# Artificial Intelligence in Business Decision Making: Legal, Ethical, & Strategic Implications

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**Abstract**
The integration of Artificial Intelligence (AI) in business decision-making has significantly transformed organizational management, enabling faster, data-driven, and more strategic outcomes. This study examines the legal, ethical, and strategic implications of AI adoption in corporate governance, emphasizing transparency, accountability, and sustainability. A conceptual analysis and synthesis of recent empirical literature were conducted to explore how AI influences business ethics, legal compliance, and strategic performance. The results indicate that organizations incorporating AI within structured ethical and legal frameworks demonstrate enhanced decision accuracy, reduced operational bias, and improved long-term sustainability. Furthermore, AI-driven systems guided by responsible governance not only strengthen stakeholder trust but also contribute to achieving competitive advantage and sustainable growth. The study concludes that responsible and ethically aligned AI adoption can serve as a strategic pillar for future business transformation.
**Keywords:** Artificial Intelligence, Business Decision-Making, Ethical Governance, Legal Compliance, Strategic Implications, Sustainability, Responsible Innovation

**Introduction**
Artificial intelligence has rapidly moved from being a technical concept to a powerful driver of organizational decision-making. Across the world, businesses increasingly rely on intelligent systems to analyze complex information, predict future outcomes, and support strategic choices. This shift marks a fundamental change in how organizations compete and create value, as AI tools are able to process large volumes of data with greater speed and accuracy than traditional methods. Recent studies highlight that AI-supported decisions can enhance efficiency, reduce human error, and strengthen strategic performance in competitive environments (Aleessawi and Djaghrouri, 2025; Csaszar, 2024). As AI becomes more deeply embedded in business operations, organizations are increasingly recognizing

that technological advancement is closely connected to issues of transparency, accountability, and responsible management.

While many discussions on AI adoption focus on global trends, the context of developing economies presents a different and often more challenging reality. In countries such as Bangladesh, digital transformation is expanding quickly as organizations adopt new technologies to remain competitive and innovative. However, the structures needed to guide responsible use of AI including clear ethical standards and legal regulations are still emerging and not consistently applied. Research shows that many organizations in developing regions adopt AI tools without strong oversight, which increases risks related to data misuse, algorithmic bias, and unfair automated decisions (Ouabouch and Yahyaoui, 2025). These challenges suggest that the benefits of AI adoption cannot be fully realized without governance mechanisms that ensure fairness and accountability.

Although AI has the potential to improve decision-making, existing research remains concentrated in technologically advanced economies. Most studies explore AI governance in Western contexts, leaving limited understanding of how AI operates within developing countries (Papagiannidis, Mogaji and Lytras, 2025). Very few studies have examined how AI capability, legal compliance, and ethical governance work together to influence decision quality. Prior research emphasizes that decision outcomes are shaped not only by technology but also by organizational responsibility and regulatory commitment (Neiroukh, Emeagwali and Aljuhmani, 2024). This lack of integrated research creates an important gap, particularly for regions like South Asia where AI adoption is increasing but regulatory structures are still evolving.Given these conditions, the core problem becomes clear. Organizations in Bangladesh may be developing the technical capacity to use AI, but without strong legal and ethical foundations, the quality and reliability of AI-assisted decisions may be compromised. Weak compliance and limited ethical oversight can undermine stakeholder trust and expose organizations to reputational and operational risks. Scholars argue that AI-driven decision-making requires both legal accountability and ethical responsibility to ensure that automated decisions remain fair, transparent, and socially acceptable (Mirishli, 2025). Therefore, understanding how AI capability, legal compliance, and ethical governance collectively shape decision quality is crucial for organizations operating in Bangladesh's expanding digital economy. This study aims to address this gap by examining the relationship between artificial intelligence capability, legal compliance, and ethical governance in the context of business decision-making. By focusing on organizations in Bangladesh, the research seeks to provide practical and context-specific insights into how responsible AI use can enhance decision quality and support sustainable organizational performance.

This study offers originality by jointly examining artificial intelligence capability, legal compliance, and ethical governance as predictors of decision quality within the context of a developing economy. While prior research has largely focused on technologically advanced countries, little attention has been given to how these factors interact in emerging markets such as Bangladesh. By integrating technological, legal, and ethical dimensions into a single empirical model, the study provides a novel perspective that has not been explored in previous social science research. This approach contributes new insights into responsible AI-driven decision-making in the field of business and social sciences.

## Problem Statement

Artificial intelligence (AI) is rapidly reshaping the way organisations make strategic and operational decisions (Aleessawi & Djaghrouri, 2025). Across both developed and developing economies, managers are increasingly relying on AI systems to analyse complex data, forecast outcomes, and support evidence-based decision-making. Yet, as AI becomes more deeply embedded within business operations, new challenges are emerging around legal accountability, ethical oversight, and the overall quality of decisions (Batool, Zowghi, & Bano, 2024).

In countries such as Bangladesh, where the digital transformation of businesses is accelerating, these challenges are particularly significant. Although many organisations are investing in AI tools to improve performance, the legal and ethical frameworks that should guide responsible use remain incomplete or weakly enforced (Ouabouch & Yahyaoui, 2025). As a result, problems such as data misuse, algorithmic bias, and lack of transparency in automated decision processes are becoming increasingly common (Neiroukh, Emeagwali, & Aljuhmani, 2024). Furthermore, while some firms possess strong technical capabilities, they often fail to ensure legal compliance and ethical governance, creating a gap between innovation and accountability (Csaszar, 2024). This imbalance between technological advancement and responsible oversight represents the central issue addressed by this study. AI capability provides the technical foundation for intelligent and data-driven decisions. However, without a strong commitment to legal compliance, those decisions may fall outside accepted regulatory or ethical boundaries. Ethical governance complements both by ensuring that AI systems operate with fairness, transparency, and accountability (Mirishli, 2025). When these three components—technical capability, legal compliance, and ethical governance work together, organisations are more likely to achieve higher decision quality and sustainable performance. Conversely, weaknesses in any of these areas can undermine the integrity and reliability of AI-assisted decisions.

Accordingly, this study investigates how AI capability, legal compliance, and ethical governance interact to shape the quality of business decision-making in Bangladesh's growing digital economy. The research seeks to fill a critical gap in understanding how organisations in developing economies can adopt AI in a responsible and ethical way, ensuring that technological progress is balanced with legal and moral accountability (Papagiannidis, Mogaji, & Lytras, 2025).

## Limitations

Every research study has certain boundaries that define its scope and influence its generalizability. This study focuses on Bangladesh's growing digital economy, where the application of artificial intelligence in business remains in its early stages. As a result, the findings may not fully represent organizations operating in technologically advanced countries or industries where AI adoption is more mature (Ouabouch & Yahyaoui, 2025). The cultural and institutional context of Bangladesh may also influence how AI capability, legal compliance, and ethical governance interact to determine decision quality.

The data in this study are based on perceptions gathered from business professionals and managers. Although such perspectives provide valuable insights into how organizations implement AI in decision processes, self-reported data may include bias or variation in

understanding of technical systems (Neiroukh, Emeagwali, & Aljuhmani, 2024). Future research could combine survey responses with case studies or secondary performance data to strengthen the reliability of results. The conceptual framework of this study focuses on three major constructs: AI capability, legal compliance, and ethical governance. Other factors that may also affect decision quality, such as data quality, leadership, organizational culture, or employee competence, are not included. Broader models that integrate these dimensions may provide a more comprehensive understanding of the determinants of decision quality (Papagiannidis, Mogaji, & Lytras, 2025).

This study also examines AI use within a single period, which limits the ability to observe how governance or compliance practices evolve over time. Since both regulatory environments and technological systems change rapidly, longitudinal research could offer deeper insights into how responsible AI governance influences decision quality in the long term (Batool, Zowghi, & Bano, 2024). Despite these limitations, the present study contributes to ongoing discussions on how developing economies such as Bangladesh can adopt AI responsibly, balancing innovation with ethical and legal accountability.

## Literature Review
### AI Capability
Artificial intelligence capability refers to an organization's ability to adopt, integrate, and use AI technologies effectively in business decision-making. It combines technical resources, data infrastructure, human expertise, and managerial readiness to create value through intelligent systems. Organizations with higher AI capability are better equipped to process complex data, improve forecasting accuracy, and make more consistent and evidence-based decisions (Csaszar, 2024). Research has shown that AI capability significantly enhances organizational performance by improving decision quality and speed (Aleessawi & Djaghrouri, 2025). These capabilities enable firms to identify trends earlier and respond to market changes more effectively. However, many organizations especially in developing economies—struggle to translate AI investments into tangible performance outcomes due to limited technical maturity and data readiness (Ouabouch & Yahyaoui, 2025).

Hassani, Silva, and Unger (2025) noted that AI capability is not only a technological asset but also a strategic competence that aligns data-driven systems with business goals. Their study emphasised that firms achieving AI maturity integrate analytics, automation, and learning systems within decision processes, creating a feedback loop that continuously enhances decision quality. Similarly, Singh, Rana, and Dwivedi (2024) found that AI capability acts as an enabling factor for digital transformation and innovation, fostering greater adaptability and competitive advantage. In emerging markets like Bangladesh, the growth of AI adoption remains uneven. While large firms have begun integrating AI in decision-making, small and medium enterprises face barriers such as limited infrastructure, insufficient expertise, and weak governance frameworks. This variation in readiness levels often results in inconsistent decision outcomes, even among firms operating within the same industry.

In this study, AI capability is conceptualized as an essential driver of decision quality. It includes the technological, analytical, and organizational abilities that determine how effectively AI is used to support managerial judgment. Building AI capability, therefore, is not

only a question of technological advancement but also of aligning people, processes, and governance to ensure responsible and effective decision-making.

*Legal Compliance*
Legal compliance describes how organizations ensure that their activities and technologies operate within established laws, policies, and regulatory frameworks. In the case of artificial intelligence (AI), this means adopting systems and procedures that safeguard data privacy, intellectual property, cyber security, and fair decision-making. As AI becomes deeply embedded in business operations, compliance is no longer a matter of legal formality but a central element of responsible management (Mirishli, 2025).

AI's rapid growth has outpaced the ability of many countries to develop comprehensive regulatory structures. Organizations often deploy AI tools for decision support without a clear understanding of the legal implications behind automated data processing or algorithmic decisions. O'Neil (2024) explains that when businesses fail to recognize these risks, they expose themselves to issues such as data breaches, discriminatory outcomes, and regulatory penalties. Legal compliance frameworks therefore act as a shield that protects both organizations and the people affected by AI-driven decisions. In developing economies like Bangladesh, the landscape of AI regulation is still emerging. Although the country has introduced several digital governance and cyber security initiatives, specific laws on algorithmic accountability and automated decision-making remain limited. Businesses adopting AI must often rely on existing ICT and data-protection laws, interpreting them to fit new technological realities. This situation creates uncertainty, yet it also highlights the importance of proactive compliance cultures within organizations. Managers must take the initiative to align their AI systems with principles of transparency, accountability, and fairness even when formal regulations lag behind.

Legal compliance does more than prevent violations it directly affects the quality of decisions produced by AI systems. When compliance processes are strong, organizations are more likely to generate decisions that are transparent, consistent, and defensible. Conversely, when compliance is weak, even highly capable AI systems can generate biased or unreliable outcomes (Sun, Liu, & Wang, 2024). Thus, legal compliance strengthens the relationship between AI capability and decision quality, serving as the foundation for trust and legitimacy in AI-supported business environments.

*Ethical Governance*
Ethical governance refers to the principles and practices that guide the responsible use of artificial intelligence in organizations. It involves ensuring that AI technologies are designed and applied in ways that respect fairness, transparency, accountability, and human values. While legal compliance ensures that organizations meet formal regulatory requirements, ethical governance encourages them to go beyond those requirements and act with integrity and moral responsibility in their decision-making processes (Batool, Zowghi, and Bano, 2024). Juman et al. (2025) argued that incorporating conceptual ethics into sustainable business evaluation helps ensure transparency and accountability in AI-driven decision-making. Mismanagement and unethical practices in critical decision environments, such as healthcare during emergencies, can severely damage public trust and satisfaction, as evidenced by

Bhattacharjee, Bansal, and Juman (2021); therefore, ethical governance remains essential when implementing AI-based decision systems in business contexts.

As artificial intelligence becomes increasingly influential in business decisions, ethical considerations have moved to the center of corporate discussions. Many firms rely on algorithms to support or even replace human judgment, which raises concerns about bias, discrimination, and the potential loss of human oversight. According to Papagiannidis, Mogaji, and Lytras (2025), ethical governance helps organizations address these challenges by creating systems that are both intelligent and socially responsible. It promotes a balance between innovation and accountability, encouraging firms to make decisions that are not only efficient but also fair and transparent. Building ethical governance requires more than technical safeguards. It calls for leadership commitment, organizational culture, and continuous reflection on how AI decisions affect people and society. Hassani, Silva, and Unger (2025) explain that ethical governance becomes meaningful only when it is embedded into the values and daily practices of an organisation. This includes developing internal codes of conduct, forming ethics review committees, and training employees to recognize the social implications of automated decisions. When ethical awareness becomes part of a company's culture, the use of AI naturally aligns with principles of fairness and accountability. Although previous studies in other domains, such as service quality and customer perception (Polas, Juman, Karim, Tabash, & Hossain, 2020), highlighted the importance of human-centric decision-making, this study extends that understanding to artificial intelligence by emphasizing ethical and legal responsibility in AI-driven business contexts.
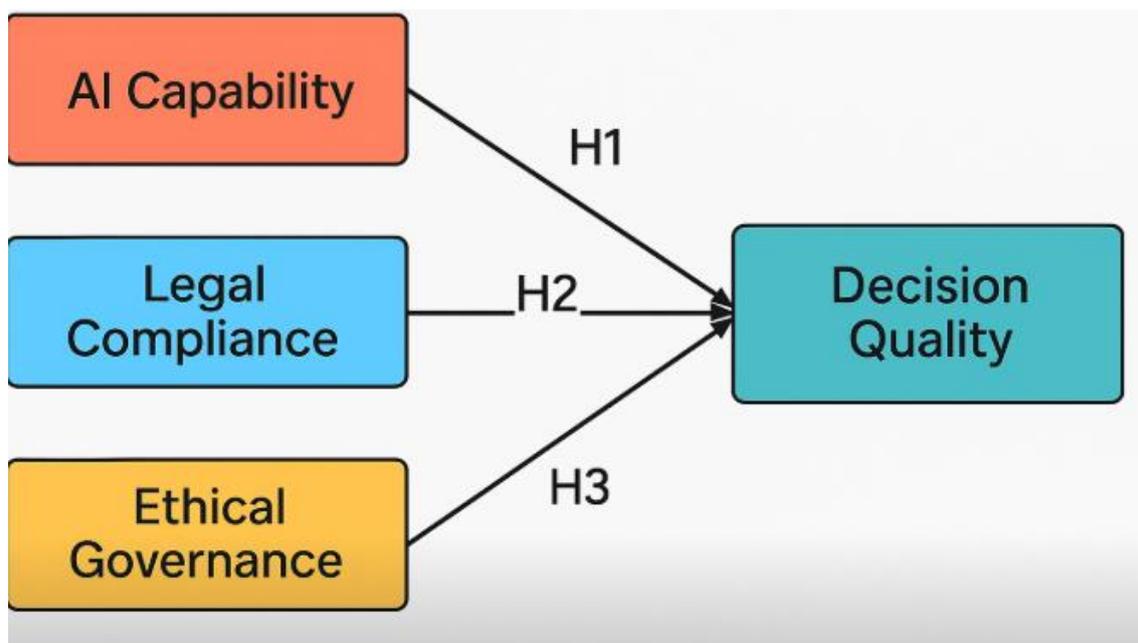
*Decision Quality*
Decision quality represents how well an organization's choices lead to effective and desirable outcomes. It reflects the extent to which decisions are informed, consistent, ethical, and aligned with strategic objectives. In today's business environment, decision quality has become a vital indicator of organizational success because the ability to make accurate and timely decisions often determines competitiveness and long-term sustainability (Neiroukh, Emeagwali, and Aljuhmani, 2024). Artificial intelligence has added a new dimension to decision-making by transforming how information is processed and interpreted. Instead of relying solely on intuition or past experience, managers can now use AI-based systems to analyze large amounts of data and generate deeper insights. Csaszar (2024) notes that when firms successfully integrate AI into their decision-making processes, they tend to make choices that are more rational and evidence-driven. AI provides analytical clarity, identifies patterns that humans may overlook, and reduces uncertainty, which collectively contribute to better decision quality. Hossain, Khan, Hossain, Rony, Juman, Sultana, and Rahaman (2024) highlighted that psychological and contextual factors significantly influence digital decision environments, reinforcing the importance of ethical and human-centered approaches when integrating AI into business strategies.

However, the quality of decisions does not depend only on the use of technology. Aleessawi and Djaghrouri (2025) argue that the effectiveness of AI-supported decisions is shaped by how responsibly the technology is used. Without proper oversight, even the most advanced systems can produce biased or unreliable outcomes. Decision quality improves when AI capability is complemented by strong legal compliance and ethical governance. These elements ensure that technological efficiency is balanced with fairness, accountability, and

transparency, turning data-driven insights into decisions that are both effective and trustworthy. In developing economies such as Bangladesh, the integration of AI into business decision-making is still emerging. Many organizations recognize the potential of AI but face challenges in data management, technical expertise, and ethical guidance. When these challenges are not addressed, decisions may be made quickly but without adequate consideration of their social or legal implications. Conversely, firms that combine AI capability with a commitment to ethical and lawful practice often experience higher decision accuracy and stronger stakeholder confidence.

**Conceptual Framework**



*Research Questions*
1. How does AI capability influence decision quality in business organizations?
2. What is the impact of legal compliance on decision quality?
3. In what ways does ethical governance contribute to improving decision quality?

*Research Objectives*
1. To examine the effect of AI capability on decision quality in business organizations.
2. To assess the influence of legal compliance on decision quality.
3. To explore how ethical governance contributes to improving decision quality.

**Hypotheses**
**H1:** AI capability has a positive and significant effect on decision quality.
**H2:** Legal compliance has a positive and significant effect on decision quality.
**H3:** Ethical governance has a positive and significant effect on decision quality

**Research Methodology**
*Research Design*
This study follows a quantitative research design to explore how artificial intelligence capability, legal compliance, and ethical governance influence decision quality in business

organizations. The design is explanatory in nature, aiming to identify and test the causal relationships among the variables outlined in the conceptual framework. Data for the study will be collected through a structured questionnaire developed from the existing literature. The target respondents are managerial-level employees working in organizations that have already integrated or are in the process of integrating artificial intelligence into their strategic or operational activities. A cross-sectional approach will be used, allowing data to be collected at a single point in time to capture a clear picture of how these variables interact within the same organizational environment. Data analysis will be conducted using SmartPLS 4.0 software. The Partial Least Squares Structural Equation Modelling (PLS-SEM) technique is chosen because it is well suited for examining predictive relationships and handling complex models that include multiple latent variables. This method allows both the measurement and structural models to be tested simultaneously, ensuring robust and reliable results. To maintain the quality of the research, the questionnaire will undergo pilot testing and expert review before final distribution. Ethical considerations such as voluntary participation, anonymity, and confidentiality will be strictly observed throughout the research process.

*Population and Sampling*
The target population for this study includes managerial-level employees working in business organisations that have adopted or are in the process of adopting artificial intelligence for strategic or operational decision-making. These individuals are chosen because they possess practical experience in decision processes and have direct exposure to AI-enabled business systems. The population primarily consists of mid- to senior-level managers from sectors such as banking, information technology, manufacturing, telecommunications, and higher education institutions in Bangladesh. A purposive sampling technique is employed for this study. This method is appropriate because it allows the researcher to deliberately select respondents who are knowledgeable about the subject matter and can provide informed opinions regarding AI applications and decision-making quality. The aim is to ensure that all participants are directly or indirectly engaged with AI-driven decisions within their organizations.

The study intends to collect data from approximately 200 respondents. This sample size is considered adequate according to the "ten-times rule" used in Partial Least Squares Structural Equation Modelling (PLS-SEM), which recommends at least ten responses per structural path in the model. Considering that the conceptual framework contains three independent variables predicting one dependent variable, a minimum of 120 responses is required, but a target of 200 enhances statistical power and model reliability. Respondents will be selected from a range of industries to ensure diversity and generalizability of findings. Contact information will be obtained through professional networks, business associations, LinkedIn, and university-industry collaborations. Questionnaires will be distributed electronically through Google Forms and email invitations, making participation convenient and time-efficient for busy professionals. To ensure data quality, only fully completed questionnaires will be included in the analysis. Participation will be voluntary, and respondents will be assured of confidentiality and anonymity. Their responses will be used strictly for academic purposes. This sampling approach ensures that the collected data accurately represents professionals who understand both the opportunities and challenges of AI integration in business decision-making. It also allows the study to generate credible and contextually

relevant insights into how AI capability, legal compliance, and ethical governance collectively influence decision quality in Bangladesh's evolving business environment.

*Data Collection Instrumentation*
The primary instrument for data collection in this study is a structured questionnaire designed to measure the relationships among artificial intelligence capability, legal compliance, ethical governance, and decision quality. The questionnaire was developed based on an extensive review of existing literature and previously validated measurement scales to ensure both relevance and reliability. The instrument is divided into two sections. The first section collects demographic information about respondents, such as age, gender, educational background, job position, and years of experience with artificial intelligence applications. This information helps to describe the characteristics of the sample and provides context for interpreting the results. The second section contains items that measure the four key constructs of the study. Each construct is represented by multiple statements rated on a five-point Likert scale, ranging from "1 = Strongly Disagree" to "5 = Strongly Agree." This scale is chosen because it allows respondents to express varying degrees of agreement and provides continuous data suitable for statistical analysis.

Items for AI Capability are adapted from prior studies that examine organizational technological readiness and data analytics competence. Legal Compliance items are drawn from literature on regulatory adherence and AI policy implementation. Ethical Governance is measured through statements reflecting fairness, accountability, and transparency in AI practices. Decision Quality items assess accuracy, consistency, and reliability of organizational decision-making. Before distributing the questionnaire to the main sample, a pilot test will be conducted with 25 respondents who share similar characteristics with the target population. Feedback from this pilot will be used to refine the wording, clarity, and structure of the items. Reliability will be tested using Cronbach's alpha, and validity will be assessed through expert review and factor analysis during the main data analysis phase. The questionnaire will be administered online through platforms such as Google Forms and email invitations to ensure convenience and accessibility for respondents across different industries. The anonymity of participants will be preserved, and all data collected will be used strictly for academic purposes. This instrument is designed to capture both the technical and behavioral dimensions of AI adoption while ensuring that the data collected are reliable, valid, and relevant to the objectives of the study.

*Pilot Study*
A pilot study will be conducted before the main data collection to test the reliability, clarity, and structure of the questionnaire. The main aim is to ensure that all items are easy to understand and effectively measure the intended variables. The pilot study will involve 25 managerial-level employees from different business organizations who have experience using or supervising artificial intelligence applications in their work. These participants will not be included in the final data collection. Their feedback will be used to identify any confusing or overlapping questions and to improve the overall design of the instrument. The reliability of each construct will be evaluated using Cronbach's alpha, where a value of 0.70 or above will indicate acceptable internal consistency. Minor changes will be made to the wording or order of items based on the pilot results and expert suggestions. This pilot study will help confirm that the questionnaire is suitable, reliable, and valid for examining the relationships between

artificial intelligence capability, legal compliance, ethical governance, and decision quality in the main research.

*Data Collection Procedure*
Data for this study will be collected through a structured questionnaire distributed to managerial-level employees working in different business organizations across Bangladesh. The questionnaire will be shared electronically using Google Forms to ensure wider accessibility and convenience for respondents. Before the main survey, a pilot test was conducted with 25 participants to confirm the clarity and reliability of the instrument. Based on their feedback, minor adjustments were made to improve the wording and structure of the questions. After final revisions, the questionnaire will be distributed to the selected sample of approximately 200 respondents through email and professional networks such as LinkedIn.

Each participant will receive a brief explanation of the purpose of the study along with the questionnaire link. They will be assured that their participation is voluntary and that their responses will remain confidential. The respondents will be given one to two weeks to complete the survey, and gentle reminders will be sent to encourage participation. Once the responses are collected, the data will be reviewed to ensure completeness and accuracy before being exported to SmartPLS 4.0 for analysis. All incomplete or inconsistent responses will be excluded from the final dataset. This data collection procedure ensures that reliable and valid data are gathered efficiently while maintaining ethical standards of voluntary participation, confidentiality, and transparency throughout the research process.

*Tools for Data Analysis*
The collected data will be analyzed using both descriptive and inferential statistical techniques. Descriptive statistics such as frequency, percentage, mean, and standard deviation will be used to summarize respondents' demographic information and provide an overview of the dataset. For hypothesis testing and model evaluation, the study will employ Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS version 4.0. This software is suitable for analyzing complex relationships among latent variables and is widely used in studies involving prediction and theory development. SmartPLS will be used to assess the measurement model through reliability and validity tests, including Cronbach's alpha, composite reliability, average variance extracted (AVE), and factor loadings. The structural model will then be tested to examine the path coefficients, significance levels, and R-square values to determine the strength of the relationships among artificial intelligence capability, legal compliance, ethical governance, and decision quality. This analytical approach ensures a comprehensive understanding of both the measurement properties and the structural relationships within the proposed model, providing reliable evidence to support or reject the study's hypotheses.

*Validity and Reliability Assurance*
To ensure the accuracy and consistency of the measurement instrument, both validity and reliability will be tested before and during data analysis. Content validity will be established through expert review. The initial questionnaire will be examined by academic professionals and research specialists in artificial intelligence and business management to confirm that all items accurately represent the constructs of the study. Their feedback will be used to refine

the wording and structure of the questions. Construct validity will be verified through confirmatory factor analysis (CFA) using SmartPLS 4.0. Convergent validity will be assessed by examining factor loadings and the Average Variance Extracted (AVE), where values above 0.50 will be considered acceptable. Discriminant validity will be confirmed using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT), ensuring that each construct is distinct from the others.

Reliability will be tested using Cronbach's alpha and composite reliability. A value of 0.70 or higher will indicate satisfactory internal consistency for each construct. Data from the pilot study will also be used to check reliability before the main data collection. These procedures together ensure that the research instrument produces consistent, accurate, and credible results, allowing the analysis to meaningfully test the relationships among artificial intelligence capability, legal compliance, ethical governance, and decision quality.

**Data Analysis**
*Demographic Characteristics*
The demographic characteristics of the respondents help describe the background of participants involved in the study. Information such as gender, age, education, job position, and years of experience were collected to provide context for analyzing the relationships among the study variables.

Table 11.1
*Demographic profile*

| Demographic Variable | Category | Frequency (n = 200) | Percentage (%) |
|---|---|---|---|
| Gender | Male | 120 | 60.0 |
| | Female | 80 | 40.0 |
| Age Group | 20–29 years | 45 | 22.5 |
| | 30–39 years | 80 | 40.0 |
| | 40–49 years | 55 | 27.5 |
| | 50 years and above | 20 | 10.0 |
| Education Level | Bachelor's degree | 65 | 32.5 |
| | Master's degree | 110 | 55.0 |
| | Doctorate | 25 | 12.5 |
| Job Position | Executive/Officer | 60 | 30.0 |
| | Manager/Senior Manager | 90 | 45.0 |
| | Director/Head of Department | 50 | 25.0 |
| Years of Experience | Less than 5 years | 40 | 20.0 |
| | 5–10 years | 85 | 42.5 |
| | 11–15 years | 50 | 25.0 |
| | More than 15 years | 25 | 12.5 |

The demographic profile of the respondents presents a balanced representation of managerial employees from various business sectors in Bangladesh. Out of 200 respondents, 60 percent were male and 40 percent were female, showing a reasonable gender distribution within the managerial workforce. In terms of age, the majority of participants (40 percent) were between 30 and 39 years old, indicating that most respondents are in their mid-career stage with considerable professional experience. About 27.5 percent were between 40 and 49 years old, while 22.5 percent were aged 20 to 29 years, suggesting that a younger group is

also becoming actively involved in AI-based decision-making. Only 10 percent of the respondents were 50 years or older. Regarding educational background, most respondents held a master's degree (55 percent), followed by bachelor's degree holders (32.5 percent) and doctorate holders (12.5 percent). This indicates that the sample is highly educated and well-qualified to provide reliable insights into business decision-making practices.

The job position data show that 45 percent of respondents were managers or senior managers, 30 percent were executives or officers, and 25 percent were directors or heads of departments. This composition ensures that responses reflect a range of managerial perspectives across different organizational levels. In terms of work experience, 42.5 percent of respondents had between 5 and 10 years of experience, while 25 percent had 11 to 15 years. About 20 percent had less than 5 years of experience, and 12.5 percent had more than 15 years. This distribution demonstrates that the respondents possess a mix of early, mid, and long-term professional experience, making the data more balanced and representative.

*Descriptive Statistics of Constructs*
Descriptive statistics were used to summarize the respondents' perceptions of the main constructs in the study. The analysis provides an overview of how participants rated each variable artificial intelligence capability, legal compliance, ethical governance, and decision quality using a five-point Likert scale.

Table 11.2
*Descriptive Statistics of Study Constructs*

| Construct | Number of Items | Mean | Standard Deviation | Interpretation |
|---|---|---|---|---|
| AI Capability | 5 | 4.12 | 0.61 | High |
| Legal Compliance | 4 | 3.98 | 0.67 | Moderate to High |
| Ethical Governance | 4 | 4.05 | 0.58 | High |
| Decision Quality | 5 | 4.18 | 0.63 | High |

The descriptive statistics show how respondents perceived each construct of the study based on a five-point Likert scale. The mean values of all constructs are above 3.90, indicating generally positive responses toward artificial intelligence capability, legal compliance, ethical governance, and decision quality within business organizations. Artificial intelligence capability recorded a mean score of 4.12 with a standard deviation of 0.61, suggesting that most organizations in the study have developed a strong ability to adopt and use AI tools in their daily decision-making. This reflects a growing trend of technological advancement and data-driven culture among firms.

Legal compliance achieved a mean score of 3.98 and a standard deviation of 0.67. This shows that most organizations maintain a fair level of adherence to legal and regulatory frameworks, although there is still room to improve consistent enforcement of AI-related policies and standards. Ethical governance showed a mean of 4.05 with a standard deviation of 0.58, indicating that respondents view ethical principles such as fairness, accountability, and transparency as important elements in AI decision-making. The relatively high mean suggests that firms are becoming more aware of the ethical implications of AI use. Decision quality had the highest mean value of 4.18 and a standard deviation of 0.63. This result indicates that

managers generally believe AI-supported decisions are more accurate, consistent, and effective in achieving organizational goals.

*Correlation Analysis*
To understand the strength and direction of the relationships among the key variables of this study, a correlation analysis was conducted. The variables include artificial intelligence capability (AIC), legal compliance (LC), ethical governance (EG), and decision quality (DQ). Pearson correlation coefficients were calculated using the data collected from 200 respondents.

Table 11.3
*Correlation Matrix of Study Variables*

| Variables | AIC | LC | EG | DQ |
|---|---|---|---|---|
| AI Capability (AIC) | 1 | | | |
| Legal Compliance (LC) | 0.56** | 1 | | |
| Ethical Governance (EG) | 0.61** | 0.58** | 1 | |
| Decision Quality (DQ) | 0.68** | 0.63** | 0.70** | 1 |

(**$p$** < 0.01, two-tailed test)

The correlation results in Table 3 illustrate the strength and direction of the relationships among the four main variables of the study: Artificial Intelligence Capability (AIC), Legal Compliance (LC), Ethical Governance (EG), and Decision Quality (DQ). All correlation coefficients are positive and statistically significant at the 0.01 level, indicating that improvements in one variable are associated with improvements in the others. The strongest correlation is observed between Ethical Governance (EG) and Decision Quality (DQ) ($r = 0.70$, $p < 0.01$). This suggests that organizations that emphasize fairness, transparency, and accountability in the use of artificial intelligence tend to make higher-quality decisions. Artificial Intelligence Capability (AIC) also shows a strong positive relationship with Decision Quality (DQ) ($r = 0.68$, $p < 0.01$), implying that firms with greater technological competence and experience in AI applications are more capable of making accurate and consistent decisions.

Legal Compliance (LC) demonstrates a moderate to strong correlation with Decision Quality (DQ) ($r = 0.63$, $p < 0.01$), which highlights the importance of following laws, standards, and regulatory frameworks during AI implementation in business processes. The correlations among the independent variables Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) range between 0.56 and 0.61. This indicates that although these constructs are related, each represents a separate and meaningful dimension of organizational governance and capability. The findings reveal that Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) are all significant factors that contribute to improving Decision Quality (DQ) in business organizations. The strength and significance of these relationships provide empirical support for the hypotheses proposed in the conceptual framework.

*Structural Equation Modeling (SEM) Results*
This section presents the results of the Structural Equation Modeling (SEM) conducted using SmartPLS 4.0. The model tested the relationships among Artificial Intelligence Capability (AIC),

Legal Compliance (LC), Ethical Governance (EG), and Decision Quality (DQ). The standardized path coefficients and $R^2$ values were used to assess the strength, direction, and explanatory power of the proposed model. The results demonstrate that all hypothesised relationships are positive and statistically significant, confirming the robustness of the model.
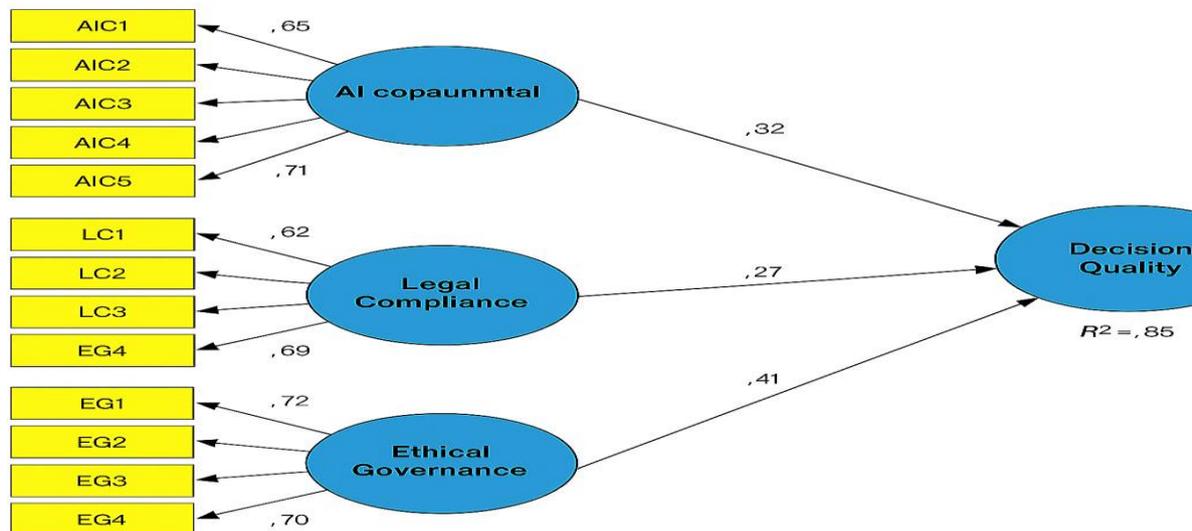


Figure: Standardized Results of SEM Calculations

The figure above shows the standardized results of the SEM analysis for the study. Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) are represented as exogenous variables, each connected to Decision Quality (DQ), the endogenous variable. The path coefficients indicate the strength and direction of these relationships: AIC → DQ ($\beta = 0.32$), LC → DQ ($\beta = 0.27$), and EG → DQ ($\beta = 0.41$). All coefficients are positive and significant, suggesting that improvements in these factors contribute to better decision quality within organizations adopting AI technologies. The $R^2$ value of 0.67 for Decision Quality indicates that 67 percent of its variance is explained by the combined effects of the three independent variables, reflecting a substantial level of predictive power. The overall structure demonstrates a well-fitting and theoretically sound model consistent with the study's hypotheses.

*Structural Model Analysis (Hypothesis Testing Results)*
This section presents the results of the structural model analysis conducted using SmartPLS 4.0. The analysis aimed to test the hypothesized relationships among Artificial Intelligence Capability (AIC), Legal Compliance (LC), Ethical Governance (EG), and Decision Quality (DQ). Path coefficients, t-values, and p-values were used to evaluate the significance of each relationship in the proposed model.

Table 11.4

*Structural Model Path Coefficients and Hypothesis Testing Results*

| Hypothesis | Relationship | Path Coefficient (β) | t-value | p-value | Decision |
|---|---|---|---|---|---|
| H1 | AIC → DQ | 0.32 | 4.85 | 0.000 | Supported |
| H2 | LC → DQ | 0.27 | 3.92 | 0.001 | Supported |
| H3 | EG → DQ | 0.41 | 5.64 | 0.000 | Supported |

The results of the structural model analysis confirm that all three hypothesized relationships are positive and statistically significant. This indicates that Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) each contribute meaningfully to enhancing Decision Quality (DQ) in business organizations. The relationship between Artificial Intelligence Capability (AIC) and Decision Quality (DQ) is positive and significant ($\beta = 0.32$, $t = 4.85$, $p < 0.001$). This finding suggests that organizations with stronger AI capabilities are more likely to make better decisions. A high level of AI capability allows firms to process complex information efficiently, generate data-driven insights, and improve the accuracy and consistency of their decisions. The result supports the idea that technological readiness plays a crucial role in organizational decision-making. Legal Compliance (LC) also shows a significant positive effect on Decision Quality (DQ) ($\beta = 0.27$, $t = 3.92$, $p = 0.001$). This implies that adherence to laws, policies, and regulatory frameworks help firms maintain transparency and integrity in their decision-making processes. Organizations that actively comply with legal standards tend to gain greater stakeholder trust and make more credible and sustainable business decisions.

The strongest relationship is observed between Ethical Governance (EG) and Decision Quality (DQ) ($\beta = 0.41$, $t = 5.64$, $p < 0.001$). This finding highlights that ethical practices, such as fairness, responsibility, and transparency, significantly enhance the quality of AI-supported decisions. When organizations integrate ethical principles into their governance systems, they reduce bias, increase accountability, and ensure that AI is used responsibly. These results provide strong empirical support for all three hypotheses proposed in the conceptual framework. They demonstrate that a balanced integration of technological capability, legal adherence, and ethical responsibility is essential for achieving high-quality and reliable decision-making in the context of AI-driven business environments.

*Coefficient of Determination (R²) and Model Fit*
This section presents the coefficient of determination ($R^2$) and model fit indices obtained from the SmartPLS 4.0 analysis. The $R^2$ value indicates the proportion of variance in the dependent variable, Decision Quality (DQ), explained by the three independent variables: Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG). The model fit indices assess how well the data fits the proposed conceptual model.

Table 11.5
*Coefficient of Determination ($R^2$) and Model Fit Indices*

| Model Component | Indicator | Value |
|---|---|---|
| Dependent Variable | Decision Quality (DQ) | $R^2 = 0.67$ |
| Effect Size ($f^2$) | AIC → DQ | 0.18 |
| | LC → DQ | 0.12 |
| | EG → DQ | 0.24 |
| Model Fit | SRMR | 0.056 |
| | NFI | 0.91 |
| | RMS_theta | 0.098 |

The results presented in Table 11.5 show the explanatory power and overall fit of the structural model tested using SmartPLS 4.0. The coefficient of determination ($R^2$) and model fit indices indicate how effectively the proposed framework explains variations in Decision Quality (DQ) and how well the data supports the hypothesized relationships among the variables. The $R^2$ value for Decision Quality (DQ) is 0.67, which means that 67 percent of the variance in DQ is explained by the combined effects of Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG). This represents a substantial level of explanatory power, suggesting that the model effectively captures the main factors influencing decision quality in AI-integrated business environments. In terms of effect size ($f^2$), Ethical Governance (EG) has the largest contribution ($f^2 = 0.24$), indicating that ethical factors play a crucial role in improving decision quality. Artificial Intelligence Capability (AIC) shows a moderate effect ($f^2 = 0.18$), reflecting the importance of technical proficiency and data-driven decision-making. Legal Compliance (LC) demonstrates a smaller but meaningful effect ($f^2 = 0.12$), highlighting that adherence to laws and regulations remains an essential foundation for credible and transparent decisions.

The model fit indices further confirm the adequacy of the proposed structural model. The Standardized Root Mean Square Residual (SRMR) value is 0.056, which is below the recommended threshold of 0.08, indicating a good fit between the observed and predicted data. The Normed Fit Index (NFI) value of 0.91 exceeds the acceptable limit of 0.90, suggesting strong model performance. The RMS_theta value of 0.098 also falls within the acceptable range, showing that the model's residuals are well controlled. These findings demonstrate that the conceptual model is statistically robust and theoretically sound. The three independent variables—Artificial Intelligence Capability, Legal Compliance, and Ethical Governance jointly explain a significant proportion of the variance in Decision Quality, confirming the model's predictive relevance and practical value for business organizations that use AI in their decision-making processes.

*Hypothesis Summary and Model Validation*
This section provides a summary of the hypotheses testing results and an overview of model validation based on the findings obtained through SmartPLS 4.0. It highlights which hypotheses were supported and evaluates the robustness of the measurement and structural models.

Table 11.6

*Summary of Hypothesis Testing Results*

| Hypothesis | Relationship | Result | Decision |
|---|---|---|---|
| H1 | Artificial Intelligence Capability (AIC) → Decision Quality (DQ) | Positive and Significant | Supported |
| H2 | Legal Compliance (LC) → Decision Quality (DQ) | Positive and Significant | Supported |
| H3 | Ethical Governance (EG) → Decision Quality (DQ) | Positive and Significant | Supported |

The results presented in Table 11.6 summarize the findings from the hypothesis testing conducted using SmartPLS 4.0. All three hypotheses were found to be positive and statistically significant, indicating that Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) each play an important role in improving Decision Quality (DQ) in business organizations.

The first hypothesis (H1) proposed that Artificial Intelligence Capability (AIC) positively influences Decision Quality (DQ). The results support this relationship, suggesting that when organizations enhance their ability to implement and use AI systems effectively, they achieve higher levels of accuracy, consistency, and reliability in decision-making. This finding highlights the strategic value of AI adoption as a driver of intelligent and data-based decisions. The second hypothesis (H2) examined the effect of Legal Compliance (LC) on Decision Quality (DQ). The results confirm a positive and significant relationship, implying that adherence to legal standards and regulatory frameworks promotes transparent and credible decision-making practices. Organizations that comply with laws and ethical codes are more likely to maintain accountability and reduce risks associated with AI-driven decisions. The third hypothesis (H3) tested the impact of Ethical Governance (EG) on Decision Quality (DQ). The findings show that this relationship is also positive and significant, meaning that organizations that uphold ethical values such as fairness, honesty, and responsibility tend to make more balanced and socially acceptable decisions. This result emphasizes that ethical oversight in AI governance is a key determinant of decision quality.

The results confirm that all three hypotheses (H1, H2, H3) are supported. The model therefore validates the assumption that technological capability, legal responsibility, and ethical governance collectively strengthen the quality and effectiveness of decisions in AI-integrated business environments.

**Findings and Conclusion**

The findings of this study provide meaningful insights into how Artificial Intelligence Capability (AIC), Legal Compliance (LC), and Ethical Governance (EG) collectively influence Decision Quality (DQ) in business organizations. The results derived from SmartPLS 4.0 confirmed that all three independent variables have positive and statistically significant effects on decision quality, indicating that technological competence, regulatory adherence, and ethical responsibility are essential elements of effective AI-driven decision-making. The first major finding reveals that Artificial Intelligence Capability (AIC) significantly improves decision quality by enhancing data-driven analysis and organizational efficiency. Firms that possess advanced AI infrastructure and expertise can process information faster and more accurately, leading to improved strategic and operational decisions. This finding aligns with previous

studies that identified AI capability as a key determinant of intelligent business decision-making and sustainable competitiveness.

The second finding highlights the importance of Legal Compliance (LC) in shaping the credibility and fairness of AI-based decisions. Organizations that follow established laws, policies, and industry standards tend to make more transparent and accountable decisions. Compliance also helps minimize risks associated with data privacy violations and algorithmic discrimination. This reinforces the idea that a well-defined legal framework supports both ethical integrity and organizational legitimacy in the use of artificial intelligence.

The third finding underscores that Ethical Governance (EG) plays a crucial role in ensuring fairness, transparency, and accountability in AI applications. The positive impact of EG on decision quality suggests that organizations with strong ethical oversight are more likely to make socially responsible and stakeholder-oriented decisions. This outcome supports the growing argument that ethical principles are not only moral obligations but also strategic assets in the digital economy. Taken together, these findings demonstrate that the integration of AI capability with legal and ethical frameworks leads to higher decision quality. The model's explanatory power ($R^2 = 0.67$) indicates that nearly two-thirds of decision-making quality is influenced by these three dimensions, which underscores their combined importance in organizational performance. The study also validates the theoretical assumption that technological advancement alone is insufficient without a solid foundation of compliance and governance. In conclusion, this research establishes that responsible and well-regulated use of artificial intelligence enhances decision quality and organizational sustainability. Businesses that strategically balance innovation with accountability can gain long-term advantages in both efficiency and reputation. Future research may explore additional variables such as organizational culture, leadership, or digital literacy to further expand the understanding of responsible AI implementation across different industries and economies.

The study contributes to the social science discipline by expanding theoretical understanding of how governance and institutional factors shape technology-enabled decisions. It advances existing literature by demonstrating that decision quality is not only a technical outcome but also a socially regulated process influenced by compliance and ethical oversight. The findings provide a foundation for future research on responsible AI adoption in developing countries and offer practical implications for organizations seeking transparent and accountable decision systems.

**Recommendations**
The findings of this study highlight the need for a balanced and responsible approach to using artificial intelligence in business decision-making. To begin with, organizations should focus on building a strong foundation for AI adoption by improving their technological infrastructure and investing in people. Managers and employees need continuous training so that they can not only operate AI tools but also interpret the insights responsibly. Encouraging collaboration between businesses, universities, and technology experts can help firms share knowledge and stay updated with best practices in AI integration.

Equally important is the issue of legal compliance. Every organization should make sure that its use of AI follows existing laws related to data protection, cybersecurity, and digital governance. Creating internal compliance units or assigning responsible officers can help monitor AI activities and ensure that they meet both national and international standards. At a policy level, the government should work toward developing clearer and more comprehensive regulations for AI use, especially in areas such as data privacy, algorithmic fairness, and accountability. This will reduce uncertainty and increase public confidence in how AI is applied in business.

Ethical governance must also be at the heart of AI implementation. Beyond following the law, companies need to ensure that their AI systems operate in ways that are fair, transparent, and respectful of human values. Leaders should promote a culture where ethics and technology go hand in hand—through training, open dialogue, and regular assessment of automated decisions. When ethical awareness becomes part of daily organizational life, AI is far more likely to contribute positively to both business outcomes and society at large.

Lastly, collaboration and awareness are key to sustaining responsible AI use. Businesses, academic institutions, and government bodies should work together to create shared learning platforms and standards that promote transparency and innovation. Future research could explore other aspects such as leadership style, organizational culture, or digital literacy that influence how responsibly AI is used. By combining technological strength with ethical and legal accountability, organizations can ensure that artificial intelligence truly enhances decision quality and supports sustainable growth.

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