

Institutional dynamics in board pass rates: Examining accreditation compliance and its mediators

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Abstract

This multiple mediation analysis explores the relationship between accreditation compliance and board pass rates, mediated by management of school resources, quality of academic programs, and student engagement, among the selected Local Universities and Colleges (LUC) in the Philippines. Anchored in the Institutional Theory, the study delves into the impact of the Association of Local Colleges and Universities Commission on Accreditation (ALCUCOA) compliance across diverse institutions, examining its nine accreditation areas as stringent evaluators of predetermined standards. The results highlight the significant influence of accreditation compliance on board pass rates, particularly at higher standards and underscores the positive impact of effective management of school resources and quality academic programs. Furthermore, it emphasizes the importance of student engagement in achieving favorable outcomes. The full model underscores their interconnectedness, explaining 44.0% of the variability in board pass rates. These values highlight the profound influence of accreditation compliance and its mediating factors on academic outcomes, emphasizing the need for institutions to strategically uphold and enhance accreditation standards. Implications for institutions include the importance of strategic accreditation planning, resource management enhancement, quality academic program development, fostering student engagement, and comprehensive accreditation training.

Keywords: *accreditation, board pass rates, management of school resources, quality of academic programs, quality assurance, student engagement, local universities and colleges*

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1. Introduction

Accreditation continues to play a crucial role in influencing the higher education context, as highlighted by the constitutional acknowledgement of Article 14 of the 1987 Philippine Constitution, which stresses the importance of providing quality educational opportunities (Official Gazette of the Republic of the Philippines, 2018). However, accreditation goes beyond just recognition, showcasing an institution's commitment to maintaining educational standards and serving as a driver for accessing different benefits, encouraging adherence to set criteria (Al-Qasem et al., 2022). Researchers have thoroughly explored the connection between accreditation and academic performance, uncovering valuable insights across different aspects. For instance, Prado (2020) emphasized the strong connection between program quality and accreditation, identifying attitudes toward accreditation and accreditation visits as crucial factors that predict program quality. According to Alenezi et al. (2023), the planning and self-study evaluation of the accreditation process is critical to the quality improvement and students' learning experiences. In addition, Xie and Zhang (2020) argued that schools with greater socioeconomic status and superior facilities lead to better academic results, which impacts student learning experiences (Al Barwani & Osman, 2010). Through accreditation, institutions can enhance educational quality and effectiveness by identifying areas for improvement, allocating resources effectively, and implementing strategic interventions.

Several studies have clearly indicated the relationship between accreditation and pass rates in board examinations. Minguez-Galenzoga (2016) found that higher levels of accreditation status are associated with better performance in licensure examinations. This is similar to the findings of Loy et al. (2024), indicating that accredited allied health programs have higher passing rates in the five-year examination periods, Falcone and Gonzalo (2014), emphasizing that 74% of the accredited Internal Medicine residency programs achieved a pass rate of $\geq 80\%$, and van Zanten (2015), indicating that accreditation was associated with higher first-attempt pass rates on some international medical examinations. Hence, previous studies clearly argue that accreditation not only improves institutional and program quality, it also improves program performance in board examinations.

While studies indicate that accreditation has strong correlations to the students' performance in board examinations, there are several other factors attributed to the success in licensure examinations. Generally, students have positive views on the impact of accreditation (Al-Kassem et al., 2022; Al-Eyadhy & Alenezi, 2021; Acevedo-De-los-Ríos & Rondinel-Oviedo, 2022). However, there are several other factors taken into consideration. For instance, studies identified program quality (Erdoğdu, 2019) including curriculum and teaching and learning (Dayaday, 2018; Tulud et al., 2023; Amanonce & Maramag, 2020; Dagdagui & Mang-usan, 2022), school resources (Erdoğdu, 2019) including learning materials and facilities (Dayaday, 2018) and student-related factors including commitment (Dayaday, 2018; Erdoğdu, 2019; Gay, 2022; Cabahug, 2023; Plasus & Diamante, 2020) as the major contributors to students' success in board examinations. Despite studies indicating strong correlation between accreditation and performance in board examination, there is lack of studies on the mediating roles of these identified factors in the students' performance in board examination.

This study specifically examines Philippine local universities and colleges (LUCs) that have been evaluated by the Association of Local Colleges and Universities - Commission on Accreditation (ALCUCOA). The meticulous assessment conducted by ALCUCOA aims to discern institutions that meet predefined standards, particularly within the unique context of the LUCs in the Philippines. These standards, encompassing various vital aspects such as employability and entrepreneurship, governance and administration, curriculum and instruction, faculty, student development services, extension services/community involvement, research, laboratories, and physical plant (ALCUCOA, 2017), offer a comprehensive framework for evaluating the mediating factors influencing board passing rates. The purpose of this research is to gather empirical evidence on whether and how the mediating variables; the management of school resources, the quality of academic programs, and student engagement; influence the relationship between accreditation compliance and passing rates in board exams.

2. Literature Review

2.1. Accreditation and Board Pass Rate

The influence of accreditation on board pass rates has been thoroughly investigated, uncovering complex interactions among certification levels, quality assurance methods, and

academic achievement. Some studies warn against depending just on certification levels, while others imply that accreditation may have some predictive value. Genton and Juevesa (2023) highlighted constraints in the relationship among quality assurance procedures, board exam results, and accreditation levels in Region XII HEIs in the Philippines. Even with effective measures in place, performance does not routinely surpass national passing rates, suggesting the need for a comprehensive strategy to ensuring educational quality. The study of Minguez-Galenzoga (2016) showed a direct link between higher accreditation levels and better performance in licensing tests at seven state institutions and colleges in the Philippines. However, Al-Omari and Al-Khawaldeh (2022) emphasize a dynamic and student-centered approach to quality, expanding the quality framework beyond accreditation. For this, Ried et al. (2023) propose that changes in testing circumstances may have a greater impact on pass rates compared to the accreditation period. These studies underscore the complex structure of relationships, stressing the need of thorough evaluations that go beyond just certification levels.

2.2. Managing School Resources

Accreditation stands as a pivotal factor in educational institutions, ensuring adherence to rigorous standards and effective management of resources. Studies consistently affirm the prioritization of quality education through accreditation, facilitating efficient resource allocation. For instance, Gudith (2023) highlights accreditation's role in enhancing reputation, credibility, and stakeholder trust among educational institutions. Similarly, Hakim and Suharto (2019) emphasize the link between accreditation and the quality of education, emphasizing the necessity of efficient resource utilization to meet accreditation criteria. Nathani (2021) underscores accreditation's function in safeguarding stakeholders' interests by recognizing institutions with effective resource management practices. Moreover, Adiyaman and Keser Özmantar (2023) explore accreditation's benefits on various system elements, indicating implications for resource management. Overall, literature emphasizes accreditation's significance in confirming quality commitment and driving continuous improvement, which necessitates effective resource management. In the context of this study, these findings support the argument that well-managed school resources may serve as a mediating variable in the relationship between accreditation and board passing rates, highlighting the importance of considering resource management practices in enhancing academic outcomes.

2.3. Quality of Academic Programs

Understanding the relationship between accreditation and board pass rates involves exploring how the quality of the academic program could act as a mediating factor. Several studies shed light on this phenomenon. Al-Kassem et al. (2022) discovered that Taguig City University showed favorable views towards accreditation while facing administrative obstacles, suggesting that certification might positively influence program quality. Iqbal et al. (2022) highlighted the differences in program quality between public and private institutions in Pakistan, proposing that certification may help narrow these inequalities. Dumancas and Prado (2018) emphasized that accreditation has a favorable impact on academic programs at Central Mindanao University, indicating that higher program quality might result in better board passing rates. Absor and Hairunas (2022) emphasized the important role of faculty in developing institutional strategies to improve program quality. They also highlighted how academic program quality might influence accreditation and board passing rates. The data suggest that accreditation may affect program quality, which in turn can affect board pass rates by assuring students obtain top-notch education that meets licensing test standards. Understanding and enhancing the quality of academic programs may improve the efficacy of accreditation in generating good board results.

2.4. Student Engagement

Student engagement significantly impacts learning outcomes and may affect board passing rates. Berry and Hammer (2018) found that engaged students may achieve higher academic performance. Daugherty et al. (2020) found connections between classroom involvement and variables including self-esteem and focused attention, which may greatly influence student performance on exams. Wise (2019) emphasized the significant connection between student involvement and test performance, indicating that interested students may get higher scores on exams. Boulton et al. (2019) investigated the interplay between student involvement and well-being, emphasizing its beneficial impact on academic achievement and overall student contentment. These studies highlight the complex nature of student involvement and its possible impact on academic progress and, therefore, board passing rates. Enhancing student involvement may be a helpful method to improve educational outcomes and boost performance on board exams.

2.5. Theoretical and Conceptual Framework

The framework of the study is anchored on the Institutional Theory, specifically drawing from the works of Meyer and Rowan (1977), DiMaggio and Powell (1983), and Zucker (1977) as cited in Greenwood et al. (2017). The institutional theory provides a lens to understand how structures, norms, and routines become authoritative guidelines for social behavior within educational institutions. This theoretical foundation is instrumental in exploring the complex relationship between accreditation compliance and board pass rates involving the mediating variables.

The study employs a multiple mediation analysis framework outlined by Hayes (2018) to unravel the mechanisms through which accreditation influences board pass rates. This analytical approach allows for the simultaneous examination of the mediating variables—managing school resources, quality of academic programs, and student engagement—within a single model.

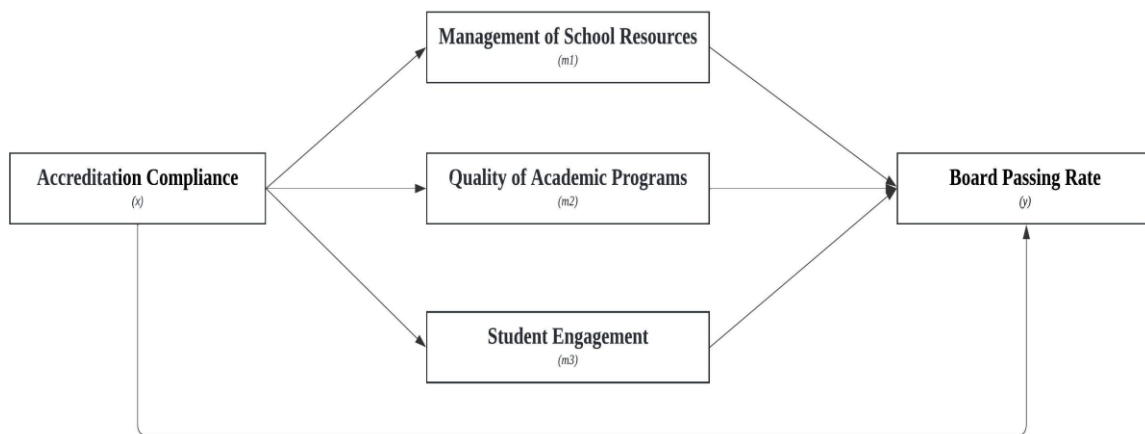
Hayes (2018) acknowledges certain risks associated with multiple mediator models, particularly when mediators are correlated. The conceptual framework considers these risks, particularly the possibility of conflicting results between specific and total indirect effects. The inclusion of more than one mediator in the model allows for a nuanced understanding of the influence of accreditation on board passing rates, considering the interplay and potential collinearity among the mediating variables. Furthermore, the framework integrates Meyer and Rowan's (1977) concept of institutional myths and legitimacy, recognizing that institutions may ceremoniously adopt accreditation standards for symbolic legitimacy. The study posits that ALCUCOA accreditation compliance acts as an institutional force, and the multiple mediation analysis helps disentangle spurious associations from potential causal associations.

In interpreting the results, the study acknowledges the complexities highlighted by Hayes (2018), particularly the potential paradoxes in specific and total indirect effects. The focus of inference and interpretation is directed towards direct and specific indirect effects, aligning with the notion that a multiple mediator model aims to understand specific mechanisms at work rather than the aggregate of all mechanisms.

Presented in Figure 1 is the conceptual framework that explores the interrelationships between accreditation compliance (X) and board passing rates (Y), emphasizing the mediating roles of three distinct variables: managing school resources (m1), quality of academic programs (m2), and student engagement (m3). The central hypothesis posits that the influence of accreditation levels on board passing rates is not direct but operates through the mediation of these key factors.

Figure 1

Conceptual diagram of multiple mediation analysis



The conceptual model proposes that higher (X) positively influence (m1), subsequently contributing to enhanced (Y). Similarly, (m2) is anticipated to serve as a mediator in the relationship between accreditation levels and board passing rates, suggesting that accreditation positively affects academic quality, leading to improved exam outcomes. In addition, (m3) represents another mediating pathway, suggesting that perceptions and acceptance of accreditation standards play a crucial role in shaping board passing rates. The comprehensive model (m4) incorporates all three mediators simultaneously, providing a holistic understanding of how the relationship between accreditation levels and these mediating variables collectively influences board passing rates. In summary, the conceptual model underscores the connections among accreditation levels, mediating variables related to school resources, academic quality, and attitudes towards accreditation. The cumulative impact of these factors is encapsulated in the full model, offering a perspective on the dynamics influencing board passing rates. The

conceptualization is drawn from the framework outlined by Hayes (2018 as cited in Asirit, 2023).

3. Methodology

3.1. Research Design

This research employed moderated mediation analysis (Hayes, 2018), utilizing the General Linear Model (GLM), to explore the mediating roles of management of school resources (m1), quality of academic programs (m2), and student engagement (m3). The GLM was deliberately chosen for its suitability in evaluating the impact of moderating variables on different facets of the mediation process, enhancing the study's analytical depth. The selected systematic approach, guided by Hayes and Rockwood (2020), bolstered the study's rigor. As cited in Asirit (2023), the utilization of this methodological framework ensures a comprehensive examination of the variables offering robust insights into the intricate dynamics outlined in the conceptual framework.

3.2 Participants

This study focused on LUCs affiliated with the ALCU in the Philippines. A systematic random sampling method to select the LUCs and its faculty and staff, ensuring adequate representation across various institutions offering a total of 40 board courses. The sample size was determined based on the need to capture a diverse range of perspectives and experiences within the target population while maintaining feasibility and practicality in data collection. This approach aimed to enhance the generalizability and reliability of the study findings by encompassing a broad spectrum of LUCs and academic disciplines.

To ensure the representativeness and relevance of the sample, faculty and staff participants were required to meet specific criteria. Firstly, they had to be employed in the selected LUCs affiliated with ALCU. Secondly, participants needed to demonstrate experience in accreditation processes, indicating familiarity with quality assurance mechanisms in higher education. Additionally, a teaching background in board courses was essential, ensuring that participants possessed firsthand knowledge of the curricula and instructional practices relevant to board examinations. The selection process was administered through systematic random sampling, wherein individuals meeting the eligibility criteria were randomly chosen from the

pool of faculty and staff members within each selected LUC. Voluntary participation and diverse backgrounds among participants contributed to the comprehensive nature of the study's findings.

3.3. Research Instrument

Two different tools were used in the study to methodically collect data. Initially, secondary data was obtained from the Quality Assurance Offices using a researcher-created online questionnaire to evaluate the accrediting compliance of LUCs. The questionnaire used a 5.0 to 1.0 rating scale to assess key areas according to the requirements set by the ALCUCOA. Board passing rates were assessed on a scale from 6 (Excellent, 90% and above) to 1 (Not Applicable). College administrators acquainted with the data were participating in this part of the survey, making it similar to secondary data collecting.

A survey based on Al-Kassem et al. (2022) was given to chosen faculty members and staff to assess the mediating variables. The survey was subjected to reliability testing and had a Cronbach's alpha of .92, indicating strong robustness. The survey was carried out online using a specialized platform (JotForm.com), guaranteeing data confidentiality and encryption. This tool was designed to collect direct feedback from teachers and staff on the issues that may influence the connection between accreditation compliance and board pass rates.

3.4. Data Collection Procedure

Initially, a selection of LUCs was made from the roster of the ALCU. Subsequently, the research objectives were communicated to the College Presidents of the chosen institutions. The Quality Assurance In-charge at these institutions were then tasked with providing secondary data related to accreditation ratings and board course pass rates. To obtain insights from faculty and staff specifically regarding the mediating variables, informed consent and voluntary participation were requested for their involvement in the online survey upon login, emphasizing their right to withdraw from the study at any point (Asirit, 2023). Adequate time was allocated for completing the questionnaire, and reminders were sent to ensure maximum participation.

3.5. Data Analysis

The study employed the Generalized Linear Model (GLM) mediation analysis with bootstrap normal confidence intervals based on Hayes (2018). Analytical procedures were executed using the Jamovi software, incorporating the advanced JAMM module for enhanced reliability in assessing the relationships between accreditation levels, mediating variables, and board passing rates (Rosseel, 2019; Soetaert, 2019; Thejamoviproject, 2022; Rcoreteam, 2021; Gallucci, 2020).

3.6. Ethical Considerations

Ethical considerations in this study, guided by principles outlined in Safarlou et al. (2023), prioritized responsible survey conduct. Informed consent, confidentiality, and anonymity were central, to upholding participants' rights. Survey questions were crafted to avoid bias, ensuring neutral language. Diversity representation and robust data security measures, including encryption, were implemented.

4. Results and Discussion

The analysis of the regression results presented in Table 1 reveals important insights into the relationship between accreditation compliance and board pass rate.

Table 1

Total effects predicting board passing rate

ANOVA Table

R-squared	F	df1	df2	p		
0.110	2.28	2.00	37.0	0.117		

Names	Effect	β	df	t	p
Accreditation Compliance1	Acceptable Compliance - Very Low Compliance	0.102	37	0.560	0.579
Accreditation Compliance2	High Compliance - Very Low Compliance	0.373	37	2.049	0.048

Note: For variable Accreditation Compliance the contrasts are:

Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance

Accreditation Compliance2 = High Compliance - Very Low Compliance

The overall model, as indicated by the ANOVA table, does not demonstrate statistical significance ($p > 0.05$), suggesting that it may not comprehensively capture the variability in board pass rate. The R-squared value of 0.110 indicates that the model explains 11.0% of the variance in the board pass rate, and the F-statistic is 2.28 with 2 and 37 degrees of freedom.

After examining the impact of accreditation compliance, the comparison of "high compliance - very low compliance" shows a statistically significant beneficial effect on board pass rate. The beta value of 0.373 suggests that institutions with high standards, exhibiting stronger accreditation compliance, are likely to have superior board passing rates. The statistical significance is reinforced by a t-value of 2.049 and a p-value of 0.048. The impact linked to "acceptable compliance - very low compliance" is not statistically significant ($\beta = 0.102$, $t = 0.560$, $p = 0.579$), suggesting that the difference in board pass rate between these compliance levels may not be significant. Alenezi et al. (2023) support the idea that schools that reach high accreditation compliance levels, especially by following strict requirements, are likely to have better board pass Rates. Both research consistently shows that rigorous accreditation compliance positively impacts academic achievements, emphasizing the need to maintain high accreditation requirements.

These results have significant implications for institutions. Meeting high accreditation standards has a positive impact on board pass rates. However, the overall model did not show significant results, indicating the importance of exploring and considering other variables that could affect student outcomes. Institutions should strategically plan for continuous improvement in meeting accreditation standards to optimize student success, considering the nuanced impact of various levels of compliance on board boarding rates.

Presented in table 2 is the analysis of the mediator model (m1) for management of school resources that provides valuable insights into the potential mediating role of this variable in the relationship between accreditation compliance and board pass rate.

The ANOVA table indicates a statistically significant model, with an R-squared value of 0.241, implying that approximately 24.1% of the variability in the management of school resources can be explained by the model. The F-statistic of 5.86, with 2 and 37 degrees of freedom, is significant at $p = 0.006$, suggesting that the model fits the data well.

Table 2*Regression for mediator model (m1)*

ANOVA Table

R-squared	F	df1	df2	p
0.241	5.86	2.00	37.0	0.006

Names	Effect	β	df	t	p
Accreditation Compliance1	Acceptable Compliance - Very Low Compliance	0.193	37	1.15	0.257
Accreditation Compliance2	High Compliance - Very Low Compliance	0.563	37	3.35	0.002

Note: For variable Accreditation Compliance the contrasts are:
 Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance
 Accreditation Compliance2 = High Compliance - Very Low Compliance

The study found a significant favorable influence of accreditation compliance on the management of school resources when comparing "high compliance" to "very low compliance" ($\beta = 0.563$, $t = 3.35$, $p = 0.002$). Institutions with greater accreditation compliance levels, which fulfil high criteria, are likely to demonstrate superior management of school resources. The impact linked to "acceptable compliance - very low compliance" is not statistically significant ($\beta = 0.193$, $t = 1.15$, $p = 0.257$). This indicates that the variance in the management of school resources between these compliance levels may not be significant. Al-Marzouq et al. (2023) concluded that institutions that achieve greater accreditation compliance, satisfying rigorous requirements, are more successful in managing school resources. This emphasizes the need for strong leadership, intelligent resource distribution, and relevant higher education programs in the area.

The substantial mediating role of the management of school resources in the correlation between accreditation compliance and board pass rate highlights the crucial role of efficient resource management in attaining favorable student results. Institutions that aim for high accrediting standards boost their board pass rates directly and indirectly by enhancing the management of school resources (Al-Marzouq et al., 2023). This emphasizes the comprehensive influence of meeting accrediting standards on several facets of institutional operation. The lack of a substantial effect linked to "acceptable compliance - very low compliance" indicates that just satisfying acceptable compliance criteria may not noticeably

impact resource management. Institutions should prioritize achieving better compliance levels to fully benefit from accreditation in enhancing both educational quality and resource usage.

The analysis of the mediator model (m2) for quality of academic programs as shown in table 3 offers significant insights into the potential mediation role of this variable in the relationship between accreditation compliance and board passing rate.

Table 3

Regression for mediator model (m2)

ANOVA Table

R-squared	F	df1	df2	p
0.211	5.46	2.00	37.0	0.007

Names	Effect	β	df	t	p
Accreditation Compliance1	Acceptable Compliance - Very Low Compliance	0.693	37	4.15	0.001
Accreditation Compliance2	High Compliance - Very Low Compliance	0.563	37	3.35	0.002

Note: For variable Accreditation Compliance the contrasts are:

Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance

Accreditation Compliance2 = High Compliance - Very Low Compliance

The ANOVA table indicates a statistically significant model, with an R-squared value of 0.211, suggesting that approximately 21.1% of the variability in the quality of academic programs can be explained by the model. The F-statistic of 5.46, with 2 and 37 degrees of freedom, is significant at $p = 0.007$, indicating a good fit of the model to the data.

When analyzing the impact of accreditation compliance on the quality of academic programs, both comparisons reveal significant positive effects. The impact of achieving "acceptable compliance - very low compliance" is substantial ($\beta = 0.693$, $t = 4.15$, $p = 0.001$). This suggests that institutions with acceptable compliance levels demonstrate significantly higher quality in their academic programs compared to those with very low compliance. Furthermore, the impact of "high compliance - very low compliance" is noteworthy ($\beta = 0.563$, $t = 3.35$, $p = 0.002$), indicating that the highest level of compliance plays a crucial role in enhancing academic program quality. Kumar et al. (2020) found that institutions with higher compliance levels have better quality in their academic programs compared to those with very

low compliance. The results highlight the importance of accreditation in guaranteeing high-quality education, enhancing both academic and non-academic services, fostering transparency, and ensuring accountability. The study emphasizes the effects of accreditation on credit transfer, global acceptance of degree qualifications, benchmarking, continuous improvements, and financial benefits.

The findings have significant implications for institutional planning and accreditation strategies. Emphasizing the crucial role of maintaining high accreditation standards for both institutional success and the quality of academic offerings, the study highlights the mediating effect of the quality of academic programs. Establishments that adhere to high standards experience improved academic program quality, leading to higher board passing rates (Kumar et al., 2020). The findings highlight the relationship between accreditation compliance, academic program quality, and student outcomes. As institutions strive to improve their educational offerings and accreditation standing, it is crucial to focus on maintaining and enhancing the quality of academic programs to ensure students are well-prepared for professional success.

Presented in table 4 is the analysis of the mediator model (m3) for student engagement. It provides valuable insights into the potential mediating role of this variable in the relationship between accreditation compliance and board pass rate.

Table 4
Regression for mediator model (m3)

ANOVA Table

R-squared	F	df1	df2	p
0.280	5.28	2.00	37.0	0.013

Names	Effect	β	df	t	p
Accreditation Compliance1	Acceptable Compliance - Very Low Compliance	0.169	37	0.890	0.379
Accreditation Compliance2	High Compliance - Very Low Compliance	0.373	37	3.092	0.018

Note: For variable Accreditation Compliance the contrasts are:
 Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance
 Accreditation Compliance2 = High Compliance - Very Low Compliance

The ANOVA table indicates a statistically significant model, with an R-squared value of 0.280, suggesting that approximately 28.0% of the variability in student engagement can be explained by the model. The F-statistic of 5.28, with 2 and 37 degrees of freedom, is significant at 0.018, $p = 0.018$). This suggests that institutions with higher accreditation compliance levels, particularly those meeting $p = 0.013$, indicate a good fit of the model to the data.

The comparison between "high compliance - very low compliance" reveals a strong and statistically significant beneficial impact when examining the particular impacts of accreditation compliance on student engagement ($\beta = 0.373$, $t = 3$). When adhering to rigorous standards, student engagement tends to increase. However, the impact of "acceptable compliance - very low compliance" is not statistically significant ($\beta = 0.169$, $t = 0.890$, $p = 0.379$), suggesting that the variation in student engagement between these compliance levels may not be substantial. This is congruent with the study conducted by Berry and Hammer (2018), which showed that programmatic accreditation led the college to operate autonomously and excel in specific areas of student engagement compared to the university. This supports the idea that meeting certain accreditation standards at advanced levels can have a positive effect on student engagement.

The findings have important implications for institutions looking to boost student engagement and, in turn, enhance student outcomes. Highlighting the substantial impact of student engagement emphasizes the need to uphold rigorous accreditation standards for both institutional success and creating a supportive learning atmosphere for students. Schools that adhere to strict standards enjoy greater student involvement, leading to a more fulfilling learning environment. Although the impact of "acceptable compliance - very low compliance" is not statistically significant, the focus is still on attaining high compliance levels to enhance student engagement. The findings emphasize the various advantages of meeting accreditation standards, impacting not only institutional quality but also student engagement and board pass rates.

Presented in table 5 is the analysis of the full model predicting board pass rate. It provides comprehensive insights into the collective impact of various factors, including management of school resources, quality of academic programs, student engagement, and accreditation compliance.

Table 5*Regression for the full model predicting board passing rate*

ANOVA Table

R-squared	F	df1	df2	p		
0.440	5.35	2.00	37.0	<0.001		

Names	Effect	β	df	t	p
Management of School Resources	Management of School Resources	0.3072	34	2.069	0.046
Quality of Academic Programs	Quality of Academic Programs	0.3581	34	2.491	0.031
Student Engagement	Student Engagement	0.4840	34	3.692	<0.001
Accreditation Compliance1	Acceptable Compliance - Very Low Compliance	0.0440	34	0.285	0.777
Accreditation Compliance2	High Compliance - Very Low Compliance	0.4981	34	3.809	<0.001

Note: For variable Accreditation Compliance the contrasts are:
 Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance
 Accreditation Compliance2 = High Compliance - Very Low Compliance

The ANOVA table shows a statistically significant model, with an R-squared value of 0.440, indicating that 44.0% of the variation in board pass rate can be accounted for by the combined effects of these factors. The F-statistic of 5.35, with 2 and 37 degrees of freedom, is statistically significant at $p < 0.001$, suggesting a strong model fit to the data. The effects of management of school resources, quality of academic programs, and student engagement on board pass rate are favorable and statistically significant. Institutions that excel in resource management, provide high-quality academic programs, and foster enhanced student involvement are more likely to achieve higher board pass rates (Al-Marzouq et al., 2023; Kumar et al., 2020; Berry & Hammer, 2018). Interestingly, while the overall model is highly significant, the specific effects associated with "acceptable compliance - very low compliance" for accreditation compliance are not significant. On the other hand, the effect associated with "high compliance - very low compliance" is highly significant, indicating that achieving the highest level of compliance significantly contributes to improved board pass rates.

The implications of these results are significant for schools aiming to maximize student achievement. The relevance of a comprehensive approach to institutional administration and

educational quality is shown by the important influence of managing school resources, academic program quality, and student engagement. Emphasizing the importance of striving for the greatest levels of compliance is vital for maximizing good outcomes in certification. Institutions should prioritize increasing resource management, academic program quality, and student involvement to achieve and maintain high accreditation criteria, ultimately leading to improved board pass rates. This integrated strategy is in line with a larger commitment to provide a top-notch educational experience that directly enhances students' academic accomplishments.

The mediation analysis as shown in Table 6 delves into the pathways through which accreditation compliance influences board pass rate, considering both indirect and direct effects.

Table 6
Mediation analysis

Type	Effect	β	z	p
Indirect	Accreditation Compliance1 \Rightarrow Management Of School Resources \Rightarrow Board Passing Rate	0.05943	0.747	0.455
	Accreditation Compliance1 \Rightarrow Quality Of Academic Programs \Rightarrow Board Passing Rate	0.00484	0.150	0.881
	Accreditation Compliance1 \Rightarrow Student Engagement \Rightarrow Board Passing Rate	0.08170	0.786	0.432
	Accreditation Compliance2 \Rightarrow Management Of School Resources \Rightarrow Board Passing Rate	0.57291	4.407	<.001
	Accreditation Compliance2 \Rightarrow Quality Of Academic Programs \Rightarrow Board Passing Rate	0.50927	4.247	<.001
	Accreditation Compliance2 \Rightarrow Student Engagement \Rightarrow Board Passing Rate	0.59207	4.976	<.001
Direct	Accreditation Compliance1 \Rightarrow Board Passing Rate	0.04402	0.272	0.786
	Accreditation Compliance2 \Rightarrow Board Passing Rate	0.59843	4.599	<.001
Total	Accreditation Compliance1 \Rightarrow Board Passing Rate	0.10195	0.569	0.570
	Accreditation Compliance2 \Rightarrow Board Passing Rate	0.57268	4.482	0.003

Note. Confidence intervals computed with method: Parametric bootstrap
 Betas are completely standardized effect sizes
 For variable Accreditation Compliance the contrasts are:
 Accreditation Compliance1 = Acceptable Compliance - Very Low Compliance
 Accreditation Compliance2 = High Compliance - Very Low Compliance

Indirect effects: The mediation analysis reveals insights into the indirect effects of accreditation compliance on board passing rate through various mediators. For acceptable compliance, the indirect effects through management of school resources ($\beta = 0.05943$, $p = 0.455$), quality of academic programs ($\beta = 0.00484$, $p = 0.881$), and student engagement ($\beta = 0.08170$, $p = 0.432$) are not statistically significant. This suggests that meeting minimal accreditation standards may not exert a discernible impact on board pass rate through these specific mediators (Dubuque & Kazemi, 2021). In contrast, for high compliance, the indirect effects through management of school resources ($\beta = 0.57291$, $p < 0.001$), quality of academic programs ($\beta = 0.50927$, $p < 0.001$), and student engagement ($\beta = 0.59207$, $p < 0.001$) are highly significant, underscoring the substantial positive influence of achieving high accreditation standards on board pass rate through these pathways.

Direct effects: The direct effects further illuminate the unique contributions of acceptable compliance and high compliance to board pass rate. For acceptable compliance, the direct effect ($\beta = 0.04402$, $p = 0.786$) is not statistically significant, indicating that meeting minimal standards does not independently influence board pass rate. Conversely, the direct effect of high compliance ($\beta = 0.59843$, $p < 0.001$) is highly significant, suggesting that institutions attaining the highest accreditation standards have a substantial and direct positive impact on board pass rate (Dubuque & Kazemi, 2021).

Total effects: The total effects consider the combined impact of both direct and indirect pathways. For acceptable compliance, the total effect ($\beta = 0.10195$, $p = 0.570$) is not statistically significant, indicating that the overall influence on board pass rate is not substantial when accounting for both direct and indirect effects. In contrast, for high compliance, the total effect ($\beta = 0.57268$, $p = 0.003$) is highly significant, emphasizing the holistic positive impact of achieving the highest accreditation standards on the board pass rate.

These findings carry significant implications for institutions. The need to strive for better standards is shown by the non-significant indirect effects of acceptable compliance. Meeting low accreditation criteria may not result in noticeable improvements in the board pass rate via the indicated mediators (Dubuque & Kazemi, 2021). Quijano (2010) and Althumairi et al. (2022) found that achieving the highest certification requirements has a comprehensive and beneficial impact on board passing rate, both directly and via particular mediators. High compliance, on the other hand, has extremely significant indirect and overall effects. For the

best results in terms of student achievement and board passing rates, institutions should make accrediting compliance a top priority and work tirelessly to achieve excellence in this area.

Figure 1

Path model

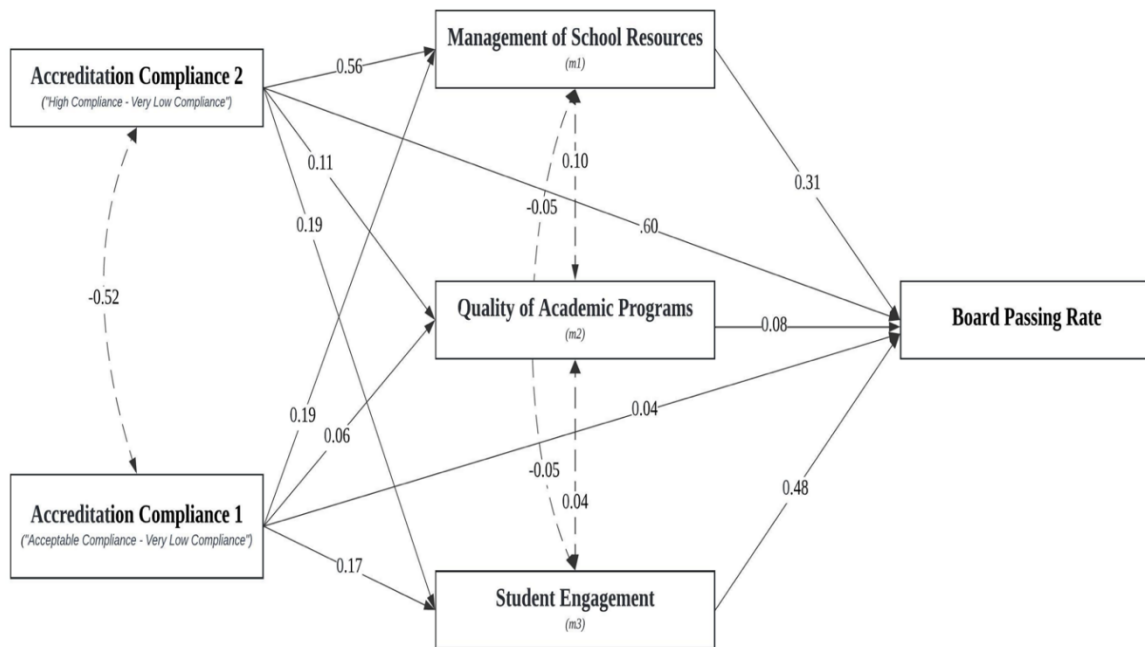


Figure 1 shows the path model of the mediation analysis that involves four distinct models to investigate the complex relationship between accreditation compliance and board pass rate, employing three mediator models (m1, m2, m3) and a comprehensive full model (m4). The path model presents a comprehensive analysis of the relationships among accreditation compliance, management of school resources, quality of academic programs, student engagement, and board passing rate. The *accreditation compliance path 1* exhibits non-significant direct effects on institutional components and student engagement. However, *accreditation compliance path 2* significantly influences the management of school resources, quality of academic programs, and student engagement. The marginal significance of the management of school resources on the board pass rate suggests a potential contribution to higher board examination success through effective resource management. The significantly positive effects of the quality of academic programs and student engagement on board pass

rate emphasize the pivotal roles of academic program quality and student engagement in achieving favorable outcomes.

The *accreditation compliance path 2* emerges as a critical factor positively impacting institutional resources, academic program quality, and student engagement, collectively contributing to a higher board pass rate. This underscores the importance of stringent compliance standards for overall institutional success. The findings provide valuable insights for institutions seeking to optimize their accreditation processes, highlighting specific areas where enhancements can lead to improved academic program quality, student engagement, and ultimately, success in board examinations.

5. Conclusion

Building on the Institutional Theory, the findings provide a thorough knowledge of the complex connection that exists between accreditation compliance and board passing rates. The significant 44.0% difference in board passing rates confirms the significance of Institutional Theory, highlighting the crucial influence of institutional factors on organizational behavior and results. The correlation between meeting accreditation requirements and the success percentage of students passing board exams, especially at more rigorous levels, highlights the importance of strict compliance standards in enhancing student achievement. The mediation study highlights the indirect impacts of management of school resources, quality of academic programs, and student engagement on educational results.

The findings of this study urge institutions to aspire for excellence and call for a strategic strategy that goes beyond minimum accrediting norms. An integrated accrediting plan is necessary to ensure high-quality resource management, academic program quality, and student involvement to provide a top-tier educational experience. This method aims to maximize board pass rates and enhance overall student achievement.

The practical implications go beyond academic settings, providing valuable insights for organizations looking to improve educational quality and student results through successful accreditation strategies. This research serves as a foundation for future exploration, encouraging scholars to delve deeper into the specific mechanisms at play and potential paradoxes within the intricate relationships explored. By supporting further research in this

field, the study adds to the continuous improvement and deepening of our knowledge about the impact of accreditation in educational environments.

The following recommendations are tailored to guide institutions in navigating the dynamics between accreditation compliance, mediated by key variables, and board passing rates. Implementation of these recommendations is envisioned to contribute to a holistic and strategic approach to accreditation, fostering continuous improvement and excellence in educational quality.

Strategic accreditation planning. Institutions are recommended to adopt a strategic approach to accreditation planning. While meeting minimal standards is essential, the study underscores the need for institutions to strategically strive for excellence, particularly at higher accreditation levels. This involves continuous self-assessment, planning, and implementation of practices that go beyond basic compliance, aiming for the highest standards.

Resource management enhancement. Given the significant mediating role of the management of school resources in the relationship between accreditation compliance and board pass rates, institutions are advised to focus on enhancing resource management practices. This includes efficient allocation of resources, strategic planning, and regular assessments to ensure optimal utilization of institutional resources.

Quality academic program development. The study highlights the positive impact of accreditation compliance, especially at higher levels, on the quality of academic programs. Institutions are encouraged to prioritize the development and enhancement of academic programs, ensuring they align with accreditation standards. This may involve continuous curriculum review, faculty development, and the integration of innovative teaching methodologies.

Fostering student engagement. Institutions should prioritize initiatives that enhance student engagement, recognizing its significant mediating role in the relationship between accreditation compliance and board pass rates. Creating a positive and engaging learning environment, promoting student involvement in extracurricular activities, and implementing student-centric policies can contribute to increased student engagement.

Comprehensive accreditation training. Institutions should invest in comprehensive accreditation training programs for faculty and staff. This includes workshops, seminars, and ongoing professional development opportunities to ensure a deep understanding of

accreditation standards, requirements, and processes. Well-informed stakeholders are better equipped to contribute to the institution's overall compliance and success.

Continuous research and evaluation: Institutions are encouraged to engage in continuous research and evaluation of the impact of accreditation compliance on various outcomes. This may involve collaborative efforts with researchers, accrediting bodies, and educational experts to contribute to the broader knowledge base.

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