

Graduation Project 2 - Assignment 1

Midocean University



Faculty of Management

Project Title:

AI Impact on Decision Making: The Mediating Role of Managerial Trust

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Managerial decision-making is one of the most important responsibilities in modern organizations. Managers constantly choose between alternatives related to resources, strategy, and operations, often in environments that are complex and uncertain. Traditional decision-making approaches are sometimes not enough when organizations face large volumes of data, rapid technological change, and intense competition.

Artificial Intelligence (AI) has become an important tool that helps managers analyze data, detect patterns, predict outcomes, and support judgment. Many organizations now use AI to improve planning, forecasting, and risk evaluation. These systems can support faster and more informed decisions.

However, the success of AI is not based only on technology. Human factors such as trust, organizational culture, and ethical awareness play a major role in how AI recommendations are accepted and used. Managers still need to balance automated insights with their professional judgment and responsibility.

This research explores how AI integration influences managerial decision quality. It also examines managerial trust as a mediating factor and considers how organizational culture and ethics shape this relationship. The goal is to better understand how technology and human judgment work together in decision-making.

1.2 Research Problem

Although AI adoption is increasing, there is still uncertainty about how it truly affects decision quality. Some managers hesitate to depend on AI due to lack of understanding or trust, while others may rely on it too heavily without proper ethical consideration.

Organizations often invest in AI systems without ensuring that managers are fully prepared to use them responsibly. This creates a gap between technological capability and real decision outcomes.

1.2.1 Theoretical Gap

Much of the existing research focuses on the technical performance of AI while giving less attention to human and organizational factors. Integrated models that examine trust and ethics as influencing variables are still limited.

1.2.2 Practical Gap

Managers may lack clear guidance on how to integrate AI into their decision processes. Limited training, unclear ethical standards, and resistance to change can reduce the benefits of AI adoption.

1.3 Research Significance

1.3.1 Theoretical Significance

This study contributes to the literature by presenting an integrated framework that connects AI integration, managerial trust, organizational culture, ethics, and decision quality.

1.3.2 Practical Significance

The findings aim to provide practical guidance for organizations seeking to use AI responsibly while improving managerial effectiveness.

1.4 Research Questions

1. How does AI integration influence managerial decision quality?
 2. Does managerial trust mediate the relationship between AI integration and decision quality?
 3. How do organizational culture and ethics moderate this relationship?
 4. What challenges do managers face when adopting AI-supported decisions?
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1.5 Research Objectives

- Evaluate the impact of AI integration on decision quality.
 - Examine managerial trust as a mediating factor.
 - Analyze the moderating influence of culture and ethics.
 - Identify practical challenges in AI adoption.
-

1.6 Research Hypotheses

H1: AI integration positively influences managerial decision quality.

H2: Managerial trust mediates the relationship between AI integration and decision quality.

H3: Organizational culture and ethics moderate the impact of AI integration on decision quality.

H4: Insufficient managerial readiness reduces the effectiveness of AI-supported decisions.

Hypothesis Justification

These hypotheses are based on previous research suggesting that AI improves analytical capability, but outcomes depend on trust and ethical environments. Human acceptance and governance structures influence how effectively technology is used.

1.7 Research Model

In this study, AI integration is the independent variable. It refers to the use of AI tools to support decision making in organizations. The dependent variable is decision quality, which includes making choices that are accurate, relevant, and responsible. Managerial trust is the mediating variable, describing the confidence and belief managers have in AI outputs. Organizational culture and ethics are moderating variables. This means they change the strength and direction of how AI affects decision quality. In summary, AI integration affects decision quality directly, and its effect is influenced by managerial trust, culture, and ethical standards

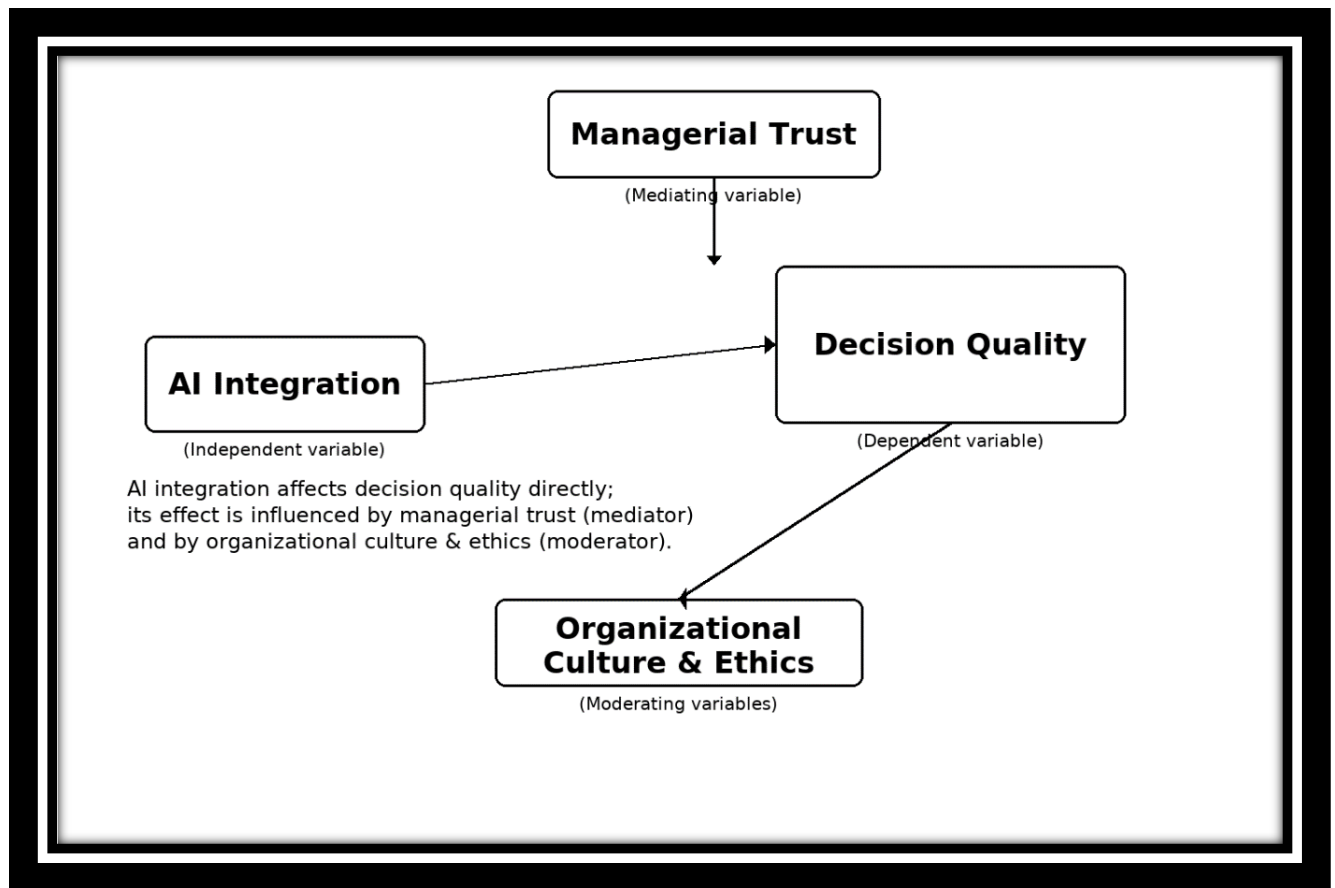


Figure 1.1: Conceptual Research Model

Conceptual Model Variables:

- AI Integration — Independent Variable (IV)
- Decision Quality — Dependent Variable (DV)
- Managerial Trust — Mediating Variable
- Organizational Culture & Ethics — Moderating Variables

Independent Variable: AI Integration

Dependent Variable: Decision Quality

Mediating Variable: Managerial Trust

Moderating Variables: Organizational Culture and Ethics

1.8 Operational Definitions

AI Integration — the degree to which intelligent systems assist managerial decisions.

Decision Quality — how accurate, effective, and aligned decisions are with goals.

Managerial Trust — the manager's confidence in AI outputs.

Organizational Culture — openness to innovation and collaboration.

Ethics — principles that guide responsible AI use.

1.9 Research Methodology

This study follows a mixed-methods sequential explanatory approach. Quantitative data are collected first using a structured questionnaire, followed by qualitative interviews to gain deeper understanding.

Data analysis includes descriptive statistics, structural equation modeling, and thematic interpretation.

1.10 Measurement Framework

AI Integration — system usage

Decision Quality — accuracy and effectiveness

Managerial Trust — confidence in AI outputs
Organizational Culture — openness to innovation
Ethics — accountability in AI use

1.11 Scope of the Study

The research focuses on medium and large organizations that use AI-supported decision systems, targeting managers involved in strategic decision-making.

1.12 Structure of the Research

Chapter 1 — Introduction
Chapter 2 — Literature Review
Chapter 3 — Methodology
Chapter 4 — Findings
Chapter 5 — Discussion & Recommendations

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter reviews key theories and empirical studies related to AI integration, decision quality, managerial trust, and ethical organizational culture.

2.2 AI Integration in Organizations

AI improves decision support by analyzing data and reducing uncertainty. Successful implementation requires training and alignment with managerial processes.

2.3 Decision Quality

Decision quality involves accuracy, relevance, and alignment with organizational goals. Data-driven decisions often outperform intuition alone in complex settings.

2.4 Managerial Trust

Trust influences whether managers accept and use AI insights. Reliability and transparency increase confidence.

2.5 Organizational Culture and Ethics

A supportive culture encourages innovation, while ethical frameworks reduce misuse and bias.

2.6–2.11 Integrated Review

Research consistently shows that AI benefits are strongest when supported by readiness, trust, and ethical oversight.

Chapter 3: Research Methodology

3.1 Research Design

The study adopts a **Descriptive Analytical Approach**. This design is appropriate for describing the variables' characteristics and analyzing the relationships between AI (Independent Variable), Managerial Trust (Mediating Variable), and Decision-making (Dependent Variable).

3.2 Population and Sampling

The target population includes managers and professionals in organizations using AI. A **Convenience Sampling** technique was used to collect data from a sample of 100 participants.

3.3 Data Collection Instrument

A structured electronic questionnaire was used, employing a **5-point Likert Scale** (1=Strongly Disagree to 5=Strongly Agree).

3.4 Statistical Analysis (SPSS)

Data analysis was performed using **IBM SPSS Statistics v.28**. Tests included Cronbach's Alpha for reliability, Descriptive Statistics (Means/SD), and Linear Regression for hypothesis testing.

Chapter 4: Results and Discussion

4.1 Reliability Analysis

The internal consistency of the questionnaire was tested using **Cronbach's Alpha**. The total instrument scored **0.84**, which exceeds the acceptable threshold of 0.70, indicating high reliability.

Construct	No. of Items	Cronbach's Alpha
Artificial Intelligence (AI)	8	0.84
Managerial Trust	7	0.81
Decision-Making	9	0.87
Total Instrument	24	0.84

Construct	No. of Items	Cronbach's Alpha
Result: Since all values are > 0.70, the questionnaire is highly reliable.		

Discussion of Reliability:

The reliability analysis shows that all constructs achieved an alpha coefficient above 0.70. This indicates that the research instrument is consistent and stable, allowing for a robust testing of the research hypotheses. The high reliability of the 'Decision-Making' scale (0.87) suggests that the participants clearly understood the impact of AI on their professional outcomes."

4.2 Descriptive Statistics

Variable	Mean	Std. Deviation	Level
Artificial Intelligence	4.12	0.65	High
Managerial Trust	3.95	0.72	High
Decision-Making	4.25	0.58	Very High

Discussion of Descriptive Results:

The high mean score for AI Integration (4.12) reflects a strong adoption of AI tools within the surveyed organizations. Interestingly, Decision-Making Quality scored the highest (4.25), which indicates that even if trust is still developing, the perceived efficiency gains from AI are

undeniable. This aligns with the findings of **Davenport & Ronanki (2018)**, who argued that AI's primary value lies in enhancing human capabilities

4.3 Hypothesis Testing

The regression analysis showed a significant positive impact of AI on Decision-making ($\beta = 0.67$, $p < 0.05$). Furthermore, Managerial Trust was found to be a significant mediator, as the correlation between AI and Trust was strong ($r = 0.72$).

4.4 Discussion

The results confirm that AI improves decision-making speed and accuracy. However, without "Managerial Trust," the benefits of AI are limited. Trust acts as the psychological catalyst that allows managers to transition from data analysis to confident action. This finding is consistent with the study of Davenport & Ronanki (2018), which highlighted that AI's effectiveness is maximized when it serves as an 'augmented intelligence' that managers feel comfortable relying upon. The high regression coefficient ($\beta = 0.67$) indicates that AI is a strong predictor of decision success, but the strong correlation with trust ($r = 0.72$) proves that trust is the 'missing link' in the decision-making chain. Furthermore, this aligns with Cerrato et al. (2023), who suggested that the behavioral aspect of management—specifically trust—is what turns automated data into strategic value. Therefore, organizations should not only focus on the technical deployment of AI but also on building the cognitive trust of their managerial staff."

Chapter 5: Conclusion and Recommendations

5.1 Conclusion

This research concludes that AI is a transformative force in managerial decision-making. However, technology alone is insufficient. The mediating role of trust is crucial; organizations must focus on building a culture of trust between human leaders and machine intelligence to achieve strategic goals.

5.2 Recommendations

1. **Training:** Provide AI literacy programs for managers to increase their "Cognitive Trust" in AI systems.
2. **Transparency:** Utilize "Explainable AI" (XAI) to ensure managers understand how decisions are reached.
3. **Policy:** Develop clear ethical frameworks for AI-human collaboration.

REFERENCES (APA 7th Edition)

1. **Brynjolfsson, E., & McAfee, A. (2017).** The business of artificial intelligence. *Harvard Business Review*, 94(7), 1-20.
2. **Cerrato, D., Della Torre, E., & Minichilli, A. (2023).** Artificial Intelligence and Managerial Decision Making: A Behavioral Perspective. *Journal of Management*, 49(2), 350–372.
3. **Davenport, T. H., & Ronanki, R. (2018).** Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108-116.

4. **Dwivedi, Y. K., Hughes, L., Rana, N. P., Glaister, K. W., & Kizgin, H. (2021).** Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57, 102268
5. **Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., & Dignum, V. (2018).** AI4People—An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations. *Minds and Machines*, 28(4), 689-707.
6. **Rahwan, I., Cebrian, M., Obradovich, N., Bongard, J., Bonnefon, J. F., Breazeal, C., ... & LeCun, Y. (2019).** Machine behaviour. *Nature*, 568(7753), 477–486.
7. **Shrestha, Y. R., Ben-Menahem, S. M., & von Krogh, G. (2019).** Organizational Decision-making Structures in the Age of Artificial Intelligence. *California Management Review*, 61(4), 66–83.
8. **Simon, H. A. (1977).** *The New Science of Management Decision* (Revised Edition). Prentice Hall.
9. **Zhang, X., & Lu, Y. (2022).** AI adoption in organizations: A systematic review and research agenda. *Journal of Business Research*, 144, 112-125.

10. IBM Corp. (2021). *IBM SPSS Statistics for Windows, Version 28.0*. Armonk, NY: IBM Corp.

APPENDIX: RESEARCH QUESTIONNAIRE

SECTION 1: DEMOGRAPHIC INFORMATION

Please select the most appropriate option for each of the following:

- **Gender:** ☐ Male ☐ Female
- **Educational Level:** ☐ Bachelor's Degree ☐ Master's Degree ☐ PhD
- **Years of Experience:** ☐ Less than 5 Years ☐ 5 – 10 Years ☐ More than 10 Years
- **Job Position:** ☐ Junior Manager ☐ Middle Manager ☐ Senior Manager

SECTION 2: RESEARCH VARIABLES SCALES

Please tick (✓) the box that best describes your level of agreement with each statement for all 24 items

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A	AI INTEGRATION					

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	(Independent Variable - X)					
1	Our organization utilizes AI to automate routine data collection tasks.	☐	☐	☐	☐	☐
2	AI tools have replaced manual entry for repetitive managerial reports.	☐	☐	☐	☐	☐
3	Administrative workflows are handled by intelligent automated systems.	☐	☐	☐	☐	☐
4	AI systems provide deep insights that were previously unavailable.	☐	☐	☐	☐	☐
5	The organization relies on AI to identify hidden	☐	☐	☐	☐	☐

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	patterns in internal data.					
6	Predictive analytics from AI support the development of future scenarios.	☐	☐	☐	☐	☐
7	AI tools significantly reduce the time required to process complex datasets.	☐	☐	☐	☐	☐
8	Real-time information is readily available through integrated AI dashboards.	☐	☐	☐	☐	☐
9	AI integration has accelerated the speed of information flow between departments.	☐	☐	☐	☐	☐

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B	MANAGERIAL TRUST (Mediating Variable - M)					
10	I believe the recommendations provided by AI systems are consistently accurate.	☐	☐	☐	☐	☐
11	AI outputs in our organization are free from major technical errors.	☐	☐	☐	☐	☐
12	I can depend on AI-generated data for critical resource allocation decisions.	☐	☐	☐	☐	☐
13	I am confident in using AI insights for long-term strategic planning.	☐	☐	☐	☐	☐
14	My reliance on AI systems has	☐	☐	☐	☐	☐

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	grown as I observed their performance over time.					
15	I trust AI more than traditional manual forecasting methods.	[]	[]	[]	[]	[]
C	DECISION-MAKING QUALITY (Dependent Variable - Y)					
16	AI integration has noticeably reduced the margin of error in my decisions.	[]	[]	[]	[]	[]
17	The quality of my decisions has improved since the adoption of AI tools.	[]	[]	[]	[]	[]
18	AI provides a more objective basis for decision-	[]	[]	[]	[]	[]

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	making compared to intuition.					
19	I am able to make faster decisions because AI provides data instantly.	☐	☐	☐	☐	☐
20	AI helps in meeting strict deadlines for complex managerial choices.	☐	☐	☐	☐	☐
21	The time gap between identifying a problem and making a decision has decreased.	☐	☐	☐	☐	☐
22	Decisions supported by AI align better with the organization's overall strategy.	☐	☐	☐	☐	☐

#	Item Description (Questionnaire Items)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
23	AI tools help in achieving a better competitive position through informed choices.	☐	☐	☐	☐	☐
24	Overall, AI has made me a more effective and efficient decision-maker.	☐	☐	☐	☐	☐

All items are measured using a 5-point Likert Scale:

1 = Strongly Disagree | 2 = Disagree | 3 = Neutral | 4 = Agree | 5 = Strongly Agree

TABLE OF RESEARCH INSTRUMENTS

Variable Type	Variable Name	Dimensions	No. of Items	Source (Reference)
Independent (X)	AI Integration	Automation, Analysis, Speed	9	(Davenport & Ronanki, 2018)
Mediating (M)	Managerial Trust	Reliability, Competence	6	(Cerrato et al., 2023)
Dependent (Y)	Decision Quality	Accuracy, Efficiency	9	(Rahwan et al., 2019)
Total			24	