Chapter 6
Benefits of Robotic Process Automation (RPA): Today and Tomorrow of the Manufacturing Industries

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ABSTRACT

Robotic process automation (RPA) is a new wave of emerging technologies. It is a computer system that enables the construction, deployment, and administration of sentient robots. RPA or physical robotics has been used in the industrial world for decades to produce, test, and package things. This innovation enables you to streamline and automate end-to-end processes that comprise human-performed tasks. The proliferation of parts is a continuous issue that may cost manufacturers hundreds of billions of dollars each year. RPA in manufacturing allows for a greater emphasis on product innovation and core competencies rather than day-to-day repetitive processes. According to one research, RPA back-end operational technology helps businesses to save up to 40% on their different processes of work. This research seeks to present an overview of the benefits of implementing RPA in the system and its major beneficial effect on human resources, supply chain management, operations, and accounting, all of which contribute to the manufacturing industry's successful functioning.

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INTRODUCTION

Robotic Process Automation is where software "robots" emulates human interaction. The RPA mechanism is formulated in such a manner that it can capture data and use applications just like humans do at a fraction of the cost. They never sleep and are 100% error-free and love mundane tasks. As an example, ATOS a leader in RPA automation in manufacturing industries recently partnered with a major German auto manufacturer to build a workforce of robots to automate business operations in their accounting division. Robotic process automation (RPA) tech simplifies the management of digital tasks for everyone. RPA allows software engineers to construct "bots," or software bots that can mimic and perform business tasks. Users may construct bots by analyzing human digital behavior and using RPA automatization. After you have demonstrated how to do the task, let the bots perform it. Similar to how people interface with systems and applications, RPA software bots can do the same, except they can operate continuously, without interruption, much more quickly, and with stop buttons (Smith, 2022). RPA, or robot process automation, is transforming the way organizations in the manufacturing industry operate. It assists businesses in automating specific work procedures to decrease time spent on momentary manual chores and enhance focus on mission-critical activity. RPA has influenced some of the primary components of manufacturing, such as human capital, supply chain, logistics, and accounting, all of which contribute to the industry's overall functioning. RPA is a significant advancement in the fourth industrial age in general. Industry 4.0 technology blurs the barrier between physical and digital worlds, allowing firms to improve productivity, meet consumer requests, and stimulate product innovation while lowering costs. Discrete and product manufacturers will invest the most in RPA, with estimates for worldwide spending to increase from $542 million in 2017 to $898 million in 2018. Technologies that increase administrative efficiency can also have significant advantages, such as automating repetitive operations to reduce employee workloads (Sremack, 2018). According to surveys, 43% of firms now employ robotic process automation, and a further 43% aim to do so. In the manufacturing sector, physical robotics have enabled industrial automation. Manufacturing, on the other hand, requires disruptive technology such as automated robotics to allow organizations to focus more on industry pillars such as HR, supply chain, operations, or accounting, and innovative products rather than mundane but necessary daily repetitive activities. To boost the speed and precision of process stages, rule-based processes may be automated using robotic process automation. RPA systems are relatively simple to use and do not need any coding knowledge. RPA also quickly interacts with old systems, eliminating the need for a moment and costly software design. Some of the key benefits of adopting Robotic Process Automation in the manufacturing firm are operational price cuts of up to 40%, higher