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STRUCTURAL PRESSURES ON LIBRARY AND INFORMATION SCIENCE EDUCATION IN MALAYSIA: A DIAGNOSTIC ANALYSIS

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Abstract. Library and Information Science (LIS) education in Malaysia operates within a higher education system that faces a set of structural challenges serious enough to limit its capacity for meaningful reform. This paper provides a systematic diagnostic analysis of eight structural pressures that have accumulated within the Malaysian LIS higher education context: outdated programme standards, a constrained academic expert pool, narrow industry representation in advisory processes, assessment complexity under outcome-based education, internship placement constraints, weak postgraduate demand, limited professional regulatory influence, and challenging student intake dynamics. Drawing on a critical practitioner inquiry methodology grounded in the author's sustained engagement with Malaysian LIS higher education as an MQA programme auditor, academic dean, and advisory board member at national and state library level, the paper goes beyond identifying these pressures individually to analyse how they interact and reinforce each other as a systemic condition. The analysis reveals that the eight pressures are not independent problems amenable to isolated fixes but form an interlocking system in which the weaknesses of each element amplify the others. The paper identifies the revision of the MQA Programme Standards as the most leveraged single intervention, since it creates the regulatory space within which the other structural reforms become possible. The findings have direct implications for LIS programme leaders, quality assurance bodies, professional associations, and policymakers responsible for the long-term health of the information profession in Malaysia.

Keywords. *Library and Information Science education; Malaysia; programme standards; quality assurance; curriculum reform; professional identity; MQA*.

A. INTRODUCTION

Library and Information Science (LIS) education in Malaysia has grown considerably since its early establishment at Mara Institute of Technology in the 1970s and its subsequent expansion across public and private universities (Khoo, Majid & Chaudhry, 2004). Today, LIS-related programmes are offered at diploma, bachelor's, master's, and doctoral levels across several institutions, covering subdisciplines including library science, information management, knowledge management, archival science, records management, and museum and heritage information management (Malaysian Qualifications Agency, 2013). This breadth reflects genuine national investment in building a professional workforce capable of managing the information and knowledge assets of a developing economy.

Yet despite this institutional growth, there is growing recognition in the literature and among practitioners that LIS education in Malaysia faces structural challenges that are limiting its capacity to respond to rapid changes in the information profession (Bairagi & Lihitkar, 2024; Chandrashekara & Mulimani, 2024). The rise of artificial intelligence, digital transformation across all sectors, the expansion of research-intensive environments, and the growing demand for information governance expertise are reshaping what employers expect from LIS graduates (Cox & Mazumdar, 2024; Masrek & Khan, 2025; Tian & Chen, 2025). At the same time, the structural conditions within which Malaysian LIS programmes operate have not kept pace with these external developments. Programme standards have not been substantially revised since 2013, the academic expert pool remains small, industry representation in curriculum development is narrow, and the profession's capacity to advocate for itself in national policy conversations is limited.

Most discussions of LIS education reform focus on what curricula should contain, proposing new subjects, competency frameworks, or graduate attributes suited to the digital age (Raju, 2021; Weech, 2025). This is important work, but it addresses the question of what to teach without first systematically diagnosing the structural conditions within which any curriculum change must be implemented. A curriculum reform proposal, however well designed, will have limited effect if the regulatory framework does not support it, the expert pool needed to implement it is too small, the industry advisory input that should shape it is too narrow, or the students entering the programme are not adequately prepared for it. Understanding the structural conditions is a necessary first step.

This paper addresses that gap. Its aim is to provide a systematic diagnostic analysis of eight structural pressures that together describe the current condition of Malaysian LIS higher education. The paper does not propose a curriculum framework or set of graduate competencies. Its contribution is the diagnosis itself: a careful account of what is structurally limiting Malaysian LIS education, how these pressures interact, and which of them is most strategically important to address first.

The paper is organised as follows. Section 2 describes the methodology, explaining the critical practitioner inquiry approach and the sources of evidence on which the analysis draws. Section 3 provides the contextual background to Malaysian LIS higher education and its quality assurance framework. Section 4 presents the eight structural pressures in detail. Section 5 analyses how the pressures interact as a system rather than as independent problems. Section 6 discusses the implications for reform, identifying the most leveraged intervention. Section 7 concludes.

B. METHODOLOGY

This paper employs a critical practitioner inquiry methodology, a form of insider research in which sustained professional engagement with the phenomenon being studied becomes a primary source of evidence (Cochran-Smith & Lytle, 2009; Boud & Walker, 1998). The approach is grounded in the tradition of the reflective practitioner, in which professional experience is treated not merely as contextual background but as a legitimate and systematic source of knowledge about how systems work in practice (Schön, 1983). In education and professional development research, practitioner inquiry has been used to generate insights about systemic conditions that are not visible through conventional data collection methods but are nevertheless real, consequential, and documentable through careful reflection and analysis (Zeichner & Noffke, 2001; Anderson & Herr, 1999).

The author's engagement with Malaysian LIS higher education spans multiple roles at multiple institutional levels over an extended period. As a programme auditor appointed by the Malaysian Qualifications Agency, the author has conducted accreditation and quality assurance visits to LIS programmes across Malaysian higher education institutions, evaluating programme documentation, curriculum design, assessment systems, industry engagement mechanisms, academic staffing, student support structures, and graduate outcomes. As a former dean of a faculty offering LIS programmes, the author has direct operational experience of the internal institutional dynamics that shape curriculum decisions, including the constraints imposed by regulatory requirements, resource limitations, and advisory panel structures. As a board member at both national library and state library level, the author has observed from inside the governance structures of Malaysia's major public information institutions how professional workforce issues, qualification recognition, and the relationship between education and practice are understood and managed at the national level.

This combination of roles provides a vantage point that no single form of data collection could replicate. An MQA auditor sees how programmes present themselves for external review, what documentation they produce, and how they respond to quality concerns. A dean sees what actually constrains curriculum decisions in practice, independent of what documentation says. A board member at national institutional level sees how the profession is represented, or not represented, in the policy conversations that shape its future. Together, these perspectives produce an understanding of Malaysian LIS education that is both broad and deep.

The analysis presented in this paper is based on observations and reflections accumulated across these roles, interpreted through the lens of the existing scholarly literature on LIS education, higher education quality assurance, and professional development. Where observations are drawn upon, they are presented as contextual evidence that supports and extends the published literature rather than as a substitute for it. The paper does not report specific institutional findings from individual audit visits, which would raise confidentiality concerns, but draws on patterns observed consistently across multiple institutions and over time. This is consistent with established practice in practitioner inquiry research, which aims to identify systemic patterns rather than to report on individual cases (Cochran-Smith & Lytle, 2009).

A limitation of this approach is that it reflects the perspective of one practitioner, however experienced, and carries the risk of confirmation bias that affects all insider research (Anderson & Herr, 1999). The pressures identified and analysed here are presented as the author's considered professional judgement, informed by literature and experience, rather than as findings derived from a systematic survey or statistical analysis. Future empirical validation through structured surveys of LIS educators, employers, and graduates, or through institutional document analysis across all Malaysian LIS-offering institutions, would strengthen the diagnostic framework presented here. The paper invites such validation by providing a clear and testable analytical structure.

C. MALAYSIAN LIS EDUCATION AND ITS QUALITY ASSURANCE FRAMEWORK

LIS education in Malaysia operates within the framework of the Malaysian Qualifications Framework (MQF) and is governed at the programme level by standards set by the Malaysian Qualifications Agency (MQA). The MQA was established under the Malaysian Qualifications Agency Act 2007 and is responsible for quality assurance across all levels of higher education, including the development and implementation of programme standards for recognised fields of study (Malaysian Qualifications Agency, 2018). For LIS and related disciplines, the relevant governing document is the Programme Standards: Information Science, most recently issued in its second edition in 2013 (Malaysian Qualifications Agency, 2013).

The 2013 Programme Standards represent a significant and carefully developed document. They formally recognise six subdisciplines within the broader field of Information Science, namely Library Science, Information Management, Knowledge Management, Archival Science, Records Management, and Museum and Heritage Information Management (Malaysian Qualifications Agency, 2013). For each subdiscipline and qualification level, they specify core and elective knowledge areas, learning outcomes, and minimum institutional requirements covering academic staffing qualifications, physical facilities, and student support infrastructure. Programmes seeking accreditation must demonstrate compliance with these standards through documentation, external review, and periodic audit.

Malaysian universities offering LIS-related programmes include several public institutions, among them Universiti Teknologi MARA, Universiti Malaya, Universiti Islam

Antarabangsa Malaysia, and Universiti Kebangsaan Malaysia, as well as selected private institutions (Khoo, Majid & Chaudhry, 2004). Programme offerings range from diploma to doctoral level, though the distribution is uneven, with bachelor's degree programmes being the most widely available and doctoral programmes concentrated in a small number of research-intensive institutions. Some subdisciplines, particularly archival studies and museum and heritage information management, are offered by very few institutions, limiting both the academic expert pool available for review and the range of industry placements accessible to students.

The quality assurance cycle for Malaysian higher education programmes typically follows a pattern of programme approval, periodic programme audit, and accreditation review. Under the Code of Practice for Programme Accreditation (COPPA), institutions are required to maintain systematic evidence of programme quality, including curriculum mapping, assessment results, graduate tracer data, and employer feedback (Malaysian Qualifications Agency, 2018). Industry advisory panels are a formal requirement, as are mechanisms for regular curriculum review and continuous quality improvement. External academic advisors and examiners are expected to provide independent perspective on programme quality, particularly at postgraduate level.

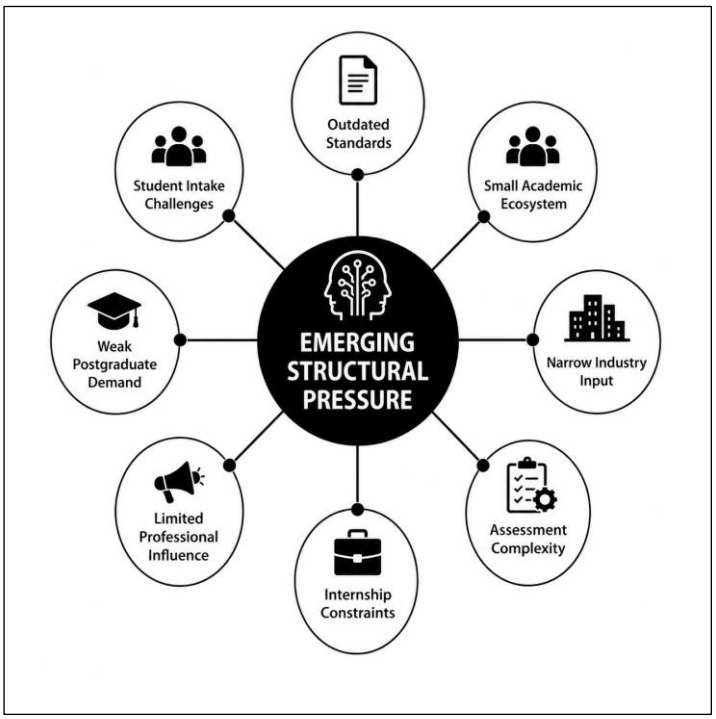
The professional association for the LIS field in Malaysia is Persatuan Pustakawan Malaysia (PPM), established in 1967. PPM has played a consistent role in professional development, networking, and advocacy for the library and information community, but it operates as a non-governmental organisation without statutory regulatory authority (Enser, 2002). Unlike professional bodies in law, medicine, engineering, or accountancy, PPM does not have the formal power to accredit programmes, certify practitioners, or set enforceable entry standards for employment. This distinction has consequences for the profession's influence over both curriculum design and workforce policy, as discussed in Section 4.7.

This institutional landscape, established programmes within a formal quality assurance system, an active but non-statutory professional association, and a network of public information institutions at national and state level, provides the structural context within which the eight pressures analysed in this paper have developed. None of the pressures described below is a recent development. Each has its roots in long-standing features of the system, and each has been amplified rather than created by the accelerating pace of change in the information profession.

D. EIGHT STRUCTURAL PRESSURES IN MALAYSIAN LIS EDUCATION

The following eight pressures were identified through the synthesis of practitioner observation and published literature described in Section 2 (Figure 1). They are presented in an order that broadly reflects the regulatory and institutional hierarchy within which LIS education operates, beginning with the most foundational regulatory constraint and moving progressively towards the human and relational dimensions of the system. This ordering matters: the first pressure, outdated programme standards, creates conditions that amplify many of the others. The relationship between the pressures is explored systematically in Section 5.

Figure 1: Structural pressures in Malaysian LIS education



(Source: Developed by the authors)

1. Outdated Programme Standards

The most foundational structural constraint on Malaysian LIS education is the currency of the MQA Programme Standards for Information Science. The 2013 standards were well designed for their time, providing a clear and comprehensive framework for programme development during a period when digital libraries, information systems, and knowledge management were the defining challenges of the field (Malaysian Qualifications Agency, 2013). They established a credible foundation and gave institutions a legitimate basis for curriculum development across the six recognised subdisciplines.

However, the information landscape has changed substantially since 2013. Artificial intelligence, big data analytics, data governance, research intelligence, cloud-based information services, open data, and the growing demand for records management expertise in digital environments have all emerged as significant professional realities in the decade since the standards were published (Cox & Mazumdar, 2024; Masrek & Khan, 2025; Chandrashekara & Mulimani, 2024). The standards, which predate these developments, do not reflect them. They do not recognise AI literacy, data governance, research data management, or digital preservation as core knowledge domains. They do not address the competency expectations of employers in sectors beyond the traditional library and archival context (Masrek et al., 2012). They do not acknowledge

the expanded career pathways available to LIS graduates in research institutions, corporations, healthcare, and government digital transformation roles.

The practical consequence, observed consistently across programme audit processes, is that institutions seeking to incorporate emerging competencies into their curricula face a regulatory dilemma. Introducing new subjects or restructuring programmes to reflect contemporary professional demands risks non-compliance with standards that do not authorise those changes. Institutions can and do innovate within the margins the standards allow, but genuinely transformative curriculum reform, the kind that would reorient a programme around AI governance, data stewardship, or information integrity, cannot be undertaken without a revised regulatory foundation. This conservative effect of outdated standards on curriculum innovation has been documented in other national contexts (Chawner & Oliver, 2016; Raju, 2021) and is directly observed in the Malaysian case.

A related problem concerns the standards' treatment of academic staff qualifications. The 2013 standards specify minimum qualification requirements for academic staff in each subdiscipline, but those requirements were set for a professional landscape that no longer exists in its original form. As the profession evolves, the qualifications that should be required for teaching information governance, AI-assisted cataloguing, or research data management are not clearly addressed, leaving institutions uncertain about whether newly recruited staff with relevant emerging specialisations satisfy the letter of the accreditation requirements. Until the standards are comprehensively revised to reflect the current and anticipated state of the information profession, every institution's reform efforts will be constrained by their incompatibility with the regulatory framework.

2. Small Academic Ecosystem and Limited Expert Pool

Meaningful curriculum development and quality assurance in Malaysian higher education require the involvement of suitably qualified external experts in multiple roles: external academic advisors who review programme design, external examiners who moderate assessed work, industry panel members who contribute employer perspectives, and accreditation reviewers who evaluate programme quality against regulatory standards (Malaysian Qualifications Agency, 2018; Doan, Doan & Trinh, 2025; Attree, 2025). The credibility of these processes depends on the availability of experts who are sufficiently independent from the institution being reviewed, sufficiently specialised in the relevant subdiscipline, and sufficiently current in their professional knowledge to make meaningful contributions.

In Malaysian LIS education, the pool of individuals who meet all three criteria is structurally limited. The number of universities offering LIS programmes is relatively small compared with fields such as engineering, business, or education, which means the population of academics with the right specialisations and standing is also small (Khoo, Majid & Chaudhry, 2004). This creates a well-known and directly observable pattern: the same individuals are repeatedly appointed to serve as external advisors, examiners, accreditation panel members, and doctoral supervisors across multiple

institutions simultaneously. While their expertise is genuine and their contributions valuable, this pattern creates a de facto closed circuit in which the same perspectives, the same assumptions about what LIS education should contain, and the same professional networks circulate without fresh external challenge.

The problem intensifies for specialised subdisciplines. Archival studies and museum and heritage information management, in particular, are offered by only one or two institutions in Malaysia. Where a specialisation exists at only one institution, it is structurally impossible to find a truly independent local expert for curriculum review, because the only qualified local experts are typically employed by that institution or have professional relationships with it that compromise their independence. In such cases, institutions must either appoint international advisors, which introduces cost, coordination complexity, and potential contextual misfit, or rely on domestic experts whose independence is questionable (Khoo, Majid & Chaudhry, 2004).

A further dimension of this pressure, observed in audit contexts, is the burden it places on those individuals who are repeatedly called upon. When the same small group of academics are expected to serve simultaneously as external advisors, examiners, doctoral supervisors, and accreditation reviewers across multiple institutions, the time and intellectual capacity available for each role is necessarily limited. This affects the depth and quality of review that institutions receive, even when the reviewers themselves are highly qualified. The solution is not to criticise individual reviewers but to recognise that the system has become dependent on a level of individual commitment that is not sustainable and that structural solutions, expanding the pool through regional alliances, international partnerships, and investment in emerging specialist academics, are necessary.

3. Narrow Industry Input and Traditional Sector Dominance

Industry advisory panels are a formal requirement of Malaysian higher education quality assurance and are intended to ensure that programmes remain aligned with labour market needs, employer expectations, and current professional practice (Malaysian Qualifications Agency, 2018; Attree, 2025). Their contribution is particularly important in professional fields like LIS, where the gap between academic preparation and workplace requirement can develop quickly as the profession evolves. Research consistently shows that structured employer engagement in curriculum development improves graduate employability and programme relevance (Abdullah & Kaur, 2018; Popli & Singh, 2024).

In practice, however, the composition of LIS advisory panels in Malaysia reflects the traditional sectors of the profession rather than the full contemporary landscape of information work. Practitioners appointed to these panels are drawn predominantly from academic libraries, public libraries, school libraries, government documentation centres, and archival institutions. This is partly a consequence of professional networks — it is natural to recruit advisors from the sectors where LIS graduates have traditionally been employed and where faculty members have established contacts — and partly a consequence of who is available and willing to serve in a voluntary advisory capacity.

The limitation is not the quality of the advisors from traditional sectors, who bring genuine and relevant expertise in collection management, information services, records preservation, and user engagement. The limitation is what their perspectives cannot capture. Organisations in healthcare, financial services, technology, digital content, corporate knowledge management, government digital transformation, and research-intensive industries are now significant employers of professionals with information skills, requiring competencies in enterprise content management, data governance, research analytics, AI-enabled services, and information lifecycle management (Yadav, 2022; Tian & Chen, 2025; Weech, 2025). When these sectors are absent from advisory discussions, curriculum planning tends to reproduce what the traditional sectors know and value, without anticipating where the profession is actually moving.

The consequences of this narrowness are visible in programme curricula that are well designed for employment in public and academic libraries but less clearly oriented towards the expanding range of information roles in non-traditional sectors. It is also visible in how programmes describe their graduate outcomes to prospective students, which in turn affects the student intake problem described in Section 4.8. A programme whose advisory panel consists entirely of library professionals will tend to describe its graduate destinations in terms of library employment, which signals to prospective students and their families that the qualification has a narrow career range, even when the actual competencies it develops are applicable much more broadly.

4. Assessment Complexity in the Era of Outcome-Based Education and Artificial Intelligence

Malaysian higher education operates under an outcome-based education framework in which academic programmes are required to demonstrate systematic alignment between course learning outcomes, programme learning outcomes, teaching and learning activities, and assessment methods across three domains of learning: cognitive, affective, and psychomotor (Anand et al., 2024; Malaysian Qualifications Agency, 2013). The cognitive domain addresses knowledge, analysis, and problem-solving. The affective domain addresses professional attitudes, ethical awareness, teamwork, and communication. The psychomotor domain addresses practical and technical skills. For LIS programmes, which must develop competencies across all three domains, designing assessments that authentically and demonstrably measure each domain is a demanding and resource-intensive task.

The challenge is compounded by the nature of LIS professional competencies themselves. Many of the most important skills LIS graduates need, such as professional judgement in appraisal, user needs assessment, reference interview technique, collection evaluation, and ethical decision-making in information governance contexts, are difficult to assess reliably through traditional examination formats. They are better assessed through observation, performance tasks, portfolio evidence, simulated professional scenarios, and workplace-based assessment (Vlachopoulos & Makri, 2024). This pushes programmes towards multi-method assessment designs that require substantial academic time, careful moderation, and robust documentation to satisfy

audit requirements. Institutions with small academic teams, which is common in a small LIS ecosystem, find this particularly challenging to sustain.

The availability of generative AI tools has added a new dimension to this challenge (Zhao, Chapman & Sabet, 2024). Many standard assessment formats in LIS education, literature reviews, research proposals, annotated bibliographies, critical analyses of information sources, and reflective reports, are now tasks that AI tools can perform at a level indistinguishable from moderate student work (Kovanović et al., 2025). This creates a genuine assessment validity problem that goes beyond academic integrity concerns. If the assessment is primarily a written output that AI can produce, the assessment is measuring something other than what it claims to measure. It is not measuring the student's analytical ability, professional understanding, or practical skill; it is measuring their ability to generate and submit a written product.

The response observed across institutions during audit and advisory interactions tends to be cautious and incremental: adding plagiarism detection tools, introducing oral components to existing assessments, or requesting that students submit process artefacts alongside final products. These adaptations help, but they do not address the underlying mismatch. What is needed is a more fundamental rethinking of what LIS assessment should look like, oriented towards tasks that AI cannot perform and that directly reflect the professional judgements that LIS graduates will need to exercise in practice. This includes live reference interviews, observed information literacy instruction, practical information system evaluations, and professional case analyses that require real-time decision-making. Designing, delivering, and reliably assessing these tasks requires both institutional commitment and, critically, a regulatory framework that explicitly endorses and supports authentic assessment methods in LIS programmes.

5. Internship Constraints: Placement Quality and Relevance

Industrial training is a required component of LIS programmes at both diploma and degree level in Malaysia, carrying between two and five credit hours at diploma level and between six and twelve credit hours at degree level (Malaysian Qualifications Agency, 2013). The credit weightings reflect genuine expectations about the formative role of workplace exposure in professional preparation. For a professional field like LIS, where the gap between theoretical knowledge and practical application can only be bridged through direct professional experience, industrial training is not a peripheral requirement; it is central to the achievement of programme learning outcomes (Sinnasamy & Edzan, 2015; Pymm & Juznic, 2014).

In practice, however, the industrial training ecosystem in Malaysia faces two distinct problems: placement scarcity and placement quality. On the scarcity side, the traditional organisations that host LIS industrial training students, public libraries, academic libraries, national and state archives, and government documentation centres, have limited capacity to absorb students from multiple universities during the same calendar periods. When several institutions schedule their industrial training components simultaneously, as frequently happens when academic calendar structures

align, competition for available placements intensifies. Host organisations that are willing and able to provide quality supervision may find themselves receiving more student applications than they can accommodate, while students whose programme timelines do not align with available placements face delays and complications (Nguyen, 2025).

The placement quality problem is in many respects more serious. Across audit visits and advisory interactions at host organisations, a consistent pattern emerges: students placed in organisations for industrial training are frequently assigned tasks that are clerical, repetitive, or only loosely connected to the learning outcomes their programmes define. Shelving books, filing documents, managing front desk reception, and supporting administrative processes are common activities. These tasks provide workplace exposure but not professional development in any meaningful sense. They do not require students to exercise the judgements, apply the frameworks, or develop the competencies that their academic programmes have begun to build.

This pattern is not primarily the result of bad intentions on the part of host organisations. It reflects two structural problems. First, many host organisations do not have a clear understanding of what a well-structured LIS industrial training experience should look like, and programme institutions do not always provide adequate guidance about placement expectations. Second, the most professionally valuable tasks in contemporary information environments, evaluating information systems, conducting information audits, contributing to records management projects, supporting research data management, or assisting with digital preservation initiatives, require a level of supervised integration into real workflows that many organisations are not equipped or resourced to provide to students they will have for only a few months. The result is that students graduate from their industrial training with procedural familiarity but little genuine professional development.

A further dimension of this problem is the composition of the placement network itself. The organisations included in traditional industrial training networks, principally libraries, archives, and government information units, reflect the historical core of the profession rather than its current and emerging employment landscape. Technology firms, healthcare information units, corporate knowledge management functions, research support teams at universities, and government digital transformation agencies are rarely included in placement networks, even though these are environments where contemporary LIS competencies are genuinely in demand and where students could develop the skills that employers in those sectors are seeking. Expanding the placement network to include these environments would require deliberate relationship-building and, likely, a restructuring of what industrial training is expected to achieve.

6. Weak Postgraduate Demand: Limited Labour Market Incentives

Enrolment in LIS postgraduate programmes in Malaysia remains modest relative to the field's size and relative to postgraduate enrolment in comparable professional fields. This is consistent with patterns observed in LIS systems in other countries, where postgraduate demand has been a persistent challenge (Sibiya, 2020; Adetayo, Asiru &

Oladokun, 2024; Moniarou-Papaconstantinou, Vassilakaki & Tsatsaroni, 2015). Several contributing factors operate simultaneously in the Malaysian context, and they interact in ways that make the problem difficult to address through any single intervention.

The first factor is the labour market incentive structure in the Malaysian public sector, which is the dominant employer of LIS graduates. Under the Public Officers Regulations (2012), postgraduate qualifications are not mandatory requirements for most entry-level LIS positions in the public sector, and career progression is not tightly coupled to postgraduate qualification attainment in the way that it is in some other fields. An LIS graduate with a bachelor's degree can enter, progress, and reach senior levels in many public sector information roles without a master's or doctoral qualification. While holders of postgraduate qualifications may receive some merit consideration in competitive promotion processes, the career advantage of advanced study is not sufficiently clear or immediate to motivate the significant investment of time and money that postgraduate study requires (Public Officers Regulations, 2012; Lascano, 2021).

The second factor is the perceived narrowness and low labour market return of LIS postgraduate specialisations. Prospective students considering advanced study in library science, archival studies, or records management may see these as programmes with limited career options relative to postgraduate qualifications in management, information technology, data science, or education, all of which carry stronger signals of broad employability and higher earning potential (Moniarou-Papaconstantinou, Vassilakaki & Tsatsaroni, 2015; Malik & Ameen, 2020). This perception is partly inaccurate: the competencies developed in LIS postgraduate programmes are applicable across a much wider range of roles than the traditional library and archival sector. But the perception is also partly self-fulfilling: if postgraduate LIS programmes continue to describe their graduate outcomes primarily in terms of traditional professional roles, they will continue to attract students who seek those roles and deter students with broader ambitions.

A third factor, observed in advisory board interactions at national and state library level, is the limited articulation between postgraduate LIS qualifications and the senior or specialist roles to which they should provide access. In some organisational contexts, the value of advanced LIS qualifications is not well understood by human resource decision-makers who may not have LIS backgrounds and who evaluate qualifications primarily through generic administrative frameworks. Where postgraduate LIS qualifications are not reflected in job descriptions, salary scales, or promotion criteria for relevant roles, the incentive to obtain them is further weakened. Addressing postgraduate demand requires not only curriculum improvement but a more visible and credible connection between advanced LIS qualifications and the high-value roles they should enable.

7. Limited Professional Regulatory Influence: The Need for a Stronger Professional Ecosystem

In fields with well-established professional regulation, the professional body plays a critical role in shaping both the education and employment dimensions of the profession. In Malaysia, bodies such as the Malaysian Institute of Accountants, the Bar Council, the Malaysian Medical Association, the Board of Engineers Malaysia, and the Royal Institution of Surveyors Malaysia exercise formal or quasi-formal authority over entry to practice, professional standards, continuing professional development, and in some cases the accreditation of educational programmes (Enser, 2002). This authority reinforces the profession's identity, protects its standards, and creates visible career pathways that attract capable graduates and signal professional credibility to employers and the public.

The LIS profession in Malaysia does not have an equivalent regulatory structure. Persatuan Pustakawan Malaysia (PPM) has been active for more than five decades in supporting the library and information community through professional development programmes, publications, networking, and advocacy (Enser, 2002). Its contributions to the community's cohesion and professional identity should not be undervalued. However, as a voluntary membership association without statutory authority, PPM cannot mandate certification as a condition of employment, set enforceable professional standards, shape the content of educational programmes through accreditation authority, or mobilise the profession's collective voice in national policy conversations with the institutional weight that statutory bodies command.

The practical consequences of this limited regulatory standing are visible at multiple points in the system. Employers, particularly in non-traditional sectors, do not have a clear professional credential standard against which to evaluate LIS graduates, making it difficult for graduates to distinguish themselves from candidates with adjacent qualifications in IT, management, or administration. Curriculum developers cannot rely on professional body standards to justify curriculum content to internal governance committees or to MQA reviewers, as exists in fields where professional accreditation standards drive curriculum design. The profession's response to major national policy developments in digital infrastructure, AI governance, data regulation, and open government data has been limited by its absence from the formal policy advisory structures where such responses need to be made.

Direct observation from advisory board positions at national and state library level confirms this pattern. Information governance policy, digital infrastructure investment, and workforce development planning in the national library and information sector are discussed in forums that do not routinely include LIS professional association representation at a level of institutional weight comparable to the technical, legal, or financial professions. This means that professional perspectives on information management, archival practice, and library services are underrepresented in the decisions that most affect the conditions under which LIS professionals work and the value that the public and employers attach to their qualifications.

The long-term consequence of this gap is that the LIS profession's ability to shape its own future, through curriculum standards, employment requirements, public recognition, and policy engagement, is structurally weaker than it needs to be. Strengthening PPM's role, or exploring the feasibility of establishing a more formal professional certification framework for Malaysian LIS practitioners, would address this structural weakness at a level that no curriculum reform can reach on its own.

8. Student Intake Dynamics and Curriculum Design Challenges

LIS programmes in Malaysia, in common with LIS programmes in many countries, compete for students in a higher education market where prospective applicants and their families evaluate programme choices through the lens of perceived career status, earning potential, professional recognition, and employment security (Dukic, 2017; Sen & Prakash, 2025; Malik & Ameen, 2020). In this market, LIS programmes face genuine disadvantages relative to fields that have clearer professional identity, stronger labour market signals, and more visible career pathways. Engineering, medicine, accounting, computer science, and other professionally regulated fields tend to attract higher-achieving school leavers partly because the career implications of those choices are well understood by students, parents, and schools (Malik & Ameen, 2020).

LIS programmes frequently attract students who are genuinely interested in information, knowledge, and service but who may have limited prior exposure to quantitative reasoning, data analysis, programming, or technical systems (Yadav & Gohain, 2015; Adetayo, Asiru & Oladokun, 2024). This is not inherently problematic: strong communication skills, service orientation, organisational ability, and social awareness are genuine professional assets in the LIS field. The challenge arises because contemporary LIS practice increasingly requires digital fluency, statistical literacy, data management competency, and the ability to engage critically with algorithmic information systems, competencies that the programme cannot assume students bring with them (Yadav, 2022).

Designing curricula that build these competencies from limited foundations, while also covering the established disciplinary knowledge of the field and meeting outcome-based education requirements across cognitive, affective, and psychomotor domains, is a significant challenge. The approach that emerges from both the literature and observation of effective programme designs is to contextualise quantitative and digital skill development within LIS professional practice rather than treating these as generic prerequisites (Yadav & Gohain, 2015). Statistics taught through the analysis of library usage data, or database skills taught through the design of information systems for specific organisational contexts, are more accessible and more motivating for LIS students than the same skills presented in abstraction. The key principle is that these competencies are not additional to LIS education; they are embedded within it.

A further dimension of this pressure is the effect of intake dynamics on programme culture and academic standards. When a programme's reputation, and therefore its ability to attract capable students, is limited by the factors described above, a self-reinforcing cycle can develop: weaker intake leads to lower student achievement, which

in turn reinforces the perception that LIS programmes do not attract high-achieving students, which makes it harder to recruit the most capable applicants. Breaking this cycle requires a combination of curriculum strengthening, more effective articulation of career opportunities, and, as noted in Section 4.3, better industry advisory input that can expand the range of career pathways the programme credibly signals to prospective students.

E. HOW THE EIGHT PRESSURES INTERACT: A SYSTEMIC ANALYSIS

Presenting the eight pressures as separate subsections, as in Section 4, is useful for clarity of exposition but risks giving the impression that they are independent problems. They are not. Each pressure amplifies and is amplified by the others in a system of interlocking constraints that makes reform difficult precisely because addressing any one pressure in isolation is unlikely to produce lasting change. This section maps the most significant relationships between the pressures and explains why a systemic rather than piecemeal reform approach is necessary.

The most fundamental relationship is between the outdated Programme Standards (4.1) and virtually all other pressures. The standards set the regulatory boundaries within which curriculum development, assessment design, staffing requirements, and programme structure must operate. When the standards do not reflect the contemporary professional landscape, they create a conservative bias that limits what institutions can do. Institutions that want to restructure their programmes around AI governance, data stewardship, or research intelligence, areas not addressed in the 2013 standards, face genuine compliance risk in doing so. This means that even institutions with the will, expertise, and resources to reform are constrained. The outdated standards do not cause the other pressures, but they prevent the responses to those pressures that would otherwise be possible. Revising the standards is therefore the necessary precondition for system-wide reform.

The small expert pool (4.2) and narrow industry input (4.3) reinforce each other in a particular way. The academics who serve as external advisors and examiners in Malaysian LIS programmes are predominantly drawn from the same traditional library and archival contexts as the industry advisory panel members. This means that both internal curriculum development discussions and external review processes tend to be shaped by the same set of professional perspectives. Fresh ideas about curriculum content in emerging areas, such as information governance for AI systems, research data management, or digital preservation of born-digital records, are unlikely to enter the curriculum through either channel if neither channel includes practitioners or academics with relevant expertise in those areas. The result is a form of intellectual conservatism that is not the result of any individual's choices but of the structural composition of the review and advisory systems.

Assessment complexity (4.4) and internship quality (4.5) are connected through the same underlying problem: the gap between what programmes aspire to develop in students and what the operational structures currently available to them can actually deliver. In assessment, the aspiration is to evaluate genuine professional competence;

the operational reality is that authentic professional assessment requires resources, supervisory capacity, and assessment design expertise that small teams in a constrained ecosystem find difficult to sustain. In internships, the aspiration is professional formation; the operational reality is that the available placement organisations do not consistently provide the supervised professional experience that genuine formation requires. Both pressures would be alleviated by expanding the range of organisations engaged with the programme, whether as assessment partners, practicum hosts, or fellowship providers.

Weak postgraduate demand (4.6) and limited professional regulatory influence (4.7) reinforce each other through the labour market. The absence of a professional certification framework linked to postgraduate LIS qualifications means that employers in the public sector do not systematically reward advanced study, which reduces the incentive to pursue it. The absence of strong postgraduate demand in turn limits the capacity of universities to build the research depth and doctoral training infrastructure that would strengthen the academic foundations of the field and produce the next generation of LIS academics and researchers. A profession that cannot generate postgraduate demand cannot sustain a robust research culture, and a profession without a robust research culture has limited intellectual resources to deploy in policy advocacy, curriculum innovation, and public debate about the profession's future.

Student intake dynamics (4.8) are shaped by all the other pressures taken together. The career signals that prospective students receive about LIS are partly determined by how the profession is represented in public discourse, which depends on professional regulatory influence (4.7). They are partly determined by the range of careers the programme explicitly prepares students for, which depends on industry advisory composition (4.3). They are partly determined by the quality of graduates that employers experience, which depends on assessment validity (4.4) and internship quality (4.5). And they are partly determined by the overall intellectual vitality and contemporary relevance of the field, which depends on whether the regulatory standards (4.1) and academic review processes (4.2) are capable of supporting curriculum innovation. Improving student intake is therefore not a problem that can be solved by marketing alone; it requires improvements across multiple dimensions of the system simultaneously.

Figure 2 summarises the key relationships between the eight pressures, indicating which pairs of pressures have the strongest reinforcing connections. The table illustrates the density of these interconnections and supports the argument that system-level analysis is necessary for effective reform planning.

Figure 2: Key reinforcing relationships between the eight structural pressures in Malaysian LIS education

S Strong reinforcing relationship | M Moderate reinforcing relationship | Blank No significant direct relationship

Pressure	4.1 Outdated standards	4.2 Small expert pool	4.3 Narrow industry input	4.4 Assessment complexity	4.5 Internship constraints	4.6 Weak PG demand	4.7 Limited regulation	4.8 Student intake
4.1 Outdated standards		M	S	S	S	M	M	M
4.2 Small expert pool	M		S	M		M		
4.3 Narrow industry input	S	S		M	M	M		S
4.4 Assessment complexity	S	M			S			M
4.5 Internship constraints	S		M	S				M
4.6 Weak PG demand	M	M	M				S	M
4.7 Limited regulation	M					S		S
4.8 Student intake	M		S	M	M	M	S	

Note: S = Strong reinforcing relationship; M = Moderate reinforcing relationship; Blank = no significant direct relationship. The matrix is symmetric and read in both directions. Pressure 4.1 (Outdated Standards) has the highest number of strong connections, confirming its role as the most leveraged intervention point.

(Source: Developed by the authors)

F. IMPLICATIONS FOR REFORM: THE MOST LEVERAGED INTERVENTION

The systemic analysis in Section 5 has a direct implication for how reform of Malaysian LIS education should be approached. If the eight pressures are genuinely interconnected, as the analysis shows, then reform efforts that target one pressure without attending to the others will have limited and possibly unsustainable effects. A curriculum redesign that introduces AI governance and data literacy subjects, for example, will face difficulty if it is constrained by outdated Programme Standards that do not authorise the required changes, reviewed by an expert panel that lacks relevant expertise in the new areas, assessed through methods that AI can readily circumvent, and delivered to students whose placement organisations cannot provide relevant workplace experience. The reform may produce an improved programme document, but the conditions for genuine curriculum transformation will not have changed.

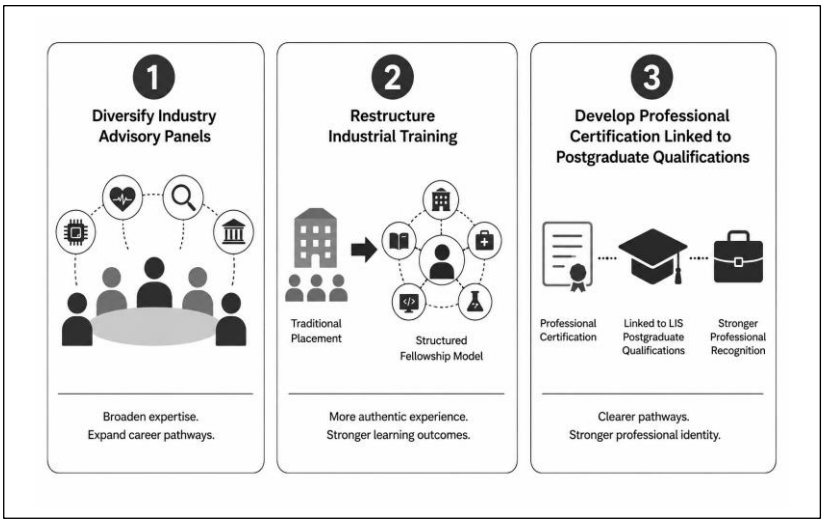
This does not mean that nothing can be done until every pressure is addressed simultaneously. It means that reform efforts need to identify the interventions that create the conditions for other changes to follow, rather than addressing each pressure as an isolated problem. The analysis points clearly to the revision of the MQA Programme Standards as the most leveraged single intervention available.

The Programme Standards sit at the top of the regulatory hierarchy within which all other system elements operate. They define what subdisciplines are legitimate, what knowledge areas are required, what staffing qualifications are acceptable, and what assessment formats are endorsed. When the standards are updated to reflect the contemporary professional landscape, they create a legitimate regulatory foundation for the curriculum changes that institutions already want to make. They provide the authority that institutions need to justify new subjects, new assessment designs, and

new staffing profiles to internal governance committees and MQA reviewers. They send a signal to industry advisory panels about what kinds of professional expertise the field now requires, which in turn influences who is recruited to those panels. They create the framework within which a revised professional certification standard could be developed and linked to postgraduate qualification levels.

In short, revising the Programme Standards does not directly solve any of the other seven pressures, but it removes the most significant regulatory constraint on the responses to those pressures. It is the precondition, not the solution. Alongside standards revision, the analysis identifies three further priorities that are particularly well positioned to address multiple pressures simultaneously (Figure 3).

Figure 3: Three Priority Interventions



(Source: Developed by the authors)

First, diversifying industry advisory panel composition to include representatives from technology, healthcare, research, and government digital transformation sectors would address pressure 4.3 directly and create positive spillovers into student intake dynamics (4.8) by expanding the range of career pathways the programme credibly signals. Second, restructuring industrial training away from traditional placement and towards structured fellowship models embedded in a wider range of organisations would address pressure 4.5 and create positive spillovers into assessment validity (4.4) by providing more opportunities for authentic professional assessment in workplace contexts (Pymm & Juznic, 2014; Popli & Singh, 2024). Third, exploring the development of a professional certification framework linked to LIS postgraduate qualifications would address pressure 4.7 directly and create positive spillovers into postgraduate demand (4.6) by creating clearer labour market signals for advanced study.

Each of these interventions is achievable within the existing institutional structures of Malaysian higher education. None requires new legislation, new institutions, or resources beyond the capacity of existing players. What they require is coordination: between MQA, LIS-offering institutions, Persatuan Pustakawan Malaysia, national and

state libraries, and the wider range of employers who should be participating in the development of the field. The systemic nature of the problem calls for a coordinated reform strategy rather than a series of independent institutional decisions.

7. CONCLUSION

This paper has presented a systematic diagnostic analysis of eight structural pressures that together describe the current condition of Malaysian LIS higher education. The pressures, namely outdated programme standards, a constrained academic expert pool, narrow industry advisory input, assessment complexity under outcome-based education and AI, internship placement limitations, weak postgraduate demand, limited professional regulatory influence, and challenging student intake dynamics, are not new. Each has been developing over an extended period and is individually recognisable to anyone who has worked closely with Malaysian LIS programmes. What this paper adds is a systematic account of how they interact, and an argument about which intervention is most strategically important.

The diagnostic framework presented here is grounded in both the published literature and the direct professional observation of an experienced LIS practitioner who has engaged with the system as auditor, dean, and advisory board member. This combination of scholarly and experiential evidence strengthens the analysis while also acknowledging its limitations. It reflects the perspective of one informed observer rather than a systematic empirical survey, and it should be read as a contribution to professional debate about the health of Malaysian LIS education rather than as a definitive empirical account.

The paper's central analytical finding is that the eight pressures form an interlocking system in which the weakness of each element amplifies the others, and in which piecemeal reform targeted at any single pressure is unlikely to produce lasting change. The most leveraged intervention is the revision of the MQA Programme Standards for Information Science, which creates the regulatory foundation without which other reforms face unnecessary institutional friction. Alongside standards revision, diversifying industry advisory panels, restructuring industrial training as professional fellowship, and developing a professional certification framework linked to postgraduate qualifications are the reforms most likely to produce systemic improvement.

The findings have implications beyond Malaysia. LIS education systems in Southeast Asia and across the Global South share several of the structural features analysed here: small academic ecosystems, dependence on a limited pool of external experts, regulatory frameworks that lag behind professional developments, and professional associations without statutory regulatory authority. The diagnostic framework presented here, and the systemic analysis of how these pressures interact, may be useful to researchers and policymakers working on LIS education reform in other national contexts. Future empirical work that validates or refines the framework through structured surveys of LIS educators, employers, and graduates would strengthen its contribution to both scholarship and practice.

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DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

The authors confirm that generative AI and AI-assisted technologies were used during the preparation of this manuscript for language editing and image visualisation. However, all conceptualisation, analyses, interpretations, conclusions, and written content are the original work of the authors. The authors take full responsibility for the accuracy, integrity, and originality of the manuscript.

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