Chapter 3
Robotic Process Automation as an Emerging Technology in Tourism, Hotels, and Food Service

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ABSTRACT

A new wave of automation known as robotic process automation is revolutionizing company productivity and delivering excellent ROI. This book chapter examines the use of Robotic Process Automation (RPA) in the hospitality, travel, and food service industries. It focuses on how RPA handles routine activities, enhances operational effectiveness, and improves customer experiences. RPA streamlines operations and enables personalized client interactions in the travel and tourism sector. It automates front desk operations, inventory management, and back-office duties in hotels, optimizing resource allocation and enhancing visitor experiences. In the food service sector, RPA automates order processing, inventory management, and supply chain management, improving operational effectiveness and enabling personalized ordering experiences. The chapter covers popular RPA solutions, analyzes implementation difficulties, and emphasizes the future potential of RPA, including integration with cutting-edge technology. By automating mundane tasks and providing a basic framework for implementation, RPA offers significant advantages in industries like aviation, hotels, finance, tourism, and more. This chapter highlights the significance of RPA in enhancing productivity, reducing errors, and shaping the future of these industries.

1. INTRODUCTION

The globe has undergone a significant shift due to ongoing digital developments. Such transformations do not leave business operations unaffected. Robotic process automation is one such innovation. As per the definition given by IEEE (The Institute of Electrical and Electronics Engineers) Standards Association, Robotic Process Automation is "A preconfigured software instance that uses business rules and predefined activity choreography to complete the autonomous execution of a combination of processes, activities, transactions, and tasks in one or more unrelated software systems to deliver a result or service with human exception management." (Moffitt et al., 2018). According to a report published by Mckinsey (Lhuer, 2016), more than 81% of predictable physical work, 69% of data processing, and 64% of data-collection activities could feasibly be automated. With this huge capability for automation, a lot of time and human resources can be saved. Also, the error rates which include data entry errors, calculation errors, processing errors, compliance errors, communication errors, etc. can be significantly decreased. RPA finds its application in nearly all industries and service sectors. The extent of automation can vary from one domain to another.

Industries have been dramatically affected by the Industry 4.0 revolution(Ribeiro et al., 2021). An essential component of this shift has been digitalization. RPA has played a significant role in this area of technology. It could have a big impact on the profitability and level of competitiveness among competitors. With the introduction of RPA in industries and service sectors, the workforce now will just not be the manpower. It will also include a digital workforce created by RPA and usually called "bots"(Choi, R'Bigui, et al., 2021)

RPA can be used to automate a wide range of functions, including sending daily updates or details, front-office tasks, back-office tasks, end-to-end processes, etc. If such monotonous work is delegated to a digital workforce, human labor can be used for jobs that require greater intelligence and added value. The design and deployment of such bots can be done using a variety of RPA tools(Khan, 2020). One option is to list the steps that must be taken in order, and another is to employ recorders. Recorders are a lot simpler approach to creating a bot and do not require any programming expertise. These recorders employ artificial intelligence to pinpoint the task-related elements that a user wants to automate.

Some basic problems and challenges(Syed et al., 2020) Among the challenges an institution faces when implementing RPA are the instillation of employee insecurity, worry about losing sensitive data due to hacking or a system crash, frequent changes in the type of work a workforce undertakes, the need for proactive planning, the requirement that the entire process be managed under human supervision, etc. To name a few, some of the reasons why businesses use RPA to automate their business processes are to reduce human error, increase accuracy, cut down on the time required for humans to perform repetitive tasks, work around the clock, increase their digital workforce, and handle large data sets more effectively. A few of the benefits of using RPA for any company firm are given below (Siderska, 2020)

- Accuracy – RPA nearly eliminated typos and other human errors, boosting accuracy to an extremely high level. Additionally, it keeps the data collection method uniform.
- Free of biases: RPA's work cannot be hampered by biases or favoritism when collecting data or filtering data.
- Low Technical Barrier: Using RPA development tools, a person with little programming experience or technical expertise can easily configure a bot.

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