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Literature-based Challenges and Problems of Robotic Process Automation within the Business Organization

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Abstract

The increased demand for business process automation continues to prompt growth for artificial intelligence and software robotics. Robotic process automation (RPA) is one example of an emerging technology within the field of automation that is currently around and impacting many business organizations. RPA does not specifically refer to a physical robot, but to a type of configurable software, also referred to as “softbots”, that performs assigned tasks, eliminating boring, repetitive, and low-value tasks currently performed by humans. RPA comes with great advantages however, one must understand that like many emerging technologies, it also has challenges and problems that would need to be overcome to attain a full benefit scenario. This paper aims to identify challenges and problems of RPA, identified in the literature, that can impact current business organizations. The literature touches on benefits of RPA, but also emphasizes challenges and obstacles that may hurt business organizations when key processes, procedures, and controls necessary to guide its implementation and sound operation are missing.

Keywords: Robotic Process Automation, Internal Controls, Robots, Implementation, Risks, Challenges

Introduction

Robotic process automation (RPA) is one of the emerging technologies of the near future for many different types of business organizations (KPMG, n.d.). The word robot can sound threatening to many workers as they picture some robotic human coming to replace them at their job. In reality, the “robots” referred within the concept of RPA are already around us. RPA does not specifically refer to a physical robot, but to a type of configurable software (also referred to as “softbots”) that performs assigned tasks, eliminating boring, repetitive, and low value tasks currently performed by humans (AICPA, 2018). The increased demand for business process automation continues to prompt growth for artificial intelligence and software robotics (Research and Markets, 2020). RPA refers to an application of technology, governed by business logic and structured inputs, aimed at automating business processes (Boulton, 2018). The robotic part within the RPA definition above refers to computer software and code that is programmed to complete specific tasks or functions.

According to Forrester, the market for RPA is solid, and growth is expected to reach \$3 billion between 2021-2025 (Joseph & Le Clair, 2019).

The idea behind RPA is really in the name. RPA was developed in order to automate certain business processes and jobs that do not necessarily require a human to perform. The main force behind this and most other business decisions is cost (Robotic Process Automation Slashes IT Costs, Alleviates Complexity, n.d.). Having an automated process may have an expensive development and implementation cost, but once the process is set up, it will perform exactly as configured. Alongside this, employers do not have to pay salary and benefits to robots, which can work around the clock whether that be weekends, holidays, late at night, etc.

An example of how RPA can be very beneficial and useful to a business organization relates to the banks and financial institutions industry. A director at Deloitte referred to a bank that had redesigned its claims process using over 80 robots to run and execute about a dozen different processes. The robots handled over 1.5 million requests and the bank added the capacity of over 200 full-time employees for about 30% of the cost (Boulton, 2018). One intelligent and calculated move made by the bank was in its decision to automate the claims process. This process was not chosen at random. There would have been an extensive evaluation throughout the bank on which processes would provide the most amount of benefit through automation. There are always functions that will require a human in order to perform certain types of activities; nonetheless, those that do not, would often see a massive increase in productivity and decrease in errors through robotic process automation. The above example clearly evidences how automating certain business processes can be advantageous and beneficial for business organizations in the long term.

Whether accepted by the business community or not, RPA is here to stay and will likely translate into a massive part of the business industry in the very near future (AICPA, 2018). According to RPA Market Size Report (n.d.), market revenues of the automation industry is forecasted until 2028 to reach \$13.74 billion dollars. Plus, the industry is growing at a rate of over 30% a year. Statistics like the aforementioned clearly support RPA as a major player in the future, and prompt business organizations to start shifting toward automation and ways to implement RPA in the organization. This paper aims to (1) describe the implementation of RPA in business organizations, which requires careful attention to details as well as a solid supporting team; (2) touch on various common benefits and advantages from implementing RPA in the business organization; and (3) identify challenges and problems of RPA, observed in the literature, that can impact the operations of current business organizations. These challenges and obstacles may hurt business organizations when key processes, procedures, and controls necessary to guide its implementation and sound operation are missing.

Implementation of RPA in the Business Organization

RPA implementation requires meticulous attention to details and a sharp supporting team. Examples of some of the larger companies and corporations that have begun using and implementing RPA include Walmart, AT&T, Ernst & Young, and Deutsche Bank (Research and Markets, 2020). The implementation of RPA is changing the fields of accounting, particularly financial statement auditing (or financial auditing). By definition, financial auditing requires many processes and procedures that rely significantly on computers. Automation of certain financial audit procedures that many may consider tedious to auditors, allows financial auditors to focus on more important audit areas and, in turn, operate at a much higher level than before.

An example of how RPA is being used in the financial audit industry is the dual-purpose audit tests. Dual-purpose audit tests require automation software to be programmed to calculate prices and quantities across sales invoices, sales orders, and shipping documents, and determine whether there are differences or not. Upon identification of significant differences, the system is set to generate alerts for transactions that contain such differences and prompt for investigation (Rozario & Vasarhelyi, 2018). The above represents a very tedious procedure that takes valuable time away from financial auditors and if automated, financial auditors can add value by spending more time on more in-depth audit work (Rozario & Vasarhelyi, 2018). RPA has a very exciting future and should really be embraced as a tool that is going to help business organizations operate in a more successful and efficient manner.

The automation revolution is already well on its way and there are already different industries that are successfully implementing it. The biggest one of these industries is manufacturing. A good example of this can be found in the early manufacturing industry. In 1913, Henry Ford invented the modern assembly line, breaking down processes into repetitive tasks and completely transforming the manufacturing industry (Ford, n.d.). In modern-day car manufacturing, RPA is being utilized with robots programmed to perform specific tasks that would otherwise be performed by humans. An example here would be the implementation of Ford's "virtual factory" in manufacturing facilities, which has helped the company in reducing costs by analyzing computer simulations of the complete vehicle production process (Ford, n.d.).

Implementation is arguably one of the hardest part of the RPA process, according to Sobczak (2021). Nonetheless, business organizations should be convinced of the many benefits and advantages automation provides, including cost reductions, delivery of higher-quality work, and quicker turnaround times, among others (Beloof, n.d., Deloitte, 2017). The difficult part regarding automation in a business organization, based on Sobczak (2021), is setting it up with the proper system of internal controls that can do a more than the 'average job', as well as incorporating the right training programs to mitigate expected learning curves. The expected learning curve will be significantly high at the beginning of every automation process, as it has been with the adoption of every new technology (Asatiani & Penttinen, 2016). RPA comes with great advantages; however, one must understand that like many emerging technologies, it also has challenges, problems, and/or obstacles that would need to be addressed and overcome in order to attain a full benefit scenario.

RPA – Barriers, Risks, and Challenges

For a business organization to adopt a new, company-changing technology, like RPA, the right amount of research must be done for the organization to fully understand the technology benefits and risks. One of the major barriers that is currently hindering RPA from being adopted is the lack of research done prior to the technology's adoption. In line with the above, Siderska (2021) stresses the significance of understanding the technology and its implications prior to bringing it on board into the organization. Business organizations currently lack the information needed to understand and effectively implement RPA, and such lack of information may trigger undesired results (Siderska, 2021). While many companies agree that they are moving towards a more automated future, others do not want to dive in until they do their research to understand, assess, and validate that RPA technology will in fact work effectively and provide benefits to their business environments.

While RPA is making a big push to become a staple of the accounting and finance industry, there are some challenges and problems that need to be addressed in order to

achieve a successful implementation. One major consideration that companies need to recognize is the need to establishing new (or revisiting existing) internal controls to support the RPA implementation (Otero, 2018). When technology becomes more integrated into new/existing information systems, risks arise, especially if the automated robots are affecting relevant business processes. Before a company makes the switch to RPA, there needs to be a complete revamp of the internal controls and a new structure of governing automation. Based on Otero (2019), the lack of adequate internal controls within an organization, whether they relate to manual or automated controls, represents a major problem. Over the past decade, there have been many data breaches and hacks that have been the result of poor implementation of internal controls. One of these major breaches took place at Equifax in 2017 (Leonhardt, 2019). Equifax, a consumer credit reporting agency, was subject to a major security breach that resulted in the compromising of personal/private data of over 148 million Americans (Leonhardt, 2019). A report from the U.S. General Accounting Office determined that Equifax's breach was the result of "failure to use common cybersecurity best practices, poor internal controls, and the lack of routine security reviews" (McCafferty, 2020, para. 1). Based on the example above, not having effective internal controls in place can be extremely costly to business organizations. The above is even more significant in automated areas because with automation there is a blind sense of security, meaning that it becomes 'easy' to believe that if everything seems to be running smoothly, then there are no issues or areas of potential weakness. There are always going to be gaps that need to be filled through implementing the right internal controls and an information technology department that understands how everything connects together.

Another major argument against RPA, particularly related to the handling of significant amounts of information, is the unauthorized access to confidential information. Data breaches and hacks are always going to be a major concern when it comes to any big company wanting to protect their information (Otero, 2015). Just because there is a 'better' technology in place does not mean that organizations' systems will not be compromised. It all comes down to whether the internal controls implemented are up to the task of adequately safeguarding companies' private and confidential information throughout and after the implementation of RPA. Lacurezeanu, et al (2020) state that, "internal controls refer to the ability to implement mechanisms that ensure reliable reporting, compliance with relevant regulations and risk reduction in the automated environment" (p. 766). Without proper internal controls, organizations' private and confidential information, including its financials, may be compromised and not reflect accurate and complete information. If business organizations do not focus on the implementation of effective internal controls, then the "performance of RPA implementation may decrease and negatively influence the process" (Lacurezeanu et al., 2020. pg. 766).

The generational gap represents another relevant problem surrounding the implementation of RPA in business organizations. The COVID-19 pandemic was definitely a wakeup call for a lot of organizations, as it was well-demonstrated that these organizations were not as well-versed with technology as they thought they were. A product like Zoom is fairly easy to navigate for the younger generations, yet many older generations struggled with it (Conger & Griffith, 2020). There is a reluctance to shift towards digital technologies in a lot of different areas and most of such reluctance refers purely to a generational difference, being this is one of the reasons the concept of automation is also being held back (Lancaster University, 2018). Companies with younger and more innovative leaders are going to be the

ones leading the integration of automation into the industries of business, accounting, and finance based on (Lancaster University, 2018).

Ultimately, business organizations must understand that there is a fair number of risk factors when it comes to the implementation of RPA. These factors can both slow the technology's adoption process or stop it altogether. According to Sobczak (2021), one of the major risk factors associated with RPA is the "risk of the wrong perception of RPA" (pg. 127). The author states that RPA's wrong perception results from being "viewed only through the prism of activities aimed at cutting the costs related to human resources" (pg. 127). Some may argue against RPA as it might eliminate jobs of hard-working people, although efficiencies may be achieved. There will always be pros and cons to every significant decision or change organizations make. Implementing a significant technology is never an easy task nor decision to make, but in terms of RPA, the pros for many companies have clearly outweighed the cons (Lacurezeanu et al., 2020).

Conclusion

As seen above, it becomes significant for organizations to assess and understand the concept of robotic process automation before taking the decision to embark into its implementation. Emerging technologies, such as RPA, provide bring several opportunities for business organizations to gain efficiencies, as well as stay competitive within its market industry. These opportunities allow organizations to enable robots to perform tedious and time-consuming tasks, while employees can dedicate their time, energy, and effort on other high-value work activities and tasks consistent with the organization's goals and objectives. Nonetheless, emerging technologies like RPA also bring a new set of challenges and risks. Even if business organizations address those challenges and effectively implement RPA, there is still no guarantee that RPA will be successful to the organization.

The challenges surrounding the implementation of RPA are very relevant in today's world, and organizations must do their due diligence to assess and understand the advantages and disadvantages that RPA will bring. These challenges, risks, and/or obstacles, such as the ones described above, must be thoroughly assessed, and addressed in an adequate, timely, and efficient manner. Putting together processes and procedures to ensure that (1) the RPA implementation is consistently aligned with organization standards, goals, and/or objectives; (2) organizations' management is on board from the moment RPA is to be implemented in the organization; and (3) key personnel understand and have the technical knowledge needed for a successful implementation, are examples of effective procedures and controls to have and be in place prior to implementation. Moreover, controls and procedures like the ones listed above are critical to help organizations reduce unfavorable impacts. Understanding, preparing, and addressing the above would help business organizations to capitalize on the new RPA technology and ultimately ensure its growth and further use.

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