



## A Comparative Study of Data-Driven and Intuition-Based Decision Making Among Management Students in Patna

Ujjwal Kant<sup>1</sup>

<sup>1</sup>A Department of Business Administration, St. Xavier College of Management and Technology, Patna, India.

Email ID: [kantujjwal79@gmail.com](mailto:kantujjwal79@gmail.com)<sup>1</sup>.

### Abstract

Decision-making plays a crucial role in shaping academic, professional, and organizational outcomes. In today's data-driven business environment, managers are expected to rely on analytical insights, yet intuition continues to influence decision-making, especially in uncertain situations. This study examines the comparative role of data-driven and intuition-based decision-making among management students in Patna. A quantitative research approach was adopted using a structured questionnaire administered to 104 management students from programs such as BBA, MBA, BMS, and PGDM. The study employed a descriptive and comparative research design, with data analysed using percentage analysis, graphical representation, and correlation analysis. The findings reveal that most students prefer a hybrid decision-making approach, combining both data and intuition. Data-driven decision-making is strongly associated with higher confidence, better justification, and reduced perceived risk. At the same time, intuition is considered useful in situations where data is limited. A moderate positive correlation was observed between reliance on data and decision confidence. The study concludes that future managers are inclined toward a balanced decision-making approach rather than relying solely on one method. The findings highlight the importance of integrating analytical and intuitive thinking in management education to prepare students for real-world decision-making challenges.

**Keywords:** Data-Driven Decision Making, Intuition, Management Students, Decision Confidence.

### 1. Introduction

Decision-making is one of the most important functions of management, influencing outcomes at both individual and organizational levels. With the increasing availability of data and analytical tools, modern decision-making has become more structured and evidence-based. Organizations today emphasize data-driven decision-making to improve accuracy, reduce uncertainty, and support strategic planning. However, despite the growing importance of data, intuition continues to play a significant role in decision-making. Intuition allows individuals to make quick judgments based on experience, especially in situations where time or information is limited. In real-world scenarios, managers often rely on a combination of both approaches. Management students, as future managers, are trained in analytical tools as well as decision-making frameworks. Understanding their

decision-making preferences provides valuable insights into how they are likely to perform in professional environments. This study focuses on examining whether management students rely more on data, intuition, or a combination of both.

### 2. Literature Review

Decision-making has been widely studied in management and behavioral sciences. Traditional theories emphasized rational decision-making, where decisions are based on logic and structured analysis. This approach forms the foundation of data-driven decision-making. However, later theories such as bounded rationality highlighted that individuals cannot always make fully rational decisions due to limitations in time, information, and cognitive ability. This led to the recognition of intuition as an important component of decision-making. Recent studies indicate that data-driven decision-making improves accuracy and



confidence, particularly in structured environments. At the same time, intuition remains relevant in complex and uncertain situations. The dual-process theory further explains that decision-making involves both analytical and intuitive thinking systems. Despite extensive research, most studies focus on professionals rather than students. There is limited research comparing these approaches among management students, particularly at the city level, which creates a gap addressed by this study. Review of Past Studies, Analysis, and Gaps.

- **Study 1:** Kahneman (2011), through his work on dual-process theory, explained that decision-making is governed by two systems: an intuitive system that is fast and automatic, and an analytical system that is slow and data-oriented. The study highlighted that effective decisions are often the result of an interaction between these two systems rather than reliance on a single approach. This directly supports the idea of a hybrid decision-making model among individuals.
- **Study 2:** Provost and Fawcett (2013) emphasized the growing importance of data-driven decision-making in modern organizations. Their study found that decisions based on data analytics tend to be more accurate, reliable, and easier to justify. It also highlighted that data-driven approaches enhance confidence in decision-making, especially in professional contexts where accountability is important.
- **Study 3:** Dane and Pratt (2007) examined intuition in managerial decision-making and found that intuition plays a significant role, particularly in situations where data is limited or time is constrained. The study concluded that intuition is not random but is based on experience and pattern recognition, making it a valuable complement to analytical decision-making.

### 3. Research Gap

Existing studies largely focus on data-driven or intuition-based decision-making independently. However, limited research examines the combined role of both approaches among management students, particularly in an emerging academic environment like urban Bihar. Additionally, there is a lack of empirical evidence on how these approaches influence confidence, responsibility, and practical decision behaviour.

### 4. Hypothesis

To examine the decision-making approaches among management students in Patna, the following hypotheses have been formulated:

#### Hypothesis 1

- **H<sub>01</sub> (Null Hypothesis):** There is no significant difference between data-driven and intuition-based decision-making among management students in Patna.
- **H<sub>11</sub> (Alternative Hypothesis):** There is a significant difference between data-driven and intuition-based decision-making among management students in Patna.

#### Hypothesis 2

- **H<sub>02</sub> (Null Hypothesis):** Data-driven decision-making does not significantly improve decision effectiveness compared to intuition-based decision-making among management students.
- **H<sub>12</sub> (Alternative Hypothesis):** Data-driven decision-making significantly improves decision effectiveness compared to intuition-based decision-making among management students [3].

#### Hypothesis 3

- **H<sub>03</sub> (Null Hypothesis):** There is no significant relationship between data-driven decision-making and decision confidence among management students.
- **H<sub>13</sub> (Alternative Hypothesis):** There is a significant positive relationship between data-driven decision-making and decision confidence among management students.

### 5. Objectives of the study

- To analyse and compare data-driven and



intuition-based decision-making approaches among management students in Patna [1].

- To examine the extent to which students rely on data, facts, and analytical tools while making academic and career-related decisions.
- To understand the role of intuition or gut feeling in the decision-making process among management students.
- To evaluate the perceived effectiveness of data-driven decision-making in terms of accuracy, confidence, and reduction of errors.
- To assess the effectiveness of intuition-based decision-making, particularly in situations where data is limited or unavailable.
- To identify whether students prefer a single decision-making approach or a combination of both data-driven and intuition-based methods.
- To examine the relationship between reliance on data and the level of confidence in decision-making.
- To explore students' expectations regarding the use of data and intuition in their future professional careers.

## 6. Research Methodology

**Research Design:** The study adopts a quantitative and descriptive research design. It focuses on analyzing and comparing data-driven and intuition-based decision-making among management students. The descriptive approach is used to understand patterns, preferences, and perceptions related to decision-making behavior.

**Population and Sampling:** The target population for this study consists of management students in Patna, including those pursuing courses such as BBA, MBA, BMS, and PGDM. A convenience sampling method was adopted due to ease of access and availability of respondents. The data were collected from a total of 104 respondents, which is considered adequate for conducting meaningful

analysis in academic research [2].

### Data Collection Method:

- Primary data were collected using a structured questionnaire through Google Forms. The questionnaire included close-ended questions and Likert scale statements to capture opinions and preferences.
- Secondary data were collected from books, research papers, journals, and reliable online sources to support the theoretical framework.

**Instrumentation:** The questionnaire was designed to ensure clarity, relevance, and reliability. Questions were framed in simple language and aligned with the research objectives. A structured format was used, including demographic and opinion-based questions. A 5-point Likert scale was applied to measure responses, and consistency was maintained by covering similar aspects through multiple questions.

**Data Analysis Technique:** The collected data were analyzed using descriptive statistics such as percentages and frequencies. Graphical tools like pie charts and bar graphs were used for visual representation. Comparative analysis was conducted to evaluate decision-making approaches, and correlation analysis was used to examine the relationship between data-driven decision-making and confidence. Microsoft Excel and Google Sheets were used for data processing and analysis.

**Ethical Considerations:** The study ensured that participation was voluntary and based on informed consent. Respondents' privacy and confidentiality were maintained, and no personal data were disclosed. The data collected were used strictly for academic purposes and analyzed without any bias or manipulation.

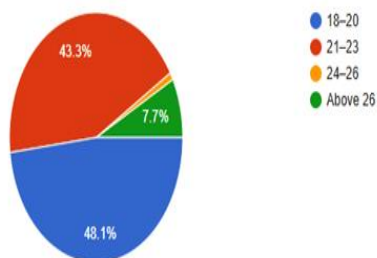
**Limitations of the Study:** The study has certain limitations that should be considered while interpreting the findings. It is limited to management students in Patna, which may restrict the generalizability of the results to other regions or populations. The use of convenience sampling and

a sample size of 104 respondents may not fully represent the entire population. Additionally, the study is based on self-reported data, which may be influenced by individual bias or perception. The research also focuses primarily on academic and career-related decisions, and does not capture real-world organizational decision-making scenarios.

## 7. Data Analysis

Q1. Age Group

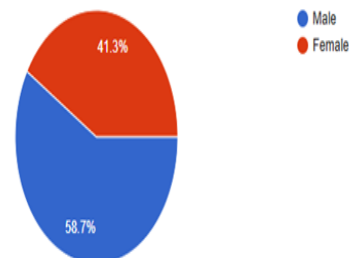
104 responses



**Figure 1 Pie Chart**

Q2. Gender

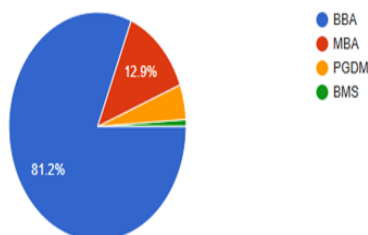
104 responses



**Figure 2 Pie Chart**

Q3. Current Course of Study

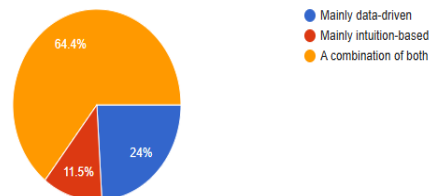
101 responses



**Figure 3 Pie Chart**

Q4. Which approach do you mostly use while making academic or career-related decisions?

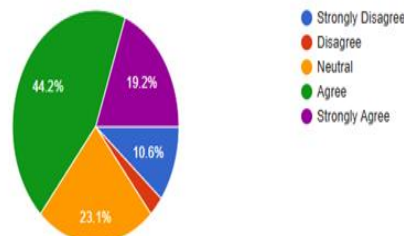
104 responses



**Figure 4 Pie Chart**

Q5. I usually rely on data, facts, or analysis before making important decisions.

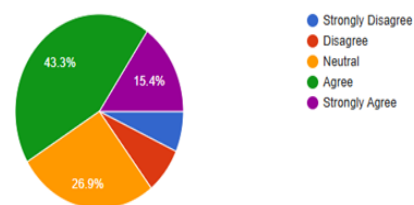
104 responses



**Figure 5 Pie Chart**

Q6. I often trust my intuition or gut feeling while making decisions.

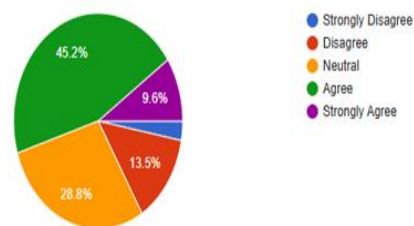
104 responses



**Figure 6 Pie Chart**

Q7. I prefer decisions supported by numbers rather than personal judgment.

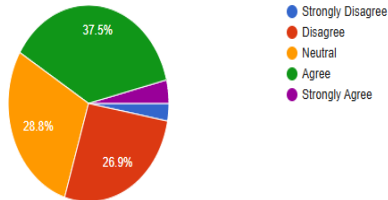
104 responses



**Figure 7 Pie Chart**

Q8. Intuition-based decisions are sufficient for most academic or career-related choices.

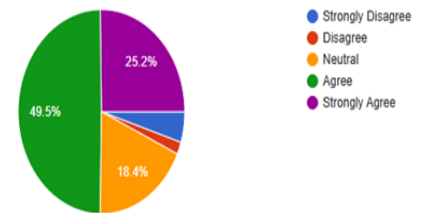
104 responses



**Figure 8 Pie Chart**

Q12. Using data and intuition together helps me evaluate multiple alternatives more effectively.

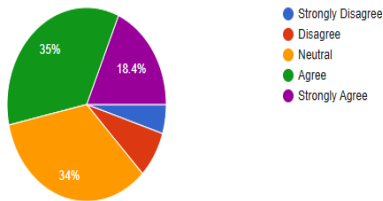
103 responses



**Figure 12 Pie Chart**

Q9. Data-driven decision-making leads to better outcomes than intuition-based decision-making.

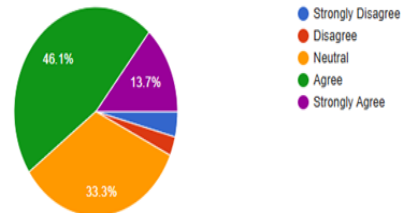
103 responses



**Figure 9 Pie Chart**

Q13. The quality of decisions depends more on the situation than on whether they are data-driven or intuition-based.

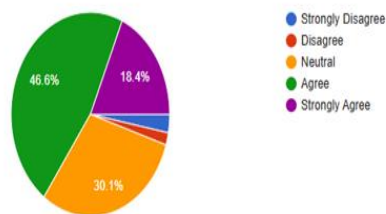
102 responses



**Figure 13 Pie Chart**

Q10. Decisions supported by data reduce the chances of making mistakes.

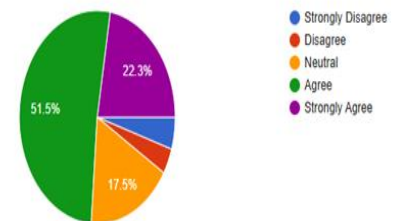
103 responses



**Figure 10 Pie Chart**

Q14. I feel more confident when my decisions are supported by data.

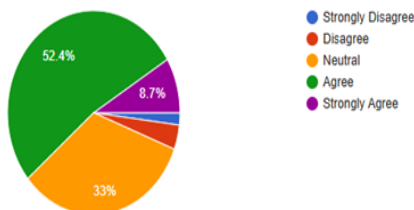
103 responses



**Figure 14 Pie Chart**

Q11. Intuition-based decisions are quicker but less reliable than data-driven decisions.

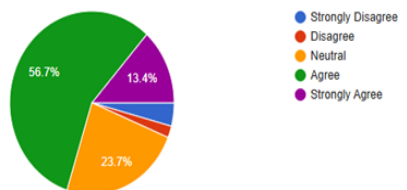
103 responses



**Figure 11 Pie Chart**

Q15. Data-driven decisions make me more comfortable justifying my choices to others.

97 responses



**Figure 15 Pie Chart**

Q16. Intuition-based decision-making can be effective in situations where data is limited.

102 responses

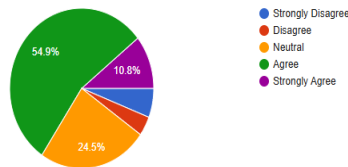


Figure 16 Pie Chart

Q17. I am more willing to take responsibility for decisions that are data-driven.

102 responses

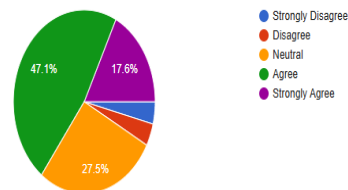


Figure 17 Pie Chart

Q18. In my future professional career, I expect to use both data-driven and intuition-based decision-making approaches.

102 responses

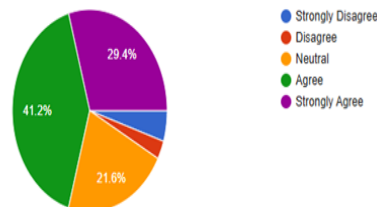


Figure 18 Pie Chart

## Analysis - Q1. Age group

Table 1 Distribution of Respondents by Age Group

Age Group	Frequency	Percentage (%)
18–20	50	48.1%
21–23	45	43.3%
24–26	1	1%
Above 26	8	7.7%

The majority of respondents (48.1%) belong to the

18–20 age group, followed by 43.3% in the 21–23 category. This indicates that the study is largely dominated by younger management students.

## Q2. Gender

Table 2 Gender Distribution of Respondents

Gender	Frequency	Percentage (%)
Male	61	58.7%
Female	43	41.3%
<b>Total</b>	<b>104</b>	<b>100%</b>

Most respondents are male (58.7%), while females account for 41.3%. This shows a slightly higher male participation in the study.

## Q3. Current Course of Study

Table 3 Academic Course of Respondents

Course	Frequency	Percentage (%)
BBA	82	81.2%
MBA	13	12.9%
PGDM	5	5%
BMS	1	1%

A significant majority (81.2%) are BBA students, with smaller representation from MBA, PGDM, and BMS. This suggests that the findings are more reflective of undergraduate management students.

## Q4. Which approach do you mostly use while making academic or career-related decisions?

Table 4 Preferred Decision-Making Approach

Response	Frequency	Percentage (%)
Combination of both	67	64.4%
Data-driven	25	24%
Intuition-based	12	11.5%

Most respondents (64.4%) prefer a combination of both data-driven and intuition-based approaches. This indicates a strong inclination toward a hybrid decision-making style.



**Q5. I usually rely on data, facts, or analysis before making important decisions.**

**Table 5 Reliance on Data in Decision Making**

Response	Frequency	Percentage(%)
Strongly Disagree	11	10.6%
Disagree	3	2.9%
Neutral	24	23.1%
Agree	46	44.2%
Strongly Agree	20	19.2%

A large proportion (44.2% agree, 19.2% strongly agree) rely on data before making decisions. This reflects a strong preference for analytical decision-making.

**Q6. I often trust my intuition or gut feeling while making decisions.**

**Table 6 Role of Intuition in Decision Making**

Response	Frequency	Percentage(%)
Strongly Disagree	7	6.7%
Disagree	8	7.7%
Neutral	28	26.9%
Agree	45	43.3%
Strongly Agree	16	15.4%

Many respondents (43.3% agree, 15.4% strongly agree) trust their intuition while making decisions. This shows that intuition still plays a significant role alongside data.

**Q7. I prefer decisions supported by numbers rather than personal judgment.**

**Table 7 Preference for Data-Supported Decisions**

Response	Frequency	Percentage(%)
Strongly Disagree	3	2.9%
Disagree	14	13.5%
Neutral	30	28.8%
Agree	47	45.2%
Strongly Agree	10	9.6%

Nearly half of the respondents (45.2%) prefer decisions supported by numbers, while 28.8% remain neutral. This indicates a moderate inclination toward data-based decision-making.

**Q8. Intuition-based decisions are sufficient for most academic or career-related choices.**

**Table 8 Perception of Intuition-Based Decision Sufficiency**

Response	Frequency	Percentage (%)
Strongly Disagree	3	2.9%
Disagree	28	26.9%
Neutral	30	28.8%
Agree	39	37.5%
Strongly Agree	4	3.8%

Responses are mixed, with 37.5% agreeing and 28.8% neutral. This suggests that intuition alone is not considered fully sufficient for most decisions.

**Q9. Data-driven decision-making leads to better outcomes than intuition-based decision-making.**

**Table 9 Perception of Effectiveness of Data-Driven Decisions**

Response	Frequency	Percentage(%)
Strongly Disagree	5	4.9%
Disagree	8	7.8%
Neutral	35	34%
Agree	36	35%
Strongly Agree	19	18.4%

A majority (35% agree, 18.4% strongly agree) believe data-driven decisions lead to better outcomes. This highlights trust in data over intuition.

**Q10. Decisions supported by data reduce the chances of making mistakes.**



**Table 10 Impact of Data on Reducing Decision Errors**

Response	Frequency	Percentage(%)
Strongly Disagree	3	2.9%
Disagree	2	1.9%
Neutral	31	30.1%
Agree	48	46.6%
Strongly Agree	19	18.4%

Most respondents (46.6% agree, 18.4% strongly agree) feel that data reduces errors. This shows strong confidence in data-backed decisions.

**Q11. Intuition-based decisions are quicker but less reliable than data-driven decisions.**

**Table 11 Perception of Speed and Reliability of Intuition-Based Decisions**

Response	Frequency	Percentage(%)
Strongly Disagree	2	1.9%
Disagree	4	3.9%
Neutral	34	33%
Agree	54	52.4%
Strongly Agree	9	8.7%

A majority (52.4% agree) believe intuition is faster but less reliable than data. This reflects awareness of the limitations of intuition.

**Q12. Using data and intuition together helps me evaluate multiple alternatives more effectively.**

**Table 12 Effectiveness of Combining Data and Intuition**

Response	Frequency	Percentage(%)
Strongly Disagree	5	4.9%
Disagree	2	1.9%
Neutral	19	18.4%
Agree	51	49.5%

Strongly Agree	26	25.2%
----------------	----	-------

A large proportion (49.5% agree, 25.2% strongly agree) believe combining data and intuition improves decision-making. This strongly supports the hybrid approach.

**Q13. The quality of decisions depends more on the situation than on whether they are data-driven or intuition-based.**

**Table 13 Situational Influence on Decision Quality**

Response	Frequency	Percentage(%)
Strongly Disagree	4	3.9%
Disagree	3	2.9%
Neutral	34	33.3%
Agree	47	46.1%
Strongly Agree	14	13.7%

Most respondents (46.1% agree) feel that decision quality depends on the situation. This indicates flexibility in choosing decision-making approaches.

**Q14. I feel more confident when my decisions are supported by data.**

**Table 14 Impact of Data on Decision Confidence**

Response	Frequency	Percentage(%)
Strongly Disagree	5	4.9%
Disagree	4	3.9%
Neutral	18	17.5%
Agree	53	51.5%
Strongly Agree	23	22.3%

A majority (51.5% agree, 22.3% strongly agree) feel more confident when decisions are data-supported. This shows a clear link between data and confidence.

**Q15. Data-driven decisions make me more comfortable justifying my choices to others.**

**Table 15 Role of Data in Justifying Decisions**

Response	Frequency	Percentage(%)
Strongly Disagree	4	4.1%
Disagree	2	2.1%
Neutral	23	23.7%
Agree	55	56.7%
Strongly Agree	13	13.4%

Most respondents (56.7% agree) feel more comfortable justifying decisions when supported by data. This highlights the practical advantage of data-driven decisions.

**Q16. Intuition-based decision-making can be effective in situations where data is limited.**

**Table 16 Effectiveness of Intuition in Data-Limited Situations**

Response	Frequency	Percentage(%)
Strongly Disagree	6	5.9%
Disagree	4	3.9%
Neutral	25	24.5%
Agree	56	54.9%
Strongly Agree	11	10.8%

A strong majority (54.9% agree) believe intuition is useful when data is limited. This shows that intuition is important in uncertain conditions.

**Q17. I am more willing to take responsibility for decisions that are data-driven.**

**Table 17 Responsibility in Data-Driven Decisions**

Response	Frequency	Percentage(%)
Strongly Disagree	4	3.9%
Disagree	4	3.9%
Neutral	28	27.5%
Agree	48	47.1%
Strongly Agree	18	17.6%

Most respondents (47.1% agree, 17.6% strongly agree) are more willing to take responsibility for data-driven decisions. This indicates higher accountability with data.

**Q18. In my future professional career, I expect to use both data-driven and intuition-based decision-making approaches.**

**Table 18 Future Preference for Decision-Making Approach**

Response	Frequency	Percentage(%)
Strongly Disagree	5	4.9%
Disagree	3	2.9%
Neutral	22	21.6%
Agree	42	41.2%
Strongly Agree	30	29.4%

A majority (41.2% agree, 29.4% strongly agree) expect to use both data and intuition in their careers. This confirms the importance of a balanced approach.

## 8. Findings

- A majority of respondents prefer a hybrid approach, combining both data and intuition in decision-making.
- Data-driven decision-making is strongly associated with higher confidence, better justification, and reduced perceived risk.
- Intuition is considered useful mainly in uncertain or time-constrained situations, but not sufficient on its own for major decisions.



- Respondents recognize that decision effectiveness is situational, requiring flexibility in approach.
- There is a positive relationship between reliance on data and decision confidence, indicating the importance of analytical support.
- Most students expect to apply both data and intuition in their future professional careers, reflecting real-world managerial practices.

### Conclusion

The study concludes that management students demonstrate a clear preference for a balanced decision-making approach, integrating both data-driven and intuition-based methods. Data-driven decision-making is strongly associated with greater confidence, accuracy, and accountability, making it particularly valuable in structured and high-stakes situations. At the same time, intuition remains relevant in scenarios characterized by uncertainty, limited data, or time constraints. This highlights the need for developing decision-makers who can effectively integrate analytical reasoning with intuitive judgment in dynamic environments.

### Suggestions

- Management education should emphasize a hybrid decision-making approach combining analytical and intuitive skills.
- Students should be trained in data analysis tools alongside real-life case-based learning.
- Institutions should encourage practical exposure to improve judgment under uncertainty.
- Decision-making frameworks should focus on situational adaptability rather than rigid methods.

### Limitations

- The study is limited to management students in Patna, which may restrict the generalizability of the findings to other regions.
- The study focuses on academic and career-related decision-making, and does not

capture real-world organizational decision-making scenarios.

- The study is based on self-reported data, which may be influenced by personal bias or subjective perception of respondents.

### Scope for future research

Future studies can expand the sample size across different cities and include working professionals for comparative insights. Further research may also explore the impact of decision-making approaches on organizational performance, leadership effectiveness, and industry-specific applications.

### References

- [1]. Kahneman, D. (2011). *Thinking, Fast and Slow*. New York: Farrar, Straus and Giroux.
- [2]. Provost, F., & Fawcett, T. (2013). *Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking*. O'Reilly Media.
- [3]. Dane, E., & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision-making. *Academy of Management Review*, 32(1), 33–54.