ONLINE JOURNAL OF ISLAMIC MANAGEMENT AND FINANCE, VOL. 4, NO. 2, 18-50

Received: 19.3.2024 Accepted: 14.6.2024 Published:31.10.2024

THE EFFECT OF *ULU AL-ALBAB*-DRIVEN COMPETITIVE INTELLIGENCE (CI) ON THE ORGANISATIONAL PERFORMANCE OF THE INSTITUTIONS OF HIGHER LEARNING (HLIs) IN MALAYSIA: MODERATED BY ORGANISATIONAL FACTORS

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ABSTRACT

An effective intelligence is necessary for profit and non-profit entities to formulating strategies and developing plans aim to sustain profitability, financially self-sufficient and competitive advantage. An effective intelligence is not just to acquire key input to the strategic planning for sustainable performance, but also to acquire strategic and accurate data before analysis. Competitive intelligence with *ulu al-albab* provides a comprehensive view that enhances professionalism by incorporating spirituality for *al-falah*. Institutions of higher education are crucial to society, particularly in creating skilled and high-quality graduates. Institutions of higher learning play an important to the society especially producing professional and quality graduates and also contributes to the development of the country. This study investigates the effect of competitive intelligence with *ulu al-albab* on the organisational performance of institutions of higher learning (IHLs) in Malaysia, moderated by organizational factors. The study embedded ulu al-albab, resource-based theory, and knowledge-based theory. 594 institutions of higher learning have been identified and 92 respondents participated in this study. The results suggested that there is a significant effect of *ulu al-albab* driven competitive intelligence on the organizational performance of IHLs in Malaysia even though without the support from organisational factors such as process and structure and awareness and culture. This study deepens and extends resource-based theory and knowledge-based theory driven by *ulu al-albab* in giving impact to the competitive intelligence on the organisational performance of institutions of higher learning in Malaysia.

Keywords: Competitive Intelligence; institutions of higher learning; Malaysia; organisational factors; organisational performance; *Ulu al-albab*

INTRODUCTION

Improving organisational performance is always the target of any organisation. Improving organisational performance is continuously the foremost goal for any organisation (Sahibzada et al., 2023; Chatterjee, Rana & Dwivedi, 2024). This involves improving multiple facets including as productivity, efficiency, profitability, product or service quality, customer satisfaction, staff involvement, and innovation (Sinnaiah, Adam & Mahadi, 2023; Chatterjee et al., 2024). Both for-

profit and non-profit organisations engage in devising strategies and constructing plans with the goal of achieving sustained profitability, financial self-sufficiency, and a competitive advantage (Jones & Patton, 2020; Vican, Friedman, & Andreasen, 2020; Ko & Liu, 2021; Maier, Meyer & Steinbereithner, 2016; Chatterjee et al., 2024).

The key input to the strategic planning for sustainable performance is the ability to use accurate data before analysis (Kumra & Kumar, 2018; Nangoy, Mursitama, Setiadi, & Pradipto, 2020; Chatterjee et al., 2024). The process to obtain input can be done manually, but the coverage could be inadequate, not rigorous and incomplete. There is a need for intelligence to identify, capture, process, and use the information in the formulation of strategy so that any decision making will improve organisational performance and subsequently the survival of the organisation.

Institutions of higher learning are not spared from the open system of the environment. These organisations interact with all stakeholders of institutions of higher learning. The aim of Institutions of higher learning is to have visibility and felt presence in the market. Therefore, institutions of higher learning have to be dynamic and responsive due to the various demand from the stakeholders.

The strength of CI is its adaptability to the increasing and highly competitive environment (Cantonnet, Aldasoro & Cilleruelo, 2015) which contributed to good decision making and subsequently better organisational performance (Yap & Rashid, 2011) but its efficacy relies on the extensiveness of the network, reciprocity and knowledge use, the richness, divergence and information value of the information environment (Jaworski, Macinnis & Kohli, 2002).

Undeniably, the use of CI gives impact on the competitiveness of an organisation (Nasri, 2011), improve organisational performance (Lopez, Otegi, Gomez & Rosale, 2020) and organisational agility and superiority (Tooranloo & Saghafi, 2019). All these benefits could not be achieved if there are no clear identification and determination of key intelligence and information needs (Maungwa & Fourie, 2018), inappropriate analysis of information (Garcia- Alsina et al,. 2013; Wright et al. 2009), communication barriers, and ignoring the value of CI (Koseoglu, Ross & Okumus, 2016).

Performance of an organisations relies on the effective & quality decision making (Oubrich, Hakmaoui, Bierwolf & Haddani, 2018; Du Toit, 2003) contributed by a quality and timely CI (Nenzhelele, 2015). Quality assurance in every CI process, top management support, clearly defined key intelligence needs, consistent awareness of CI and formal CI practice in the organisation determine the quality of CI (Asri & Samad, 2024; Nenzhelele, 2015; Madureira,Popovic & Castelli, 2023).

LITERATURE REVIEW

Competitive intelligence (CI), *ulu al-albab*, competitive intelligence, Malaysian higher education institutions' backgrounds, and performance indicators are discussed in this section. Competition intelligence has various forms. It may not be in a database-driven computer system with intelligence to find essential files and comments. Performance can be maintained manually. *Ulu al-albab*—sagacity, discernment, and deep understanding—is a Quranic principle. These folks grasp celestial wisdom and can use it to manage life's complexity. *Ulu al-albab* and competitive intelligence depend on externally impacted mind, soul, and body inputs. Through intellect and revelation, competitive intelligence combines data, algorithms, human cognition, and practical knowledge (al-makrifah al-amal) in human impacts on the HLI performance metrics include research, teaching, service, finance, internal, external, and operational.

Competitive intelligence (CI)

Competition intelligence exists in many forms and context. It may not be in computer system with databases and intelligence ability to search and retrieve various important files and comments.

There could be manual approach in maintaining the performance. CI is ubiquitous in for-profit organisations. However, it is uncommon to see such competitive intelligence being used to formulate strategies in the public sector (Amiri, Shirkavand, Chalak & Rezaeei, 2017; Kumra & Kumar, 2018; Hossain, Xi, Nurunnabi & Anwar, 2019; Nangoy et al, 2020). Thus, there is an urgent need for a CI practice among institutions of higher learning in order to be responsive to the rapid changes in the market environment and also to improve their performance.

The competitive intelligence process is dynamic. It involves the systematic process of data collection about the environment, transforming the data into useful business information, analysing the information received, and formulate decisions based on the analysis (Kumra & Kumar, 2018; Hossain, Xi, Nurunnabi & Anwar, 2019; Nangoy et al, 2020). Internal strengths and weaknesses have to be considered before any decision could be finalised in order to ensure it is in tandem with the company's plans and long-term direction (according to the Society of Competitive Intelligence Professionals (SCIP) in 2008).

In practice, the level of competitive intelligence practice varied among communities of practice. Some companies used specific competitive intelligence in strategic planning (Nasri & Zarai, 2013). Zangoueinezhad and Moshabaki (2009) argued that the information system is critical in CI practice in order for the organisation to gain a competitive advantage. The use of competitive intelligence provides the reality of the market competitiveness that enables the companies to outcompete and leverage their companies against their business rivals (Täuscher, 2017). Needless, there is no excuse to avoid CI tools.

Competitive intelligence is about being able to have comprehensive coverage. The use of social media (He, Tian, Chen & Chong, 2016) had been used to understand and monitor customers' needs so that the organisation could increase its competitive advantage. Therefore, by formalising competitive intelligence activities, the organisation could gain a competitive advantage and be ahead of their rivals.

Most of the successful companies have long established and formulated integrated and coordinated competitive intelligence. They have established specific departments and strengthened them with the most capable personnel that had enabled them to respond to the changes in the market environment. Responsiveness and efficiency of the department will further improve the firm's competitiveness and its strategic planning process (Sepahvand, Nazarpoori & Mohammad Veisi, 2016).

The organization can plan for a comprehensive decision making by exploring several techniques in analysing industries and competitors (Porter, 1980), developing strategic intelligence system and intelligence services (Montgomery & Weinberg, 1998; Montgomery & Weinberg, 1979), developing business intelligence system (Pearce, 1976; Pearce, 1971), integrated marketing information system (Montgomery & Urban, 1970), and also marketing intelligence (Guyton, 1962).

Ulu al-albab

The notion of "Ulu al-Albab" also known as the "people of understanding" is a fundamental principle that encompasses sagacity, discernment, and profound comprehension that is firmly grounded in the Quran (Aliyah, 2013; Lutfiyah, 2017; Ruslan, 2024). These people possess a deep understanding of heavenly wisdom and possess the skill to effectively utilise it in order to manage the complexity of life (Lutfiyah, 2017; Adelman, 2018; Rosadi et al., 2024). *Ulu al-Albab* are not limited to scholars or academics but include a wide range of individuals, such as scholars, intellectuals, leaders, and ordinary believers, who are linked by their commitment to comprehending the profound significance of Islam and implementing it in their daily lives (Fauziah, 2018; Jamil, Abd Khafidz & Osman, 2019; Rahman, Helmi & Apriadi, 2024).

Ulu al-Albab are responsible for safeguarding knowledge and wisdom in Islam. They lead Muslims towards spiritual enlightenment and moral righteousness through their lectures, writings, and exemplary behaviour (Lutfiyah, 2017; Adelman, 2018; Ruslan, 2024). Their importance becomes evident in a society characterised by swift transformation and ethical uncertainty, where

they provide lucidity, counsel, and ethical orientation to both individuals and societies (Fauziah, 2018; Jamil, Abd Khafidz & Osman, 2019; Rahman et al., 2014). *Ulu al-Albab* plays a crucial role in interpreting Islamic teachings in modern circumstances, tackling new ethical challenges, and promoting conversation and comprehension both inside and without the Muslim community (Rosadi et al., 2024; Ruslan, 2024). During periods of unrest, they offer comfort and confidence, serving as a reminder to followers of the everlasting principles and eternal virtues of Islam (Ruslan, 2024; Rahman et al., 2024). *Ulu al-Albab* symbolise knowledge in the Islamic faith, leading believers towards awareness of God and moral excellence. They are essential for navigating the complexity of the modern world.

Ulu al-albab and competitive intelligence

Organisational competitive intelligence relies on human inputs, which encompass mind, soul, and body components, influenced by external circumstances (Lutfiyah, 2017). Allah has given humans revelation to guide their reasoning to gain wisdom (*makrifah*). *Ulū al-albāb* in human influences competitive intelligence combine data, algorithms, human cognition, and practical wisdom (*al-makrifah al-amal*) through intellect and revelation.

Intelligence with *ulū al-albāb* involves the continuous utilisation of human and machine algorithsm thinking and guidance. The human intelligence inherent in the five fundamental aspects of human existence as defined in *Maqasid al-Shariah* are the preservation and safeguarding of faith (‘aqidah), life (nafs), intellect (‘aql), progeny (nasl), and wealth (māl). Intelligence guided by *ulū al-albāb* involves combining human reasoning with knowledge (‘ilm), manners (adab), intellect (‘aql), wisdom (makrifah), and humanism (insaniyyah). This *ulū al-albāb* driven intellgence does not compromise the financial success of companies (Lutfiyah, 2017; Adelman, 2018). The *ulū al-albāb* thinking aims to achieve a balance (mizān) between profitability (māl), human welfare (ijtimiyyah insaniyyah), and environmental protection (takaful istidamah).

Organizational strategic planning involves the use of reasoning, logic, and intellect. Competitive intelligence is a frequently used tool to aid strategic planning. *Ulū al-albāb* driven competitive intelligence enables individuals to possess guided and thoughtful reasoning, leading to the balanced and well-being. The wise exhibit logical thinking and a peaceful spirit (Mhd. Sarif, 2015, 2017).

Aliyah (2013) argued that *ulū al-albāb* influences the innate ability of humans to have clear reasoning and a calm heart. Humans will steer clear of any elements or influences that could hinder their innate capacity to comprehend themselves, their environment, and possess a strong desire to gain wisdom (Aliyah, 2013; Lutfiyah, 2017; Mhd. Sarif, 2020). Their innate capacity inclines them towards obedience, piety, and a constant pursuit of willingness and guidance. Competitive intelligence with *ulū al-albāb* possess the capacity for holistic, harmonious, and balanced thinking. Thus, individuals with ulū al-albāb who manage the competitive intelligence employ *tazakkur* (self-reminding) and *tadabbur* (self-reflection) to contemplate their role as *khalifah* (vicegerent of Allah) and their *masuliyyah* (obligation) towards others (Lutfiyah, 2017; Fauziah, 2018; Jamil, Abd Khafidz & Osman, 2019; Mhd. Sarif, 2020).

Background of institutions of higher learning in Malaysia

Currently, Malaysia has 20 public institutions of higher learning which consist of 5 Research Universities (RU), 4 Comprehensive Universities (CU), 11 focused universities (FU) and 4 Malaysian Technical University Network (MTUN) and 480 private universities. Other than that, from 480 private institutions of higher learning, 53 are private universities, 37 University Colleges, 10 Branch Campuses, and 380 private colleges. 36 Polytechnics and 105 Community Colleges had been established to support the global trends and demand of the public for access to tertiary education (MOHE, 2024; Yap, 2018).

RUs focus more on the postgraduate programmes and strengthening research activities in various disciplines while CUs are offering a variety of courses and fields of study. FUs are known

to offer programmes that are related to their origins. The RUs are targeted to improve the higher education system with assistance from the highly qualified staff and also high performing students. RUs are designed to lead the innovation, expected to be the centre of excellence in niche areas of the country, generate world-class research outputs and high impacts research publications, and entice high-class graduate students (MoHE, 2004).

CUs, FUs, and private institutions of higher learning were established by the Government to increase the access and opportunity to higher education for all. CUs offer bachelor's programmes while FUs offer bachelor and diploma programmes. Polytechnics have been entrusted to produce semi-skilled and middle-level workers, especially in technical fields, while community colleges provide skills and vocational training required for employment (MoE, 2015).

The establishment of private institutions of higher learning together with 11 foreign university branch campuses have supported the aspiration of Malaysia to become an international higher education hub (MoE, 2015) and also minimise the number of Malaysian students from study abroad (Grapragasem, Krishnan, & Azlin, 2014). This initiative would further attract international students to study in Malaysia and bring in additional revenue to the government (Lee, 2014).

Performance indicators for institutions of higher learning

Performance indicators for HLIs include their performance in the research, teaching (Cave, Hanney, Kogan & Trevett, 1988), service, and finance (Asif & Searcy, 2014), internal, external and operational (Ball & Wilkinson, 1994; Adot, Akhmedova, Alvelos, Barbosa-Pereira, Berbegal-Mirabent, Cardoso & Xamber, 2023). Ball & Wilkinson indicated that internal performance indicators comprise of market share of undergraduate applications by subject, graduation rates and classes of degrees. Destination of graduates, publications by staff and citation were classified under external performance indicators while unit costs and staff/student ratios were categorised under operational (Court, 2012; Ball & Wilkinson, 1994; Hernandez-Diaz, Polamco & Escobar-Sierra, 2021).

IHLs have to strive for excellent performance due to the competitive market environment, budget cuts by the government, forced to improve internal performance and demand from the stakeholders to create value for money (Asif & Searcy, 2014). Performance of private and public institutions of higher learning could also be divided into financial and non-financial aspects. Non-financial aspects include academic effectiveness, rating criteria, research capacity while financial aspect focuses on the total operating revenues, viability ratio to measure universities performance and reduce their operating expenses (Yaakub & Mohamed, 2019; Siraj, Ahmad & Ismail, 2016).

Academic effectiveness/teaching performance includes the ability of institutions of higher learning in ensuring quality of academic programmes, developing new academic programmes or services, attracting and retaining essential academicians, sustaining students' satisfaction, sustaining good relations between management and other academicians and sustaining good relations among academicians in general (Delaney & Huselid, 1996). Thus, it requires extensive and regular monitoring of the internal and external environment. The outcomes of the academic effectiveness that can be measured by HLIs are graduate employability rate (Hrnciar & Madzik, 2017; Johnes, 1996) and graduation rate (Agasisti, 2011).

Rating criteria through MyQuest ranking measures the performance of institutions of higher learning that include students (quality, participation with external organisation, number of international students, resources (physical infrastructure, financial sustainability, support services, staff ratio), quality management system (certification, good management system, external participation, student satisfaction index) , programme recognition (accredited programmes, active programmes), and graduates' recognition (employability, employer satisfaction, recognition and award to students) (Yaakub & Mohamed, 2019).

Research performance includes total research grant obtained, research completed on time, research produced meet the objective, involvement of academicians/industry in research works,

involvement of students in research works and number of impactful research on the community (Yaakub & Mohamed, 2019). Number of publications, number of peer-reviewed journals, number of citations, postgraduate research students and research income (Hien, 2010; Patrick & Stanley, 1998; Cave, Hanney & Hankel, 1995; Gaither, Nedwek & Neal, 1994;) could also be used to measure research performance. However, number of peer-reviewed journals and number of citations are relatively related to the quality of research (Hien, 2010).

Financial performance refers to the ability of private institutions of higher learning to generate higher profit, higher return on investment and the ability of the public institutions of higher learning to reduce their operating expenses (Yaakub & Mohamed, 2019; Siraj, Ahmad & Ismail, 2016).

Problem statement

Organisational performance requires good decision making that must be supported by an effective intelligence. However, effective intelligence could not be produced and generated because internal and external environment is unstructured, uncoordinated, and disorganised. Dissemination of effective intelligence to the decision makers for a good decision making could not be done. *Ulū al-albāb* driven competitive intelligence enables individuals to possess guided and thoughtful reasoning in making decisions leading to the balanced and well-being (Mhd. Sarif, 2015, 2017).

Effective intelligence in institutions of higher learning could not be generated due to the absence of university-wide assessment process in collecting, analysing, and disseminating information. It would be difficult for IHLs to encounter any threat to their operation appropriately and effectively (Madureira et., al, (2023);Garcia-Alsina, Cobarsi-Morales & Ortoll (2016); Garcia-Alsina (2011); Hughes & White, 2006).

Effective intelligence also could not be generated without a strong information systems and knowledge sharing especially between IHLs and the industry players which could affect the performance of the universities (Garcia-Alsina et.al, 2016; Garcia-Alsina, 2011). Despite the role of higher learning institutions to produce skillful workforce, Malaysian graduates were found weak in communication skills, teamwork, professional work ethics, decision making and leadership skills which could affect their employability. Strong involvement of industry players in the realignment of academic programmes will further improve graduate employability rate (Midterm Review of 11th Malaysian Plan).

Having CI practices were found to give many benefits to the organisation but current literature about CI practices in the universities and its effect on the performance requires more extensive development specifically regarding suitability of organisational formula in the universities (Garcia-Alsina et al., 2016). There were also few studies from the Asian region as compared to the Western countries.

Purpose of the study

The purpose of the study is to investigate the effect of *ulū al-albāb* driven competitive intelligence (CI) in improving the organisational performance of institutions of higher learning as intelligence-based decision making needed by all types of organisations (Bulger, 2016; Mhd. Sarif, 2017). The performance of the institutions of higher learning can be measured through graduate employability rate, improvement in research performance, quality of education, attracting high achiever international students and improvement in world ranking (MoE, 2015). This study also contributed to the higher education literature.

The framework and constructs developed by Andrea Saayman, Jaco Pienaar, Patrick de Pelsmacker, Wilma Viviers, Ludo Cuyvers, Marie-Luce Muller & Marc Jegers, 2008 and Calof and Dishman (2002) will be the foundation for this research.

Research objectives

The following research objectives are identified as follows:

1. To investigate the extent of CI process in institutions of higher learning in Malaysia.
2. To investigate the effect of CI on the organisational performance of institutions of higher learning;
3. To examine the moderating effect of organisational factors on the relationship between CI and organisational performance of institutions of higher learning in Malaysia.

Research questions

The following research questions were formulated from the research objectives:

1. To what extent the CI driven with *ulu al-albab* practiced in the institutions of higher learning in Malaysia?
2. What is the effect of CI driven with *ulu al-albab* on the organisational performance of the institutions of higher learning in Malaysia?
3. Does organisational factors moderate the relationship between CI and organisational performance of institutions of higher learning in Malaysia.

Theoretical framework

The theoretical frameworks for this research are based on the resource-based view (Wernerfelt, 1984; Barney, 1991) with a specific focus on the knowledge-based theory (Kogut & Zander, 1992; Nonaka, 1994; Spender & Grant, 1996). The main elements in the RBV include the resources and capabilities which can leverage the competitive advantage of the organisation (Grant, 1996).

CI manifests the firm's resources and organisation capital through the generation and utilisation of knowledge that could be useful in the decision making and subsequently achieving competitive advantage in the marketplace. KBV can be regarded as a subset of RBV, where the firm is conceptualised as an institution for integrating knowledge (Grant, 1996).

This study is using the model developed by Saayman et al., (2008) and Calof and Dishman (2002), which highlights the important constructs for the generation of CI. This model does also include the strategic intelligence cycle theory (Montgomery & Weinberg, 1979).

CI contributes significantly to the RBV and KBV by providing valuable resources for the firm through the creation and utilisation of knowledge. Knowledge gained from internal and external information will be transformed into specialised intelligence and very useful to create competitive advantage to the organisation. According to Hannula & Pirttimaki (2003) superior performance can be attained if the firms can produce actionable intelligence. Intelligence and knowledge also determine the success, survival and growth of the firm (Hakanson, 2010). Hence, a comprehensive model of CI can be used by an organisation to create intelligence, which leads to sustainable competitive advantage (Grant, 2015).

Thus, CI activities, which are also an important element in the formulation of strategic planning, could assist the universities with well-assessed external environments. CI activities could give insights to the university departments on the relevant competitive assessment techniques. As such, it is important for institutions of higher learning to strengthen the practice of CI and inculcate the culture of competitiveness among its staff. CI could ensure the awareness towards the necessity to remain informed of their competitive environment. Awareness of the environment would also improve the decision-making and execution of the decisions.

Competitive Intelligence (CI) is a structured process that generates high-quality information by planning, gathering, analysing, and sharing data, with management for decision-making and assessment included as further stages.

Organisations first discover essential information for management by recognising present or anticipated difficulties. Information collection involves collecting crucial data about both real

and intangible competitor resources that play a role in gaining a competitive edge, such as managerial approach, innovation, and corporate culture. Analysis converts data into useful information by utilising tools and techniques such as BCG matrix and value chain analysis to reveal valuable insights.

Automated techniques assist in handling large data volumes, but human analysis is essential for extracting valuable insights. Disseminating intelligence through several routes ensures it reaches decision-makers, allowing for strategic actions. Efficient distribution methods may involve meetings, newsletters, or digital platforms such as Management Information Systems. The whole competitive intelligence process helps organisations navigate competitive environments by emphasising the significance of both technological and human factors in creating and utilising competitive insights.

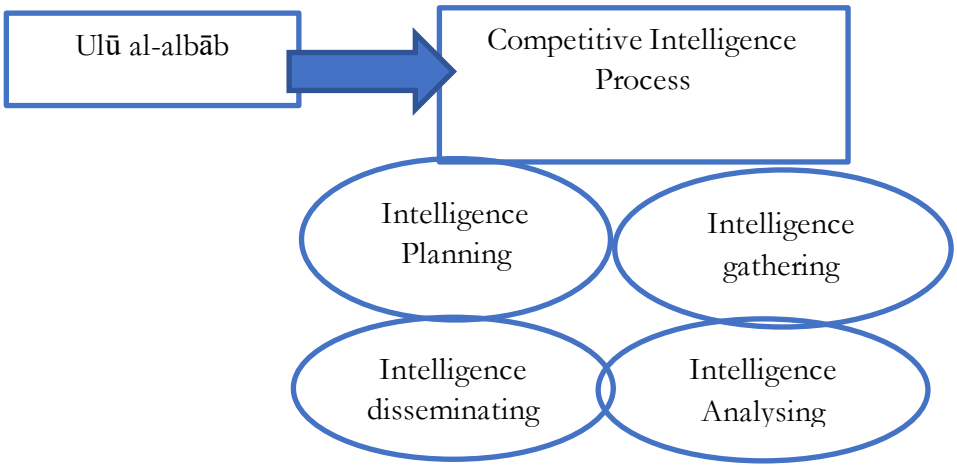


Figure 1: Competitive intelligence process

Organisational variables have a substantial impact on Competitive Intelligence (CI) in companies, including processes/structures, awareness, and culture. These factors are essential for improving CI's efficiency and effectiveness, establishing organised CI activities, and outlining staff responsibilities in intelligence collection and reporting.

Process and structure allow an efficiently organised process or framework is crucial for maximising CI's capabilities, necessitating suitable policies, procedures, and infrastructure. Structured continuous improvement initiatives are fundamental, focusing on adherence to legal and ethical standards. Establishing a formal framework encourages specialised staff for competitive intelligence duties, consistent surveillance of information channels, and prompt intelligence production. Formal and informal structures, whether centralised or decentralised, support efficient information sharing and technology utilisation, improving strategic management and decision-making.

Awareness and culture enable organisational understanding of the benefits of continuous improvement is essential. All employees must acknowledge that information collection is a fundamental aspect of competitive intelligence, and leadership is crucial in promoting a culture that values competitive intelligence. Continuous education and proper attitudes towards continuous improvement are essential, integrating continuous improvement with organisational infrastructure and industry trends. Creating a culture that promotes competition and information exchange enhances Competitive Intelligence's function in sustaining competitiveness, discovering new opportunities, and methodically examining market trends.

Organisational performance in higher education provide performance indicators are essential for assessing organisational performance, starting with teaching and research and then broadening to encompass services, financial performance, and societal contributions. Performance

evaluation at higher education institutions utilises distinct indicators for academic and administrative systems, encompassing academic accomplishments, research productivity, community engagement, global integration, resource allocation, and evaluation procedures.

Efficient competitive intelligence, facilitated by organised procedures, corporate knowledge, and a culture that promotes competition and information exchange, is crucial in guiding strategic decisions and enhancing organisational performance, especially within higher education institutions.

Figure 1.2 depicts the research framework of the study.

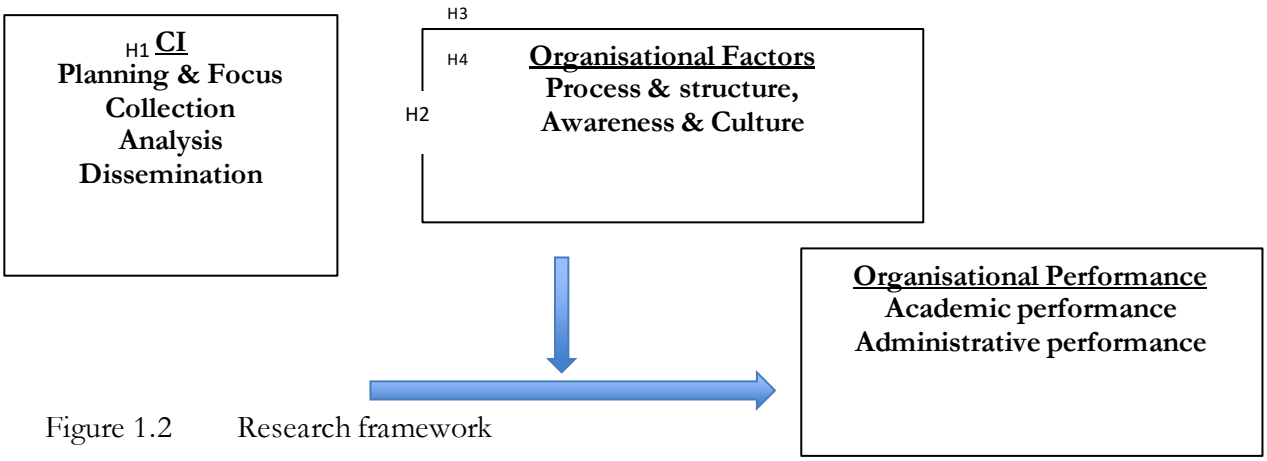


Figure 1.2 Research framework

RESEARCH METHODOLOGY

The study used the quantitative methods for this study to investigate the effect of competitive intelligence (CI) on the organisational performance of institutions of higher learning in Malaysia and moderated by organisational factors. In this study the researcher had identified the total number of the institutions of higher learning from the Ministry of Higher Education website. It includes 20 public universities, 36 polytechnics, 104 community colleges and 434 private institutions of higher learning. Total number of the institutions of higher learning is 594.
Therefore, individual that involves in the formulation of strategic planning and monitoring the performance of their institutions were identified to be the suitable person as they would gather all information from the relevant departments and would transform it into intelligence and subsequently disseminate it to their top management for decision making.

A structured questionnaire, mailed questionnaires, were distributed to the respondents. Closed-ended questionnaire consisting of 46 questions had been e-mailed to the specified respondents to ensure the respondents responded to the completed questionnaire. This study adapts and adopts the questionnaire developed by Saayman et al. (2008) as a result of the global survey conducted by Sawka et. al, (1995) and revised by Calof & Breakspear (1999), Calof & Dishman (2002), Viviers et al., (2002) and also instruments developed by Abu Bakar et al., (2018) and Hernandez, Polanco & Escobar (2020) to gauge organisational performance of institutions of higher learning.

The unit of analysis was an individual that involved in formulating strategic planning and monitoring the performance of the institutions of higher learning. The individual could be the senior staff who had the authority to analyse the data and transform it into intelligence before disseminating it to the decision makers of the institutions of higher learning. The minimum sample size for quantitative surveys would be 100 to 200 respondents (Creswell, 2013).

Validity and reliability

All items in the questionnaires had been tested to ensure validity and reliability through a pilot study with the senior academic administrators that involved in formulating strategic planning in the institutions of higher learning. Structural Equation Modelling (SEM) techniques such as Partial Least Squares (PLS) were used to test the effect of constructs of CI and its relationship with the organisational performance (Bagozzi & Fornell, 1982; Gefen, Straub & Boudreau, 2000).

Non-probability sampling technique (Zikmund, 2000) was identified for the selection of the sample in this study. Purposive sampling, the selection of subjects would be determined by the researcher based on accessibility, availability, the willingness of the participants, and their involvement in the formulation of strategic planning and monitoring the performance of their institution.

Data collection

The data collection started by contacting the selected staff through email or by telephone. The questionnaires were sent through email if the selected staff consented to participate in the survey. The data collection was conducted over three (3) months, and the follow up for the questionnaires was made either by phone or by e-mail.

A web-based survey using Google form was used in the survey to improve the response rate. An email notification with a link to the Google form was sent to the selected respondents who were identified through the organisation's staff directory. Statistical Package for Social Sciences (SPSS) had been used for the data analysis and to produce graphs and tables. Before that, the data from the questionnaires was captured onto Microsoft Excel.

DATA ANALYSIS AND RESULTS

PLS-SEM technique was used in this research as the concept of this research is quantitative. Structural model and measurement model are two main components in the PLS SEM. Structural model shows the relationships between the latent constructs while measurement model shows the unidirectional predictive relationships between each latent construct and its indicators (Hair et al., 2011).

This research collected data through online survey and it had been screened to verify the accuracy and completeness of the data were used in this research. The survey responses were 92 received and further scrutinised to exclude answers that did not fit the prescribed criteria.

Demographic of the Respondents

A total of 92 completed surveys were received through google form. Characteristics of the questionnaires were (a) gender, (b) age group, (c) education background, and (d) years spent in current job. Apparently, more of the respondents were male (50%) than female (42%). A majority of the respondents were 38-47 years old (31%), while 29% were 48 -57 years old, 24% were 28 - 37 years old, 6% were above 58 years old and 2% were 18-27 years old. Most of the respondents possessed a master's degree (34%), while 29% held bachelor's degree and 24% held doctoral degree.

Measurement model

PLS SEM examines construct reliability and validity. Construct reliability consists of Cronbach's Alpha and also composite reliability (CR). Table 1 shows the results of convergent validity and internal consistency (reliability). Four (4) constructs were identified through confirmatory factor analysis (CFA) and were organised into Lower Order Constructs (LOCs) of CI and two (2) constructs for LOCs for organisational performance.

In this study Cronbach's alpha for all the constructs were above the recommended threshold of 0.7 except for Plan & Focus and Awareness and Culture. Average Variance Extracted (AVEs) for all constructs were also higher than 0.500 except for organisational performance constructs. Composite reliability for all the constructs were also above the recommended threshold of 0.7 ranging from 0.817 to 0.891 that indicate high internal consistency reliabilities for these measurement items. The measurement instruments for communication consists of only single item, and thus, value for this item is 1.

Discriminant validity was evaluated through cross-loadings, Fornell-Larcker and HTMT. The results of cross-loadings show that each item was strongly related to their corresponding constructs (Table 2). However, Fornell- Larcker criterion is not met as the values for the square root of the AVE of Academic, Analysis, Plan & Focus and Communication were lower than the correlation values of other constructs.

Table 4 also shows that for HTMT ratio there were high correlation between administration and academic, collection and analysis, plan & focus and analysis and collection, and process & structure, and collection and plan & focus. It can be concluded that there was issue of discriminant validity and higher order construct must be developed to solve it (Hair et al., 2014).

Figure 1: Lower order construct Measurement Model

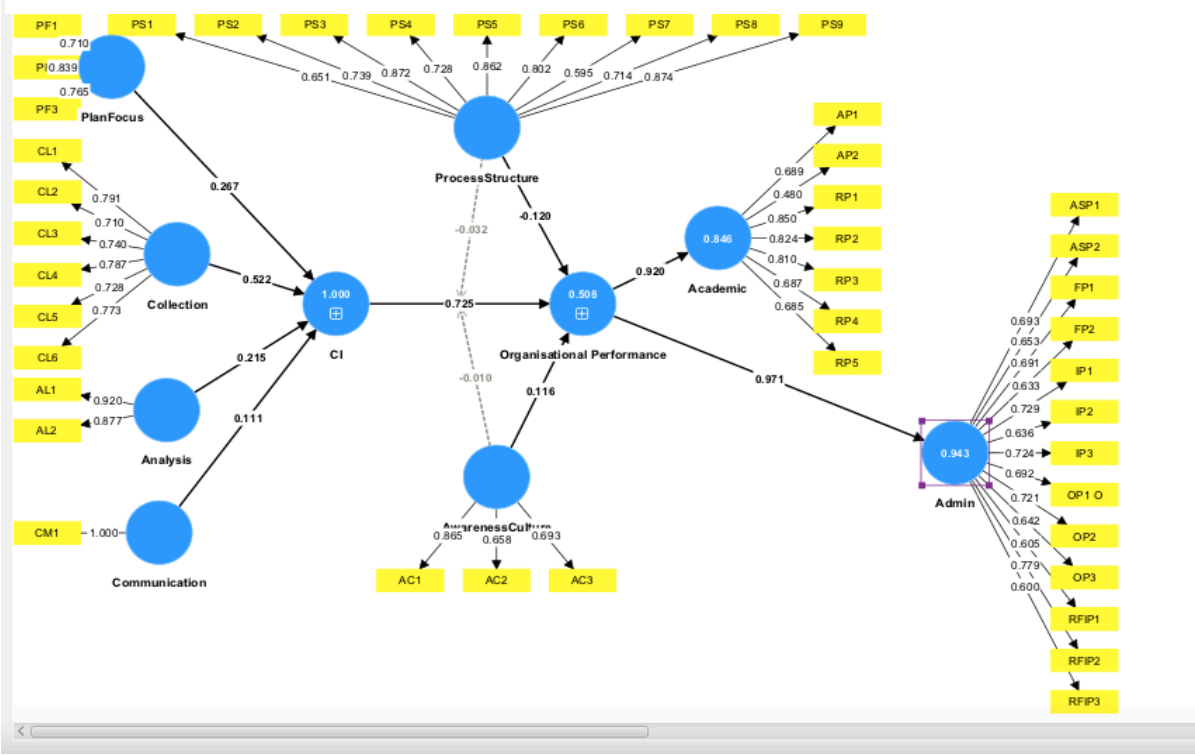


Table 1: *Measurement model assessment*

Latent variable	Indicator	Convergent Validity				Internal Consistency Reliability	
		Outer Loadings			AVE	Composite Reliability	Cronbach's Alpha
		> .400	t>1.96	97.5%Bca CI	>.500	> .6	> .6

Plan & Focus	PF1	0.718	10.368	0.545-0.823	0.600	0.817	0.64
	PF2	0.839	26.070	0.750- 0.887			
	PF3	0.761	11.536	0.583-0.851			
Collection	CL1	0.780	17.819	0.676-0.850	0.571	0.889	0.850
	CL2	0.726	11.856	0.581-0.821			
	CL3	0.739	10.746	0.574-0.846			
	CL4	0.787	18.186	0.686-0.857			
	CL5	0.727	13.727	0.595-0.811			
	CL6	0.774	16.80	0.650-0.844			
Analysis	AL1	0.916	62.473	0.877-0.937	0.803	0.891	0.756
	AL2	0.876	29.566	0.795-0.917			
Communication	CM1	1		1			
Academic Performance	AP1	0.705	9.906	0.547-0.816	0.479	0.900	0.875
	AP2	0.531	4.028	0.228-0.735			
	RP1	0.782	14.690	0.644-0.855			
	RP2	0.852	37.149	0.797-0.888			
	RP3	0.775	16.837	0.657-0.844			
	RP4	0.572	4.994	0.270-0.730			
	RP5	0.599	5.059	0.278-0.756			

Latent variable	Indicator	Convergent Validity				Internal Consistency Reliability	
		Outer Loadings			AVE	Composite Reliability	Cronbach's Alpha
		> .400	t>1.96	> .6	> .6	> .6	> .6
Administration	OP1	0.653	5.787	0.362-0.813	0.483	0.903	0.880
	OP2	0.759	12.240	0.604-0.849			
	OP3	0.619	6.408	0.399-0.770			
	ASP1	0.688	7.856	0.458-0.808			
	ASP2	0.649	8.641	0.461-0.766			
	FP1	0.745	14.403	0.612-0.822			
	FP2	0.670	8.063	0.459-0.789			
	IP1	0.751	12.337	0.595-0.837			
	IP2	0.623	7.363	0.420-0.759			
	IP3	0.741	12.826	0.594-0.831	0.565		
	AL2	0.876	29.566	0.795-0.917			
	RIFP1	0.632	6.336	0.394-0.786			

Latent variable	Indicator	Convergent Validity				Internal Consistency Reliability	
		Outer Loadings			AVE	Composite Reliability	Cronbach's Alpha
		> .400	t>1.96	> .6	> .6	> .6	> .6
Administration	RIFP2	0.795	19.125	0.703-0.863	0.483		
	RIFP3	0.631	6.547	0.403-0.782			

Latent variable	Indicator	Convergent Validity				Internal Consistency Reliability	
		Outer Loadings			AVE	Composite Reliability	Cronbach's Alpha
		> .400	t>1.96	> .6	> .6	> .6	> .6
Process & Structure	PS1	0.647	6.358	0.371-0.783	0.586	0.926	0.909
	PS2	0.736	10.884	0.569-0.841			
	PS3	0.870	25.081	0.782-0.920			
	PS4	0.717	7.538	0.483-0.847			
	PS5	0.860	27.461	0.780-0.907			
	PS6	0.811	18.063	0.70-0.879			
	PS7	0.591	8.188	0.422-0.706			
	PS8	0.729	14.986	0.612-0.807			
	PS9	0.875	27.421	0.796-0.921			
Awareness & Culture	AC1	0.867	26.497	0.781-0.917	0.565	0.793	0.607
	AC2	0.659	6.190	0.362-0.804			
	AC3	0.714	6.722	0.425-0.840			

Table 2. *Cross Loadings Output Using SmartPLS 4.0*

Item Code	PlanFocus	Collection	Analysis	Communication	Process Structure	Awareness Culture	Academic	Admin
PF1	0.71							
PF1	0.71							
PF2	0.839							
PF2	0.839							
PF3	0.765							
PF3	0.765							
CL1		0.791						
CL1		0.791						
CL2		0.71						
CL2		0.71						

CL3		0.74						
CL3		0.74						
CL4		0.786						
CL4		0.786						
CL5		0.728						
CL5		0.728						
CL6		0.773						
CL6		0.773						
AL1			0.921					
AL1			0.921					
AL2			0.877					
AL2			0.877					
CM1				1				
CM1				1				
PS1					0.65			
PS2					0.739			
PS3					0.872			
PS4					0.728			
PS5					0.861			
PS6					0.802			
PS7					0.595			
PS8					0.714			
PS9					0.874			
AC1						0.865		
AC2						0.658		
AC3						0.693		
AP1							0.689	
AP1							0.689	
AP2							0.48	
AP2							0.48	
RP1							0.85	
RP1							0.85	
RP2							0.824	
RP2							0.824	
RP3							0.81	
RP3							0.81	
RP4							0.687	
RP4							0.687	
RP5							0.686	
RP5							0.686	
ASP1								0.693
ASP1								0.693

ASP2								0.654
ASP2								0.654
FP1								0.691
FP1								0.691
FP2								0.633
FP2								0.633
IP1								0.729
IP1								0.729
IP2								0.635
IP2								0.635
IP3								0.724
IP3								0.724
OP1								0.692
OP1								0.692
OP2								0.721
OP2								0.721
OP3								0.643
OP3								0.643
RFIP1								0.605
RFIP1								0.605
RFIP2								0.779
RFIP2								0.779
RFIP3								0.6
RFIP3								0.6

Table 3: *Discriminant validity with Fornell-Larcker Criterion*

	Academic	Admin	Analysis	Awareness & Culture	Collection	Communi-cation	Plan & Focus	Process & Structure
Academic	*0.692*							
Admin	0.842	*0.695*						
Analysis	0.569	0.590	*0.896*					
Awareness & Culture	0.462	0.470	0.445	*0.752*				
Collection	0.630	0.623	0.752	0.581	*0.756*			
Communica-tion	0.461	0.423	0.434	0.539	0.617	*1*		
Plan & Focus	0.679	0.624	0.720	0.549	0.811	0.572	*0.774*	
Process & Structure	0.609	0.552	0.698	0.644	0.841	0.656	0.790	*0.766*

Notes: Values in italic represent the square-root of AVE.

Table 4: *Discriminant validity with Heterotrait-monotrait ratio*

	Academic	Admin	Analysis	Awareness & Culture	Collection	Communication	Plan & Focus
Academic							
Admin	0.949						
Analysis	0.685	0.725					
Awareness & Culture	0.636	0.654	0.658				
Collection	0.723	0.718	0.926	0.813			
Communication	0.494	0.451	0.492	0.681	0.665		
Plan& Focus	0.899	0.815	0.992	0.881	1.074	0.707	
Process & Structure	0.670	0.607	0.841	0.853	0.949	0.668	1.018

Validating Higher Order Construct

Competitive Intelligence (CI) was the higher order formative based on the four lower order constructs (Planning & Focus, Collection, Analysis and Communication). Process and Structure and Awareness and Culture were retained as LOCs because it would involve in hypotheses testing later on in this study while organisational performance was the higher order formative construct on two lower order constructs (Academic and Administration). In order to establish the higher order construct the validity of outer weight, outer Loading, and VIF should also be evaluated (Hair et al., 2017).

Convergent validity for the all the HOCs were acceptable as all the outer loadings were beyond the threshold 0.4 ranging from 0.727 to 0.916 (Table 5). Significance and relevance of the relationship between the LOCs and the HOCs was also examined through the analysis of the associated outer weights. All LOCs showed significance ($p < .05$) for the HOC (Table 5). High internal consistency reliabilities for these HOCs were also established as shown by the results of Cronbach's Alpha and Composite Reliability which were beyond 0.7 and AVE beyond 0.5 (Table 6).

There was no issue of discriminant validity for HOCs through Fornell-Lacker that shows that square-root of AVE of the HOC was higher that its correlation with all other HOC (Table 7). Therefore, it can be concluded that Fornell- Larcker criterion is met. However, for HTMT ratio there was slightly high correlation issue between process & structure and competitive intelligence (Table 8).

Table 5: *Higher Order Construct Validity*

HOC	LOCs	Outer Weight	Outer Loadings	T statistics	P Values	VIF
CI	Planning & Focus	0.528	0.957	2.536	0.000	3.272
	Collection	0.277	0.921	1.173	0.121	3.908
	Analysis	0.218	0.827	1.335	0.091	2.329
	Communication	0.090	0.659	0.746	0.228	1.708
Organisational Performance	Academic Performance	0.503	0.943	20.950	0.000	2.769
	Admin Performance	0.552	0.953	18.352	0.000	2.769

Table 6: *Higher Order Construct Reliability and Convergent Validity*

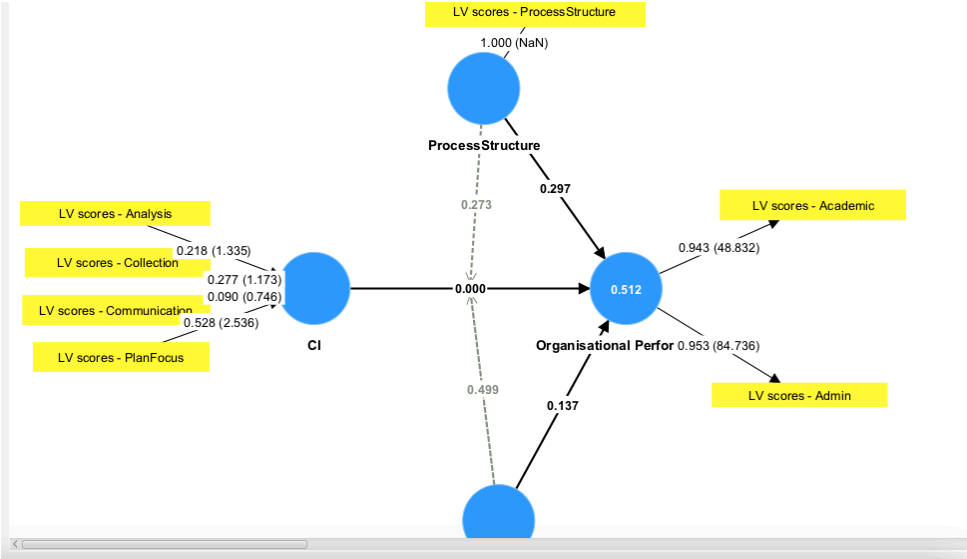
HOC	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Organisational Performance	0.888	0.947	0.90

Table 7: *Fornell-Lacker -Higher Order Construct Discriminant Validity*

HOC	Awareness & Culture	Organisational Performance	Process & Structure
Awareness & Culture	1.00		
Organisational Performance	0.485	0.948	
Process & Structure	0.653	0.611	1.00

Table 8: *HTMT- Higher Order Discriminant Validity*

HOC	Awareness & Culture	Organisational Performance	Process & Structure
Awareness & Culture			
Organisational Performance	0.514		
Process & Structure	0.653	0.649	



Structural Model Analysis

Structural model analysis involves the assessment of collinearity through VIF and Structural Model Path Coefficients. VIF values were found less than the recommended threshold of 5 (Hair et.al 2017) indicating no collinearity issues (Table 9). Next, the proposed hypotheses are tested. The

results for H1 show that CIP was discovered as having four constructs and the hypothesis was supported (Table 10). Only one out of four hypotheses were supported. H2: CI OP ($\beta = 0.724$, $t = 4.73$, $p < .005$) was found significant. For H3: The results revealed insignificant moderating role of process and structure ($\beta = -0.033$, $t = 0.341$, $p = 0.733$) on the relationship between CI and organisational performance. Therefore, hypothesis H3 was not supported. Furthermore, for H4 the results also revealed insignificant moderating role of awareness & culture on the relationship between CI and organisational performance ($\beta = -0.015$, $t = 0.121$, $p = 0.904$). Therefore, hypothesis H4 was also not supported (Table 11).

Table 9: *Variance Inflation Factor (VIF)*

HOC	LOCs	VIF
CI	Planning & Focus	3.272
	Collection	3.908
	Analysis	2.329
	Communication	1.708
Organisational Performance	Academic Performance	2.769
	Admin Performance	2.769

Table 10: *Summary of Cross Loadings Output Using SmartPLS 4.0(44 indicators)*

Construct	Item	Academic	Admin	Analysis	Awareness Culture	Collect	Comm	Planning	Process Structure
Planning	PF1	0.531	0.49	0.396	0.46	0.578	0.455	0.724	0.658
	PF2	0.434	0.549	0.689	0.462	0.678	0.402	0.834	0.685
	PF3	0.487	0.502	0.563	0.358	0.624	0.48	0.761	0.496
Collection	CL1	0.501	0.493	0.603	0.448	0.78	0.455	0.672	0.572
	CL2	0.464	0.475	0.537	0.568	0.726	0.585	0.608	0.683
	CL3	0.348	0.454	0.47	0.368	0.739	0.417	0.619	0.619
	CL4	0.449	0.504	0.652	0.407	0.787	0.414	0.652	0.676
	CL5	0.315	0.423	0.543	0.298	0.727	0.308	0.488	0.463
	CL6	0.562	0.559	0.594	0.529	0.774	0.6	0.625	0.781
Analysis	AL1	0.457	0.549	0.916	0.42	0.743	0.442	0.717	0.637
	AL2	0.491	0.535	0.876	0.375	0.593	0.326	0.561	0.614
Communi-cation	CM1	0.439	0.439	0.434	0.539	0.617	1	0.572	0.656

Table 11: *Structural Model for HOC*

Hypotheses	Original sample (O)	T statistics (|O/STDEV|)	P values
H2: CI -> OrganisationalPerformance	0.724	4.73	0
H3: ProcessStructure x CI -> OrganisationalPerformance	-0.033	0.341	0.733
H4: AwarenessCulture x CI -> OrganisationalPerformance	-0.015	0.121	0.904

Structural Model Path Coefficients

Table 11: *Model Fit*

	HOC	LOC

	Saturated model	Estimated model	Saturated model	Estimated model
SRMR	0.051	0.050	0.108	0.109
d_ULS	0.092	0.091	34.236	34.830
d_G	0.106	0.094	n/a	n/a
Chi-square	61.329	52.991	Infinite	Infinite
NFI	0.906	0.920	n/a	n/a

Table 11 explains the assessment of proposed research model through the standardised root mean square residuals (SRMR). SRMR shows the discrepancy between the observed correlations and the research model implied correlations and value below 0.08 indicates good fit (Hair et al., 2017). The value of SRMR for LOC in this study was 0.108 while HOC was 0.051 indicating that the model fit was acceptable (Hair et al., 2017). Furthermore, NFI for HOC of 0.920 which is near to 1.0 also indicates a strong model fit for this study (Bentler & Bonett, 1980; Bentler, 1990).

Path Analysis

In this study the effect size (f^2) of the relationship between CI and organisational performance which is medium effect size while no effect size for awareness & culture and process & structure (Table 12). The predictive assessment (Q^2) of the study model shows medium predictive power as most of the Q^2 values exceeded 0 and majority of indicators in PLS SEM analysis have smaller prediction errors compared to the LM (Table 13).

Table 12: *Effect size analysis*

Hypothesised relationship	f^2 value	Effect size
Awareness & Culture -→Organisational performance	0.012	No
CI --- > Organisational performance	0.250	Medium
Process & Structure --- > Organisational performance	0.002	No

Table 13: *Model Predictive Power for LOCs indicators*

No	Indicator	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
1	AP1	0.231	**0.828**	0.622	**0.948**	0.683
2	AP2	-0.006	**0.831**	0.62	**0.886**	0.681
3	OP1	0.157	**0.773**	0.582	**0.831**	0.647
4	OP2	0.261	**0.713**	0.564	**0.798**	0.622
5	OP3	0.168	**0.785**	0.61	**0.955**	0.734
6	RP1	0.166	**0.844**	0.685	**1.034**	0.808
7	RP2	0.235	**0.876**	0.701	**1.041**	0.844
8	RP3	0.192	**0.86**	0.689	**1.051**	0.811
9	RP4	0.052	**1.035**	0.824	**1.179**	0.936
10	RP5	0.11	**0.942**	0.729	**1.162**	0.901
11	ASP1	0.054	**0.796**	0.637	**0.963**	0.804
12	ASP2	0.269	**0.707**	0.541	**0.78**	0.595

13	FP1	0.133	**1.047**	0.838	**1.163**	0.923
14	FP2	0.125	**0.933**	0.714	**1.172**	0.902
15	IP1	0.115	**0.961**	0.769	**1.199**	0.917
16	IP2	0.104	**0.839**	0.66	**0.976**	0.782
17	IP3	0.069	**0.829**	0.63	**0.944**	0.759
18	RFIP1	0.232	**0.815**	0.614	**1.077**	0.8
19	RFIP2	0.229	**0.721**	0.558	**0.822**	0.664
20	RFIP3	0.137	**0.812**	0.644	**0.985**	0.802
21	AL1	0.652	0.61	0.476	0	0
22	AL2	0.432	0.85	0.704	0	0
23	CL1	0.535	0.737	0.564	0	0
24	CL2	0.464	0.743	0.594	0	0
25	CL3	0.43	0.748	0.571	0	0
26	CL4	0.524	0.807	0.638	0	0
27	CL5	0.338	0.925	0.744	0	0
28	CL6	0.509	0.695	0.531	0	0
29	CM1	0.419	0.794	0.613	0	0
30	PF1	0.441	0.694	0.537	0	0
31	PF2	0.662	0.608	0.468	0	0
32	PF3	0.53	0.759	0.577	0	0
No	Indicator	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
33	AP1	0.23	**0.828**	0.622	**0.948**	0.683
34	AP2	-0.004	**0.83**	0.618	**0.886**	0.681
35	ASP1	0.054	**0.796**	0.638	**0.963**	0.804
36	ASP2	0.271	**0.706**	0.535	**0.78**	0.595
37	FP1	0.133	**1.047**	0.839	**1.163**	0.923
38	FP2	0.126	**0.933**	0.715	**1.172**	0.902
39	IP1	0.116	**0.96**	0.769	**1.199**	0.917
40	IP2	0.103	**0.839**	0.66	**0.976**	0.782
41	IP3	0.073	**0.827**	0.628	**0.944**	0.759
42	OP1	0.156	**0.774**	0.583	**0.831**	0.647
43	OP2	0.259	**0.714**	0.565	**0.798**	0.622
44	OP3	0.166	**0.786**	0.612	**0.955**	0.734
45	RFIP1	0.227	**0.817**	0.615	**1.077**	0.8
46	RFIP2	0.223	**0.723**	0.56	**0.822**	0.664
47	RFIP3	0.138	**0.811**	0.644	**0.985**	0.802
48	RP1	0.165	**0.845**	0.685	**1.034**	0.808
49	RP2	0.235	**0.876**	0.701	**1.041**	0.844
50	RP3	0.188	**0.862**	0.69	**1.051**	0.811
51	RP4	0.05	**1.035**	0.825	**1.179**	0.936
52	RP5	0.106	**0.944**	0.73	**1.162**	0.901

Common Method Bias

Harman's single- factor test was used to test common method variance (Zhou, 2012). It showed that the larger factor explains 38.9 % of the total variance. Thus, there is no single since the percentage is less than 50%, affirming there is no common bias issue in the collected data.

Observed Heterogeneity Assessment

In this study, unobserved heterogeneity is not at a critical level, which supports the results of the entire data set's analysis as AIC4 and BIC generally perform well when used to determine the number of segments in FIMIX-PLS. Both criteria pointing to a one-segment solution (Table 14) (Sarstedt et al., 2011).

Table 14: *FIMIX PLS Performance Criteria*

	Segment 1	Segment 2	Segment 3
AIC (Akaike's information criterion)	207.473	192.778	197.351
AIC3 (modified AIC with Factor 3)	213.473	205.778	217.351
AIC4 (modified AIC with Factor 4)	219.473	218.778	237.351
BIC (Bayesian information criterion)	222.604	225.561	247.787
CAIC (consistent AIC)	228.604	238.561	267.787
HQ (Hannan-Quinn criterion)	213.58	206.009	217.707
MDL5 (minimum description length with factor 5)	331.127	460.694	609.53
LnL (LogLikelihood)	-97.737	-83.389	-78.676
EN (normed entropy statistic)	0	0.82	0.587
NFI (non-fuzzy index)	0	0.831	0.597
NEC (normalized entropy criterion)	0	16.597	37.951

Multigroup Analysis

This model was not fully invariant by position and education level which failing to meet configural invariance, invariance through equity of means, and invariance through equity of variance based on the p-value > 0.05 (Table 15) and therefore a multigroup analysis on the pooled data level could not be executed (Henseler et al., 2016). The statistical analysis showed that the model did not consistently apply to different groups based on position and education level in a study on *ulu al-albab*. It did not exhibit configural invariance and equity of means and variance, suggesting notable variations in how concepts are understood and assessed across different groups. Therefore, doing a multigroup study was not possible, indicating that the implicit character of *ulu al-albab* changes depending on demographic backgrounds, which impacts its visible impact on behaviours and perceptions (Mhd. Sarif, 2017; Wahab et al., 2024).

Table 15: *Permutation Group Analysis*

		Compositional			Equity of Means			Equity of variance			Full measurement invariance established
Demographic	HOC	Original correlation	5.0%	Permutation p value	5.0%	95.0%	Permutation p value	5.0%	95.0%	Permutation p value	
Gender	AwarenessCulture	1.000	1.000	0.165	-0.446	0.458	0.466	-0.867	0.848	0.096	Yes
	CI	0.957	0.739	0.775	-0.460	0.445	0.363	-0.841	0.744	0.279	Yes
	Organisational Performance	1.000	0.998	0.891	-0.476	0.408	0.445	-0.977	0.926	0.322	Yes
	ProcessStructure	1.000	1.000	0.831	-0.494	0.447	0.382	-0.812	0.776	0.254	Yes
Age	HOC	Original correlation	5.0%	Permutation p value	5.0%	95.0%	Permutation p value	5.0%	95.0%	Permutation p value	
28-37 & 38-47 (Age 2 &3)	AwarenessCulture	1.000	1.000	0.165	-0.491	0.445	0.197	-0.929	0.961	0.203	Yes
	CI	0.957	0.739	0.775	-0.470	0.469	0.256	-0.667	0.671	0.313	Yes
	Organisational Performance	1.000	0.998	0.891	-0.454	0.432	0.315	-0.565	0.555	0.268	Yes
	ProcessStructure	1.000	1.000	0.831	-0.473	0.441	0.468	-0.667	0.687	0.487	Yes
28-37 & 48-57 (Age 2 & 4)	AwarenessCulture	1.000	1.000	0.451	-0.446	0.458	0.466	-0.867	0.848	0.096	Yes
	CI	0.540	0.535	0.052	-0.460	0.445	0.363	-0.841	0.744	0.279	Yes
	Organisational Performance	0.998	0.986	0.419	-0.476	0.408	0.445	-0.977	0.926	0.322	Yes
	ProcessStructure	1.000	1.000	0.029	-0.494	0.447	0.382	-0.812	0.776	0.254	No
38-47& 48-57 (Age 3 & 4)	AwarenessCulture	1.000	1.000	0.253	-0.427	0.446	0.235	-0.921	0.994	0.442	Yes
	CI	0.745	0.669	0.137	-0.414	0.445	0.203	-0.606	0.689	0.152	Yes
	Organisational Performance	0.999	0.996	0.239	-0.397	0.409	0.282	-0.923	0.959	0.191	Yes
	ProcessStructure	1.000	1.000	0.000	-0.429	0.445	0.406	-0.732	0.818	0.261	No

Position	HOC	Original correlation	5.0%	Permutation p value	5.0%	95.0%	Permutation p value	5.0%	95.0%	Permutation p value	
Top Management & Senior Management	AwarenessCulture	1.000	1.000	0.062	-0.446	0.382	0.103	-0.798	0.858	0.379	Yes
	CI	0.635	0.700	0.019	-0.407	0.388	0.007	-0.549	0.548	0.451	No
	Organisational Performance	0.997	0.996	0.108	-0.406	0.419	0.026	-0.499	0.486	0.189	No
	ProcessStructure	1.000	1.000	0.563	-0.392	0.400	0.039	-0.644	0.708	0.441	No
Top Management & Middle Management	AwarenessCulture	1.000	1.000	0.226	-0.442	0.439	0.018	-0.947	1.063	0.463	No
	CI	0.861	0.665	0.434	-0.440	0.440	0.089	-0.666	0.734	0.396	Yes
	Organisational Performance	1.000	0.996	0.560	-0.442	0.447	0.065	-1.055	1.093	0.343	Yes
	ProcessStructure	1.000	1.000	0.000	-0.444	0.447	0.028	-0.755	0.859	0.377	No
Senior Management & Middle Management	AwarenessCulture	1.000	1.000	0.000	-0.438	0.462	0.100	-0.835	0.898	0.326	No
	CI	0.909	0.745	0.483	-0.442	0.424	0.481	-0.716	0.809	0.473	Yes
	Organisational Performance	0.999	0.998	0.217	-0.446	0.469	0.458	-0.946	0.939	0.400	Yes
	ProcessStructure	1.000	1.000	0.542	-0.432	0.426	0.369	-0.676	0.770	0.445	Yes
Education	HOC	Original correlation	5.0%	Permutation p value	5.0%	95.0%	Permutation p value	5.0%	95.0%	Permutation p value	

Doctoral & Master	AwarenessCulture	1.000	1.000	0.012	-0.450	0.450	0.126	-1.046	0.944	0.199	No
	CI	0.849	0.702	0.323	-0.453	0.425	0.120	-0.668	0.606	0.341	Yes
	Organisational Performance	1.000	0.995	0.577	-0.442	0.443	0.103	-0.918	0.878	0.200	Yes
	ProcessStructure	1.000	1.000	0.000	-0.456	0.414	0.281	-0.767	0.673	0.307	No
Doctoral & Bachelor	AwarenessCulture	1.000	1.000	0.876	-0.482	0.437	0.479	-1.239	1.194	0.189	Yes
	CI	0.884	0.701	0.472	-0.469	0.453	0.144	-0.949	0.868	0.440	Yes
	Organisational Performance	1.000	0.999	0.902	-0.515	0.437	0.418	-1.091	1.086	0.187	Yes
	ProcessStructure	1.000	1.000	0.000	-0.485	0.447	0.060	-1.038	0.914	0.082	No
Master & Bachelor	AwarenessCulture	1.000	1.000	0.000	-0.426	0.447	0.063	-0.537	0.608	0.394	No
	CI	0.863	0.700	0.376	-0.406	0.417	0.007	-0.547	0.585	0.279	No
	Organisational Performance	1.000	0.995	0.586	-0.398	0.412	0.030	-0.481	0.563	0.181	No
	ProcessStructure	1.000	1.000	0.000	-0.430	0.388	0.006	-0.661	0.720	0.127	No

Bootstrap Multigroup Analysis

In this study, there is insignificant differences across gender and age group age group of 28-37 years old in the relationship between *ulu albab* driven CI on the organisational performance, awareness and culture on the organisational performance and process and structure on the organisational performance, exhibited by its p-value > 0.05 (Table 16). Gender wise, it has no significant on how *ulul albab*-driven CI affects organizational performance, awareness, culture, and processes. Gender has no substantial impact on how ulul albab-driven Competitive Intelligence (CI) affects organisational performance, awareness, culture, and process effectiveness. CI practices and outcomes are mainly influenced by strategic, operational, and procedural factors rather than individual demographic characteristics (Mhd. Sarif, 2015; 2017; Wahab et al., 2024). Competitive intelligence involves collecting, analysing, and utilising information strategically, depending on organisational frameworks, procedures, and a culture that promotes sharing knowledge and making decisions (Mhd. Sarif, 2017; Wahab et al., 2024). These aspects are universally applicable and beneficial across varied populations, rendering gender irrelevant in the effectiveness of CI activities. The concepts of ulul albab, focusing on wisdom and profound understanding, are universally applicable to all individuals involved in CI activities, reducing the significance of gender distinctions in this context.

Table 16: *Bootstrap MGA*

Gender	Difference (Female - Male)	1-tailed (Female vs Male) p value	2-tailed (Female vs Male) p value
AwarenessCulture -> Organisational Performance	-0.120	0.695	0.305
CI -> Organisational Performance	-0.283	0.871	0.129
ProcessStructure -> Organisational Performance	0.505	0.051	0.051
AwarenessCulture x CI -> Organisational Performance	-0.110	0.647	0.353
ProcessStructure x CI -> Organisational Performance	0.311	0.125	0.125

Age	Difference (Age_2 - Age_3) (28-37 & 38-47)	Difference (Age_2 - Age_4) (28-37 & 48-57)	1-tailed (Age_2 vs Age_3) p value	1-tailed (Age_2 vs Age_4) p value	2-tailed (Age_2 vs Age_3) p value	2-tailed (Age_2 vs Age_4) p value
AwarenessCulture -> Organisational Performance	-0.387	-0.076	0.883	0.557	0.117	0.443
CI -> Organisational Performance	-0.232	-0.218	0.688	0.697	0.312	0.303
ProcessStructure -> Organisational Performance	0.537	0.438	0.106	0.146	0.106	0.146

AwarenessCulture x CI -> Organisational Performance	0.105	-0.234	0.365	0.736	0.365	0.264
ProcessStructure x CI -> Organisational Performance	0.030	0.103	0.486	0.411	0.486	0.411

CONCLUSION

The study has confirmed that *ulu al-albab* has an impact on competitive intelligence in the organisational performance of higher education institutions in Malaysia. This study filled a gap in the literature by examining how *ulu al-albab* affects the expanded resource-based theory and knowledge-based theory in relation to competitive intelligence, influenced by organisational characteristics and performance. This study has enhanced and expanded the fundamental ideas of resource-based theory and knowledge-based theory through the influence of competitive intelligence on the organisational performance of higher education institutions in Malaysia. This study has a substantial impact on organisations, especially about the influence of *ulu albab*. CI practitioners and individuals in Malaysian higher education institutions involved in strategic planning must ensure that information collected internally or externally is converted into high-quality intelligence for decision-making, guided by *ulu al-albab* with prudence and vigilance. The evaluation of the connection between *ulu al-albab* CI and organisational performance in Malaysian higher education institutions also enhances their competitiveness and sustainable performance. The advantages of *ulu al-albab* CI have been identified and implemented in several industries and countries. CI is crucial for Malaysian higher education institutions due to intense competition, rapid technological advancements, and globalisation.

REFERENCES

Abubakar, A., Hilman, H., & Kaliappen, N. (2018). New tools for measuring global academic performance. *Sage Open*, *8*(3), 2158244018790787.

Adot, E., Akhmedova, A., Alvelos, H., Barbosa-Pereira, S., Berbegal-Mirabent, J., Cardoso, S., ... & Xambre, A. R. (2023). SMART-QUAL: a dashboard for quality measurement in higher education institutions. *International Journal of Quality & Reliability Management*, *40*(6), 1518-1539.

Agasisti, T. (2011). Performances and spending efficiency in higher education: a European comparison through non-parametric approaches. *Education Economics, 19*(2), 199-224.

Aliyah, S. (2013). *Ulū al-albāb* dalam tafsir fi zhilali al-quran. *Jurnal Ilmu Agama: Mengkaji Doktrin, Pemikiran, dan Fenomena Agama*, *14*(1), 115-150.

Asif, M., & Searcy, C. (2014). A composite index for measuring performance in higher education institutions. *International Journal of Quality & Reliability Management, 31*(9), 983-1001.

Asobee, M. S. (2021). Exploring the importance of strategic thinking to strategic planning in the strategic management process. *Journal of Business and Management Sciences*, *9*(2), 68-70.

Asri, D. A. A. M., & Ab Samad, N. H. (2024). The Effect of Competitive Intelligence Practices on Hotel Performance. *Gading Journal for Social Sciences* (e-ISSN 2600-7568), (1), 91-108.

Bagozzi, R. P., & Fornell, C. (1982). Theoretical concepts, measurements and meaning A second generation of multivariate analysis, C. Fornell, Editor, New York.

Ball, R., & Wilkinson, R. (1994). The use and abuse of performance indicators in UK higher education. *Higher Education, 27*(4), 417-427.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological bulletin, 107*(2), 238.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin, 88*(3), 588.

Bulger, N. J. (2016). The evolving role of intelligence: migrating from traditional competitive intelligence to integrated intelligence. *The International Journal of Intelligence, Security, and Public Affairs, 18*(1), 57-84.

Calof, J. L., & Breakspear, A. (1999). Competitive intelligence practices of Canadian technology firms. National Research Council/Canadian Institute of Scientific and Technical Information, *2*(3), 10-14.

Calof, J. L., & Dishman, P. (2002). The intelligence process: front-end to strategic planning. Faculty of Administration, University of Ottawa.

Cantonnet, M. L., Aldasoro, J. C., & Cilleruelo, E. (2015). Analysis of the competitive intelligence activities of small and medium-sized enterprises from the industrial sector. Human Factors and Ergonomics in Manufacturing & Service Industries, *25*(6), 646-658.

Cave, M., Hanney, S., & Henkel, M. (1995). Performance measurement in higher education—revisited. Public Money & Management, *15*(4), 17-23.

Cave, M., Hanney, S., Kogan, M., & Trevett, G. (1988). The Use of Performance Indicators in Higher Education: A critical analysis of developing practice. London: Jessica Kingsley Publishers.

Chatterjee, S., Rana, N. P., & Dwivedi, Y. K. (2024). How does business analytics contribute to organisational performance and business value? A resource-based view. *Information Technology & People*, *37*(2), 874-894.

Creswell, J. W. (2013). Standards of validation and evaluation. Qualitative inquiry and research design: choosing among five approaches, SAGE, 201-21.

Court, S. (2012). An analysis of student: staff ratios and academics' use of time, and potential links with student satisfaction, University and College Union, London.

Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal, 39*(4), 949-969.

du Toit, A. S. (2003). Competitive intelligence in the knowledge economy: what is in it for South African manufacturing enterprises?. *International Journal of Information Management, 23*(2), 111-120.

Gaither, G., Nedwek, B. P., & Neal, J. E. (1994). Measuring up: The promise of performance indicators in higher education. AS11E-ERIC Higher Education Report, (5).

Garcia-Alsina, M., Cobarsi-Morales, J., & Ortoll, E. (2016). Competitive intelligence theoretical framework and practices: The case of Spanish universities. *Aslib Journal of Information Management, 68*(1), 57-75.

Garcia-Alsina, M., Ortoll, E., & Cobarsí-Morales, J. (2013, March). Enabler and inhibitor factors influencing competitive intelligence practices. In Aslib Proceedings (Vol. 65, No. 3, pp. 262-288). Emerald Group Publishing Limited.

Garcia Alsina, M. (2011). Contribución de la inteligencia competitiva en el proceso de adaptación al EEES: el caso de las universidades españolas.

Gefen, D., Straub, D., & Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of The Association For Information Systems, 4*(1), 7.

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal, 17*(S2), 109-122.

Grant, R. M. (2015). Knowledge-Based View. Wiley encyclopedia of management, 1-2.

Grapragasem, S., Krishnan, A., & Mansor, A. N. (2014). Current Trends in Malaysian Higher Education and the Effect on Education Policy and Practice: An Overview. *International Journal of Higher Education, 3*(1), 85-93.

Guyton, W. J. (1962). A guide to gathering marketing intelligence. *Industrial Marketing, 1*(1), 84-88.

Hair, M. A. (2020). Emotional quotion (EQ) dalam perspektif Al-qur'an. *Ahsana Media*, *6*(2), 31-40.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M, (2017). A Primer on Partial least squares structural equation modeling (PLS-SEM). Sage Publication.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*, *26*(2), 106-121.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice, 19*(2), 139-152.

Håkanson, L. (2010). The firm as an epistemic community: the knowledge-based view revisited. *Industrial and Corporate Change, 19*(6), 1801-1828.

Hannula, M., & Pirttimaki, V. (2003). Business intelligence empirical study on the top 50 Finnish

companies. *Journal of American Academy of Business, 2*(2), 593-599.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review, 33*(3), 405-431.

Hien, P. D. (2010). A comparative study of research capabilities of East Asian countries and implications for *Vietnam. Higher Education, 60*(6), 615-625.

Hernandez-Diaz, P. M., Polanco, J. A., & Escobar-Sierra, M. (2021). Building a measurement system of higher education performance: evidence from a Latin-American country. *International Journal of Quality & Reliability Management, 38*(6), 1278-1300.

He, W., Tian, X., Chen, Y., & Chong, D. (2016). Actionable social media competitive analytics for understanding customer experiences. *Journal of Computer Information Systems, 56*(2), 145-155.

Hien, P. D. (2010) 'A Comparative Study of Research Capabilities of East Asian Countries and Implications for Vietnam', *Higher Education, 60*(6), 615–25.

Hossain, S. F. A., Xi, Z., Nurunnabi, M., & Anwar, B. (2022). Sustainable academic performance in higher education: a mixed method approach. *Interactive Learning Environments, 30*(4), 707-720.

Hrnčiar, M., & Madzík, P. (2017). A 3D view of issues of quality in higher education. *Total Quality Management & Business Excellence, 28*(5-6), 633-662.

Hughes, S., & White, R. J. (2006). Competitive intelligence in higher education: Opportunities and threats. *Academy of Educational Leadership Journal, 10*(2), 67-81.

Husin, W.N.W. (2010). Budi-Islam: It's role in the construction of Malay identity in Malaysia. *International Journal of Humanities and Social Science*, *1*(12), 132-142.

Hutzschenreuter, T., & Kleindienst, I. (2006). Strategy-process research: What have we learned and what is still to be explored. *Journal of Management, 32*(5), 673-720.

Jalaluddin, N. H., & Ahmad, Z. (2012). Language and governance in pre-colonial epoch trading: a study on Malay classical texts. *Jurnal Linguistik, 16*(1).24-36

Jamil, T. N. H. T., Abd Khafidz, H., & Osman, K. (2019). High order thinking skills through *tadzakkur* approach. *'Abqari Journal*, *19*(1), 33-45.

Jaworski, B. J., D. J. Macinnis, A. K. Kohli. 2002. Generating competitive intelligence in organizations. *J. Market-Focused Manag. 5*(4): 279–307.

Johnes, J. (1996). Performance assessment in higher education in Britain. *European Journal of Operational Research, 89*(1), 18-33.

Jones, D. R., & Patton, D. (2020). An academic challenge to the entrepreneurial university: The spatial power of the 'Slow Swimming Club'. *Studies In Higher Education, 45*(2), 375-389.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science, 3*(3), 383-397.

Ko, W. W., & Liu, G. (2021). The transformation from traditional nonprofit organizations to social enterprises: An institutional entrepreneurship perspective. *Journal Of Business Ethics, 171*, 15-32.

Köseoglu, M. A., Ross, G., & Okumus, F. (2016). Competitive intelligence practices in hotels. *International Journal of Hospitality Management, 53*, 161-172.

Kumra, S., & Kumar, V. (2018). The Emergence of Competitive Intelligence: A Historical Perspective. *International Journal of Research, 5*(9), 457-467. Retrievedfrom https://journals.pen2print.org/index.php/ijr/article/view/13397/13918

Lee, J. T. Y. (2014). Education hubs in the making: Policy rationales and international relations. Unpublished Doctoral dissertation, University of Toronto.

López-Robles, J. R., Otegi-Olaso, J. R., Porto-Gómez, I., Gamboa-Rosales, H., & Gamboa-Rosales, N. K. (2020). Understanding the intellectual structure and evolution of Competitive Intelligence: A bibliometric analysis from 1984 to 2017. *Technology analysis & strategic management, 32*(5), 604-619.

Lutfiyah, L. (2017). Pemahaman tentang *ulū al-albāb*. *Madinah: Jurnal Studi Islam*, *4*(2), 120-132.

Madureira, L., Popovič, A., & Castelli, M. (2023). Competitive Intelligence Maturity Models: Systematic Review, Unified Model and Implementation Frameworks. *Journal of Intelligence Studies in Business, 13*(1), 6-29.

Maier, F., Meyer, M., & Steinbereithner, M. (2016). Nonprofit organizations becoming business-like: A systematic review. *Nonprofit And Voluntary Sector Quarterly, 45*(1), 64-86.

Malaysia. (2018). Mid-term Review Eleventh Malaysia Plan 2016-2020: Kuala Lumpur: Percetakan Nasional Berhad.

Maungwa, T., & Fourie, I. (2018). Competitive intelligence failures: An information behaviour lens to key intelligence and information needs. *Aslib Journal of Information Management, 70*(4), 367-389.

Mhd. Sarif, S. (2015). Wisdom of *Ulū al-Albāb* in sustaining human resource development in Muslim world. *Jurnal Kemanusiaan*, *24*(2), 88-100.

Mhd. Sarif, S. (2017). Society 5.0 *Qalb* with *Tawhidic* Paradigm. *Journal of Education and Social Sciences*, *8*, 208-17.

Mhd. Sarif, S. (2018). Effects of strategic *ta'awun* on sustainable, entrepreneurial and urbanised smart society in Muslim world. *Journal of Education and Social Sciences*, *9*(3), 40-46.

Mhd. Sarif, S. (2020). *Taqwa* (piety) approach in sustaining Islamic philanthropy for social businesses. *Journal of Islamic Management Studies*, *3(*1), 58-68.

Mhd. Sarif, S. (2020). Strategic planning with *ulū al-albāb* approach. *Journal of Islamic Management Studies*, *3*(1), 48-57.

Malaysia. Ministry of Education. (2015). Malaysia Education Blueprint 2015-2025 (Higher Education). Ministry of Education Malaysia.

Ministry of Higher Education Malaysia. (2024, June 10). *Number of Higher Education Institute.* https://www.mohe.gov.my/en.

Ministry of Higher Education Malaysia, 2004. The establishment of research university in Malaysia.Unpublished. The concept paper prepared by Ad Hoc Committee on Establishment of Research University in Malaysia.

Montgomery, D. B., & Weinberg, C. B. (1998). Toward strategic intelligence systems. *Marketing Management, 6*(4), 44.

Montgomery, D. B., & Urban, G. L. (1970). Marketing decision-information systems: an emerging view. *Journal of Marketing Research, 7*(2), 226-234.

Nangoy, R., Mursitama, T., Setiadi, N., & Pradipto, Y. (2020). Creating sustainable performance in the fourth industrial revolution era: The effect of employee's work well-being on job performance. *Management Science Letters, 10*(5), 1037-1042.

Nasri, W., & Zarai, M. (2013). Key success factors for developing competitive intelligence in organisation. *American Journal of Business and Management, 2*(3), 239-244.

Nasri, W. (2011). Competitive intelligence in Tunisian companies. Journal of Enterprise Information Management. *24*(1), 53-67.

Nenzhelele, T. E. (2015). A conceptual competitive intelligence quality assurance model. *Journal of Governance and Regulation, 4*(4), 685-696.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science, 5*(1), 14-37.

Oubrich, M., Hakmaoui, A., Bierwolf, R., & Haddani, M. (2018). Development of a competitive intelligence maturity model: Insights from Moroccan companies. *Journal of Intelligence Studies in Business, 8*(1).

Patrick, W. J., & Stanley, E. C. (1998). Teaching and research quality indicators and the shaping of higher education. *Research in Higher Education, 39*(1), 19-41.

Pearce, F. T. (1976). Business intelligence systems: the need, development, and integration. *Industrial Marketing Management, 5*(2-3), 115-138.

Pearce, F. T. (1971). Intelligence: A technology for the 1980's?. *Industrial Marketing Management, 1*(1), 11-26.

Porter, M.E. (1980), Competitive Strategy: Techniques of Analyzing Industries and Competitors, The Free Press, New York, NY.

Rosadi, K. I., Musyaffa, A. A., Anwar, K., El Widdah, M., & Idarianty, M. F. (2024). Strengthening emotional intelligence, spiritual intelligence, and school culture on student character. In: M.D.H. Rahiem (Ed), *Religion, Education, Science and Technology towards a More Inclusive and Sustainable Future* (pp. 90-96), New Work: Routledge.

Ruslan, I. (2024). Social Impact of Islamic Education in the Development of Modern Society. *Al-Hayat: Journal of Islamic Education*, *8*(1), 185-196.

Rahman, A., Helmi, T., & Apriadi, D. (2024). Guru Ideal Menurut Imam Al-Zarnuji dalam Kitab Ta'lim Al-Muta'allim. *Baitul Hikmah: Jurnal Ilmiah Keislaman*, *2(*1), 12-21.

Saayman, A., Pienaar, J., De Pelsmacker, P., Viviers, W., Cuyvers, L., Muller, M. L., & Jegers, M. (2008, July). Competitive intelligence: construct exploration, validation and equivalence. In Aslib Proceedings. Emerald Group Publishing Limited.

Sahibzada, U. F., Jianfeng, C., Latif, K. F., Shah, S. A., & Sahibzada, H. F. (2023). Refuelling knowledge management processes towards organisational performance: mediating role of creative organisational learning. *Knowledge Management Research & Practice, 21*(1), 1-13.

Sarstedt, M., Becker, J. M., Ringle, C. M., & Schwaiger, M. (2011). Uncovering and treating unobserved heterogeneity with FIMIX-PLS: which model selection criterion provides an appropriate number of segments?. *Schmalenbach Business Review, 63*, 34-62.

Sawka, K. A., Francis, D. B., & Herring, J. P. (1996). Evaluating business intelligence systems: how does your company rate?. *Competitive Intelligence Review, 7*(Supplement 1), S65-S68.

Sinnaiah, T., Adam, S., & Mahadi, B. (2023). A strategic management process: the role of decision-making style and organisational performance. *Journal of Work-Applied Management, 15*(1), 37-50.

Sepahvand, R., Nazarpoori, A. H., & Veisi, M. (2016). The Effect of Competitive Intelligence on Organizational Performance Through Orientation (Case Study: Insurance Companies Sanandaj). *International Business Management, 10(*7), 1280-1283.

Seyyed-Amiri, N. A. D. E. R., Shirkavand, S., Chalak, M., & Rezaeei, N. (2017). Competitive intelligence and developing sustainable competitive advantage. *AD-minister*, (30), 173-194.

Siraj, S. A., Ahmad, N. N., & Ismail, S. (2016). Cost management in public higher education institutions in Malaysia: Challenges in financial sustainability. 8th International Management and Accounting Conference (IMAC8), 28th-29th September 2016, Langkawi Island.

Society of Competitive Intelligence Professionals (SCIP) (2008). Resources: Language of BI, Retrieved from: www.scip.org/content.cfm?itemnumber 1⁄4 2226& navItemNumber 1⁄4 2227 (accessed 11 February 2008).

Spender, J. C., & Grant, R. M. (1996). Knowledge and the firm: Overview. *Strategic Management Journal, 17*(S2), 5-9.

Täuscher, K. (2017). Leveraging collective intelligence: How to design and manage crowd-based business models. *Business Horizons, 60*(2), 237-245.

Tooranloo, H. S., & Saghafi, S. (2019). Investigating the impact of using knowledge management on organisational agility through competitive intelligence and strategic thinking. Journal of *Information & Knowledge Management, 18*(02), 1950016.

Vaara, E., & Whittington, R. (2012). Strategy-as-practice: Taking social practices seriously. *Academy of Management Annals*, *6(*1), 285-336.

Vican, S., Friedman, A., & Andreasen, R. (2020). Metrics, money, and managerialism: Faculty experiences of competing logics in higher education. *The Journal of Higher Education, 91(*1), 139-164.

Viviers, W., Saayman, A., Muller, M. L., & Calof, J. (2002). Competitive intelligence practices: a South African study. *South African Journal of Business Management, 33*(3), 27-37.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2), 171-180.

Wright, S., Eid, E. R., & Fleisher, C. S. (2009). Competitive intelligence in practice: empirical evidence from the UK retail banking sector. *Journal Of Marketing Management, 25*(9-10), 941-964.

Yaakub, M. H., & Mohamed, Z. A. (2019). Measuring the performance of private higher education institutions in Malaysia. *Journal of Applied Research in Higher Education. 12*(3), 425-443.

Yap, 2018. Developing Policy in a Fast Changing, Increasingly Technology Influenced World: Malaysia's Experience, Education World Forum Park Plaza Westminster Bridge Hotel, London | 24 January 2018.

Yap, C. S., & Rashid, M. Z. A. (2011). Acquisition and strategic use of competitive intelligence. *Malaysian Journal of Library and Information Science, 16*(1), 125-136.

Zahrin, S. N. A., Hasan, S. A., & Samsudin, M. Z. (2020). Human capital transformation as mediator between love for knowledge and excellent Muslim. *ASEAN Journal of Teaching and Learning in Higher Education*, *11(*2), 1-16.

Zangoueinezhad, A., & Moshabaki, A. (2009). The role of structural capital on competitive intelligence. *Industrial Management & Data Systems, 109*(2), 262-280.

Zhou, T. (2012). Examining mobile banking user adoption from the perspectives of trust and flow experience. *Information Technology and Management, 13*, 27-37.

Zikmund, W. G. (2000). Business Research Methods, 6th (ed). Dryden Press.