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## Original Research Article

## Opportunities and threats in robotic accounting

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## ABSTRACT

In an environment which is quite dynamic, Robotic process automation (RPA) is booming and automation of the accounting sector is something that we can look forward to in the coming years. Robotic process Automation's main intention is not to replace humans with robots, but rather to give human workers the freedom to concentrate on strategic operations. Accounting departments are better suited for RPA because they handle monotonous, routine work that demand meticulous attention to every small detail cause even a small change in the amount has a greater impact on the business. The accounting process is enhanced by RPA, which completes unskilled responsibilities of an organisation. This research paper will give an insight into Robotic accounting, including its benefits in terms of how it boosts the efficiency of human workforce and the areas where it still needs improvement. The future of the accounting industry is in the hands of these robots and is quite uncertain. This article gives an insight into the future of robotic accounting, which is yet to be researched in depth.

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## 1. Introduction

Modernization and automation are progressively transforming the way business processes operate. (*Christian & Kokina, May 2021*) Many fields in a business entity are being automated to reduce human interference significantly. One such field is a company's accounting industry. Automation is the technique of developing a process or software to perform monotonous work. (*Harrast & A, 2020*) So, in a nutshell, robotic accounting is a process in which a machine bot performs all accounting activities such as maintaining accounts payable, accounts receivable, tax filing, invoice preparation, and so on, allowing the accountant to focus on analytic work.<sup>1,2</sup>

Accounting in large-scale operations is quite advanced and complicated. Extensive knowledge and interpretation are required to assess accounting statements (*M & A, 2018*),

file tax returns, prepare audits, or conduct investigations on fraudulent practices.

It promotes continuous improvement by allowing accounting professionals to use their expertise and experience to continuously improve the capabilities of the robots while enabling them to be more systematic and forward-thinking. (*Ramona, Adriana, & Vasile, 2020*) It allows competent people to offer strategic services and suggestions to their department and thereby promote the overall functioning of the organization.

Accounting is susceptible to human error which costs a bomb to any business and this industry also involves mundane transactional procedures which are time consuming and tedious. But robotic accounting essentially bridges the gap between systems that perform tasks that were previously managed by humans. It helps to automate the repetitive work performed by the accountants and thereby reduce duplication. (*Arkadiusz, Jarosław, &*

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Natalia, 2021). RPA excels in areas which have unvarying, ample work such as processing of invoices, maintaining the payables and receivables accounts, customer responses, balancing accounts, making entries of transactions, and so on.<sup>3–8</sup>

## 2. Literature Review

The application of RPA results in organizational shifts in employment and task reorganization. All firms must adjust to developments in their work procedures in order to stay successful in the market. (Dahlia & Aini, 2021) On observation of this article, it is 'seen that, robotic accounting may represent the accounting of the future due to its many advantages. Although massive unemployment is feared, the world is advancing toward automation, which eases the burden on employees (Ashoka, Abhishek, & Divyashree, 2019). Finally, a more thorough study is required to take into consideration all the financial and non-financial aspects of RPA adoption in order to have a more complete picture of the effects of RPA performance in accounting. (Dariusz, 2019)

## 3. Advantages of Robotic Accounting

1. Increase in efficiency - RPA robots can be programmed to replicate human usage patterns within a given workflow. Robots can perform a wide range of activities, including recording and classifying transactions, balancing ledger accounts, retrieving and entering data, and extracting web data. While bots perform these tasks, human resources can be relocated to areas that involve strategic activities to improve the overall efficiency of the business. (Gusai & Om, 2019) Manually accumulating and entering invoice information and physically obtaining data from multiple systems can result in human inconsistencies and long work hours. But when a machine bot is activated, it derives data from various sources and records it at their respective locations, thereby making the process more efficient (Tailor, 2020).
2. Return on investment - RPA bot installation is costly and requires a significant initial investment. Though it may cost a bombshell to businesses, there is a guaranteed return on investment. It saves accountants' time and effort, which helps reduce accountant recruitment. These machine bots complete tasks more quickly and without errors, which would otherwise cost businesses a lot of money. Even if the initial investment is significant, RPA bots have a long lifespan and incur no or very low monthly or annual costs.
3. Over the clock usage – RPA bot can be operated without interruption 24 hours a day, 7 days a week, and 365 days a year (RK & Sunita, 2022). Because there are no people involved, they do not have set working hours. This increases efficiency to levels that competent personnel cannot attain while eliminating the possibility of human mistakes. It shines in transferring data without mistakes and produces less inaccurate output. Their capacity to labour nonstop around the clock distinguishes them.
4. Customisable workflow – Raising accountants' burden results in longer work hours, more pay, more mistakes, and lower employee productivity. In the case of a machine bot, the workload may be customized based on the amount of time available to perform the task. (Ram & Mangu, 2021) RPA may be used to automate many processes at once in the financial and accounting industries. It is not limited to just one portion of a process. RPA bots can manage large amounts of work and do it in a shorter time frame, making the organization's operations more effective.
5. Boost in client relation - By adopting an RPA strategy, businesses will enhance client satisfaction, gain an edge over their rivals, and increase workforce mobility while cutting expenses. The processing of invoices and the settlement of claims can both be delayed by even the smallest verification error cause by humans. However, by handling a major chunk of the labour-intensive, manual work, RPA bots can enhance reliability, decrease supervision, and lower the number of unexpected errors that occur in these processes. It also helps staff to focus more intently on crucial projects for the company and offer better customer service.
6. Determining future course of action - Without exact data, planning would be hard to complete. The real financial statements of any business serve as the basis for the budget we create for the organization to manage funds throughout a certain accounting period. Compared to humans, RPA bots are more accurate and make fewer mistakes when doing their tasks. Only when an organization's accounts are transparent and error-free are accurate future planning and risk assessment possible. Hence, by assessing a larger amount of data, the use of machine robots aids in examining potential hazards and possibilities in the future.
7. Simple installation – Installing RPA technology is quick and simple. They install in about a week as opposed to human resource recruiting, which takes a lot of time and effort. Also, an employee must get training, become accustomed to the job, and acclimatise to the surroundings after being hired. Robotic accounting, on the other hand, installs more quickly and may be used whenever necessary. However, the organisation should determine which accounting department needs RPA technology.

8. Sustains consistency and accuracy in execution – Every organization needs precise work, but accounting work, which deals with numbers, requires that every digit be valued and recorded accurately. Otherwise, a firm would incur significant expenditures. Robotic accounting, on the other hand, completes tasks with a level of accuracy that makes it impossible for humans to match them. (N & M.S., 2019) Also, they consistently deliver the same quality of work throughout. Even if the workload of robots doubles, they maintain the same consistency, so there is extremely little possibility that the output will be wrong.
9. Competitive edge – Business environment is quite dynamic. A minor adjustment in expenses or ingenuity decides whether the company will be profitable over the course of time or suffer to stay in business. Because of the above advantages, such as an increase in efficiency, accuracy, and consistency; simple installation and a boost in customer service, companies using robotic accounting have a competitive advantage over their rivals.
10. Security to investors and shareholders – RPA bots perform work which are free from errors and consistent. This provides a sense of security to the investors and shareholders who have invested their wealth in the company. When the investors know that the financial statements prepared are accurate and up to the mark, it enables them to make future decisions regarding their investment. If the accounting information is inaccurate then the investors being worried about their wealth is natural.<sup>9-11</sup>
3. Obstacle in Financial Reporting – Financial statements may be erroneous and lacking if RPA in accounting is not used appropriately. Financial reporting will be hampered as a result, and an accurate audit procedure cannot be carried out. Also, inaccurate financial reports might harm the company's reputation.
4. Resistant to change – Millennials and Generation Z workers will become increasingly prevalent in organizations as time goes on. These generations are more acclimated to automation and are quicker to pick up on new systems and procedures. They encourage RPA in accounting because they are technologically astute and appreciate the digital environment. The older generations, on the other hand, believe that human resources are more dependable and are therefore hesitant to adapt to the world of automation (Kokina, Gilleran, Blanchette, & Stoddard, 2021).
5. Lack of innovative thinking - Human creativity and ingenuity would decline if humans were replaced by robots. The use of employees would bring about different techniques of work completion, encouraging them to develop their critical thinking. Yet since robots are best known for completing repetitive tasks, there is no room for innovation when it comes to how they accomplish a task. Instead, they follow a certain formula.
6. Maintenance – The specifications of the tasks to be completed must be considered while creating each RPA bot. However, given how dynamic the business environment is, most organizations will be vulnerable to changes in the long term. So, spending a lot of money on such devices would be futile since they would need to be replaced, which would be expensive, as the business evolved. (Wasique, Diya, Sahishnu, & Sunita, 2019) As a result, using machine robots requires extensive upkeep.

#### 4. Disadvantages of Robotic Accounting

1. Increase in unemployment rate – Future events are uncertain. Robotic accounting might have a significant negative impact on staff employment if it takes off in the future. If automation is the future and there is a very good likelihood that RPA in accounting will flourish, then people in the accounting industry will suffer from unemployment. RPA is lowering the necessity of human labour, which means it might eventually replace occupations involving mundane work. The market for labour has expanded as a result of unemployment.
2. Complexity of implementation – RPA in accounting uses machine bots, which must be installed using the right hardware. Although the difficulty of deployment has decreased, there are still many businesses that struggle to establish these machine robots. Since they depend on programming languages and software, a tiny glitch in the software might have a significant impact on the entire accounting system. It complicates things to the point where it interferes with the organization's overall performance.

#### 5. Future of Robotic Accounting

Due to huge data, modern banking relies heavily on automation, creating difficulties for humans to handle everything. Just too much data is gathered by a corporation for it to handle on its own. RPA in accounting makes it easier to do heavy work efficiently and accurately. (Kathleen & O'Brien, 2021) As a result, the future of the accounting industry is in the hands of these machine bots. The future is quite uncertain. Little did the accountants realize that there would be Excel and software like Tally to make their work easier than it was in the days when transactions were physically recorded in the books.<sup>12-16</sup>

These Millennial and Gen Z generations are well-versed in the realm of digitalization. People find automated chores to be efficient and user-friendly. These generations, who will be our future representatives in many organizations, are more likely to adopt robotic accounting due to its wide range

of benefits, such as reduced repetitive labour, tax filing, and general management of the books of accounts for effective financial reporting.

## 6. Source of Funding

None.

## 7. Conflict of Interest

None.

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