



AN ANALYSIS OF THE IMPACT OF GENERATIVE AI ON BUSINESS DECISION-MAKING

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ABSTRACT

Generative Artificial Intelligence (Generative AI) is increasingly becoming part of everyday business work, influencing how organizations gather, interpret and apply information. Rather than relying only on fixed instructions, these systems can respond to natural-language prompts and produce summaries, ideas, explanations and possible recommendations. This study examines how Generative AI may influence business decision-making across marketing, finance, human resources, operations and strategic planning. A quantitative framework is proposed, with primary data to be collected through a structured questionnaire from 250 people who have used Generative AI for work-related purposes. Secondary material is drawn from academic journals, books, scholarly publications and credible reports. The study considers perceived usefulness, quality and accuracy of AI outputs, ease of use, transparency, privacy concerns and human oversight as factors that may shape trust and decision-making effectiveness. Percentage analysis, descriptive statistics, reliability testing, Pearson correlation, multiple regression and hypothesis testing form the proposed analytical framework. The model results suggest that Generative AI can speed up information handling, reduce repetitive work and help users compare alternatives. However, unreliable responses, privacy issues, bias and overdependence can



create serious limitations. Generative AI is therefore positioned as a support system for business decisions, with final judgement and accountability remaining with people.

Keywords: Generative AI, Artificial Intelligence, Business Decision-Making, Decision Support, AI Adoption, Trust, Human Oversight, Business Analytics

1. INTRODUCTION

Digital technology has changed the way businesses operate and make decisions. Organisations now deal with information from sales transactions, customer comments, financial statements, employee records, market studies and online platforms. Managers are expected to make sense of this information within shorter time frames, while conventional analysis can become difficult when the volume of information increases.

Artificial Intelligence is already being used across several business functions. Generative AI adds a more interactive dimension by allowing employees to communicate with a system in ordinary language and receive newly created responses. It can condense lengthy reports, explain unfamiliar information, suggest ideas, compare possible choices and assist with routine knowledge-based tasks. These features make it increasingly relevant to managerial work and organisational decision-making.

The practical uses are wide-ranging. A marketing professional could ask Generative AI to organise customer comments and suggest campaign themes. A finance employee might use it to structure information or explain the main points in a financial report. In HR, it could help draft interview questions or summarise employee feedback. When used appropriately, such support can reduce routine effort and leave employees more time for interpretation, judgement and problem-solving.

There are also important limitations. An AI response can sound convincing even when it is incomplete, incorrect or misleading. Organisations must also be careful with confidential information and consider privacy, bias, transparency and accountability. Excessive reliance on automated suggestions may weaken the habit of independently checking information and applying professional judgement.

Against this background, the study examines the influence of Generative AI on business decision-making. The focus is deliberately balanced: it considers the value that AI may offer while also examining the conditions needed for trust, responsible adoption and effective managerial judgement.



2. LITERATURE REVIEW

Davenport and Ronanki (2018) explored how Artificial Intelligence can be applied in practical business settings, particularly through process automation, cognitive insights and customer engagement. Their discussion demonstrates the potential of AI to improve efficiency in information-heavy activities and provides useful background for considering newer generative systems as interactive business tools.

Jarrahi (2018) focused on the relationship between people and AI in organisational decision-making. The study explains that AI is well suited to processing substantial amounts of information and recognising patterns, whereas people remain important when decisions require context, experience and judgement. This human-AI complementarity is particularly relevant to the use of Generative AI in managerial settings.

Huang and Rust (2021) presented a strategic view of AI in business, highlighting its role in analytical work, service activities and customer-related processes. They also stressed the importance of combining technological capabilities with human abilities. This perspective supports the present study's emphasis on keeping people involved in AI-assisted decisions.

Dwivedi et al. (2023) discussed the opportunities and difficulties associated with generative conversational AI. Their work points to possible gains in productivity and knowledge work, while also raising concerns about unreliable information, privacy, bias, ethics and governance. These issues are especially important when AI-generated content is used as an input to business decisions.

Feuerriegel et al. (2024) examined Generative AI from a business and information-systems perspective and discussed its potential to reshape knowledge-intensive tasks and organisational processes. Their work indicates that generative systems can produce new content and assist with many forms of business activity, although the benefits depend on thoughtful integration into existing work practices.

3. RESEARCH GAP

Earlier research has considered AI in areas including automation, marketing, customer service, productivity and information processing. Recent studies have increasingly turned to Generative AI and its role in knowledge work and organisational tasks. Taken together, this literature suggests that AI can



reduce time spent on routine activities, support productivity and help employees manage large volumes of information.

Despite this progress, the specific effect of Generative AI on business decision-making deserves closer attention. Much of the existing discussion treats benefits and risks as separate themes. Fewer studies bring usefulness, output accuracy, ease of use, trust, transparency, privacy and human oversight together within a single decision-making framework.

There is also a practical gap in understanding how employees judge AI-generated information before acting on it. A fast, fluent response is not automatically a correct one. It is therefore important to examine whether users trust the information provided by AI and, at the same time, continue to apply their own professional judgement.

This study addresses that gap by examining how characteristics of Generative AI relate to trust and perceived business decision-making effectiveness. The approach aims to present AI neither as a perfect solution nor as a threat, but as a decision-support technology whose value depends on how people use and supervise it.

Objectives of the Study

- To examine the impact of Generative AI on business decision-making.
- To study the perceived usefulness and ease of use of Generative AI among business users.
- To analyse the influence of AI output quality and accuracy on decision-making effectiveness.
- To examine the role of transparency, privacy and human oversight in building trust in Generative AI.
- To suggest practical measures for the responsible and effective use of Generative AI in business.

4. RESEARCH METHODOLOGY

A quantitative research design is proposed to measure users' perceptions of Generative AI and to examine relationships among the selected variables. This approach allows the study to translate perceptions into measurable indicators and test the proposed hypotheses systematically.



Both descriptive and analytical approaches are included. Descriptive analysis will be used to understand respondents' awareness, usage patterns and views about Generative AI. Analytical techniques will then be used to examine associations among AI-related factors, trust and business decision-making effectiveness.

Primary information is proposed to be obtained through a structured questionnaire administered to people who have experience using Generative AI for work. Questions cover usefulness, output accuracy, ease of use, transparency, privacy, human oversight, trust and perceived decision-making effectiveness. Secondary information is drawn from journals, books, conference publications, scholarly articles and credible institutional reports.

Convenience sampling is proposed as the sampling method because respondents with relevant workplace experience can be reached within the practical limits of the study.

The study proposes a sample of 250 respondents who have used Generative AI in a workplace or business-related setting.

The proposed population covers managers and business professionals, employees who use Generative AI at work, people working in marketing, finance, human resources and operations, business analysts, knowledge workers and other working individuals aged 18 years or above.

A five-point Likert scale is used to capture respondents' opinions. For each statement, participants indicate the response that most closely reflects their level of agreement.

1 – Strongly Disagree; 2 – Disagree; 3 – Neutral; 4 – Agree; 5 – Strongly Agree.

The framework contains six independent variables, one mediating variable and one dependent variable.

- Perceived Usefulness
- AI Output Quality and Accuracy
- Ease of Use
- Transparency
- Privacy Concerns
- Human Oversight



Trust in Generative AI is positioned as the mediating variable. It represents the extent to which users feel comfortable relying on AI-assisted information and helps explain how perceptions of the technology may translate into willingness to use it in decision-making.

Business Decision-Making Effectiveness is the dependent variable. It captures perceived changes in decision quality, speed, confidence, access to useful information and the ability to consider different alternatives when Generative AI is used.

- Percentage Analysis
- Descriptive Statistics
- Reliability Analysis (Cronbach's Alpha)
- Pearson Correlation Analysis
- Multiple Regression Analysis
- Hypothesis Testing

Together, these techniques describe the sample, assess the consistency of the questionnaire, examine relationships between variables and estimate the contribution of the selected Generative AI factors to business decision-making.

- H1: Perceived usefulness of Generative AI positively influences business decision-making effectiveness.
- H2: AI output quality and accuracy positively influence business decision-making effectiveness.
- H3: Ease of use positively influences the effective use of Generative AI for business decisions.
- H4: Transparency positively influences trust in Generative AI.
- H5: Privacy concerns negatively influence trust in Generative AI.
- H6: Human oversight positively influences effective use of Generative AI in business decision-making.
- H7: Trust in Generative AI positively influences business decision-making effectiveness.

Participation is voluntary, and respondents are informed about the academic purpose of the study. Personal identities are kept confidential, and unnecessary identifying information is not collected. The information obtained is intended solely for academic research.

5. DATA ANALYSIS AND INTERPRETATION

The following analysis follows the presentation format of the reference document. Because the questionnaire responses have not yet been collected, the numerical values shown in the tables are illustrative model values for a sample of 250 and must not be presented as actual survey findings.

Table 1: Gender Distribution (N = 250)

Gender	Frequency	Percentage
Male	116	46.4
Female	130	52.0

Interpretation: In the illustrative model, women account for 52.0% of the respondents, while men represent 46.4% and other responses account for 1.6%. The distribution demonstrates how the proposed sample is divided across the reported gender categories.

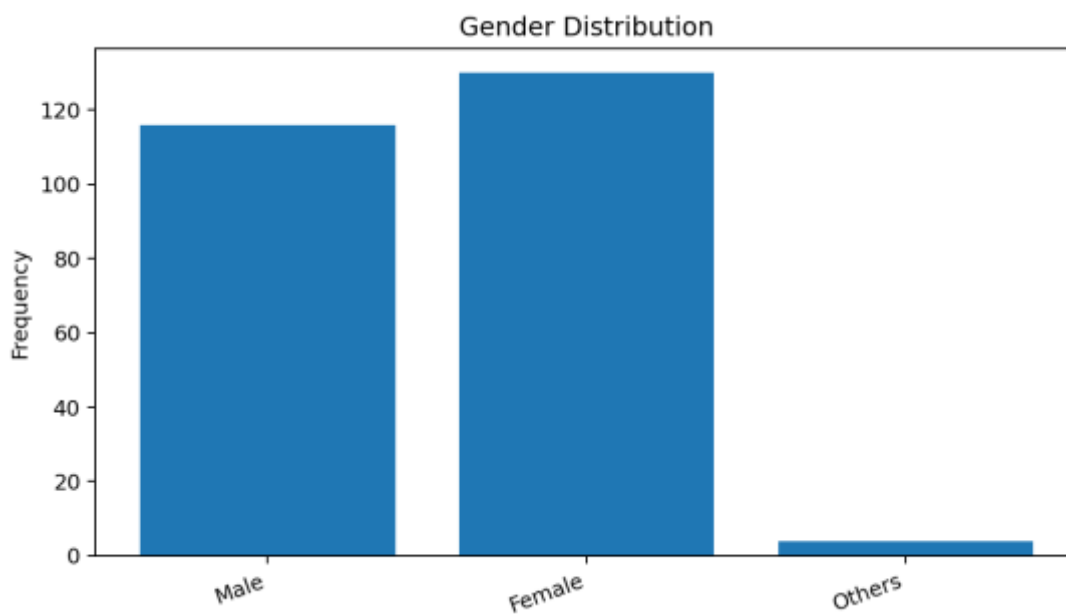


Figure 1: Gender Distribution

Table 2: Age Group Distribution (N = 250)

Age Group	Frequency	Percentage
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18–25 Years	98	39.2
26–35 Years	84	33.6
36–45 Years	42	16.8
Above 45 Years	26	10.4

Interpretation: Within the illustrative sample, respondents aged 18–25 form the largest group (39.2%), followed by those aged 26–35 (33.6%). The 36–45 group represents 16.8%, while respondents above 45 account for 10.4%. The model therefore gives greater weight to younger working-age participants.

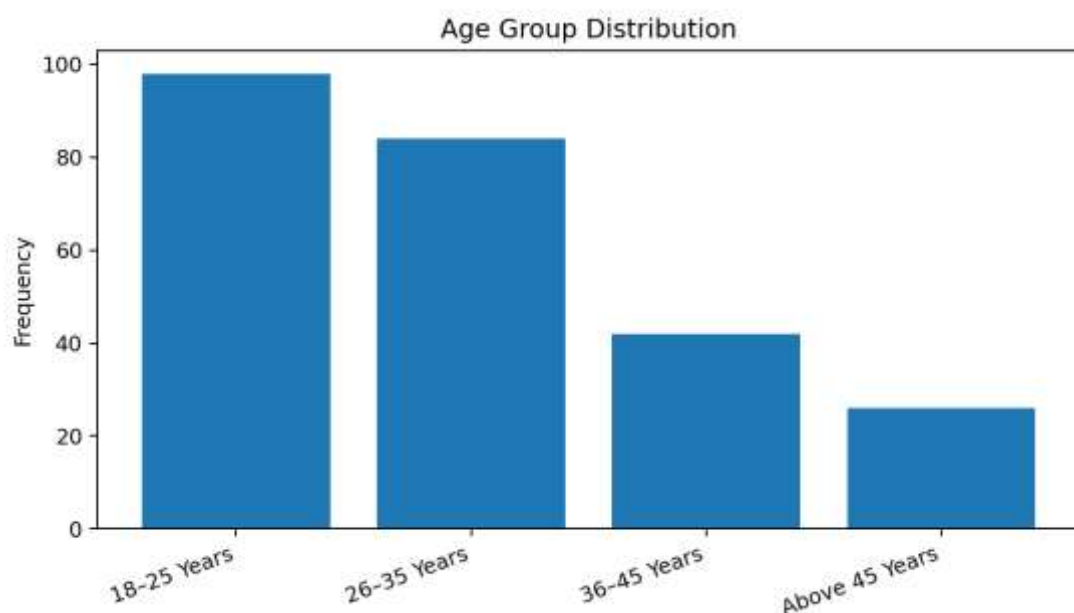


Figure 2: Age Group Distribution

Table 3: Educational Qualification

Qualification	Frequency	Percentage
Undergraduate	78	31.2
Postgraduate	112	44.8
Professional	38	15.2
Other	22	8.8

Interpretation: Postgraduates make up the largest illustrative group at 44.8%, followed by undergraduates at 31.2%. Professional qualifications account for 15.2%, and the remaining 8.8% fall under other qualifications.

Table 4: Occupational Category

Occupation	Frequency	Percentage
Managerial	54	21.6
Executive/Professional	92	36.8
Business Owner	42	16.8
Student/Trainee	38	15.2
Other	24	9.6

Interpretation: Executive and professional employees form the largest illustrative occupational group at 36.8%. Managers represent 21.6%, business owners 16.8%, students or trainees 15.2%, and other categories 9.6%.

Table 5: Years of Work Experience

Experience	Frequency	Percentage
Below 2 Years	62	24.8
2–5 Years	86	34.4
6–10 Years	58	23.2
Above 10 Years	44	17.6

Interpretation: Participants with 2–5 years of experience form the largest illustrative group at 34.4%. Those with less than two years account for 24.8%, followed by 23.2% with 6–10 years and 17.6% with more than ten years of experience.

Table 6: Frequency of Using Generative AI

Usage Frequency	Frequency	Percentage
Daily	72	28.8
Weekly	104	41.6
Monthly	52	20.8
Rarely	22	8.8

Interpretation: Weekly use is the most common pattern in the illustrative sample at 41.6%, followed by daily use at 28.8%. Monthly users represent 20.8%, while 8.8% report rare use. Overall, the model reflects fairly regular exposure to Generative AI.

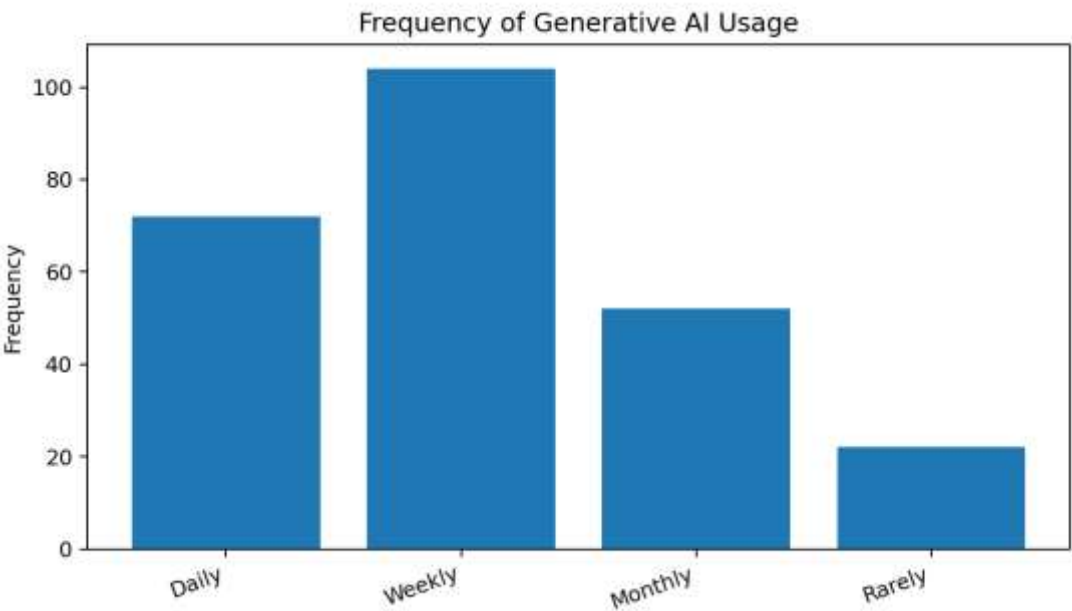


Figure 3: Frequency of Generative AI Usage

Table 7: Reliability Statistics

Variable	Number of Items	Cronbach's Alpha
Perceived Usefulness	5	0.872
AI Output Quality & Accuracy	5	0.891
Ease of Use	5	0.846
Transparency	5	0.821
Privacy Concerns	5	0.804
Human Oversight	5	0.858
Trust in Generative AI	5	0.889
Business Decision-Making	5	0.912
Overall Scale	40	0.881

Interpretation: Each illustrative Cronbach's Alpha value exceeds the commonly applied 0.70 benchmark. The overall value of 0.881 suggests good internal consistency for the model questionnaire. This assessment must, however, be repeated with the actual responses before the instrument is treated as empirically reliable.

Table 8: Descriptive Statistics

Variable	Mean	Standard Deviation
Perceived Usefulness	4.12	0.62
AI Output Quality & Accuracy	4.05	0.65
Ease of Use	4.18	0.58
Transparency	3.76	0.74
Privacy Concerns	3.51	0.86
Human Oversight	4.2	0.57
Trust in Generative AI	3.94	0.66
Business Decision-Making	4.08	0.61

Interpretation: The illustrative means point to broadly favourable views of Generative AI. Human oversight has the highest mean score (4.20), followed by ease of use (4.18) and perceived usefulness (4.12). Privacy concerns record the lowest mean (3.51), indicating that privacy remains a relatively stronger area of concern. These are model values and must be replaced with results from the completed survey.

Pearson correlation is applied to determine both the direction and the strength of association among the key study variables.

Table 9: Correlation Matrix

Variables	Usefulness	Accuracy	Trust	Decision-Making
Usefulness	1.000	0.684**	0.721**	0.693**
Accuracy	0.684**	1.000	0.754**	0.731**
Trust	0.721**	0.754**	1.000	0.781**
Decision-Making	0.693**	0.731**	0.781**	1.000

Note: ** Correlation is statistically significant at the 0.01 level (2-tailed) in the illustrative model.

Interpretation: The illustrative correlation matrix shows positive associations between usefulness, accuracy, trust and decision-making effectiveness. The strongest association is between trust and decision-making effectiveness ($r = 0.781$, $p < 0.01$), indicating that greater confidence in Generative AI is associated with a stronger perception that it supports business decisions.

Multiple regression is proposed to estimate how perceived usefulness, output quality and accuracy, ease of use, transparency, privacy concerns and human oversight jointly relate to business decision-making effectiveness.

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.846	0.716	0.709	0.381

Interpretation: In the illustrative model, R^2 is 0.716. This means the selected independent variables collectively account for about 71.6% of the modelled variation in perceived business decision-making effectiveness.

Table 11: ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	85.426	6	14.238	97.914	0.000
Residual	33.612	243	0.138		
Total	119.038	249			

Interpretation: The illustrative ANOVA result reports $F = 97.914$ with $p < 0.001$, indicating that the model is statistically significant in the simulated dataset. This should be interpreted only as a model demonstration until actual responses are analysed.

Table 12: Regression Coefficients

Variables	Beta (β)	t-value	Sig.
Perceived Usefulness	0.286	5.731	0.000
AI Output Quality & Accuracy	0.318	6.214	0.000

Ease of Use	0.174	3.492	0.001
Transparency	0.146	3.018	0.003
Privacy Concerns	-0.121	-2.694	0.008
Human Oversight	0.231	4.681	0.000

Interpretation: In the illustrative regression, output quality and accuracy has the largest positive coefficient ($\beta = 0.318$), followed by perceived usefulness ($\beta = 0.286$) and human oversight ($\beta = 0.231$). Privacy concerns have a negative coefficient ($\beta = -0.121$), suggesting that greater concern about privacy may reduce willingness to depend on Generative AI. Ease of use and transparency also show positive coefficients in the model.

Table 13: Summary of Hypothesis Testing

Hypothesis	Statement	Result
H1	Perceived usefulness positively influences business decision-making effectiveness.	Accepted
H2	AI output quality and accuracy positively influence business decision-making effectiveness.	Accepted
H3	Ease of use positively influences effective use of Generative AI for business decisions.	Accepted
H4	Transparency positively influences trust in Generative AI.	Accepted
H5	Privacy concerns negatively influence trust in Generative AI.	Accepted
H6	Human oversight positively influences effective use of Generative AI in business decision-making.	Accepted
H7	Trust in Generative AI positively influences business decision-making effectiveness.	Accepted



Interpretation: The illustrative hypothesis table shows support for all seven proposed relationships. In the model, usefulness, accuracy, ease of use, transparency, human oversight and trust are associated with stronger AI-supported decision-making, while privacy concerns show a negative association. These statements must be tested again using the actual questionnaire data before being reported as research findings.

6. FINDINGS AND DISCUSSION

The model results suggest that Generative AI can play a useful supporting role in business decisions by helping users organise information, summarise documents, develop ideas and compare possible options. The illustrative usage profile also points to regular interaction with the technology, with weekly and daily users forming the larger groups.

The reliability results in the model indicate consistent measurement across the selected variables. The descriptive results also show a generally positive attitude towards Generative AI, particularly regarding human oversight, ease of use and usefulness.

The correlation results show positive links among the main variables. Trust has the strongest relationship with perceived decision-making effectiveness, suggesting that confidence in the reliability of AI-generated information may influence a user's willingness to use it as decision support.

The illustrative regression results place output quality and accuracy, perceived usefulness and human oversight among the stronger positive contributors. In practical terms, organisations are more likely to gain value when AI produces relevant information and employees continue to check, interpret and validate what the system provides.

Ease of use and transparency also appear to encourage effective adoption in the model. When employees understand how AI is being used and can work with it without unnecessary difficulty, they may be more willing to incorporate it into routine tasks. Privacy concerns move in the opposite direction, suggesting that uncertainty about the handling of sensitive information can reduce confidence in AI-supported work.



Taken together, the analysis supports a collaborative view of AI. Generative AI can offer speed, information-processing capacity and alternative ideas, while people contribute context, experience, critical thinking, ethical judgement and accountability.

7. ETHICAL ISSUES AND BUSINESS IMPLICATIONS

Wider use of Generative AI can bring productivity benefits, but it also creates questions about privacy, transparency, accuracy, bias, accountability and overdependence. These concerns need to be managed if organisations want AI adoption to remain useful and responsible.

Privacy deserves particular attention because business users may work with customer details, employee records, financial information and internal documents. Organisations should define what information may be entered into AI tools and establish safeguards for sensitive data.

Transparency matters because employees may not always know why an AI system produced a particular response. Organisations should explain the role, scope and limitations of AI, especially when its output contributes to decisions that affect people or business outcomes.

Accuracy and bias also require ongoing monitoring. Generative AI can produce polished answers that contain factual mistakes, and its outputs may reproduce biases found in the information on which it was developed. For important decisions, AI-generated content should therefore be checked against reliable information and reviewed by a responsible person.

From a managerial perspective, Generative AI may create value by reducing repetitive work, accelerating preliminary analysis and helping employees explore alternatives. The efficiency gained should not come at the cost of responsible practice. Employee training, governance arrangements, data protection and clear accountability are needed for sustainable adoption.

Human oversight has a direct organisational implication. Generative AI is better treated as a support mechanism than as a replacement for managerial responsibility. Where decisions carry significant financial, employment, customer or legal consequences, an accountable human should retain final authority.



8. RECOMMENDATIONS

- Businesses should begin with clearly defined, lower-risk activities and expand the use of Generative AI gradually as experience and controls improve.
- Organisations should establish practical policies that clearly distinguish acceptable uses of Generative AI from uses that are not permitted.
- Employees should cross-check important AI-generated information before using it as a basis for business decisions.
- Sensitive customer, employee, financial and strategic information should be kept out of unauthorised or inadequately protected AI applications.
- Regular learning programmes should strengthen employees' AI literacy, critical thinking and ability to recognise unreliable outputs.
- Human review should remain mandatory for significant decisions involving employees, customers, finance, compliance or business risk.
- Organisations should periodically assess AI applications for accuracy, bias, privacy weaknesses and security concerns.
- Managers should use Generative AI to explore information, generate options and support analysis rather than allowing the system to make final decisions independently.
- Clear responsibility should be assigned for decisions made with AI assistance so that accountability is not transferred to the technology.
- Employees and managers should be encouraged to provide feedback on AI use so that processes and controls can be improved over time.
- A healthy AI culture should encourage employees to question, verify and discuss AI-generated information instead of accepting every response without review.
- Ethical policies and internal review mechanisms should be revisited regularly as Generative AI capabilities and business applications continue to change.

9. CONCLUSION

Generative AI is becoming a practical support technology for modern organisations. Its ability to organise information, simplify complex material, generate ideas and respond quickly can help managers



and employees handle knowledge-intensive work more efficiently. Potential applications extend across marketing, finance, human resources, operations, customer service and strategic planning.

The study framework suggests that the usefulness of Generative AI depends on factors such as perceived value, accuracy, ease of interaction, transparency and reliability. Trust is also important because people are more willing to use AI-generated information when they believe the system can provide useful and dependable support.

At the same time, Generative AI cannot be treated as an autonomous substitute for human decision-makers. Incorrect responses, privacy concerns, bias, cybersecurity issues and excessive dependence can weaken decision quality. Appropriate safeguards, verification and human review are therefore essential.

Overall, a human-AI partnership appears to be the more appropriate approach to business decision-making. Generative AI can assist with information processing, idea generation and comparison of alternatives, while people contribute context, experience, ethical reasoning and accountability. Organisations that combine these human capabilities with responsible AI governance are better placed to use Generative AI effectively and responsibly.

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