

CITY UNIVERSITY OF HONG KONG

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Adoption of Robotic Process Automation:

Company Perspective on Back Office Processes

採用流程機器人自動化：企業對用於後台流程的觀點

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Abstract

This study examines the adoption of Robotic Process Automation (RPA) in organization on back office processes. Market information and consulting firm analysis report apprise that RPA, that can automate manual repetitive processes, mimic human actions and unleash human workforce to focus on higher value tasks, will be the next wave of process automation and will have positive effect on organizational performance. However, the discussion focus has been around usage and benefits of RPA and there is not much academic literature on its adoption model within a company. In this study, an empirical RPA adoption model is proposed. Technology-Organization-Environment (TOE) framework underpins the adoption model and hypotheses development for this research. The model posits that technology, organization and environmental factors all have influence on RPA adoption decision. Among the factors, the adoption of RPA being an emerging technology relates to organizational innovativeness. Mixed methods were used in the study. The researcher conducted a case study in her employer company and collected input related to factors including technology capability, relative advantage, organizational innovativeness, top managers' support and support from vendors to inform the research model used in the subsequent quantitative research. A survey was then conducted to empirically test the model using 298 sample data from companies that were of considerable scale in Hong Kong and Mainland China. Logit regression model was applied to test the hypotheses. Measurement results revealed that technology capabilities, compatibility under technological context, technology policy, top managers' support under organizational context, and support from vendors under environment context are facilitators to RPA adoption. However, organizational innovativeness is found to be an adoption inhibitor considering that innovative companies are open to other solutions in addition to RPA.

Interestingly, relative advantage shows a U-shape relationship with RPA adoption suggesting too many advantages can mean a great deal of other considerations like costs and risks. In summary, the research objectives were achieved with the research outcome of delivering a validated model and findings contribute in academical and practical context.

Keywords: robotic process automation, back office processes, IT adoption, organizational innovativeness, relative advantage, technology-organization-environment framework, logit regression, case study, survey