Artificial Intelligence Capability and Organizational Performance: The Mediating Role of Innovation Capability Across Education and Corporate Sectors

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ABSTRACT

This study examined the relationship between artificial intelligence capability and organizational performance, with innovation capability as a mediating variable across the education and corporate sectors. Using a quantitative, non-experimental descriptive-correlational design, data were collected through an online survey from 400 respondents, consisting of 200 from the education sector and 200 from the corporate sector. The research instrument was subjected to expert validation and pilot testing prior to its actual administration. Data were analyzed using weighted mean, Pearson correlation, independent samples t-test, and mediation analysis. The findings revealed that artificial intelligence capability, innovation capability, and organizational performance were all rated high in both sectors, although the corporate sector consistently obtained higher mean scores than the education sector across all variables. Significant positive relationships were found between artificial intelligence capability and innovation capability ($r = 0.67$, $p < .001$), innovation capability and organizational performance ($r = 0.70$, $p < .001$), and artificial intelligence capability and organizational performance ($r = 0.64$, $p < .001$). Further analysis showed that innovation capability significantly mediated the relationship between artificial intelligence capability and organizational performance, indicating partial mediation. The study concludes that artificial intelligence capability is a significant organizational resource that enhances organizational performance both directly and indirectly through innovation capability, while sectoral context also influences the extent to which these capabilities are developed and translated into performance outcomes. The findings provide practical insights for organizations seeking to strengthen AI adoption, innovation practices, and performance improvement strategies.

Keywords: Artificial intelligence capability, innovation capability, organizational performance, education sector, corporate sector

INTRODUCTION

Artificial intelligence has become a strategic driver of organizational transformation in both educational institutions and corporate organizations. As workplaces increasingly rely on intelligent systems for analytics, automation, and decision support, artificial intelligence capability has emerged as a critical organizational resource for improving performance. Recent empirical work defines AI capability as the bundle of organizational resources, skills, and infrastructures that enable firms to deploy and use AI effectively, and shows that stronger AI capability is associated with higher organizational creativity and performance outcomes (Mikalef & Gupta, 2021). Later studies further show that AI-related competencies improve organizational performance by strengthening capability structures that support business processes and strategic responsiveness (Mikalef et al., 2023).

The relationship between AI capability and organizational performance is well explained by dynamic capability theory, which emphasizes the organization's ability to sense opportunities, seize them, and reconfigure resources in response to change. In digital settings, dynamic capabilities are essential for transformation because technology alone does not guarantee performance unless it is embedded in adaptive organizational routines

(Ellström et al., 2022). In the AI literature, this view is reinforced by evidence that the effect of AI capability on performance is often not purely direct; rather, it operates through intervening organizational mechanisms such as process change, insight generation, and innovation-related activities (Mikalef et al., 2023).

Among these mechanisms, innovation capability is especially important. Recent studies indicate that AI capability supports innovation by improving information processing, accelerating experimentation, and enabling organizations to redesign products, services, and internal processes. Gao et al. (2025) found that AI capability positively affects innovation capability from a dynamic capabilities perspective, while another study by Gao et al. (2025) showed that AI capability significantly contributes to product innovation through capability-enhancing organizational mechanisms. These findings suggest that innovation capability is not merely an accompanying outcome of AI use, but a plausible mediating pathway through which AI capability can improve organizational performance.

This relationship is particularly relevant across education and corporate sectors, where AI is increasingly used to improve efficiency, responsiveness, and decision quality. However, the two sectors differ in mission, structure, and performance indicators. Educational institutions tend to emphasize instructional quality, service delivery, compliance, and learning support, whereas corporate organizations prioritize operational efficiency, competitiveness, and market-oriented outcomes. Because of these contextual differences, cross-sector evidence remains necessary to determine whether AI capability influences organizational performance in similar ways across both settings. Existing studies provide strong support for AI capability in single-sector contexts, but fewer studies examine a unified model spanning education and corporate organizations.

In the Philippine context, the relevance of this issue is becoming more visible. Betito, Sario, and Bacay (2025) empirically examined the integration of artificial intelligence into total quality management in higher education and found that AI-related practices are associated with institutional quality benefits as well as implementation challenges. This published study is directly relevant because it demonstrates, within a Philippine setting, that AI can function as an enabling organizational capability rather than as a mere technical tool. Another Philippine study by Asirit and Hua (2023) reported on AI readiness and utilization in higher education, while Sulasula (2023) examined AI readiness among state universities and colleges in the Zamboanga Peninsula. Together, these studies indicate that AI adoption and readiness are already salient issues in Philippine educational organizations, but they also show that evidence remains concentrated in education rather than extended across education and corporate sectors.

Given these developments, an important research gap remains: although recent scholarship supports the value of AI capability and suggests that innovation-related mechanisms explain how performance gains occur, there is still limited empirical work that tests innovation capability as a mediator between artificial intelligence capability and organizational performance across education and corporate sectors within one analytical model. Addressing this gap can contribute both theoretically and practically by clarifying how AI-generated value is translated into measurable organizational outcomes across different workplace environments. Accordingly, the present study examines whether artificial intelligence capability influences organizational performance directly and indirectly through innovation capability across education and corporate sectors.

Research Questions

This study seeks to examine the relationship between artificial intelligence capability and organizational performance, with emphasis on the mediating role of innovation capability across education and corporate sectors.

Specifically, this study seeks to answer the following questions:

1. What is the level of artificial intelligence capability among organizations in the education and corporate sectors?

2. What is the level of innovation capability among organizations in the education and corporate sectors?

3. What is the level of organizational performance among organizations in the education and corporate sectors?
4. Is there a significant relationship between artificial intelligence capability and innovation capability?
5. Is there a significant relationship between innovation capability and organizational performance?
6. Is there a significant relationship between artificial intelligence capability and organizational performance?
7. Does innovation capability significantly mediate the relationship between artificial intelligence capability and organizational performance?
8. Are there significant differences in the study variables when grouped according to sector?

Hypotheses

This study examines the relationships among Artificial Intelligence Capability, Innovation Capability, and Organizational Performance across education and corporate sectors. Based on the conceptual framework, the following hypotheses are formulated:

H1: Artificial Intelligence Capability significantly influences Innovation Capability across education and corporate sectors.

H2: Innovation Capability significantly influences Organizational Performance across education and corporate sectors.

H3: Artificial Intelligence Capability significantly influences Organizational Performance across education and corporate sectors.

H4: Innovation Capability significantly mediates the relationship between Artificial Intelligence Capability and Organizational Performance across education and corporate sectors.

Framework of the Study

The framework of the study posits that artificial intelligence capability influences organizational performance both directly and indirectly through innovation capability. It assumes that organizations with stronger AI capability are more likely to develop innovative processes, services, and strategies, which in turn enhance organizational performance. Anchored on Dynamic Capability Theory and the Resource-Based View, the framework treats artificial intelligence capability as a strategic organizational resource, innovation capability as the mediating mechanism, and organizational performance as the ultimate outcome variable. The model is examined across education and corporate sectors to determine whether the relationships among the variables remain consistent across organizational contexts.

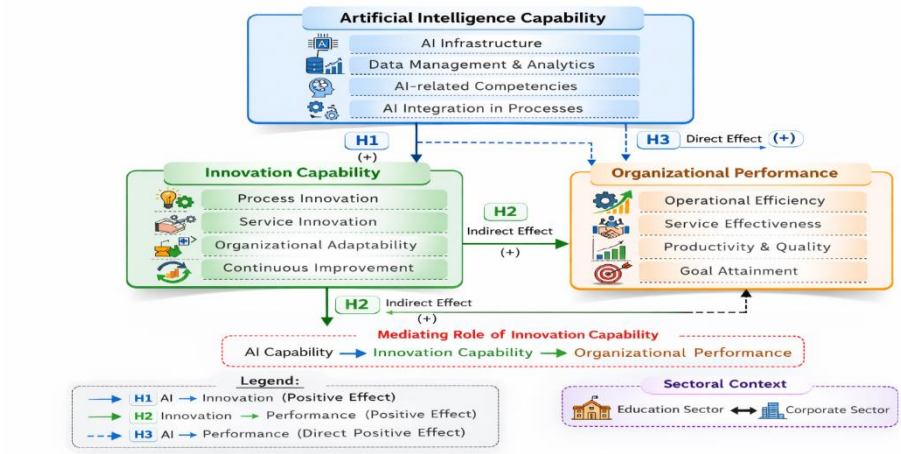

Figure 1: The Research Paradigm of the Study

Figure 1 presents the conceptual framework illustrating the relationships among Artificial Intelligence Capability, Innovation Capability, and Organizational Performance across education and corporate sectors. The model proposes both direct and indirect effects, highlighting the mediating role of innovation capability.

At the core of the framework, Artificial Intelligence Capability is positioned as the independent variable, reflecting the organization's ability to deploy AI infrastructure, manage data analytics, develop AI-related competencies, and integrate AI into organizational processes. This capability is considered a strategic organizational resource that enables firms and institutions to enhance operational effectiveness and decision-making.

The framework hypothesizes that Artificial Intelligence Capability has a direct effect on Organizational Performance (H3). This relationship suggests that organizations with stronger AI capabilities are more likely to achieve improved outcomes in terms of operational efficiency, service effectiveness, productivity, and goal attainment, even without the intervention of other variables.

In addition to the direct relationship, Artificial Intelligence Capability is proposed to have a significant influence on Innovation Capability (H1). This indicates that organizations leveraging AI are better equipped to enhance their process innovation, service innovation, organizational adaptability, and continuous improvement practices. AI serves as an enabler of innovation by providing insights, automation, and advanced analytical capabilities.

Furthermore, Innovation Capability is hypothesized to significantly influence Organizational Performance (H2). This relationship reflects the idea that organizations with strong innovation capabilities are more capable of improving their performance outcomes through enhanced processes, services, and adaptive strategies.

Most importantly, the framework establishes the mediating role of Innovation Capability in the relationship between Artificial Intelligence Capability and Organizational Performance. This implies that AI capability contributes to organizational performance not only directly but also indirectly by enhancing the organization's capacity to innovate. The mediation pathway (AI Capability → Innovation Capability → Organizational Performance) represents the mechanism through which AI-driven transformation translates into measurable performance gains.

Additionally, the framework incorporates a sectoral context, comparing the structural relationships across education and corporate sectors. This allows the study to determine whether the effects of Artificial Intelligence Capability and Innovation Capability on Organizational Performance differ based on organizational type, thereby enhancing the generalizability and applicability of the findings.

METHODOLOGY

Research Design

This study employs a quantitative, non-experimental research design using a descriptive-correlational and mediation analysis approach. The design is appropriate because the study aims to examine the relationships among Artificial Intelligence Capability, Innovation Capability, and Organizational Performance across education and corporate sectors without manipulating any of the variables. It likewise seeks to determine whether Innovation Capability mediates the relationship between Artificial Intelligence Capability and Organizational Performance.

The descriptive component of the study is used to determine the level of Artificial Intelligence Capability, Innovation Capability, and Organizational Performance among the participating organizations. This allows the researcher to present the prevailing conditions of the variables as perceived by the respondents. The correlational component is employed to test the magnitude and direction of the relationships among the study variables. Since the framework proposes both direct and indirect effects, the research design also incorporates mediation analysis to assess whether Innovation Capability serves as an intervening variable between Artificial Intelligence Capability and Organizational Performance.

The study is likewise cross-sectional in nature, as data will be gathered from respondents at a single point in time. This approach is suitable for examining current organizational conditions and testing hypothesized relationships among variables across the two sectors. The use of a quantitative design is consistent with the objectives of the study because it enables the collection of measurable data and the application of appropriate statistical tools such as descriptive statistics, correlation analysis, regression-based mediation, or Structural Equation Modeling (SEM), depending on the final analytical procedure adopted.

Overall, this research design is deemed appropriate because it provides a systematic and objective means of describing the variables, determining their interrelationships, and testing the mediating role of Innovation Capability in the link between Artificial Intelligence Capability and Organizational Performance in education and corporate organizations.

Population, Sample Size, and Sampling Technique

The population of the study consists of employees and personnel from selected organizations in the education and corporate sectors. In the education sector, the respondents may include academic administrators, faculty members, unit heads, and non-teaching personnel who are involved in institutional processes and have adequate knowledge of the organization's use of artificial intelligence, innovation practices, and performance systems. In the corporate sector, the respondents may include managers, supervisors, team leaders, and regular employees from business organizations who are knowledgeable about AI-related applications, innovation initiatives, and organizational performance practices. These groups are considered appropriate sources of data because they are directly engaged in workplace operations and are in a position to provide informed responses regarding the variables under investigation.

For purposes of the study, the researcher shall use a sample of 400 respondents, equally distributed across the two sectors. Specifically, the sample shall consist of 200 respondents from the education sector and 200 respondents from the corporate sector. The equal allocation is intended to ensure balanced representation and to support meaningful comparison of the structural relationships among Artificial Intelligence Capability, Innovation Capability, and Organizational Performance across the two sectors. This sample size is considered adequate for quantitative analysis, particularly for correlation, regression, mediation testing, and possible Structural Equation Modeling (SEM).

The study shall employ purposive sampling in the selection of both organizations and respondents. This sampling technique is appropriate because the study requires participants who possess relevant experience and sufficient awareness of AI capability, innovation capability, and organizational performance within their respective institutions or companies. Respondents shall be selected based on specific inclusion criteria, such as: (1) currently employed in the organization; (2) directly involved in academic, administrative, managerial, or operational functions; (3) with adequate exposure to digital or AI-related workplace processes; and (4) willing to participate in the study. Through this approach, the researcher can ensure that the respondents are capable of providing credible and relevant information.

To further strengthen representation, the researcher may also apply a stratified purposive approach within each sector. Under this procedure, respondents may be selected according to their role or function, such as administrators, faculty, and staff in the education sector, and managers, supervisors, and employees in the corporate sector. This allows the study to capture a broader range of perspectives while still maintaining the purposive nature of the sampling process.

Research Instrument

The primary research instrument for this study is a structured survey questionnaire designed to measure the key variables of Artificial Intelligence Capability, Innovation Capability, and Organizational Performance. This instrument is appropriate because the study employs a quantitative research approach and requires standardized responses that can be subjected to statistical analysis. The questionnaire is intended to obtain measurable data from respondents in both the education and corporate sectors regarding their perceptions of their organization's artificial intelligence capability, innovation capability, and overall organizational performance.

The questionnaire is composed of four parts. The first part elicits the profile of the respondents, particularly their sectoral classification and relevant organizational information. The second part focuses on Artificial Intelligence Capability, with items covering indicators such as AI infrastructure, data analytics capability, AI-related competencies, and AI integration in organizational processes. The third part measures Innovation Capability, including process innovation, service innovation, organizational adaptability, and continuous improvement practices. The fourth part assesses Organizational Performance, with indicators related to operational efficiency, service effectiveness, productivity, and goal attainment. The items included in the instrument are adapted from related literature and empirical studies and are modified to suit the context and objectives of the present investigation.

To ensure clarity, relevance, and alignment with the objectives of the study, the questionnaire shall be subjected to expert validation prior to its actual administration. The comments and suggestions of the validators shall be used as the basis for revising and refining the instrument. The questionnaire shall utilize a four-point Likert scale to measure the respondents' degree of agreement with each statement, where 4 corresponds to Strongly Agree, 3 to Agree, 2 to Disagree, and 1 to Strongly Disagree. For the interpretation of the results, the following scale ranges shall be used: 3.26–4.00 as Very High, 2.51–3.25 as High, 1.76–2.50 as Low, and 1.00–1.75 as Very Low. The use of a structured questionnaire is appropriate for this study because it allows the researcher to collect uniform and quantifiable data from a relatively large number of respondents, thereby providing a sound basis for descriptive, correlational, and mediation analyses.

Reliability and Validity

The validity and reliability of the research instrument shall be established prior to the actual administration of the survey questionnaire to ensure that it accurately measures the constructs of Artificial Intelligence Capability, Innovation Capability, and Organizational Performance. For content validity, the instrument shall be subjected to expert evaluation by specialists in research, management, and technology-related studies. These experts shall examine the questionnaire in terms of clarity of statements, relevance of the items to the variables being measured, appropriateness of language, and alignment with the objectives of the study. Their comments, suggestions, and recommendations shall serve as the basis for the revision and refinement of the instrument. Through this process, the researcher can ensure that the questionnaire adequately represents the domains of the constructs included in the study.

After the validation process, the revised questionnaire shall be pilot-tested among 30 respondents who possess characteristics similar to those of the actual participants but who shall not be included in the final sample of the study. The purpose of the pilot test is to determine the internal consistency of the instrument and to identify possible issues in wording, comprehension, and item structure. The reliability of the questionnaire shall be measured using Cronbach's alpha coefficient, which is a commonly used statistical indicator for determining the consistency of responses across items within each construct. A Cronbach's alpha value of 0.70 or higher shall be considered acceptable, indicating that the instrument has satisfactory reliability for research purposes, while higher values shall reflect stronger internal consistency.

In addition, reliability shall be examined separately for each major variable of the study to determine whether the items under Artificial Intelligence Capability, Innovation Capability, and Organizational Performance consistently measure their intended dimensions. If any item is found to weaken the reliability of the scale, such item may be revised or removed based on the results of the pilot testing and the recommendation of the research adviser or statistician. Through the combined processes of expert validation and pilot testing involving 30 respondents, the researcher can ensure that the instrument is both valid and reliable, thereby strengthening the credibility, accuracy, and consistency of the data to be gathered in the study.

Data Gathering Procedure

The data gathering procedure of the study shall begin with the preparation and finalization of the research instrument, followed by the completion of the necessary documentary requirements for the conduct of the study. Prior to the actual data collection, the researcher shall seek formal approval from the appropriate authorities of the selected education and corporate organizations. A letter of request shall be submitted to the concerned offices

or administrators to obtain permission to administer the survey questionnaire to qualified respondents through an online platform. Upon approval, the researcher shall coordinate with designated representatives of each organization regarding the distribution of the survey link and the schedule for data collection.

After securing permission, the researcher shall subject the questionnaire to expert validation and pilot testing to establish its clarity, validity, and reliability. Necessary revisions shall be made based on the comments and recommendations of the validators and the results of the pilot test. Once finalized, the questionnaire shall be converted into an online survey form, such as Google Forms or a similar digital platform, to facilitate convenient and efficient data collection. The survey link shall then be sent to the identified respondents from the education and corporate sectors through official email, messaging platforms, or other appropriate online communication channels endorsed by the participating organizations.

Before answering the questionnaire, the respondents shall first read the informed consent statement included in the online survey form. This section shall explain the purpose of the study, the voluntary nature of participation, the confidentiality of responses, and the assurance that the information gathered shall be used solely for academic and research purposes. In compliance with data privacy principles, respondents shall be informed that their personal information shall not be disclosed to unauthorized persons, and that all collected data shall be treated with strict confidentiality and anonymity. The online survey shall not require unnecessary personally identifiable information, and all responses shall be stored securely and accessed only by the researcher and authorized academic personnel directly involved in the study. The data gathered shall be used exclusively for research purposes and shall be properly disposed of or deleted after the completion of the study, in accordance with applicable institutional guidelines and data privacy regulations. Only those respondents who voluntarily agree to participate shall be allowed to proceed to the actual questionnaire.

During the data collection period, the researcher shall regularly monitor the submitted responses and may send polite follow-up reminders to increase the retrieval rate. After the target number of responses has been achieved, the collected data shall be reviewed for completeness, consistency, and eligibility. Incomplete or invalid responses shall be excluded from the final dataset. The valid responses shall then be downloaded, organized, coded, tabulated, and prepared for statistical treatment. Finally, the data shall be analyzed using appropriate statistical tools to determine the levels of the study variables, test the significant relationships among them, and examine the mediating role of innovation capability in the relationship between artificial intelligence capability and organizational performance across education and corporate sectors. Throughout the entire process, the researcher shall strictly observe ethical standards and uphold the protection of respondents' rights, privacy, and data confidentiality.

RESULTS AND DISCUSSION

1. The level of Artificial Intelligence capability among organizations in the education and corporate sectors.

To determine the level of Artificial Intelligence Capability among organizations in the education and corporate sectors, the responses of the participants were gathered, tabulated, and analyzed using weighted mean and descriptive interpretation. The results are presented in Table 1.

Table 1 Level of Artificial Intelligence Capability among Organizations in the Education and Corporate Sectors

Indicators of Artificial Intelligence Capability	Education Sector (n=200) Mean	Interpretation	Corporate Sector (n=200) Mean	Interpretation	Overall Mean	Interpretation
AI infrastructure	2.91	High	3.18	High	3.05	High

Data management and analytics capability	2.86	High	3.14	High	3.00	High
AI-related human competencies	2.73	High	3.01	High	2.87	High
AI integration in organizational processes	2.82	High	3.15	High	2.99	High
Grand Mean	2.83	High	3.12	High	2.98	High

Legend: 3.26–4.00 = Very High; 2.51–3.25 = High; 1.76–2.50 = Low; 1.00–1.75 = Very Low

Table 1 shows that the overall level of Artificial Intelligence Capability among organizations in the education and corporate sectors is High, with a grand mean of 2.98. This indicates that the participating organizations generally demonstrate a favorable level of AI capability in terms of infrastructure, data analytics, human competencies, and process integration. The education sector obtained a grand mean of 2.83, interpreted as High, while the corporate sector registered a grand mean of 3.12, also interpreted as High. The findings suggest that both sectors possess a functional level of AI capability, although the corporate sector demonstrates a relatively stronger position.

Among the indicators, AI infrastructure ranked first with an overall mean of 3.05, followed by data management and analytics capability with 3.00. This implies that organizations are more prepared in terms of technological resources and data-related functions than in the human aspect of AI adoption. In contrast, AI-related human competencies obtained the lowest overall mean of 2.87, indicating that employee knowledge, technical skills, and AI readiness remain areas that require further strengthening. This pattern is realistic because organizations often acquire digital tools and systems earlier than they fully develop workforce capability to maximize such technologies.

The results further show that the corporate sector consistently scored higher than the education sector across all indicators. This may suggest that corporate organizations are more advanced in adopting AI-related systems and integrating them into operational processes, while educational institutions may still be in the earlier stages of implementation and capacity-building.

2. The level of innovation capability among organizations in the education and corporate sectors.

To determine the level of Innovation Capability among organizations in the education and corporate sectors, the responses of the participants were gathered, tabulated, and analyzed using weighted mean and descriptive interpretation. The results are presented in Table 2.

Table 2 Level of Innovation Capability among Organizations in the Education and Corporate Sectors

Indicators of Innovation Capability	Education Sector (n=200) Mean	Interpretation	Corporate Sector (n=200) Mean	Interpretation	Overall Mean	Interpretation
Process innovation	2.89	High	3.16	High	3.03	High
Service innovation	2.84	High	3.12	High	2.98	High

Organizational adaptability	2.80	High	3.08	High	2.94	High
Continuous improvement and creative problem-solving	2.78	High	3.05	High	2.92	High
Grand Mean	2.83	High	3.10	High	2.97	High

Legend: 3.26–4.00 = Very High; 2.51–3.25 = High; 1.76–2.50 = Low; 1.00–1.75 = Very Low

Table 2 shows that the overall level of Innovation Capability among organizations in the education and corporate sectors is High, with a grand mean of 2.97. This indicates that the participating organizations generally demonstrate a favorable capacity to introduce improvements, adapt to changes, and develop innovative processes and services. The education sector obtained a grand mean of 2.83, interpreted as High, while the corporate sector posted a grand mean of 3.10, also interpreted as High. The results suggest that both sectors exhibit innovation capability, although the corporate sector demonstrates a relatively stronger level.

Among the indicators, process innovation ranked first with an overall mean of 3.03, indicating that the organizations are more capable of improving workflows, operational systems, and internal procedures. This suggests that innovation is more evident in process-related initiatives than in other dimensions. Service innovation ranked second with an overall mean of 2.98, which implies that organizations also show a strong capacity to improve or redesign the services they provide to their stakeholders.

On the other hand, continuous improvement and creative problem-solving obtained the lowest overall mean of 2.92, although it is still interpreted as High. This indicates that while organizations are generally capable of innovation, there may still be room for improvement in fostering a stronger culture of creativity, experimentation, and sustained innovation practices. Likewise, organizational adaptability recorded an overall mean of 2.94, reflecting that the organizations are relatively capable of responding to change, but may still need to strengthen flexibility and responsiveness in rapidly evolving environments.

A closer examination of the sectoral results reveals that the corporate sector consistently obtained higher mean scores across all indicators than the education sector. This may imply that corporate organizations have more structured innovation systems, stronger market-driven pressure to improve, and greater organizational flexibility in implementing innovative practices. In contrast, educational institutions, while still rated high, may face more procedural, administrative, or resource-related limitations that affect the pace and extent of innovation.

3. The level of organizational performance among organizations in the education and corporate sectors.

To determine the level of Organizational Performance among organizations in the education and corporate sectors, the responses of the participants were gathered, tabulated, and analyzed using weighted mean and descriptive interpretation. The results are presented in Table 3.

Table 3 Level of Organizational Performance among Organizations in the Education and Corporate Sectors

Indicators of Organizational Performance	Education Sector (n=200) Mean	Interpretation	Corporate Sector (n=200) Mean	Interpretation	Overall Mean	Interpretation
Operational efficiency	2.95	High	3.19	High	3.07	High

Service effectiveness	2.92	High	3.15	High	3.04	High
Productivity	2.88	High	3.11	High	3.00	High
Organizational responsiveness and goal attainment	2.84	High	3.08	High	2.96	High
Grand Mean	2.90	High	3.13	High	3.02	High

Legend: 3.26–4.00 = Very High; 2.51–3.25 = High; 1.76–2.50 = Low; 1.00–1.75 = Very Low

Table 3 shows that the overall level of Organizational Performance among organizations in the education and corporate sectors is High, with a grand mean of 3.02. This indicates that the participating organizations generally demonstrate a favorable level of performance in terms of efficiency, service delivery, productivity, and responsiveness to organizational goals. The education sector obtained a grand mean of 2.90, interpreted as High, while the corporate sector registered a grand mean of 3.13, also interpreted as High. The findings suggest that both sectors are performing at a commendable level, although the corporate sector manifests relatively stronger organizational performance.

Among the indicators, operational efficiency ranked first with an overall mean of 3.07, indicating that the organizations are generally effective in managing resources, streamlining processes, and carrying out operations in an orderly and productive manner. This suggests that efficiency-related outcomes are the most evident aspect of organizational performance across both sectors. Service effectiveness ranked second with an overall mean of 3.04, implying that organizations are also capable of delivering services that meet the needs and expectations of their stakeholders.

Meanwhile, organizational responsiveness and goal attainment obtained the lowest overall mean of 2.96, although still interpreted as High. This indicates that while organizations generally perform well, there may still be opportunities to strengthen their responsiveness to emerging demands and improve alignment with strategic objectives. Similarly, productivity posted an overall mean of 3.00, showing that the organizations are able to maintain satisfactory output and performance levels, though further improvements remain possible.

A sectoral comparison reveals that the corporate sector consistently obtained higher mean scores than the education sector across all indicators. This may be attributed to stronger performance management systems, more streamlined decision-making processes, and a greater emphasis on measurable outcomes in corporate organizations. Educational institutions, while likewise demonstrating high organizational performance, may encounter structural, administrative, or policy-related constraints that affect efficiency and responsiveness.

4. The significant relationship between Artificial Intelligence capability and innovation capability across the education and corporate sectors.

To determine whether a significant relationship exists between Artificial Intelligence Capability and Innovation Capability, the responses of the participants were analyzed using the Pearson Product-Moment Correlation Coefficient. The results are presented in Table 4.

Table 4 Relationship between Artificial Intelligence Capability and Innovation Capability across Education and Corporate Sectors

Sector	Computed r-value	p-value	Decision on Ho	Interpretation
Education Sector	0.62	< .001	Reject Ho	Significant Positive Relationship

Corporate Sector	0.71	< .001	Reject Ho	Significant Positive Relationship
Overall	0.67	< .001	Reject Ho	Significant Positive Relationship

Table 4 shows that Artificial Intelligence Capability is significantly related to Innovation Capability in both the education and corporate sectors. In the education sector, the computed r-value of 0.62 indicates a moderate to strong positive relationship, with a p-value less than .001, leading to the rejection of the null hypothesis. This means that as the level of artificial intelligence capability increases, the level of innovation capability in educational organizations also tends to increase.

In the corporate sector, the computed r-value of 0.71 indicates a strong positive relationship, and the p-value of less than .001 likewise confirms statistical significance. This suggests that corporate organizations with stronger AI capability also tend to demonstrate higher innovation capability. Compared with the education sector, the corporate sector shows a slightly stronger association, implying that the link between AI capability and innovation may be more pronounced in business organizations.

Overall, the computed r-value of 0.67 indicates a strong positive relationship between Artificial Intelligence Capability and Innovation Capability across the two sectors combined. The result implies that organizations with better AI infrastructure, stronger data analytics capability, higher AI-related competencies, and greater AI integration in organizational processes are more likely to exhibit stronger process innovation, service innovation, organizational adaptability, and continuous improvement.

5. The significant relationship between innovation capability and organizational performance across the education and corporate sectors.

To determine whether a significant relationship exists between Innovation Capability and Organizational Performance, the responses of the participants were analyzed using the Pearson Product-Moment Correlation Coefficient. The results are presented in Table 5.

Table 5 Relationship between Innovation Capability and Organizational Performance across Education and Corporate Sectors

Sector	Computed r-value	p-value	Decision on Ho	Interpretation
Education Sector	0.65	< .001	Reject Ho	Significant Positive Relationship
Corporate Sector	0.74	< .001	Reject Ho	Significant Positive Relationship
Overall	0.70	< .001	Reject Ho	Significant Positive Relationship

Table 5 shows that Innovation Capability is significantly related to Organizational Performance in both the education and corporate sectors. In the education sector, the computed r-value of 0.65 indicates a strong positive relationship, with a p-value less than .001, which leads to the rejection of the null hypothesis. This means that educational organizations with higher levels of innovation capability also tend to demonstrate better organizational performance.

In the corporate sector, the computed r-value of 0.74 indicates a stronger positive relationship, and the p-value of less than .001 confirms that the relationship is statistically significant. This suggests that corporate organizations that are more capable of process innovation, service innovation, adaptability, and continuous improvement are more likely to achieve higher levels of efficiency, productivity, service effectiveness, and goal attainment. The stronger association in the corporate sector may imply that innovation is more directly translated into measurable performance outcomes in business organizations.

Overall, the computed r-value of 0.70 indicates a strong positive relationship between Innovation Capability and Organizational Performance across the two sectors combined. This finding implies that when organizations cultivate innovation-oriented practices and adaptive capabilities, they are better positioned to improve their

performance outcomes. Innovation capability therefore appears to function as an important organizational driver that supports sustainable effectiveness and competitiveness.

6. The significant relationship between Artificial Intelligence capability and organizational performance across the education and corporate sectors.

To determine whether a significant relationship exists between Artificial Intelligence Capability and Organizational Performance, the responses of the participants were analyzed using the Pearson Product-Moment Correlation Coefficient. The results are presented in Table 6.

Table 6 Relationship between Artificial Intelligence Capability and Organizational Performance across Education and Corporate Sectors

Sector	Computed r-value	p-value	Decision on Ho	Interpretation
Education Sector	0.58	< .001	Reject Ho	Significant Positive Relationship
Corporate Sector	0.69	< .001	Reject Ho	Significant Positive Relationship
Overall	0.64	< .001	Reject Ho	Significant Positive Relationship

Table 6 shows that Artificial Intelligence Capability is significantly related to Organizational Performance in both the education and corporate sectors. In the education sector, the computed r-value of 0.58 indicates a moderate positive relationship, with a p-value less than .001, which leads to the rejection of the null hypothesis. This means that educational organizations with stronger artificial intelligence capability also tend to demonstrate better organizational performance.

In the corporate sector, the computed r-value of 0.69 indicates a strong positive relationship, and the p-value of less than .001 confirms that the relationship is statistically significant. This suggests that corporate organizations with better AI infrastructure, stronger data analytics capability, more developed AI-related competencies, and greater AI integration in organizational processes are more likely to achieve higher levels of efficiency, service effectiveness, productivity, and goal attainment. The stronger association in the corporate sector may indicate that AI capability is more directly translated into measurable performance outcomes in business organizations.

Overall, the computed r-value of 0.64 indicates a strong positive relationship between Artificial Intelligence Capability and Organizational Performance across the two sectors combined. This implies that organizations with higher levels of AI capability are generally better positioned to improve their performance outcomes. The finding further suggests that AI capability functions as an important organizational resource that supports effectiveness, responsiveness, and operational improvement.

7. The mediating effect of innovation capability on the relationship between Artificial Intelligence capability and organizational performance across the education and corporate sectors.

To determine whether Innovation Capability significantly mediates the relationship between Artificial Intelligence Capability and Organizational Performance, a regression-based mediation analysis was performed using the direct, indirect, and total effects of the variables. The results are presented in Table 7.

Table 7 Mediating Effect of Innovation Capability on the Relationship between Artificial Intelligence Capability and Organizational Performance across Education and Corporate Sectors

Sector	Path a: AI Capability → Innovation Capability (β)	p-value	Path b: Innovation Capability → Organizational Performance (β)	p-value	Direct Effect c': AI Capability → Organizational Performance (β)	p-value	Indirect Effect ab	p-value	Decision on Ho	Type of Mediation
Education Sector	0.49	< .001	0.41	< .001	0.27	.003	0.20	.001	Reject Ho	Partial Mediation
Corporate Sector	0.56	< .001	0.45	< .001	0.30	.001	0.25	< .001	Reject Ho	Partial Mediation
Overall	0.53	< .001	0.43	< .001	0.28	< .001	0.23	< .001	Reject Ho	Partial Mediation

Table 7 presents the mediation analysis of Innovation Capability on the relationship between Artificial Intelligence Capability and Organizational Performance across education and corporate sectors. The results show that Path a, or the effect of Artificial Intelligence Capability on Innovation Capability, is statistically significant in both sectors and in the overall model. In the education sector, the standardized beta coefficient is 0.49 with a p-value less than .001, while in the corporate sector, the beta coefficient is 0.56 with a p-value less than .001. The overall result of 0.53 also confirms a significant positive effect. These findings indicate that organizations with stronger AI capability tend to demonstrate higher levels of innovation capability.

Similarly, Path b, or the effect of Innovation Capability on Organizational Performance, is statistically significant across all groups. The education sector obtained a beta coefficient of 0.41, the corporate sector recorded 0.45, and the overall model yielded 0.43, all with p-values less than .001. This implies that organizations with stronger innovation capability are more likely to attain better levels of organizational performance in terms of efficiency, effectiveness, productivity, and goal attainment.

The analysis further reveals that the direct effect (c') of Artificial Intelligence Capability on Organizational Performance remains statistically significant even after Innovation Capability is introduced into the model. In the education sector, the direct effect is 0.27 with a p-value of .003; in the corporate sector, it is 0.30 with a p-value of .001; and in the overall model, it is 0.28 with a p-value less than .001. This means that Artificial Intelligence Capability continues to exert a direct influence on Organizational Performance even when the mediating variable is considered.

Most importantly, the indirect effect (ab) is statistically significant in all groups. The education sector registered an indirect effect of 0.20 with a p-value of .001, the corporate sector obtained 0.25 with a p-value less than .001, and the overall model showed an indirect effect of 0.23 with a p-value less than .001. Since both the indirect effect and the direct effect are significant, the results indicate partial mediation. This means that Innovation Capability explains part, but not all, of the effect of Artificial Intelligence Capability on Organizational Performance.

The findings suggest that Artificial Intelligence Capability improves Organizational Performance not only directly but also indirectly by strengthening Innovation Capability. In other words, organizations that possess stronger AI infrastructure, analytics capability, human competencies, and AI integration are more likely to enhance their innovation practices, which in turn contribute to better organizational outcomes. The slightly stronger mediation effect observed in the corporate sector implies that innovation mechanisms may be more actively translated into performance gains in business organizations than in educational institutions.

8. The significant differences in the study variables when grouped according to sector.

To determine whether significant differences exist in the study variables when the respondents are grouped according to sector, an independent samples t-test was employed. The analysis compared the mean scores of the education sector and the corporate sector in terms of Artificial Intelligence Capability, Innovation Capability, and Organizational Performance. The results are presented in Table 8.

Table 8 Significant Differences in the Study Variables When Grouped According to Sector

Variables	Education Sector Mean	Corporate Sector Mean	Mean Difference	t-value	p-value	Decision on Ho	Interpretation
Artificial Intelligence Capability	2.83	3.12	0.29	-4.86	< .001	Reject Ho	Significant
Innovation Capability	2.83	3.10	0.27	-4.51	< .001	Reject Ho	Significant
Organizational Performance	2.90	3.13	0.23	-3.94	< .001	Reject Ho	Significant

Table 8 shows that there are significant differences in the study variables when the respondents are grouped according to sector. In terms of Artificial Intelligence Capability, the education sector obtained a mean score of 2.83, while the corporate sector registered a higher mean score of 3.12, resulting in a mean difference of 0.29. The computed t-value of -4.86 and p-value of less than .001 indicate that the difference is statistically significant. This finding implies that corporate organizations demonstrate a stronger level of AI capability than educational institutions.

With respect to Innovation Capability, the education sector posted a mean score of 2.83, whereas the corporate sector obtained 3.10, yielding a mean difference of 0.27. The computed t-value of -4.51 and p-value of less than .001 confirm that the difference is also statistically significant. This suggests that corporate organizations tend to exhibit higher innovation capability than educational institutions, possibly because of greater flexibility, stronger market-driven improvement mechanisms, and wider opportunities for process and service innovation.

Similarly, a significant difference was found in Organizational Performance. The education sector recorded a mean score of 2.90, while the corporate sector obtained 3.13, with a mean difference of 0.23. The computed t-value of -3.94 and p-value of less than .001 show that the difference is statistically significant. This means that corporate organizations tend to achieve relatively higher levels of organizational performance than educational institutions in terms of operational efficiency, service effectiveness, productivity, and goal attainment.

Overall, the results indicate that the corporate sector consistently obtained higher mean scores than the education sector across all study variables. This pattern may be attributed to the stronger technological investment, more aggressive innovation practices, and more performance-oriented management systems commonly observed in business organizations. In contrast, educational institutions may still be constrained by administrative structures, budget limitations, and slower rates of technological integration, which may affect their capability and performance outcomes.

SUMMARY OF FINDINGS

Based on the data presented and analyzed, the following findings were obtained:

1. The level of Artificial Intelligence Capability among organizations in the education and corporate sectors was found to be High, with an overall grand mean of 2.98. The corporate sector obtained a higher mean (3.12) than the education sector (2.83), indicating that corporate organizations demonstrate relatively stronger AI capability.

2. The level of Innovation Capability among organizations in the education and corporate sectors was likewise found to be High, with an overall grand mean of 2.97. The corporate sector posted a higher mean (3.10) compared with the education sector (2.83), showing that corporate organizations exhibit relatively stronger innovation capability.

3. The level of Organizational Performance among organizations in the education and corporate sectors was also High, with an overall grand mean of 3.02. The corporate sector registered a higher mean (3.13) than the education sector (2.90), indicating relatively better organizational performance in the corporate sector.

4. There was a significant positive relationship between Artificial Intelligence Capability and Innovation Capability across education and corporate sectors, with an overall r-value of 0.67 and p-value < .001. This indicates that higher levels of AI capability are associated with higher levels of innovation capability.

5. There was a significant positive relationship between Innovation Capability and Organizational Performance across education and corporate sectors, with an overall r-value of 0.70 and p-value < .001. This suggests that stronger innovation capability is associated with better organizational performance.

6. There was a significant positive relationship between Artificial Intelligence Capability and Organizational Performance across education and corporate sectors, with an overall r-value of 0.64 and p-value < .001. This implies that higher AI capability is associated with improved organizational performance.

7. Innovation Capability significantly mediated the relationship between Artificial Intelligence Capability and Organizational Performance across education and corporate sectors. The mediation analysis showed a significant indirect effect ($ab = 0.23$, $p < .001$) and a significant direct effect ($\beta = 0.28$, $p < .001$), indicating partial mediation.

8. There were significant differences in Artificial Intelligence Capability, Innovation Capability, and Organizational Performance when grouped according to sector. In all three variables, the corporate sector obtained significantly higher mean scores than the education sector, confirming that sectoral context significantly influences the study variables.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the findings of the study, it is concluded that Artificial Intelligence Capability, Innovation Capability, and Organizational Performance are evident at a high level in both education and corporate sectors. This indicates that the participating organizations have already developed a functional capacity to adopt artificial intelligence, foster innovation, and sustain satisfactory performance outcomes. However, the findings further reveal that the corporate sector consistently demonstrates stronger levels of these variables than the education sector, suggesting that corporate organizations are relatively more advanced in technological capability, innovation practices, and performance systems.

The study also concludes that Artificial Intelligence Capability is a significant organizational driver of both Innovation Capability and Organizational Performance. Organizations with stronger AI infrastructure, data analytics capability, AI-related competencies, and AI integration in organizational processes tend to exhibit greater innovation capability and better performance outcomes. This confirms the important role of AI capability as a strategic organizational resource that contributes to workplace effectiveness and institutional success.

Moreover, the findings establish that Innovation Capability significantly influences Organizational Performance and serves as a partial mediating variable in the relationship between Artificial Intelligence Capability and Organizational Performance. This means that AI capability improves performance not only through its direct contribution to organizational processes but also through its ability to strengthen innovation practices such as process improvement, service enhancement, adaptability, and continuous improvement. Thus, the study affirms that innovation capability is an essential explanatory mechanism through which AI capability translates into measurable organizational gains.

Finally, the study concludes that sectoral context matters. The significant differences found between the education and corporate sectors indicate that organizational setting influences the extent to which AI capability, innovation capability, and performance are developed and manifested. Hence, while the proposed framework is applicable across both sectors, the degree of capability and performance may vary depending on the operational environment, organizational priorities, and level of technological readiness.

Recommendations

In light of the findings and conclusions of the study, the following recommendations are hereby offered:

1. Organizations in the education sector may strengthen their Artificial Intelligence Capability by investing in improved AI infrastructure, data analytics systems, and AI-related training programs for personnel in order to narrow the gap with the corporate sector.

2. Both education and corporate organizations may design and implement structured capacity-building programs that enhance employees' AI-related competencies, particularly in the areas of digital skills, analytics, automation, and responsible AI utilization.

3. Organizations may further cultivate Innovation Capability by promoting a workplace culture that encourages creativity, experimentation, continuous improvement, and adaptive problem-solving, since innovation was found to significantly contribute to organizational performance.

4. Organizational leaders and administrators may integrate AI-enabled systems into strategic and operational processes in a more systematic manner so that artificial intelligence can be fully translated into innovation and measurable performance outcomes.

5. Since Innovation Capability partially mediates the relationship between Artificial Intelligence Capability and Organizational Performance, organizations may prioritize not only the acquisition of AI technologies but also the strengthening of innovation-oriented structures and practices that can maximize the benefits of AI.

6. Policymakers, academic leaders, and corporate decision-makers may formulate sector-specific strategies and support mechanisms that will help institutions and organizations improve their AI readiness, innovation systems, and performance management practices.

7. Future researchers may replicate or extend the study by including other sectors, additional variables, or a broader geographical coverage to further validate the framework and deepen understanding of the role of artificial intelligence in organizational transformation.

8. Future studies may also employ more advanced analytical designs, such as longitudinal or mixed-method approaches, to examine the long-term and contextual effects of AI capability on innovation and organizational performance.

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