the implementation and review of academic programs within the faculty. I work closely with lecturers to ensure that the curriculum aligns with current educational standards and industry needs"
Interviewee 4	Deputy Dean	"My primary role is to provide strategic direction for curriculum planning and innovation. I facilitate collaboration among faculty members when new programs are introduced, or existing ones are revised"

The results indicate that respondents affirmed their pivotal roles in guiding and overseeing curriculum change and innovation. This is apparent in their day-to-day responsibilities, as they mentioned driving change and shaping organizational culture, empowering staff, facilitating effective communication, and regularly evaluating and implementing changes.

From the findings or responses provided by the interviewees, the keywords identified were also consistent with past studies, indicating that leaders have the capacity to impact and motivate stakeholders. It is the responsibility of leaders within organizations to cultivate an environment and culture that promotes the development and implementation of new ideas. Law [27] and Funk, et al. [28]. Similarly, Leong [5] and Sim Poh Thong and Chang Hui Chung [23] echoed that it is important for leaders to initiate early engagement through effective communication, offer solutions to enhance confidence, establish clear communication, carry out regular monitoring, and conduct evaluations through continuous learning and adaptation. Hence, it can be claimed that the role of academic leaders is very essential in leading and managing curriculum change and innovation.

4.1. Key Themes Discussion

Supported by Braun and Clarke Reflective Thematic Analysis approach [25, 26] the data were analysed based on the research aim and themes were developed using the codes within the research questions (Figure 1).
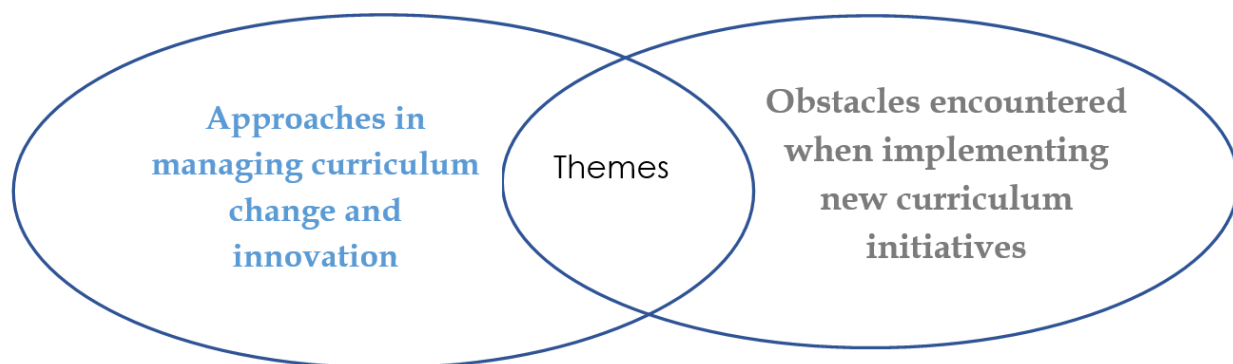
Figure 1.
Key Themes Developed.

Theme 1: Approaches used by academic leaders in managing curriculum change and innovation

To address Research Question 1, this study identified the approaches employed by academic leaders in managing curriculum change and innovation within their higher education institutions. These approaches are visually summarized in Figure 2 below.
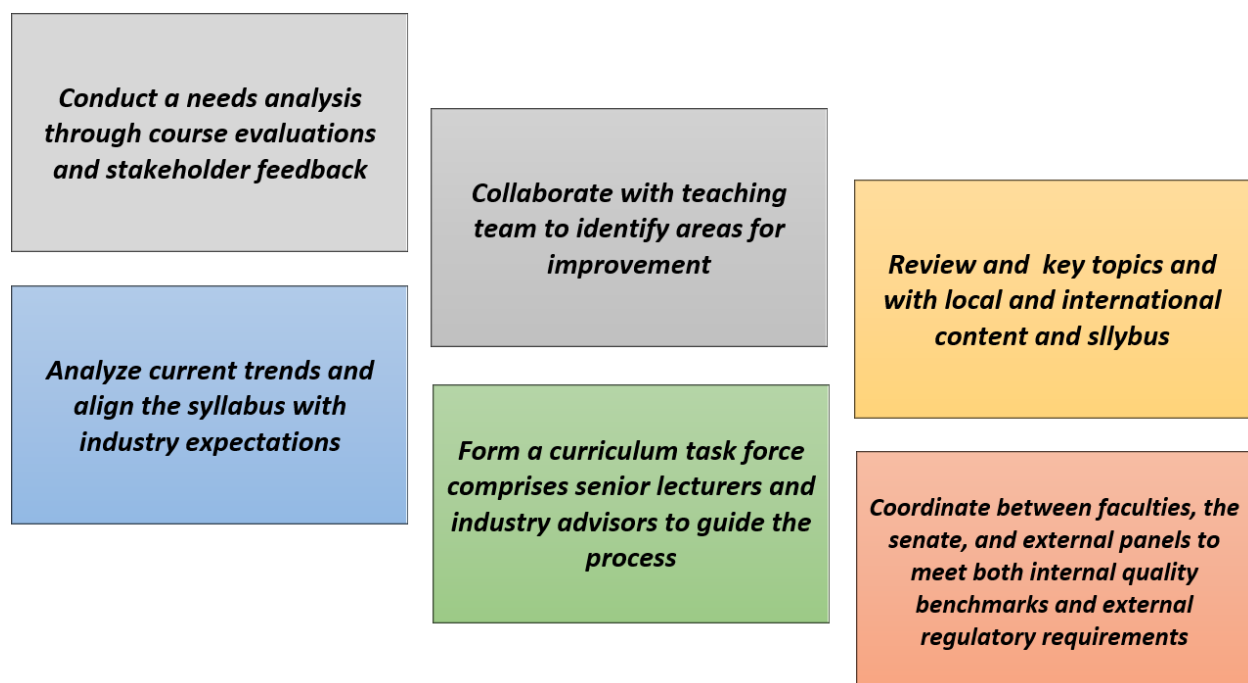

Figure 2.
Approaches Encountered from Data Analysis.

Interviewees were first asked to describe one current curriculum change or innovation in their school/department led by them. Interviewees acknowledged that the essential steps in managing curriculum change and innovation are such as conducting thorough research, integrating stakeholder feedback, and adhering to accreditation standards. These shared approaches demonstrate a commitment to maintaining high educational standards and relevance in their respective institutions.
Interviewee 1 stated:

"First, I review the key topics typically covered in an Introduction to Digital PR course. Then, I compare syllabus from both local and international institutions to identify relevant content and knowledge areas. I also consider how this course fits within the overall public relations program structure. Developing a well-rounded syllabus involves aligning it with MQA requirements and addressing feedback from MQA panelists and officers, as mandated for accredited programs."

Interviewee 2 stated:

"My approach focused on collaborative planning with the teaching team. When we initiated curriculum change, I encouraged regular feedback sessions with lecturers to identify areas for improvement. I also facilitated workshops where we analyzed current trends and aligned our syllabus with industry expectations. I believe in bottom-up engagement, so involving lecturers early in the process made the transition smoother and fostered a sense of ownership."

The findings showed that academic leaders apply both analytical and collaborative approach to managing curriculum change. Interviewee 1 emphasized a research-informed strategy, involving syllabus bench-marking at local and international levels and ensuring alignment with accreditation requirements, particularly those set by the Malaysian Qualifications Agency (MQA). This indicates a structured, standards-driven approach to curriculum development. In contrast, Interviewee 2 highlighted a participatory, team-based approach, where curriculum change is driven by collaborative planning, feedback loops, and responsiveness to industry trends. This bottom-up method promotes shared ownership and smoother implementation among academic staff.

Likewise, Interviewee 3 stated:

"As the HOD, I adopted a strategic and structured approach. First, we conducted a needs analysis through course evaluations and stakeholder feedback. I then formed a curriculum task force comprising senior lecturers and industry advisors to guide the redesign process. ……..Clear communication and phased implementation were key ensuring every academic staff member understood the rationale behind the changes and received training where needed."

Meanwhile, Interviewee 4 mentioned:

"From a policy and governance perspective, I emphasized data-driven decision-making and compliance with accreditation standards. My approach involved aligning curriculum change initiatives with the university's long-term academic goals……….. I coordinated between faculties, the senate, and external panels to ensure that innovations, such as digital learning integration and interdisciplinary modules, met both internal quality benchmarks and external regulatory requirements."

Overall, the responses indicate that academic leaders adopt a range of approaches in managing curriculum change, each shaped by their specific roles and responsibilities within the institution. At the program level, the focus is on content relevance, bench-marking against local and international standards, and aligning new courses with program structures and accreditation requirements. Collaborative and participatory approaches were emphasized by mid-level leaders, who prioritized lecturer engagement, continuous feedback, and alignment with current industry trends to ensure effective curriculum development. At the departmental level, strategic planning and stakeholder involvement through needs analyses and curriculum task forces were key to guiding structured and responsive curriculum change. At the institutional level, senior leadership emphasized policy alignment,

regulatory compliance, and the integration of innovations such as digital learning, ensuring coherence with institutional goals and quality assurance frameworks. Overall, the findings reflect a multi-tiered, systematic, and collaborative approach to curriculum change, with strong attention to relevance, quality, and stakeholder engagement.

The approaches employed by these four institutions identified from the responses of the interviewees were found to be in line with previous research, where Paramasivam [13] articulated that the utilization of strategies and models for managing curriculum change is intended to effectively oversee the implementation of curriculum adjustments from the central level to the end user, thereby ensuring successful execution of the curriculum. When interviewees were prompted on their view on how lecturers can adequately prepare themselves and support the implementation of new curriculum changes or innovations process. The responses provided were consistent with past studies, Suleh [29] underscored that The Ministry of Education should provide educators with ongoing opportunities to develop their skills in using implementing and managing curriculum change as well as innovative teaching approaches. This can include workshops, online training resources, and peer observation programmers. Academic leaders can achieve effective curriculum change through these continuous improvement strategies.

Based on the findings of this research and previous studies, it is crucial that curriculum change, and innovation are carried out in a structured and systematic manner. Cai, et al. [30] have suggested that a successful curriculum change, and innovation process involves three key steps: initiation, implementation, and institutionalization. This approach enables academic leaders to concentrate on each stage and engage in reflective practices before moving on to the next phase. For change to be effectively implemented, it may need to be an ongoing and cyclical process, necessitating regular reviews and active involvement of stakeholders. In general, for curriculum change and innovation to be effective, academic leaders at HEIs must be very clear about why ~~the~~ change and innovation are necessary, well verse and understand the change and innovation process, develop learning cultures amongst stakeholders, developing leadership and capacity building and lastly effective communication, awareness, and sensitization among stakeholders [31].

Theme 2: Obstacles encountered when implementing new curriculum initiatives

During the curriculum change process, academic leaders often face a variety of challenges in ensuring the revised curriculum remains relevant to industry needs, while also navigating the logistical complexities of integrating new courses and programs into existing institutional frameworks.

In response to Research Question 2, interviewees were asked to identify common obstacles or resistance encountered during the implementation of new curriculum initiatives. The study also explores the strategies employed by academic leaders to gain support and engagement from stakeholders throughout the change process. A summary of the identified obstacles and resistance is presented in Table 3 below.

Table 3.
Obstacles that emerged during the implementation of new curriculum initiatives.

Respondents	Obstacles that emerged
1,2	Manpower allocation….time constraints
3, 4	Budget constraints…shortage of teaching staff…limited resources
2, 3, 4	Lengthy approval processes from education authorities.
1, 2, 3	Technology gaps
2,4	Insufficient involvement of stakeholders in the review and planning process.

As observed in Table 3, the respondents highlighted several obstacles and challenges these institutions faced. A recurring challenge was budget constraints and limited resources, these expresses the concern over insufficient funding and staffing shortages that hinder effective curriculum delivery. Lengthy approval processes from education authorities were also a prominent issue which often causing

significant delays in rolling out new programs. Additionally, technology gaps were identified as a barrier, particularly in the adoption of digital tools and platforms essential for modern curriculum innovation. These findings underscore the systemic and institutional hurdles that academic leaders must navigate to successfully implement curricular changes.

Interviewee 2, 3 and 4 mentioned that:

> …..*The curriculum review itself didn't take long. …getting the green light from the university senate and external bodies took almost a year. By then, some of the content was already outdated, and we had to revise it again…..*
>
> ….*had the vision to integrate more digital content and e-learning elements, but many lecturers weren't familiar with the required tools…*
>
> …*the funding just wasn't available. Plus, with the current staff load, it was difficult to assign teaching responsibilities without overburdening the team…*

Respondents noted that the significant challenges in the process of curriculum change is manpower allocation. It is essential to recruit educators who possess the necessary expertise to guarantee the successful implementation of the new course. He underlined the importance of not compromising on the quality of education by merely filling positions with available but potentially under-qualified staff.

Interviewee 1 stated:

> … *when we allocate manpower, meaning that if you have a new course, right, would you be able to find someone relevant, subject matter, to actually lead and also teach and also assess that course….*

Interviewee 2 mentioned:

> …. *time was one of the biggest constraints for us. Most of the lecturers were already overloaded with teaching and administrative responsibilities, so finding the time to sit down and properly review the curriculum was a challenge.*

Additionally, respondents noted that lack of early engagement from key academic staff, industry partners, and students often resulted in a disconnect between the proposed curriculum and the practical needs of those affected by the changes. The respondents noted that limited consultation led to resistance during implementation and necessitated repeated revisions, thereby delaying the overall process.

Interviewee 2 and 4 stated:

> …….*we had to deal with a lot of back-and-forth to get their input later on. It would have been smoother if we had included more people especially those teaching the core subjects right from the start…*
>
> …..*One issue we encountered was limited stakeholder consultation….that sometimes led to some disconnect between what we proposed and what the current job market or learners actually needed….*

These obstacles are consistent with past studies, whereby Simon, et al. [31] identified a lack of teachers, limited financial resources, and a lack of technological resources, Sim Poh Thong and Chang Hui Chung [23] echoed inadequate well-trained teachers is one of the challenges in managing curriculum change and innovation. Correspondingly, Riad [32] echoed lack of user communication (deadlines, requirements, processes, etc.), absence of proper training or tutorials, complicated processes on the curriculum web-based system and no standards to regulate or guide the process were obstacles to current curriculum management processes.

Respectively, Rabiu [33] discovered most educators struggle to transition out of their familiar teaching methods when faced with impending curriculum changes. Instead of embracing a new curriculum, many prefer to stick to the old one that they are comfortable with, avoiding the arduous task of adapting to a different approach. Additionally, there is a common belief among teachers that collaborative work requires a significant amount of time and effort.

5. Conclusion, Implication and Future Research

This study examined the roles, approaches, and challenges faced by academic leaders in managing curriculum change and innovation in higher education institutions. The findings highlight that academic leaders occupy a pivotal position in steering curriculum initiatives, ensuring alignment with regulatory requirements, and responding to evolving industry and educational demands. Their responsibilities span strategic planning, quality assurance, and faculty coordination reflecting a broad yet integrated leadership role. In addressing curriculum change, academic leaders employ a combination of analytical and collaborative approaches. These include needs analysis, bench-marking practices, stakeholder consultations, and the formation of curriculum task forces. Such strategies are implemented at various institutional levels from program to departmental and institutional leadership demonstrating a multi-tiered, systematic effort toward curriculum development that emphasizes both relevance and compliance. However, despite the structured and participatory approaches adopted, the study revealed several persistent obstacles that hinder effective curriculum implementation. These issues indicate that even with strong leadership and planning, systemic and infrastructural barriers remain critical concerns.

The study has several implications for practice in institutions of higher learning. The findings suggest that successful curriculum reform in higher education requires a holistic institutional commitment to capacity building, stakeholder engagement, and leadership development. Ensuring adequate resource allocation including time, staffing, and budget is essential for smooth implementation, while early and meaningful involvement of faculty, students, and industry partners can foster shared ownership and reduce resistance. Streamlining internal processes and enhancing communication with regulatory bodies may help overcome bureaucratic delays. Finally, continuous professional development for academic leaders is vital to strengthen their strategic and collaborative capacities in managing complex curriculum change.

Future research should explore a larger and more diverse sample of academic leaders across multiple institutions, disciplines, and geographical regions. This would enable comparative analysis and offer a more comprehensive view of leadership practices in curriculum development across various higher education contexts. Additionally, as higher education continues to shift toward digital and hybrid models, research should examine how academic leaders are navigating digital transformation in curriculum planning. This includes investigating how technologies are being integrated and the support structures required to sustain digital curriculum innovation.

Transparency:
The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

References
[1]   E. J. Theobald *et al.*, "Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math," in *Proceedings of the National Academy of Sciences*, 2020.
[2]   C. Todd, "Social and emotional learning. In Advances in educational technologies and instructional design," *IGI Global*, pp. 119–130, 2023. https://doi.org/10.4018/978-1-6684-7639-0.ch008

[3]   C. Deng, D. Gulseren, C. Isola, K. Grocutt, and N. Turner, "Transformational leadership effectiveness: An evidence-based primer," *Human Resource Development International*, vol. 26, no. 5, pp. 627-641, 2023. https://doi.org/10.1080/13678868.2022.2135938

[4]   G. K. Sidhu, *HPEF7033 Comparative Studies in Curriculum Change*. Open University Malaysia: Open University Malaysia Press, 2021.

[5]   D. C. P. Leong, "Curriculum change management amidst pandemic crisis: Comparative study of academic leadership in quantity surveying program," *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, vol. 7, no. 4, pp. e001464-e001464, 2022.

[6]   G. Buchashvili, K. Djakeli, and A. Kazaishvili, "Leadership challenges and the role of education in forming leaders in VUCA world," in Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0: Emerald Publishing Limited, 2022, pp. 161-168.

[7]   R. D. Sorenson, L. M. Goldsmith, Z. Y. Méndez, and K. T. Maxwell, *Defining curriculum leadership. In R. D. Sorenson, L. M. Goldsmith, Z. Y. Méndez, & K. T. Maxwell.The principal's guide to curriculum leadership* Thousand Oaks, CA: Corwin Press, 2011.

[8]   Q. Wang and Y. X. Zheng, "Analysis of teacher curriculum leadership in the context of the new curriculum," *Teaching and Management*, vol. 21, pp. 3–5, 2013.

[9]   A. Harris and M. Jones, "COVID 19 – school leadership in disruptive times," *School Leadership & Management*, vol. 40, no. 4, pp. 243-247, 2020. https://doi.org/10.1080/13632434.2020.1811479

[10]   R. M. Ylimaki, "Curriculum leadership in a conservative Era," *Educational Administration Quarterly*, vol. 48, no. 2, pp. 304-346, 2012. https://doi.org/10.1177/0013161x11427393

[11]   N. Zainal, M. M. Awang, A. R. Ahmad, A. Ahmad, and A. Muhthar, "A comparative study of history education curriculum in Malaysia and Indonesia," in *The 2nd International Conference on Sustainable Development and Multi-ethnic Society*, 2019.

[12]   D. S. Mohammad and S. Ismail, "Comparative analysis between Nigeria and Malaysia education policies and employability skills in Tvet curriculum," *Open Journal of Science and Technology*, vol. 2, no. 2, pp. 1-5, 2019.

[13]   T. Paramasivam, "Change models and strategies in the context of managing curriculum change: A case study of managing curriculum year four history curriculum in the district of Kuala selangor, Malaysia," *Journal of Research, Policy & Practice of Teachers and Teacher Education*, vol. 8, no. 2, pp. 38-52, 2018. https://doi.org/10.37134/jrppte.vol8.no2.5.2018

[14]   R. Sathappan and P. Gurusamy, "A case study in curriculum change on practicum in a tesl programme in two Malaysian institutions of higher learning," *Journal of Social Science Research*, vol. 15, pp. 11-26, 2020. https://doi.org/10.24297/jssr.v15i.8596

[15]   F. A. Majid, "A comparative study on the current TESL curriculum: Identifying a match for industry revolution (IR) " *International Journal of Applied Linguistics and English Literature*, vol. 7, no. 6, p. 214, 2018. https://doi.org/10.7575/aiac.ijalel.v.7n.6p.214

[16]   J. Murphy, *Principal instructional leadership. In F. M. Newmann (Ed.), advances in educational administration (Vol. 1: B changing perspectives on the school.* New York: Macmillan, 1990.

[17]   B. Burnes, "The origins of lewin's three-step model of change," *The Journal of Applied Behavioral Science*, vol. 56, no. 1, pp. 32-59, 2020. https://doi.org/10.1177/0021886319892685

[18]   J. W. Creswell and C. N. Poth, *Qualitative inquiry and research design: Choosing among five approaches* 4th ed. ed. Thousand Oaks, CA: SAGE Publications, 2018.

[19]   R. K. Yin, *Case study research and applications: Design and methods* 6th ed. ed. Thousand Oaks: Sage Publications, 2018.

[20]   P. Baxter and S. Jack, "Qualitative case study methodology: Study design and implementation for novice researchers," *The Qualitative Report*, vol. 13, no. 4, pp. 544-559, 2008. https://doi.org/10.46743/2160-3715/2008.1573

[21]   S. B. Merriam and E. J. Tisdell, *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass, 2016.

[22]   I. Etikan and K. Bala, "Sampling and sampling methods," *Biometrics & Biostatistics International Journal*, vol. 5, no. 6, p. 00149, 2017. https://doi.org/10.15406/bbij.2017.05.00149

[23]   J. Sim Poh Thong and I. Chang Hui Chung, "The role of academic leaders in leading and managing curriculum change and innovation in two foreign branch campus universities in Sarawak," *Journal of Social Sciences and Technical Education*, vol. 4, no. 1, pp. 127–143, 2023.

[24]   L. A. Palinkas, S. M. Horwitz, C. A. Green, J. P. Wisdom, N. Duan, and K. Hoagwood, "Purposeful sampling for qualitative data collection and analysis in mixed method implementation research," *Administration and Policy in Mental Health and Mental Health Services Research*, vol. 42, no. 5, pp. 533-544, 2015. https://doi.org/10.1007/s10488-013-0528-y

[25]   V. Braun and V. Clarke, *Thematic analysis: A practical guide* London, England: SAGE Publications, 2022.

[26]   V. Clarke, V. Braun, and N. Hayfield, *Thematic analysis. In J. A. Smith qualitative psychology: A practical guide to research methods* London, England: SAGE Publications, 2015.

[27]   M. Y. Law, "Leadership and change management in the transition to online curriculum delivery in Malaysia: A comparative case study," *Journal of Applied Research in Higher Education*, vol. 16, no. 4, pp. 1146-1159, 2023. https://doi.org/10.1108/JARHE-02-2023-0054

[28]   R. Funk, K. Uhing, M. Williams, and W. M. Smith, "The role of leadership in educational innovation: A comparison of two mathematics departments' initiation, implementation, and sustainment of active learning," *SN Social Sciences*, vol. 2, no. 12, p. 258, 2022. https://doi.org/10.1007/s43545-022-00565-8

[29]   E. O. Suleh, "Integration of innovative curriculum design and student-centred instruction," *International Journal of Novel Research and Development*, vol. 9, no. 5, pp. 2456-4184, 2024.

[30]   W. Cai *et al.*, "The 2021 China report of the lancet countdown on health and climate change: Seizing the window of opportunity," *The Lancet Public Health*, vol. 6, no. 12, pp. e932-e947, 2021.

[31]   D. Simon *et al.*, "Patients with immune-mediated inflammatory diseases receiving cytokine inhibitors have low prevalence of SARS-CoV-2 seroconversion," *Nature Communications*, vol. 11, no. 1, p. 3774, 2020.

[32]   J. Riad, "Obstacles to successful curriculum management in higher education and opportunities for improvement," *International Journal for Innovation Education and Research*, vol. 10, no. 12, pp. 89-93, 2022. https://doi.org/10.31686/ijier.vol10.iss12.4007

[33]   A. M. O. J. I. S. O. L. A. Rabiu, "Curriculum change implementation barriers: Perception of primary school teachers in Oyo State," *International Journal of Research in Education and Sustainable Development*, 2022.