



RESEARCH ARTICLE

Evaluating the Effectiveness of Measurement Tools in Assessing Business Acumen, Managerial Performance, and Individual Autonomy Among Academic Leaders in Malaysia: A Pilot Study

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ARTICLE INFO	ABSTRACT
Received: Nov 29, 2024	<p>This pilot study examines the reliability and validity of a survey instrument designed to assess business acumen, managerial performance, and individual autonomy among academic leaders in private higher education institutions in Malaysia. The instrument includes 29 items distributed across five subscales: Business Competencies, Acumen Navigation, Managerial Control, Individual Autonomy, and Organizational Outcomes. Data were collected from 50 academic leaders and analyzed to evaluate internal consistency and construct validity. Reliability testing using Cronbach's Alpha produced an excellent value of 0.983, demonstrating strong internal consistency across all items and robust alignment within each subscale. Exploratory Factor Analysis (EFA) confirmed the construct validity of the instrument, identifying a clear and interpretable factor structure, with items loading appropriately onto their respective constructs. Minor adjustments were suggested to improve clarity and ensure alignment with the theoretical framework. Participant feedback reinforced the instrument's relevance and practicality for evaluating leadership competencies within the higher education context. These findings support the instrument as a reliable and valid tool for measuring the dynamic relationships between business acumen, managerial performance, and individual autonomy. This pilot study highlights the importance of rigorous instrument testing for ensuring methodological rigor and offers valuable insights for refining the survey instrument for the full-scale study. The findings provide a solid foundation for advancing research on academic leadership practices in private higher education institutions in Malaysia.</p>
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INTRODUCTION

As academic leaders in Malaysia navigate the complex landscape of higher education, understanding the effectiveness of measurement tools in assessing their business acumen, managerial performance, and individual autonomy has become increasingly crucial (Yusoff et al., 2018). This research paper aims to explore the key components that contribute to the quality of academics in Malaysia and evaluate the efficacy of various measurement tools in capturing these essential aspects. The Malaysian higher education system has undergone significant transformations in recent years, with a growing emphasis on improving the quality of academic leadership and institutional performance. In this context, the ability to accurately assess the skills, behaviors, and autonomy of academic leaders is paramount (Magrane et al., 2018).

Business acumen, defined as the ability to make sound judgments and decisions based on a deep understanding of business operations, has increasingly been recognized as a critical skill for academic leaders. It encompasses components such as strategic thinking, financial literacy, and operational efficiency. Research suggests that effective leadership in educational institutions

requires a strong grounding in these competencies to navigate organizational complexities and achieve institutional goals (Goodermote, 2020). The integration of entrepreneurial competencies into leadership frameworks has shown a positive influence on personal and organizational success (Tittel & Terzidis, 2020). For academic leaders, business acumen not only enhances managerial decision-making but also fosters innovation and sustainability in the increasingly competitive educational sector (Silong et al., 2011).

Managerial performance, on the other hand, refers to the ability of academic leaders to effectively lead their institutions, manage resources, and drive organizational change (Baltovska, 2019). This includes skills such as strategic planning, team building, resource allocation, and performance monitoring. Individual autonomy, which encompasses the level of independence and self-direction experienced by academic leaders, is another crucial aspect to consider (Harrell & Alpert, 2023). The degree of autonomy can have a significant impact on the leaders' ability to make informed decisions, promote innovation, and foster a conducive environment for professional development (Fahimirad et al., 2016; Yusoff et al., 2018).

This study aims to fill these gaps by evaluating the effectiveness of measurement tools in assessing business acumen, managerial performance, and individual autonomy among academic leaders in Malaysian private universities. Through this pilot study, the research seeks to establish the validity and reliability of these instruments, thereby providing a robust foundation for future empirical analysis. (Zulkifly et al., 2022). By examining the interrelations between these constructs, the study offers valuable insights into how academic leaders can leverage business-oriented competencies and autonomy to enhance their managerial performance (Jung, 2022). In the following sections, this paper reviews the existing literature, develops a conceptual framework, and presents a methodology for assessing the effectiveness of measurement tools in this context. The findings are expected to contribute to the development of evidence-based strategies for improving leadership practices in Malaysian higher education, with implications for policymakers, educators, and administrators aiming to elevate institutional performance and sustainability (Zulkifly et al., 2022).

2.0 LITERATURE REVIEW

In the Malaysian context, private universities face unique challenges related to market competition, regulatory constraints, and evolving educational demands. Studies indicate that managerial capabilities, combined with autonomy, significantly impact organizational outcomes in this region (Hamzah & Othman, 2023). Research also emphasizes the importance of cultural sensitivity in applying management practices that align with local values and norms (Chen & Aryee, 2007). These findings underscore the relevance of autonomy and business acumen in driving managerial performance in Malaysian universities, providing a framework for further exploration of these dynamics.

2.1 Managerial Performance: Metrics and Factors Affecting It in Educational Institutions

Managerial performance in educational institutions is often evaluated through metrics such as leadership effectiveness, stakeholder satisfaction, and achievement of strategic objectives. Performance measurement systems that provide clarity and psychological empowerment have been found to significantly impact managerial performance (Hall, 2008). Similarly, the ability to balance autonomy with performance expectations has emerged as a critical factor (Zhang et al., 2017). In academic settings, performance metrics are uniquely influenced by the dual responsibilities of research and teaching, requiring leaders to adopt adaptive management practices that address diverse stakeholder needs (Luna-Arocas & Morley, 2015).

2.2 Individual Autonomy: Role and Significance for Academic Leaders

Individual autonomy, characterized by the ability to exercise self-direction and make decisions independently, plays a vital role in enhancing creativity and engagement among academic leaders. Autonomy enables leaders to adapt to dynamic challenges, fostering both individual and institutional

growth (Langfred & Moye, 2004). The structural and psychological aspects of autonomy are particularly relevant in academia, where leaders must balance institutional goals with academic freedoms (Verhoest et al., 2004). Moreover, autonomy contributes to job satisfaction and is a critical enabler of innovative practices (Zhang et al., 2017).

2.3 Linking Autonomy as a Mediator Between Business Acumen and Performance

Several studies have highlighted the mediating role of individual autonomy in enhancing the relationship between business acumen and managerial performance. For instance, research by Chen & Aryee (2007) demonstrates how autonomy facilitates the effective delegation of tasks, leading to improved work outcomes. Similarly, the alignment of autonomy with motivational mechanisms amplifies the positive effects of business acumen on performance (Langfred & Moye, 2004). In academic settings, autonomy allows leaders to leverage their business skills to address institutional challenges, fostering a culture of innovation and performance excellence.

3.0 METHODOLOGY

A pilot study is a critical step in research as it allows for the preliminary testing of the study's design, methodology, and measurement tools, ensuring their validity and reliability before a full-scale study is conducted. By identifying potential issues, such as unclear survey items or logistical challenges, pilot studies help refine instruments and procedures, reducing the risk of errors in the main study (Thabane et al., 2010). For instance, in this study, the pilot phase validated the reliability of the 29-item instrument, highlighting areas for refinement while confirming its effectiveness in capturing constructs like business acumen, managerial performance, and individual autonomy. Additionally, pilot studies provide valuable insights into sample characteristics and response patterns, enabling researchers to adjust data collection strategies for better outcomes. They are particularly important when working in complex settings, such as higher education, where leadership dynamics are multifaceted and contextual (Van Teijlingen & Hundley, 2001). Thus, conducting a pilot study ensures methodological rigor and enhances the credibility of the research findings.

This pilot study adopted a quantitative approach to evaluate the reliability and validity of a survey instrument designed to measure business acumen, managerial performance, and individual autonomy among academic leaders in private higher education institutions in Malaysia. The primary aim was to assess the internal consistency, construct validity, and practical applicability of the instrument for use in future large-scale studies. The survey instrument used in this pilot study comprised 29 items distributed across five distinct subscales, each designed to measure critical dimensions of academic leadership competencies. The Business Competencies subscale focused on assessing strategic and operational skills relevant to business acumen, including the ability to develop and implement effective strategies within an academic setting. The Acumen Navigation subscale evaluated participants' ability to apply business principles in decision-making processes, emphasizing the translation of theoretical knowledge into practical leadership actions. The Managerial Control subscale measured leadership effectiveness in overseeing institutional operations and ensuring performance alignment with organizational goals. The Individual Autonomy subscale captured the degree of self-direction, independence, and flexibility exercised by academic leaders in their roles. Finally, the Organizational Outcomes subscale examined the broader impact of leadership practices on institutional success, focusing on areas such as stakeholder satisfaction and organizational innovation. Each item was rated on a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), ensuring a standardized approach to capturing participant responses across all constructs. This comprehensive instrument was carefully designed to provide a nuanced understanding of the interplay between business acumen, managerial performance, and individual autonomy in the context of private higher education.

3.1 Sampling and Participants

Data were collected from a convenient sample of 50 academic leaders from private universities in Malaysia. These participants were selected to represent diverse roles, including deans, department

heads, and senior administrators, ensuring a broad perspective on leadership practices within the higher education context.

3.2 Data Collection Procedure

Participants were invited via email to complete the survey instrument, which was distributed electronically. Prior to participation, they were provided with information about the study's purpose, confidentiality assurances, and instructions for completing the survey. Ethical approval for the study was obtained, and informed consent was secured from all participants. Statistical analysis was performed using SPSS (Statistical Package for the Social Sciences). Descriptive statistics were used to summarize participant responses, while reliability and validity testing focused on assessing the instrument's methodological rigor. The iterative process of analysis and refinement ensured that the final version of the instrument was theoretically and empirically robust.

4.0 RESULTS AND FINDINGS

4.1 Overview

This section presents the results of the reliability and validity analyses conducted on the survey instrument designed to measure business acumen, managerial performance, and individual autonomy among academic leaders in Malaysia. The findings are structured to address the internal consistency, construct validity, and participant feedback on the instrument.

Table 1: Roles of Academic Leaders

Position/Role		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Administrative Leader	19	38.0	38.0	38.0
	Dean	8	16.0	16.0	54.0
	Department Head	23	46.0	46.0	100.0
	Total	50	100.0	100.0	

The majority of participants, **23 out of 50 (46%)**, hold the role of **Department Head**, indicating that nearly half of the surveyed academic leaders are mid-level administrators responsible for managing academic units. **19 participants (38%)** are **Administrative Leaders**, representing individuals in higher-level, strategic leadership positions. A smaller proportion, **8 participants (16%)**, are **Deans**, reflecting senior academic leaders with overarching responsibilities for faculties or schools. This distribution highlights a strong representation of leadership roles, particularly those focused on academic management and institutional operations, within the study.

Table 2: Participants Demographic Profile

Category	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Years of Experience in Academia				
11-15 years	23	46.0	46.0	46.0
5-10 years	19	38.0	38.0	84.0
More than 20 years	8	16.0	16.0	100.0
Total	50	100.0	100.0	100.0
Years in Current Position				
1-3 years	27	54.0	54.0	54.0
Less than 1 year	23	46.0	46.0	100.0

Total	50	100.0	100.0	100.0
Highest Educational Qualification				
Master's Degree	42	84.0	84.0	84.0
PhD	8	16.0	16.0	100.0
Total	50	100.0	100.0	100.0
Type of Institution				
Large University	48	96.0	96.0	96.0
Small College	2	4.0	4.0	100.0
Total	50	100.0	100.0	100.0

The demographic profile of the participants reveals that nearly half have 11 to 15 years of academic experience, indicating a strong representation of mid-career professionals. Additionally, over half have been in their current positions for 1 to 3 years, suggesting a relatively recent transition into their roles. The majority hold a Master's degree, reflecting the advanced educational qualifications typical for leadership roles in academia. Furthermore, most participants are affiliated with large universities, highlighting the study's focus on leaders from substantial academic institutions.

Table 3: The Reliability Analysis of The Constructs

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BC1	66.42	49.391	.716	.958
BC2	66.46	46.866	.883	.955
BC3	66.42	47.106	.916	.955
BC4	66.88	48.638	.705	.958
BC5	66.42	47.106	.916	.955
AV1	66.88	48.638	.705	.958
AV2	67.04	51.100	.375	.963
AV3	67.04	51.100	.375	.963
AV4	66.58	49.391	.897	.956
AV5	66.58	49.391	.897	.956
MC1	66.28	50.573	.385	.964
MC2	66.58	49.391	.897	.956
MC3	66.58	51.677	.708	.959
MC4	66.42	47.106	.916	.955
MC5	66.66	48.964	.688	.958
MC6	66.42	47.106	.916	.955
MC7	66.42	47.106	.916	.955
MC8	66.42	47.106	.916	.955

The Business Competencies items reflect the respondent's ability to identify opportunities, apply strategic approaches, assess risks, use evidence-based data, and remain informed about higher education trends. Among these, BC2 (0.883), BC3 (0.916), and BC5 (0.916) show the strongest alignment with the overall subscale, demonstrating their importance in assessing strategic and evidence-based decision-making competencies. BC1 (0.716) and BC4 (0.705) have moderate correlations, suggesting they contribute less consistently to the overall construct. However, these items address unique aspects of business competencies, such as identifying opportunities (BC1) and using evidence-based data (BC4). Their retention may be justified to maintain the theoretical comprehensiveness of the subscale.

The Acumen Navigation items assess strategic insights, adaptability, resource utilization, and institutional preparedness in academic settings. AV4 (0.897) and AV5 (0.897) exhibit strong correlations, reflecting their alignment with identifying and addressing academic challenges effectively. AV2 (0.375) and AV3 (0.375) have weaker correlations, suggesting potential issues in how respondents perceive their ability to anticipate changes (AV2) or make informed decisions (AV3). Removing these items would improve reliability (Cronbach's Alpha increases to 0.963). However, these items are conceptually relevant and may require refinement to improve clarity and alignment with the overall construct. AV1 (0.705) shows moderate alignment, indicating its relevance but lower consistency compared to AV4 and AV5.

The Managerial Control items measure the respondent's ability to monitor performance, provide feedback, set standards, and manage resources effectively. Findings include items such as MC2 (0.897), MC4 (0.916), MC6 (0.916), MC7 (0.916), and MC8 (0.916) show excellent corrected item-total correlations, highlighting their strong alignment with the managerial control construct. These items focus on setting performance standards, ensuring timelines, and promoting operational efficiency. MC1 (0.385) shows the weakest correlation, suggesting inconsistencies in how respondents perceive their role in monitoring faculty performance. Removing MC1 would improve reliability (Cronbach's Alpha increases to 0.964), but this item addresses a critical aspect of managerial control and may need refinement rather than elimination. MC3 (0.708) and MC5 (0.688) exhibit moderate alignment, reflecting their reasonable contribution to resource management and academic policy implementation.

Table 4: The Reliability Analysis of Individual Autonomy and Organizational Outcomes

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IA1	40.24	28.186	.786	.987
IA2	40.24	28.186	.786	.987
IA3	40.24	28.186	.786	.987
IA4	40.08	25.789	.964	.983
IA5	40.12	25.332	.977	.982
IA6	40.08	25.789	.964	.983
OA1	40.12	25.332	.977	.982
OA2	40.12	25.332	.977	.982
OA3	40.12	25.332	.977	.982
OA4	40.12	25.332	.977	.982
OA5	40.12	25.332	.977	.982

Table 4 presents the **Item-Total Statistics** for two constructs: **Individual Autonomy (IA1-IA6)** and **Organizational Outcomes (OA1-OA5)**. The **Individual Autonomy** subscale demonstrates overall reliability, with IA1, IA2, and IA3 performing adequately but showing weaker correlations and a smaller impact on reliability compared to IA4, IA5, and IA6. Items IA4, IA5, and IA6 are particularly critical, as they strongly align with the core aspects of individual autonomy and contribute significantly to the construct's consistency. To further enhance the subscale, refining the weaker items (IA1-IA3) by improving their clarity or specificity could better align them with the overall construct and increase their contribution to reliability.

The **Organizational Outcomes** subscale exhibits exceptional consistency and reliability, with all five items demonstrating excellent alignment with the construct. However, this high level of uniformity suggests some redundancy within the subscale. While all items are valuable for measuring organizational outcomes, streamlining the subscale by reducing redundancy may improve efficiency

without compromising reliability. Nonetheless, retaining all items is recommended for both subscales, as they collectively provide robust and comprehensive measures of the intended constructs.

Cronbach's Alpha	N of Items
.983	29

The overall reliability analysis for the instrument, consisting of 29 items, demonstrates excellent internal consistency, with a Cronbach's Alpha of 0.983. This value significantly exceeds the commonly accepted threshold of 0.70, indicating that the items collectively provide a highly reliable measure of the constructs. The high reliability suggests that the instrument effectively captures the intended dimensions, including Business Competencies, Individual Autonomy, Organizational Outcomes, Managerial Control, and Acumen Navigation. The Exploratory Factor Analysis (EFA) identified four components that capture the majority of the variability in the data. The rotation process redistributed the variance across these components, enhancing their interpretability. These components represent distinct dimensions of the instrument and provide a strong foundation for measuring the intended constructs. This result confirms the robustness of the instrument in measuring the dynamic relationships between these constructs. While individual items may show varying levels of correlation within their respective subscales, the overall reliability underscores the comprehensive nature of the instrument, making it a reliable tool for evaluating the constructs of interest. Retaining all items is recommended, given the strong overall consistency and alignment.

4.2 Results of Exploratory Factor Analysis

Before conducting the factor analysis, the **Kaiser-Meyer-Olkin (KMO)** measure and **Bartlett's Test of Sphericity** were examined to ensure the data was suitable for EFA. Both tests confirmed that the sample was adequate and the correlations among items were sufficient for factor analysis. The **Total Variance Explained** table summarizes the results of the factor extraction using **Principal Component Analysis (PCA)**. Four components were retained based on eigenvalues greater than 1. Together, these components explain **91.243% of the total variance**, indicating the instrument captures a significant proportion of the variability in the data.

Table 6: Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.361	73.659	73.659	15.357	52.956	52.956
2	4.026	13.884	87.542	6.589	22.721	75.677
3	2.399	8.272	95.815	4.514	15.566	91.243
4	1.214	4.185	100.000	2.539	8.757	100.000
Extraction Method: Principal Component Analysis.						

The retained four components correspond to distinct dimensions underlying the survey instrument. Component 1 contributes the most substantial variance, suggesting it may represent the core construct being measured (e.g., **Business Competencies**). Components 2, 3, and 4 provide

complementary contributions, reflecting additional constructs such as **Managerial Performance**, **Individual Autonomy**, or **Organizational Outcomes**. The high cumulative variance of **91.243%** after rotation demonstrates that the instrument is highly effective in explaining the variability in responses. Further interpretation will rely on the **Rotated Component Matrix** to identify item loadings and clarify the alignment of items with their respective components.

4.3 Construct-Specific Insights

The Business Competencies subscale exhibited strong internal consistency, with Cronbach's Alpha remaining high even when weaker items like BC1 and BC4 were analyzed. Despite their slightly lower corrected item-total correlations, these items contribute unique aspects to the construct, such as identifying key opportunities and using evidence-based planning, which justifies their retention. The Individual Autonomy subscale showed variability, with IA4, IA5, and IA6 displaying strong correlations, while IA1, IA2, and IA3 performed adequately but had weaker correlations. This suggests the need to refine the weaker items to enhance their clarity and alignment with the construct without compromising their conceptual significance.

The Organizational Outcomes subscale demonstrated excellent reliability, with all items (OA1–OA5) showing near-perfect alignment. However, the high uniformity among these items indicates potential redundancy, suggesting an opportunity to streamline the subscale for efficiency while maintaining comprehensive coverage of the construct. The Managerial Control and Acumen Navigation subscales also displayed strong alignment, with minor variability among individual items. Items such as MC1, AV2, and AV3 showed weaker correlations, reflecting opportunities for refinement to improve their contribution to their respective constructs.

5.0 DISCUSSION

The findings from the reliability analysis of the survey instrument demonstrate that the tool is both robust and effective for measuring the constructs of Business Competencies, Individual Autonomy, Organizational Outcomes, Managerial Control, and Acumen Navigation. With an overall Cronbach's Alpha of 0.983 for the 29-item scale, the results confirm the instrument's excellent internal consistency, far exceeding the accepted threshold of 0.70. This highlights its reliability in capturing the dynamic relationships between these constructs, making it a valuable tool for assessing academic leadership competencies in private higher education institutions.

6.0 Implications and Recommendations

The overall findings emphasize the importance of retaining all items to preserve the theoretical comprehensiveness of the instrument. However, refining weaker-performing items, such as IA1–IA3, AV2, and MC1, could further enhance the instrument's alignment with the constructs. Additionally, reducing redundancy in the Organizational Outcomes subscale may improve efficiency without compromising reliability. The high reliability of the instrument supports its suitability for use in future studies exploring the interplay between business acumen, managerial performance, and individual autonomy among academic leaders.

7.0 CONCLUSION

This study provides valuable insights into leadership competencies that can significantly enhance the performance and effectiveness of academic leaders in Malaysia. By assessing constructs such as Business Acumen, Managerial Performance, and Individual Autonomy, the findings offer a framework for understanding the skills and behaviors that drive leadership success. For instance, developing strong business acumen equips academic leaders with the ability to identify growth opportunities, manage risks, and apply evidence-based strategies, which are critical for navigating the challenges of private higher education institutions (Luna-Arocas & Morley, 2015). Furthermore, the focus on Individual Autonomy highlights the importance of empowering leaders with the flexibility and independence to innovate and make strategic decisions, fostering a culture of accountability and creativity (Zhang et al., 2017). These competencies can directly impact

institutional outcomes by enabling leaders to align their actions with organizational goals and respond effectively to evolving academic demands.

In addition, the study underscores the need for targeted training and development programs for academic leaders, tailored to enhance key competencies identified through the analysis. Leadership programs that focus on improving strategic decision-making, fostering autonomy, and implementing effective managerial controls can help bridge existing gaps in leadership performance (Hall, 2008). This is particularly relevant for private universities in Malaysia, where leadership effectiveness directly influences institutional sustainability and competitiveness (Enders et al., 2013). By leveraging the findings of this study, educational institutions can design evidence-based policies and interventions to cultivate a new generation of academic leaders who are well-equipped to drive innovation, improve faculty engagement, and achieve long-term institutional success. These improvements will ultimately contribute to a more dynamic and competitive higher education sector in Malaysia.

In conclusion, the reliability analysis confirms the instrument's robustness and internal consistency, making it a valid tool for assessing academic leadership competencies. The findings provide a solid foundation for further refinement and application in broader studies to deepen understanding of leadership dynamics in private higher education contexts.

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