

Socio-Technical Factors Influencing Generative AI Adoption: An Empirical Study of Employee Productivity and Operational Efficiency in IT Service Firms

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Abstract-GenAI is being incorporated into the processes of IT service providers for tasks such as software development, technical writing, testing, and knowledge management. Though these technologies present opportunities for organizational effectiveness, there are huge differences between the results obtained from using them in various organizations. Such differences indicate that effective use of GenAI depends not only on technology but also on other factors. This study will investigate the socio-technical factors that affect the acceptance of generative artificial intelligence (AI) among IT services organizations. The technology acceptance model will be used as the central theory for this research and will be expanded through the inclusion of management support, employee training, and reliability of AI tools as organizational factors of technology adoption. A mixed methodology will be employed involving a structured questionnaire using a Likert scale. This research assesses the effect of the above-listed factors on the level of perceived usefulness, perceived ease of use, employee productivity, efficiency, and job satisfaction. The research asserts that realization of sustainability through Generative AI depends on the successful integration of the technology with the help of efficient leadership, development of employees' capabilities, and organizational readiness. The results of the research will be useful for understanding the process of AI adoption in knowledge-based organizations.

Keywords: Generative Artificial Intelligence, Technology Acceptance Model, Socio-technical systems, IT service firms, employee productivity, efficiency, digital transformation.

1. INTRODUCTION

1.1 Background

Introduction of Artificial Intelligence (AI) in the field of digital transformation has been a key driver of success for businesses to automate processes, aid decision-making, and increase efficiency. GenAI refers to the latest developments in the AI domain with regard to Large Language Models (LLMs) developed recently. As opposed to the traditional AI systems that could only execute tasks assigned by humans, GenAI can create software programs, technical documentation, analytics reports, and respond in the form of natural language.

The IT services sector is one of the early adopters of Generative AI technology. Tools such as GitHub Copilot, large language models for enterprise use, intelligent documentation tools, and conversational assistants are becoming common in software development, testing, project management, and technical support processes. This technology can lead to a reduction in repetitive tasks, improvement in the quality of software development, faster project delivery, and employee productivity.

Nevertheless, the effective application of Generative AI depends on other factors aside from technical expertise. Organizational leaders have to see to it that the employees are sufficiently skilled in using AI technology and receive proper guidance, and that AI technology is integrated into the business process in such a way that it supports organizational goals. This explains why the application of Generative AI involves both technical and organizational changes.

1.2 Business Context

Over time, the IT service company business model depended on hiring more people in order to increase its capacity for operations. With an increasing demand for projects, organizations would hire more people to deliver on these demands. This led to a correlation between the growth of the organization and the number of people hired. While this business model helped organizations expand their business predictably, it also increased costs of operations.

Generative AI has brought about a new way through which growth is achieved. With the help of software development that has been enhanced using AI, document creation that has been done automatically, intelligent coding, and knowledge management tools, employees are able to do repetitive tasks and those that require a lot of knowledge. In doing this, organizations are now able to achieve better performance through increasing the efficiency of their current employees instead of having growth through expanding the workforce.

Even with these advantages, organizations that employ such AI technologies have had varying experiences. Some have made tangible gains in efficiency and effectiveness; however, there have been some cases where there is no proper adoption, inconsistent use, and lack of clear value

from the AI technology investment. The variations suggest that technological competence alone cannot ensure success.

1.3 Problem Statement

Even though Generative AI technologies have shown a lot of promise for enhancing organizational effectiveness, many IT services companies have continued to face problems in implementing the use of these technologies. The employees can be hesitant to implement AI technologies in their day-to-day activities due to lack of training, lack of clarity about the accuracy of AI-generated content, or fears about how the use of AI will affect current processes. In a similar way, an organization can go ahead to invest in AI technologies without having proper structures in place.

These problems highlight the need for successful implementation of Generative AI to be a function of both technology and organization. It is thus crucial to comprehend the effect of managerial support, user training, and the reliability of AI tools in influencing technology adoption and organizational performance.

1.4 Research Gap

The body of existing literature on Artificial Intelligence has mainly centered around technical abilities, algorithms, and systems design. There have not been enough studies that have analyzed the impact of organization-related factors on the effective use of Generative AI in IT service organizations. Specifically, there has not been much research done on the joint impact of management support, training of employees, and reliability of AI tools on employee productivity and job satisfaction.

Filling this gap necessitates a socio-technical approach that understands technology adoption as not only a technical but also an organizational issue. Analyzing these connections gives a better insight into what makes successful implementation of AI possible in knowledge-intensive organizations.

1.5 Research Aim

This study seeks to explore the socio-technological variables affecting the implementation of Generative Artificial Intelligence in the IT service industry and to study how these variables impact the productivity and efficiency of employees.

1.6 Research Objectives

Objectives of the research are:

- To determine the effect of management support on the adoption of Generative AI in IT service companies.

- To find out the effect of employee training on the proper use of Generative AI technologies.
- To find out the effect of reliability of AI tools on employee acceptability and usage.
- To establish the relationship between Generative AI adoption and employee productivity.
- To find out the effect of Generative AI adoption on the efficiency and job satisfaction of employees.
- To provide suggestions to managers for organizational adoption of Generative AI.

1.7 Research Questions

The research questions to be addressed in this study are as follows:

1. RQ1: How does managerial support impact the adoption of Generative AI among employees in IT service companies?
2. RQ2: What is the connection between training of employees and efficient use of Generative AI technologies?
3. RQ3: What is the role of the perceived reliability of Generative AI technologies in the acceptance and use of Generative AI by employees?
4. RQ4: How does the adoption of Generative AI technology impact employee productivity?
5. RQ5: What kinds of managerial actions can aid in the successful implementation of Generative AI technology?

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

The implementation of Generative Artificial Intelligence (GenAI) in organizations has become a critical issue for study in technology management and information systems literature. While the abilities of AI technologies are getting better every day, the implementations in organizations have been yielding inconsistent results from industry to industry. While some organizations have been enjoying productivity, efficiency, and knowledge management benefits of AI implementation, other organizations have faced the lack of adoption by employees and unclear ROI. This evidence implies that AI success implementation is not just a question of ability but also of the context in which it takes place.

It has been found that previous studies about information technology adoption have always proved that the performance of an organization depends on the interrelation of technology, people, and management practices in the organization rather than on technology alone (Brynjolfsson & Hitt, 2000). This implies that for the study of Generative AI, the above-mentioned model has to be used.

This chapter is a review of literature in relation to the research work being undertaken. It starts with an overview of the Technology Acceptance Model and further talks about the Productivity Paradox of Information Technology. After this, it delves into the socio-technical perspective in AI adoption and finally formulates the conceptual framework for the empirical investigation.

2.2 Technology Acceptance Model (TAM)

Amongst the theories commonly used to explain how users adopt and use information systems, one of the most extensively used models is that of the Technology Acceptance Model (TAM) suggested by Davis in 1989 [3]. According to TAM, individual's willingness to adopt and use a technology mainly depends on two perceptions in his mind, namely, perceived usefulness (PU) and perceived ease of use (PEOU).

Perceived Usefulness is defined as the degree to which a person feels that utilizing a specific technology will lead to better job performance. In the context of IT service companies, employees would be more inclined towards the use of Generative AI when they feel that AI tools are beneficial for their software development, eliminate redundant tasks, make documentation easier, or make projects more efficient.

Ease of Use refers to the extent to which an individual feels that using a certain technology will be effortless. An interface that is not easy to use, or an output that is not reliable, or even an AI system that does not fit into a company's development environment might make employees feel that using it is difficult.

Despite having been proposed to help understand the adoption of traditional information systems, the basic concepts of TAM can be used to make sense of Generative AI adoption within organizations. AI-supported software requires employees to interact with technologies capable of handling cognitive functions such as coding, documentation, problem solving, and data searching. The employees constantly assess whether these technologies enhance their work quality while being reliable and user-friendly.

Nevertheless, the use of TAM to explain Generative AI requires the introduction of other organizational variables. As opposed to the traditional software programs, the results produced by Generative AI are probabilistic in nature and may need further verification from a human before implementation. Thus, trust in the generated results by the employees, organizational governance, leadership support, and training will be key factors influencing the acceptance of the technology.

Thus, in the current research, Technology Acceptance Model is used as the main theoretical framework and

organization-level variables are included to take into account the socio-technical nature of Generative AI.

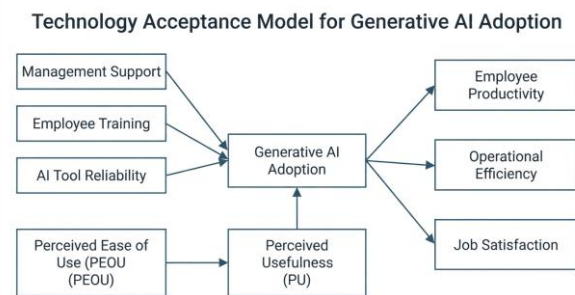


Fig. 2.1: Technology Acceptance Model for Generative AI Adoption

2.3 The Productivity Paradox in Information Technology Management

The link between technological investments and performance has been explored quite extensively by the discipline of Information Systems. The idea that has proven to be one of the most important in this field is called the Productivity Paradox and was formulated by Brynjolfsson [1]. The Productivity Paradox is defined as the situation in which large technological investments do not yield appropriate productivity gains.

Earlier attempts to implement enterprise information systems have shown that merely adding technologies would not necessarily result in better organizational performance. Many instances were seen where organizations had spent considerable amounts of money on technology without improving their efficiency or profitability levels. Studies carried out afterwards indicated that technologies generally needed certain organizational changes to work effectively [2].

Such complementary activities involve employee training, re-engineering processes, managerial commitment, restructuring of the organization, and development of new competencies. In the absence of such supportive activities, organizations may have cutting-edge technologies, but still continue to operate using old-fashioned techniques which constrain productivity increases.

The Productivity Paradox is an essential theoretical framework to comprehend the use of Generative AI in the modern world. Enterprises have already started using enterprise AI systems, coding assistants, and automation tools hoping for productivity gains straightaway. Empirical data shows that results are uneven, as some enterprises gain significant improvements in development productivity and documentations quality while others face low usage and unsureness about organizational benefits.

These variations indicate that the technologies of AI should not be judged only in terms of their technical skills. What really matters is how well the AI technology fits within the current workflow of the organization and how well the process can be managed. Employees need to have a chance to learn how to use AI technologies, managers need to have an implementation plan, and the organization needs to have a governance system.

As such, the Productivity Paradox is still very pertinent in relation to Generative AI. The results of studies done by previous information systems scholars demonstrate that technological spending is just one factor in business transformation. Sustainable productivity gains can only be achieved when technology works in harmony with the business process, employee competence, and effective management.

The current research broadens this understanding by exploring the impact that management support, employee training, and the reliability of the AI technology have on the contribution of Generative AI to employee efficiency in the IT services sector.

Socio-Technical Perspective of Generative AI Adoption

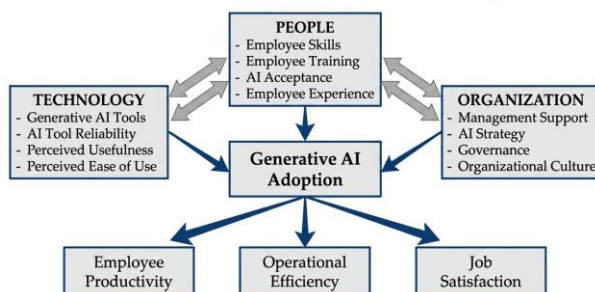


Fig. 2.2: Socio-Technical Perspective of Generative AI Adoption

3. RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research approach that was used to analyze the socio-technical issues associated with the adoption of Generative Artificial Intelligence (GenAI) by IT service organizations. The research methodology has been crafted in such a way that would enable the analysis of the relationship between organizational factors and outcomes for the employees using an empirical approach. In particular, the focus is on the impact of management support, training, and reliability of AI tools on technology adoption and other outcomes.

Research will be conducted using a mixed methodology to offer a combination of both quantitative and qualitative perspectives on Generative AI adoption by organizations. Quantitative information is needed in order to determine the relationship between variables, while qualitative

responses help understand the context of how employees interact with AI technologies in the workplace.

3.2 Research Design

The research methodology employed in this paper is a combination of both quantitative and qualitative research methods. The aim is to ensure that a detailed understanding of the adoption of Generative AI technology is gained by using a mixture of quantitative and qualitative methods in research.

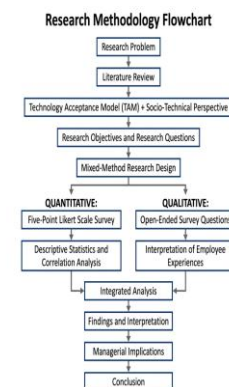


Fig. 3.1: Research Methodology Flowchart

The quantitative part of the research will involve the use of an online questionnaire administered on a five-point Likert scale.

In the qualitative part, there will be open-ended questions where respondents will be allowed to give a description of their experience, advantages, difficulties, and problems they face in the use of Generative AI. The use of both quantitative and qualitative evidence provides a more holistic assessment of socio-technical considerations in AI adoption.

3.3 Research Approach

The study takes a deductive approach to research.

A deductive approach starts from already developed theories and checks if observations are in agreement with these theories. In this particular study, the Technology Acceptance Model is the theory that is used primarily, although the analysis has been expanded with the use of organizational variables such as management support, training, and reliability of AI tools.

Based on prior literature, the relationships among these variables will be analyzed.

3.4 Target Population

The target population would include professional workers in Information Technology service firms where Generative

Artificial Intelligence technology is being used or evaluated for use.

These are workers who have jobs involving intensive knowledge work and whose work may require interaction with AI-enabled software.

The target population includes:

- Software Developers
- Java Developers
- Full Stack Developers
- Software Test Engineers
- DevOps Engineers
- Business Analysts
- Project Managers
- Technical Leads
- Solution Architects

These professionals represent a broad cross-section of organizational roles involved in software development, project execution, and technology delivery.

3.5 Sampling Technique and Sample Size

Non-probability convenience sampling is the method suggested by the study.

Through convenience sampling, it will be possible to gather information from individuals that have firsthand knowledge regarding AI-based software development environments. Participants will be chosen considering accessibility and relevance to the study objectives.

As per the present empirical investigation, 100 samples shall be targeted for the study.

These samples will consist of individuals working in medium-sized to large-sized IT service organizations where Generative AI technology has been implemented in software development.

Even though the statistical inference power of the convenience sampling method is weak, this sampling method can be used in this study.

3.6 Data Collection Procedure

Primary data will be collected using an online survey in an anonymous form.

It is assumed that the participation in the research will be voluntary, and the purpose of the research will be explained to participants prior to conducting the survey. Personal information will not be gathered.

The online survey will be conducted via professional networking sites, organizational connections, and

technology groups, including professionals from the field of software working for IT service providers.

Respondents will be asked to provide answers to all survey questions in accordance with their practical experience in Generative AI technologies usage.

3.7 Measurement Scale

The quantitative survey employs a five-point Likert scale to measure employee perceptions regarding AI adoption. The response categories are defined as follows:

Table 3.1: Five-Point Likert Scale

Scale	Response
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

The Likert scale is widely used in organizational and information systems research because it provides a consistent method for measuring attitudes, perceptions, and behavioral intentions.

3.8 Research Variables

The conceptual model consists of three independent variables and three dependent variables.

- Independent Variables
- Management Support

Management Support means how much the organization's management supports the adoption of Generative AI technologies.

This can be measured by:

- Encouragement from leaders
- AI Strategy of the organization
- Technical support availability
- Commitment of management

Employee Training

Training of employees refers to all those organizational efforts that aim at enhancing the knowledge, skills, and confidence of employees in utilizing Generative AI solutions.

Examples include:

- AI training courses
- Writing workshops
- Learning materials

- Skill development

AI Tool Reliability

AI tool reliability refers to employees' perceptions regarding the consistency, accuracy, and dependability of AI-generated outputs.

Indicators include:

- Output accuracy
 - Response consistency
 - Trustworthiness
 - Ease of verification
- Dependent Variables

Employee Productivity

Employee productivity is a measure of how well Generative AI can help employees accomplish their tasks effectively and efficiently.

Performance metrics:

- Time saved
- Task completion speed
- Higher production
- Less repetitive work

Operational Efficiency

Operational efficiency is characterized by gains in organizational operations due to the use of AI.

These include:

- Faster completion of projects
- Increased workflow efficiency
- Efficient use of resources
- Less operational delays

Job Satisfaction

Job satisfaction is a measure of the perceptions of the employees about the work environment after the introduction of the Generative AI technologies.

They include:

- Less work burden
- Better work quality
- Increased self-confidence
- Good technology experience

3.9 Conceptual Research Model

In the proposed conceptual model, it is assumed that: Higher levels of AI adoption will be beneficial for:

The Technology Acceptance Model serves as the theory behind understanding the above-mentioned relationships

with the help of Perceived Usefulness and Perceived Ease of Use constructs, whereas organization-based variables expand the scope of the model.

- Management Support has a positive effect on AI adoption.
- Employee Training has a positive effect on AI adoption.
- AI Tool Reliability has a positive effect on AI adoption.
- Employee Productivity
- Operational Efficiency
- Job Satisfaction

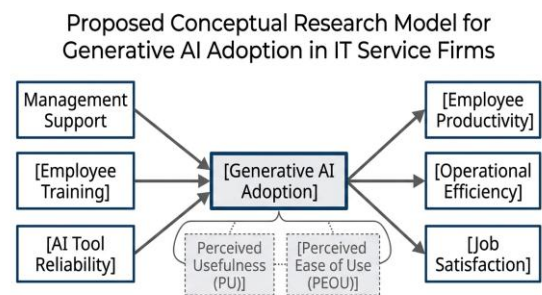


Fig. 3.2: Proposed Conceptual Research Model

4. RESULTS AND DATA ANALYSIS

4.1 Introduction

In this part, a pilot study is provided using a fictional dataset of 100 participants. The aim of conducting this pilot study is to show how the suggested research methodology can be used to test relationships among socio-technical factors and the adoption of Generative Artificial Intelligence (GenAI) in IT services organizations. This dataset is used only for methodological purposes and does not present findings of any empirical study.

Descriptive statistics, correlation analysis, and managerial interpretation of the results will be provided to analyze the effect of management support, employee training, and tool reliability on employee productivity, efficiency, and job satisfaction.

4.2 Respondent Profile

Table 4.1 presents the distribution of respondents according to their professional roles.

Table 4.1: Respondent Distribution (Illustrative Dataset, N = 100)

Job Role	Respondents	Percentage
Software Developers	38	38%
Software Test Engineers	16	16%

Job Role	Respondents	Percentage
Business Analysts	14	14%
Project Managers	12	12%
Technical Leads	10	10%
Solution Architects	10	10%

Illustrative sample consists of a variety of people that are associated with software development, testing, project management, and technology delivery processes in IT service organizations.

4.3 Descriptive Statistics

Table 4.2 is a summary of the mean ratings for the key variables considered in the research.

Table 4.2: Descriptive Statistics

Variable	Mean	Standard Deviation
Management Support	4.18	0.63
Employee Training	3.81	0.72
AI Tool Reliability	3.94	0.68
Employee Productivity	4.26	0.57
Operational Efficiency	4.11	0.61
Job Satisfaction	3.88	0.74

The results of the descriptive statistics show a fairly positive attitude of employees towards the introduction of Generative AI. The highest value was obtained by productivity, which scored a mean of 4.26. This indicates that employees see AI as something that helps them perform better in their work. The relatively high average value was obtained by management support, which demonstrates the importance of managerial involvement in the process of technology adoption.

The comparatively low mean values were shown by employee training and job satisfaction.

4.4 Productivity Improvements Across Professional Roles

To better understand the operational impact of Generative AI, respondents were asked to estimate the average percentage of working time saved through AI-assisted applications.

Table 4.3: Estimated Average Time Saved

Professional Role	Estimated Time Saved
Software Developers	24%
Software Test Engineers	21%
Business Analysts	18%
Project Managers	15%
Technical Leads	17%

Professional Role	Estimated Time Saved
Solution Architects	16%

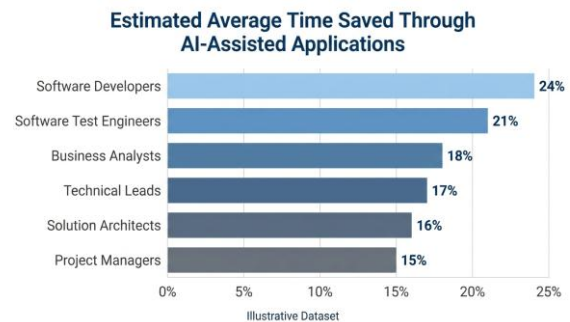


Fig. 4.1: Estimated Average Time Saved Through AI-Assisted Applications

The Software Developers were the highest in terms of estimated productivity increase, mainly because AI systems enabled programming, code writing, debugging, documentation, and repetition of programming tasks. The business roles also saw an increase in productivity due to automation of documentation, summary of meetings, and knowledge discovery.

This suggests that the productivity gains from Generative AI could vary depending on work profiles and how much routine knowledge-based tasks could be enhanced using AI technologies.

4.5 Correlation Analysis

Pearson correlation coefficients were calculated to examine the relationships between the principal study variables.

Table 4.4: Correlation Matrix

Variables	Productivity	Operational Efficiency	Job Satisfaction
Management Support	0.71	0.69	0.63
Employee Training	0.76	0.73	0.68
AI Tool Reliability	0.81	0.78	0.66

From the sample analysis, it is clear that there are positive correlations among all independent and dependent variables.

Of the three organizational variables, the highest correlation is between AI tool reliability and productivity ($r = 0.81$). This suggests that employees are more willing to incorporate the use of AI in their daily activities if they find the output reliable.

Training of employees shows strong positive correlations with productivity ($r = 0.76$) and efficiency ($r = 0.73$).

There is a consistent positive correlation of management support with all organizational variables.

4.6 Illustrative Observations

Several notable organizational patterns can be observed from the illustration.

First, it seems like those organizations which offer structured AI training have higher chances of reaching higher productivity and efficiency rates than those who rely only on implementation of AI.

Secondly, the credibility of the results of the AI systems used can affect employee motivation to incorporate AI solutions. With reliable AI systems, there is no need for repeated verification of its results, which allows using AI more often.

Thirdly, leadership is supportive of the AI adoption as it encourages experimentation and offers guidance in implementation.

Overall, these observations confirm the idea of the importance of organizational aspects in Generative AI business value creation.

4.7 Summary of Findings

The above-mentioned pilot analysis shows that there are positive correlations between the socio-technical parameters and organizational performance. Management support, training programs, and reliability of AI tools have a positive correlation with employee productivity, efficiency of operations, and job satisfaction.

Even though the data set used in this analysis is purely fictional and created only for the purpose of illustrating methodology, this example helps to understand how the suggested empirical model may be used for the assessment of organization's use of AI. These results form the basis for further discussion outlined in the next chapter.

5. DISCUSSION AND MANAGERIAL IMPLICATIONS

5.1 Discussion

The example-based findings reveal that GenAI adoption in IT service firms involves more than just technological capacity but also includes organizational and human elements. While AI-driven tools have the capability to boost productivity and efficiency, the organizational utility of such tools is largely determined by how successfully these can be embedded into current processes of work. The above findings align with the socio-technical

approach, which recognizes that organizational performance emerges from the interaction of technology, people, and organizational management systems.

The results show that there is a clear association between employee training and productivity, as well as efficiency. Therefore, organizations will be able to gain advantages from Generative AI if employees have proper chances for training on how to use AI in their work. This is because through training, the employees will learn how to properly use AI-generated output, create good prompts, validate the recommendations of AI, and incorporate AI into the work process.

Management involvement is also associated positively with technology adoption. Management commitment affects the confidence of employees through defining organizational goals, communicating the implementation process, and providing all the required resources. Usually, employees would not be reluctant in experimenting with new technologies when they receive encouragement from management regarding the responsible use of AI and constant guidance throughout the organizational transition process.

In addition, this analysis reveals that the reliability of AI tools is most significantly related to the productivity of employees. The use of AI by employees in routine tasks will be higher in cases where system outputs are perceived as reliable. On the contrary, unreliable outputs increase the chances of manual verification and reduce faith in decisions made using AI. In turn, this limits productivity gains.

In sum, the results presented here provide further evidence to the idea that Generative AI should be seen as a capacity within organizations instead of a separate software application. Continuous gains in productivity depend on the coordination between technology investments, human capital, and process management.

5.2 Managerial Implications

The results have a number of implications for the managers who are in charge of digital transformation and technology strategy at their organizations.

Investment Beyond Technology

It is common practice in organizations to make a lot of investment into acquiring AI software licenses, but little into developing the competencies of employees. Based on the results, technology investment alone will not be sufficient in deriving maximum value from organizations. Thus, AI implementations need to budget for such things as learning.

Leadership and Organizational Support

The top management needs to give clear objectives about the use of Generative AI in the organization. The employees need to be shown how AI is meant to assist them in their job duties rather than substitute their professional skills. Leadership engagement will minimize any confusion and promote responsibility and acceptance of the new technology.

AI Training Program

It should not just be limited to showing examples of the use of AI technology but go further into role-based training that will help the employees in using AI in their day-to-day job responsibilities. For software engineers, the training could be on AI-assisted programming, debugging, and documentation. For project managers and business analysts, the training could include AI-enabled planning, reporting, and knowledge management.

Selection of Reliable AI Systems

Organizations need to measure their AI applications in terms of reliability, security, usability, and compatibility with the current business processes and not only consider the cost of these applications or their popularity. Reliable AI systems will require fewer verifications, which will enhance employees' confidence and make them more productive.

Governance and Responsible Use of AI

The use of Generative AI requires the implementation of the governance framework within an organization to regulate proper use, privacy, security of the information, and validation of the generated content.

Psychological Safety and Organizational Culture

AI adoption also requires cultural fit in an organization. People need to be encouraged to explore the use of AI tools and pose questions without being afraid of negative judgment. This can be achieved through encouraging collaboration and feedback from both sides. A safe psychological environment ensures improvement and employees' readiness for adopting new technologies.

Strategic Resource Allocation

Based on the findings above, a mixed investment approach is recommended to organizations. Although high-end AI systems can offer great technical advantages to organizations, these are not likely to be fully used without investments in organizational readiness as well. Therefore, budgets should include costs related to software, education, development of leadership skills, processes, and governance.

5.3 Practical Recommendations

Given the results of this research, the following recommendations are suggested for the implementation of Generative AI by IT service organizations:

- Creating an organizational AI strategy in line with the organization's business goals.
- Organizing ongoing training programs to develop AI skills among professionals.
- Supplying AI tools that are reliable, secure, and consistent with current processes within an organization.
- Engaging organizational leaders in all stages of implementing AI to boost employee trust and organizational commitment to implementing AI.
- Implementing governance frameworks specifying responsible AI usage and quality management processes.
- Creating an organizational culture that encourages experimentation and collaboration.
- Measuring the performance of AI initiatives in terms of both technological and organizational success factors.

5.4 Chapter Summary

From the above discussion, it is clear that the effective implementation of Generative Artificial Intelligence will involve the interface between technological capacity and organizational management. Management backing, appropriate training, dependable AI system, and supportive organizational practices all play their part in ensuring high levels of performance from employees. The above findings highlight the significance of using a socio-technical approach in implementing AI technology in IT service companies.

6. CONCLUSION

Generative Artificial Intelligence has emerged as an integral part of digital transformation in the IT services industry. Even though AI technologies provide a lot of scope for enhancing software development, knowledge management, and operational efficiency, the effective use of these technologies is not solely based on technical competence. In order to understand the determinants that affect Generative AI adoption, this paper has explored the socio-technical aspects by applying the Technology Acceptance Model (TAM).

From the literature used for this study, it becomes evident that employee acceptance of artificial intelligence depends on both individual and organizational perspectives. Management support, employee training, and reliability of AI systems emerged as some of the factors which play an important role in technology implementation. The proposed conceptual framework along with a pilot

example showed how organizational factors can help improve employee productivity, efficiency, and job satisfaction. Even though the pilot study was conducted only for illustration purposes, it revealed the significance of technological implementation in accordance with organizational readiness and capability building of the workforce.

In conclusion, the above observations imply that an organization which is implementing Generative AI needs to ensure a balanced approach which involves investing in technology and developing a training process for its employees. An organization that focuses only on acquiring the AI software without changing its processes will result in low adoption rates and low value of the technology in their business. However, combining technology and proper management will be more advantageous to the organization in the future.

6.1 Limitations and Future Research

There are many limitations of the current study. First, the empirical example used in the study was based on a hypothetical pilot data set and thus cannot be seen as results of an empirical survey conducted among organizational employees. Further research can develop upon this study by conducting primary surveys with IT professionals of various organizations and applying complex statistical analysis methods such as regression or structural equation modeling to assess AI adoption among different industries or organizations.

6.2 Summary

To sum up, the use of Generative Artificial Intelligence needs to be viewed in the context of a combination of technological change and organizational change. Productive changes in terms of efficiency gains are brought about not only by the implementation of advanced artificial intelligence systems but also by their proper integration with leadership, skill, culture, and management. The socio-technical view is appropriate to help understand these issues.

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