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# A Consolidated Framework for Implementing Robotic Process Automation Projects (Extended Abstract)<sup>1</sup>

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## 1 Motivation

Competing in an international market, companies are forced to work faster and more efficiently to stay ahead of the competition. In doing so, they use Business Process Management (BPM) to monitor their business processes, discover shortcomings, and optimize their process execution. Thereby, BPM is also used to automate business processes. However, due to the heavyweight development and deployment of business process automation through traditional BPM software, robotic process automation (RPA) is attracting attention [Sy20].

RPA is a lightweight technology for automating business process tasks across existing off-the-shelf software without using backend application programming interfaces. Instead, RPA uses existing user interfaces, resulting in rapid development for simple, frequent and exception-less processes, leading to a quick return on investment [Sy20]. Despite the potential and high expectations for RPA, the technology has faced some challenges. Although RPA is considered an easy-to-implement technology, experts are still necessary to create reliable business value when RPA is first applied. As a result, it is estimated that between 30% and 50% of initial RPA implementations fail [Ra20].

Many authors such as Syed et al. [Sy20] call for future research to support the methodological support for technology adoption and implementation as well as social-technical implementation. With our research, we aimed at addressing this open issue. Based on a literature review of successful RPA implementation use cases and an expert interview study, we developed a holistic framework for RPA implementation projects.

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<sup>1</sup> The original paper won the best paper award at the 18<sup>th</sup> International Conference on Business Process Management (BPM) 2020 [He20].

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## 2 Framework

Based on the literature reviews, we found different stages in successful RPA project implementations. Through our expert interviews, we were able to validate these findings and add further stages. Subsequently, we merged the stages into a holistic framework, whereby the realization of these stages can be adjusted to the respective company.

Our framework is divided into three phases: initialization, implementation, and scaling. Further, we distinguish between phases performed once per project and stages that are performed continuously, such as different *RPA support processes*. We identified the *identification* of automation need, the *alignment* with business strategy, and *screening* of different (RPA) technologies within the **initialization** phase. Further, there are overlapping stages such as *process selection*, *RPA software selection*, and *evaluation of business case*, starting in the initialization phase and continuing into the **implementation** phase. In addition, the latter phase should include a *proof of concept* and an *RPA rollout*. Lastly, in the **scaling** phase, the *adaption and scaling* of the accumulated RPA knowledge should be made available for further projects.

## 3 Evaluation

While in theory various concepts have already been developed, in practice companies still face many issues when implement RPA projects successfully. Thus, our holistic framework can narrow this gap and provide methodological guidance. The interviewees confirm our findings and consider our research as an added value. Due to their diversity regarding their roles, industries, and BPM maturity, we do not estimate further biases within our framework. Likewise, we have already applied our framework at SYSHTEMIS AG, a German software development and IT consulting company and found no significant gaps or conflicts and further cases are in progress [He21].

## References

- [He20] Herm, L.-V. et al.: A Consolidated Framework for Implementing Robotic Process Automation Projects. In (Fahland, D.; Ghidini, C.; Becker, J.; Dumas, M. Eds.): Proceedings of the 18th International Conference on Business Process Management. Lecture Notes in Computer Science, Vol. 12168, Springer, Seville, pp. 471–488, 2020.
- [He21] Herm, L.-V. et al.: Managing RPA Implementation Projects: A Framework Applied at SYSHTEMIS AG. In (Czarnecki, C.; Fettke, P. Eds.): Robotic Process Automation. Berlin, De Gruyter, 2021.
- [Sy20] Syed, R. et al.: Robotic Process Automation: Contemporary themes and challenges. In: Computers in Industry, 115, 103162, 2020.
- [Ra20] Ravn, C. et al.: Get Ready For Robots: Why Planning Makes The Difference Between Success And Disappointment. <https://eyfinancialservicesthoughtgallery.ie/wp-content/uploads/2016/11/ey-get-ready-for-robots.pdf>, accessed: 20/05/2020.