

Effects of Artificial Intelligence Innovation in Business Process Automation on Employee Retention

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Abstract: In the aftermath of the Great Resignation, administrators view automation as a remedy for the mass exodus of workers. Every aspect of business operations is infused with automated technology. Rapidly, it has emerged as a saviour for companies struggling to retain employees. Progress in science and technology is inevitable. Business process automation is a prevalent tool that most progressive businesses adopt to maintain pace with the Artificial Intelligence era. Digitalization and automation of business processes are now indispensable elements of contemporary business practice. From this perspective, this paper aims to assess the impact of artificial intelligence innovation in business process automation on employee retention. The analysis of the impact of business process automation on employee retention is insightful as this study discusses the advantages and disadvantages of business process automation to the most important asset of every company, which is human resources. The result of this study is that human resources are crucial and irreplaceable in every aspect of service operations. The findings recommend that organizations mitigate the potential negative effects of AI implementation by providing training and skill development programs, reassessing job roles, and promoting a positive perception of AI. Addressing employee well-being and offering social support can also enhance retention rates during the AI adoption process.

Keywords: Business Process Automation; Robotic Process Automation; Service Operations; Employee Retention; Artificial Intelligence (AI); Innovation in Business; Technological Advancements; Automation of Intelligence.

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1. Introduction

In this digital age with emerging technologies and process advancements, businesses need to rapidly adapt to the technologies to avoid being left behind [1]. Adopting core business processes through emerging technologies is necessary for business operations. In the line of service operations, adopting technological advancements has become a key player in improving the efficiency and quality of operational processes [2]. Integration of business process automation helped redefine the technological capacity of many companies, including service operations. Service operations are not only limited to the provision and production of services, but they also include the provision of customer service or support teams, and they also revolve around the development of an operational service strategy that can help handle and manage the service operations [3].

Artificial Intelligence (AI) is a branch of computer science designed to behave and reason like humans. It involves learning, planning, and solving problems [4]. The recent development of AI has had a significant impact on the enterprise. AI has a substantial impact on every industry [5]. We are surrounded by AI whether we are aware of it or not. Our mobile phones,

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televisions, electronic devices, electric vehicles, etc., all utilize AI in some capacity. AI is utilized in industries such as education, healthcare, entertainment, and computing [6].

Industry 4.0, which is the latest in the revolution for industrial practice, is patterned on the combination of the things found on the internet, the automation of intelligence, devices and procedures, and physical cyber systems. Combining these concepts and technologies profoundly affects an organisation's digital operations flow [7]. They are automating certain stages with robots (RPA) to improve these processes. In addition, RPA now incorporates inventive approaches and algorithms like AI in numerous tools, enabling the automation of business processes to reach intelligent levels, as demonstrated in this research paper [8].

1.1. AI is data-driven, and RPA is process-driven

RPA is software that implements a task autonomously based on predetermined business rules. Consider a program that retrieves invoice emails, downloads the attachments, and generates invoices [9]. These tasks do not require intellect; they mimic repetitive human actions such as retrieving, downloading, and copying. Artificial intelligence entails thinking and learning [10]. AI reads the invoices and extracts valuable information from the semi-structured data. It correctly decodes the information obtained from numerous bill templates and formats. BPA can automate your entire claims processing if you are an insurance company [11]. At the same time, RPA may be utilized for any number of jobs within that process, such as transferring records from one database to another [12].

1.2. Employee Retention refers to an employer's efforts to create an environment

That satisfies the requirements of existing staff members so that they continue to work for the organization. Many employee retention programs and policies seek to improve employee satisfaction by addressing various needs [13]. 70% of employees, according to McKinsey researchers, anticipate their work to contribute to their sense of purpose, leaving unfilled positions that involve combing, compiling, and codifying data [14]. For a human professional, these duties entail hours of spreadsheet sleuthing, manually migrating data between applications, or scrolling through a mind-numbing array of rows and columns. Workers are exhausted from pointless drudgery that accomplishes little value [15].

1.3. Business Process Automation

Digitalization has brought many changes and innovations in our everyday lives and professional environments. Companies automate non-value-adding tasks as part of their cost-reduction strategies [16]. Business process automation mechanisms enable you to comprehend and coordinate vital resources like people, applications, and systems. Run your end-to-end business processes and act swiftly in response to altering market conditions [17]. Enhance organizational efficacy and reduce errors that may adversely impact the consumer experience. Automation incorporates many digital mechanisms, like electro-optics, wireless applications, robotics and expert systems, sensors, telemetry and communications, and systems integration. Automation in business processes has existed since the 21st century, with manual processes converted to machinery and robotics [18]. The research assesses both the immediate and long-term impacts of automated work on the performance of an organization [19]. The findings indicated that work automation provides a considerable beneficial impact on the turnover of employees and the satisfaction of customers. The outcome of the intervention revealed that the termination of employees reconciles the connection between the digitalization of jobs and the satisfaction of the customers [20].

1.4. Robotic Process Automation

RPA pertains to converting frequent and structured human duties into automated computer processes. In this case, "robotic" is not a tangible robot but a "computer process" that performs the same cognitive tasks as a human [21]. Its purpose is to enable the workforce to focus on high-priority and innovative work in addition to low-value-added duties [22].

1.5. Impact of COVID-19

The organization's business continuity and productivity have declined during the COVID-19 crisis. Technology plays an essential part in combating the pandemic [23]. The use of an RPA is not an all-inclusive fix for the situation at present. Still, it can aid in ensuring that business processes can sustain the operation of vital business tasks during a crisis and provide access to support the integration with applications and key tools [24]. Post-pandemic strategies Recent developments that promote automation and digitization can be utilized to create smart cities that will revolutionize the provision of business and Public services [25].

For the post-pandemic economic recovery, working together and collaborating on technological, financial, and policy initiatives is required to establish digital competency and infrastructure. [26] Digital technology may exacerbate socioeconomic

disparities; for instance, it reduces human participation in normal employment and requires a more educated and skilled workforce [27]. The government is obligated to keep making other regulations that will support the digital shift and improvement of appropriate competencies for the small and medium-sized enterprises (SMEs) to deal alongside the current economic state and to provide their utmost support to the innovative sector with the use of digitalization, thru digital access, literacy, and framework [28].

2. Formulation of the Problem

This literature review aims to assess and evaluate a series of paper literature evolving around Business Process Automation and its benefits to Service Operations Management. The specific statement of the problem is as follows:

- What is the relationship between AI innovation in Business Process Automation and employee retention?
- How do AI and Business Process Automation affect employees in the service operations industry?
- What are the advantages and disadvantages of Artificial Intelligence in the service operations industry?

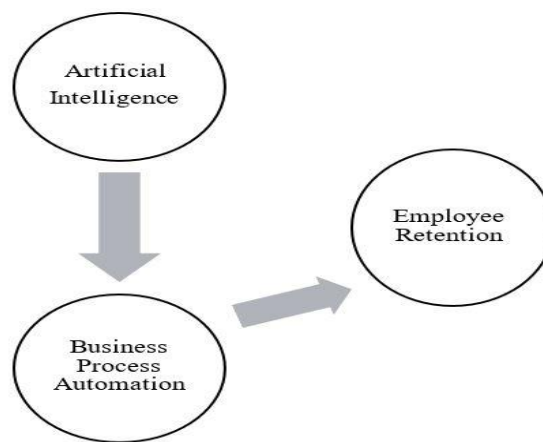


Figure 1: Conceptual Framework

This literature review utilized the independent-dependent variable model, which illustrates the relationship among the selected variables and the effect of the independent variables on the dependent variable (Figure 1). The independent variables show the different business strategies that influence the drive for workforce retention in a company. The dependent variable, the outcome of this review, is employee retention, which we must address as human resources is the most significant resource in every company [29]. This literature review focused on how Artificial Intelligence is utilized in the Business Process Automation of an organization, which in turn affects the retention of employees due to a reduction in manpower capacity since most of the business processes are now automated [30]. Having the proper knowledge of these concepts will help employees be satisfied in their jobs, which decreases the rate of employee turnover [31].

3. Result and Discussion

3.1. The Impact of Artificial Intelligence on Worker Behavior

One of the most common negative impacts of adopting Artificial Intelligence in the Business Process Automation is the job displacement. This further leads to job dissatisfaction and employee turnover. The effects of these business process innovations are not only limited to the reduction of employees handling specific business processes but also affect the employees' wages with a wider range of qualification standards [32]. With a broader range of tasks, highly skilled workers are necessary as they need to better understand a business's automated processes.

3.2. The Impact of the Awareness of AI and Robotics on the Turnover Intention of Employees

The hotel industry is one of the many companies adopting Artificial Intelligence, which is why hotel employees' awareness of Artificial Intelligence and Robotics is a critical factor. Studies indicate that employees with a higher capability of understanding are aware of the benefits they can get from AI [33]. Robotics view this process automation as an opportunity to grow and

expand the company or business rather than view it as a threat to their work. Employees who recognize business process automation as a tool that can help them enhance their performance and provide a wider range of opportunities have a lower intention of leaving the company [34]. This can further lead to increased job satisfaction and greater job performance. Employees with inferior knowledge and awareness of AI and Robotics perceive this as a threatening event to their jobs, which causes an increased rate of employee turnover intention [35].

3.3. The Incorporation of Artificial Intelligence in the Robotic Process Automation

Several benefits accompany the integration of robotic process automation in a company. It can help reduce costs, provide better accuracy, and increase efficiency. Robotic process automation can help reduce error rates, improve accuracy, and enhance work productivity, as employees can now focus on strategic tasks and other significant administrative tasks [36]. The incorporation of Artificial Intelligence enhances the capabilities of an RPA system [37]. Together with artificial intelligence's automation, it can help handle unstructured data and handle the complexity of data to provide decisions and adapt to shifting conditions [38].

4. Perception of Employees on Artificial Intelligence

A crucial factor in shaping the employees' behaviours and attitudes is their knowledge and perceptions of Artificial Intelligence. Several studies suggest that employees' initial response to implementing Artificial Intelligence varies depending on their knowledge and perception [39]. It can range from fear and doubt to curiosity and enthusiasm. These kinds of employee perceptions vary due to different factors such as job characteristics, experience, and their present knowledge of Artificial Intelligence [40]. Implementing Artificial Intelligence to aid Business Process Automation creates concerns and doubts about the security of employees' tenures as Artificial Intelligence is perceived to eliminate the manual workforce and replace them with automated machines and equipment. To properly educate and assure employees, an organization must effectively disseminate and be transparent on the impact of Artificial Intelligence in Business Process Automation [41].

4.1. The Effects of Job Automation on the Turnover of Employees and the Performance of an Organization

Automation in business processes has existed since the 21st century, with manual processes converted to machinery and robotics. The research assesses both the immediate and long-term impacts of automated work on the performance of an organization. The findings indicated that work automation provides a considerable beneficial impact on the turnover of employees and the satisfaction of customers. The outcome of the intervention revealed that the termination of employees reconciles the connection between the digitalization of jobs and the satisfaction of the customers.

4.2. Relationship of Automation to Employee Engagement

Considering the numerous repetitive tasks that are characteristic of apparel manufacturing operations, it is undeniable that automating some processes can increase productivity and quality. Automation focuses on the process instead of merely replacing humans; it enhances effectiveness and efficiency to deliver superior performance. The organization must assess and evaluate employee feedback to comprehend employee preparedness for changes and automation. While eliminating non-productive tasks, integrating personnel, and creating new opportunities, automation systems redefine the extant job roles in the workplace.

4.3. The Impact of AI adoption on Job Engagement and Employee Trust

As a result of global events and advancements in technology, businesses must react swiftly to sustain in the marketplace; as an outcome, achieving trust in the organization and the current job has provided a more positive corporate outlook. AI is increasing work productivity, but it may also decrease the engagement of employees and erode the comparative parts of psychological understanding.

4.4. The Application and Impact of Artificial Intelligence on E-Commerce

AI intends to bring about a significant technological shift in the e-commerce industry. In the past decade, the use of AI in e-commerce has increased dramatically. Using AI, the e-commerce industry processes a huge database of progressive consumers, communicates with them via chatbots, and assists in searching, sorting, and locating relevant products. AI makes it feasible to acquire, process, and deduce data on a massive scale, and it does so with greater efficiency and precision. E-commerce competitors utilise AI to generate a customer-centric search, retarget potential customers, develop an improved sales process, employ voice-powered search, enhance customer recommendations, combat false reviews, etc.

4.5. Impact of Artificial Intelligence on Work

Artificial intelligence has a significant effect on improving processes with better speed and accuracy through automation. A part of the study from whitehouse.gov, “The Impact of Artificial Intelligence on the Future of Workers in the European Union and the United States,” shows their interaction with AI engine GPT-3. GPT-3 is an abbreviation for Generative Pre-trained Transformer 3. It is a third-generation language model released by Open AI in 2020. GPT- 3 responds to questions when given a prompt and generates text as answers to questions. Here is an excerpt from their study (Figure 2):

Box 3. AI Prompt: “Write a paragraph describing how AI can benefit the workforce”

In Part I, GPT-3 (a modern, trained AI engine) was asked to give its own definition of AI Next consider the following prompt submitted to [GPT-3](#): “write a paragraph describing how AI can benefit the workforce.” The output that followed from GPT-3 was:

“AI has the potential to streamline tasks across many industries, from health care to manufacturing. For example, in health care, AI can be used to automate the tasks of sorting through medical images to diagnose conditions. In manufacturing, AI can be used to automate the tasks of quality control and inspection. By automating these tasks, AI has the potential to free up workers' time so that they can focus on higher-level tasks. In addition, AI has the potential to improve the accuracy of these tasks, as well as to identify tasks that are most suitable for automation.”

– GPT-3, a modern AI on the benefits of AI for workers

Figure 2: Open AI in 2020

From an organization's point of view, AI and automation can bring a lot of improvement in operations. However, now, automation can only be applied to routine tasks. The workers who are replaced by automation may be shifted to another task. The workers need to adjust and learn new skills to perform new responsibilities.

4.6. The Negative Impact of AI on Workforce

The continuous evolution of technology has brought about a lot of advantages and convenience in general. However, changes come along with advancement. The impact of automation on the workforce is undeniable. Another excerpt from the study of whitehouse.gov relative to the negative impact of AI on workers is shown Figure 3.

Box 4. AI Prompt: “What are the downsides of AI for workers?”

Consider the following prompt submitted to [GPT-3](#): “What are the downsides are of AI for workers.” The output that followed from GPT-3 was:

“1. Job Losses: One of the potential downsides of AI is that it could lead to increased unemployment as machines begin to replace human workers in a variety of industries.
2. Inequality: Another potential downside of AI is that it could exacerbate existing economic inequality as the benefits of AI technology disproportionately accrue to those who are already wealthy and have access to the best resources.
3. Security Risks: Another potential downside of AI is that it could create new security risks as malicious actors begin to use AI technology for malicious purposes.
4. Ethical Concerns: Another potential downside of AI is that it could raise ethical concerns as AI technology increasingly begins to impact our human lives in ways that we may not be comfortable with.”

– GPT-3, a modern AI on the downsides of AI for workers

Figure 3: Negative Impact of AI on Workforce

There are effects, especially on human labour, like job losses. Routine tasks may be automated since they follow rules and procedures. There are non-routine tasks that are difficult to program and automate, especially in the service industry, wherein human interaction and decision-making are necessary. Based on the study of Autor et al., [3] the skill requirement for positions that are not mostly exposed to artificial intelligence has somehow changed, and hiring has been affected and reduced since the adoption of AI has from the year 2010 to 2018.

4.7. The Impact of AI on Hiring

There is also a case study from whitehouse.gov regarding the impact of AI on human resources and recruitment. Using software for the HR hiring process, from attracting, screening, and assessing potential employees, is advantageous to HR personnel. Using natural language processing, they can now write job descriptions that will give a better chance of attracting the right employee. Finding the right job match takes a lot of time, especially when you have hundreds of applicants for the same position. Automation can reduce the time spent by HR in screening and immediately finding the right candidate.

They also use a chatbot to interact with candidates while they are away or sleeping at night. Companies can get more information from the candidates using chat and, at the same time, build better relationships. The software now has an onboarding function. Feedback, as included in the article, is of great importance and will benefit the company by improving the overall experience of the candidate and the hiring process.

4.8. The Impact of Automation on Bank Teller Job

One good example of literature is from the article by James Pethokoukis entitled, “What the Story of ATMs and Bank Tellers Reveals About the ‘Rise of the Robots’ and Jobs.” When Automated Teller Machines (ATMs) were first introduced, there was already an assumption of a possible reduction of bank teller jobs. James Bessen explains in his book “Learning by Doing: The Real Connection between Innovation, Wages and Wealth” that what happened is contrary to their expectation. There was an increase in the number of requirements for tellers in the bank. Yes, quite a few tellers are reduced, but the increased number of branches means more bank tellers.

The figure 4 below shows the relation between the number of ATMs installed and the number of tellers employed.

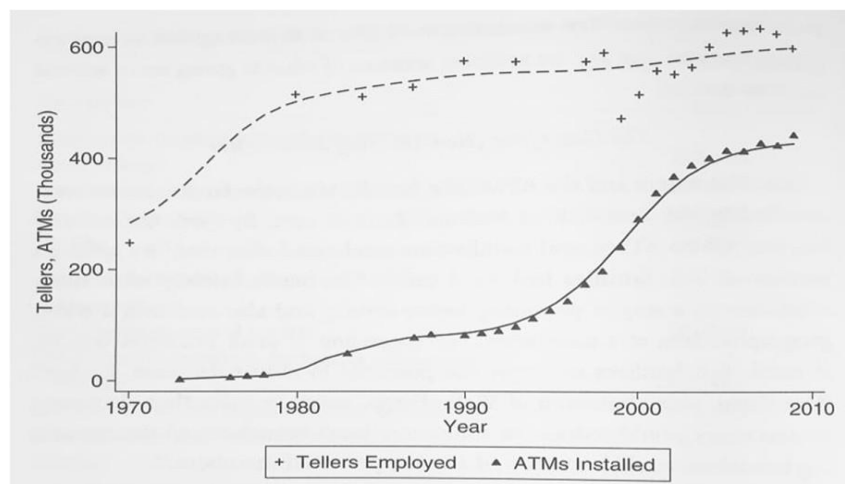


Figure 4: ATMs installed and the number of tellers employed [42]

5. Conclusion

This literature review suggests that Artificial Intelligence innovation in business process automation can positively and negatively impact employee retention. The findings obtained from this study can significantly contribute to subsequent studies that will centre on artificial intelligence and business process automation. The next study is advised to incorporate additional potential elements such as Chat GPT, robotics, and other global political events that may occur for more precise results and a broader scope. Artificial intelligence and automation can enhance the quality of the product and speed up the process. The efficiency is higher in automation since human error is reduced. Automation can help the organization achieve its operational and financial goals. The perception of adopting AI and business process automation must not be taken negatively. The workforce must also advance by training and developing new skills to cope with the advancement brought about by AI and business process automation. Artificial intelligence and automation have an undeniable effect on human labour. Job losses will happen if the company cannot utilize the displaced manpower. There should be policy changes regarding labour standards or laws for fair and just arrangements and compensation for job displacement. The future of artificial intelligence is all about advancement in technology. It can positively or negatively impact people's lives. It will depend on how far and for what purpose it will be used.

5.1. Recommendations

From the findings obtained from this study, organizations can mitigate the potential negative effects of Artificial Intelligence implementation by providing skill development and training programs, reassessing job roles, and promoting a positive perception of Artificial Intelligence. Addressing employee well-being and offering social support can also enhance retention rates during the Artificial Intelligence adoption process. Further research is necessary to examine the long-term effects of artificial intelligence on employee retention and identify best practices for organizations to navigate this transition successfully. Furthermore, a study on occupations affected by the adoption of AI will reveal what sector or industry is at risk of a reduction in labour demand. The result of the study will give foresight on labour demand requirements that will benefit every government and the people in preparing and developing the skills needed.

5.2. Limitations

The findings obtained in this study comprise past research documents and studies that focus on Robotics and Artificial Intelligence, as well as their effects on Employee Turnover and Perspective. Research studies focusing on the main topic of the researchers are just a few which contributed to the constraints held in this study.

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Ethics and Consent Statement: The consent was taken from the colleges during data collection, and they received ethical approval and participant consent.

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