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AI in Medium-Sized Companies – Considerations for the Management Accounting Department

Extended Abstract

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Abstract
Artificial Intelligence has recorded a triumphant progress, entering and revolutionizing many industries and functional areas within enterprises. Utilizing AI can provide significant benefits in Controlling divisions. However, especially small and medium-sized companies appear to struggle to adapt themselves to the advancing digitalization. Based on a comprehensive online survey conducted by the Aalen Management Institute (AAUF) in 2019, German SMEs were asked about the state of AI. Results indicate that AI has been used moderately in Controlling. The results also demonstrate that Robotic Process Automation is one of the most widely used AI technologies in the field of controlling.

1 Introduction

The idea of companies benefitting from Artificial Intelligence (AI) is not a new one. From the as early references as 1955 (McCarthy et al., 1955, p. 11) AI, as a general-purpose application (Brynjolfsson & Mcafee, 2017, p. 2), has found its way into various industries (Ly et al., 2020; Weber & Schütte, 2019) and functional areas (Davenport et al., 2020; Sharp et al., 2018). Despite AI technology for Controlling and Accounting have been discussed for well over two decades (O'Leary, 1995) and a number of publications introducing applications (Fisher et al., 2016; Galeshchuk & Mukherjee, 2017), implementing such still poses a challenge for companies (Le Guyader, 2020, pp. 188–189). When focussing on small and medium-sized enterprises (SMEs), it can be observed that there is not much literature found concerning the use of AI in Controlling.

Therefore, the Aalen Management Institute (AAUF) has conducted a study on digitalization in German SMEs in 2019 examining the influence of AI in various areas of an enterprise. This article is intended to illustrate a section of the study's basic findings, to show the state of AI in Controlling and highlight the need for action for companies.

2 Survey and Hypotheses

Data collection was carried out from 22.10.2020 to 11.11.2020. In preparation, a total of 12,360 companies were contacted by e-mail, whereby 1,112 e-mails could not be delivered. Thus, 11,248 companies received the link to the standardized online questionnaire. It was accessed 283 times during the survey period, corresponding to a participation rate of 2.52 percent. Of these, 180 left the survey early, with 103 participants completing the questionnaire.

Most companies surveyed had an annual turnover of less than 1000 million euros and employ fewer than 500 people. Most companies indicated to operate as a GmbH. The sample of companies reflect a wide range of industries, with most companies belonging to the service sector. Most of respondents are employed in the respective IT departments.

The study will test the following hypotheses:

1. There is a growing demand for digitization among medium-sized companies in the area of controlling.

2. AI has only been used to a moderate extent in controlling to date.

3. RPA (Robotic Process Automation) is a growing topic area for controlling in medium-sized companies.

3 Empirical Results

First, the respondents were asked to indicate the degree of digitization in various areas of the company. As the chart below shows, controlling tends to be classified with a medium level of digitization (35 percent).

■ Bereich (Controlling, Accounting&Audit, Risk&Compliance, Finanzen oder Lehre)

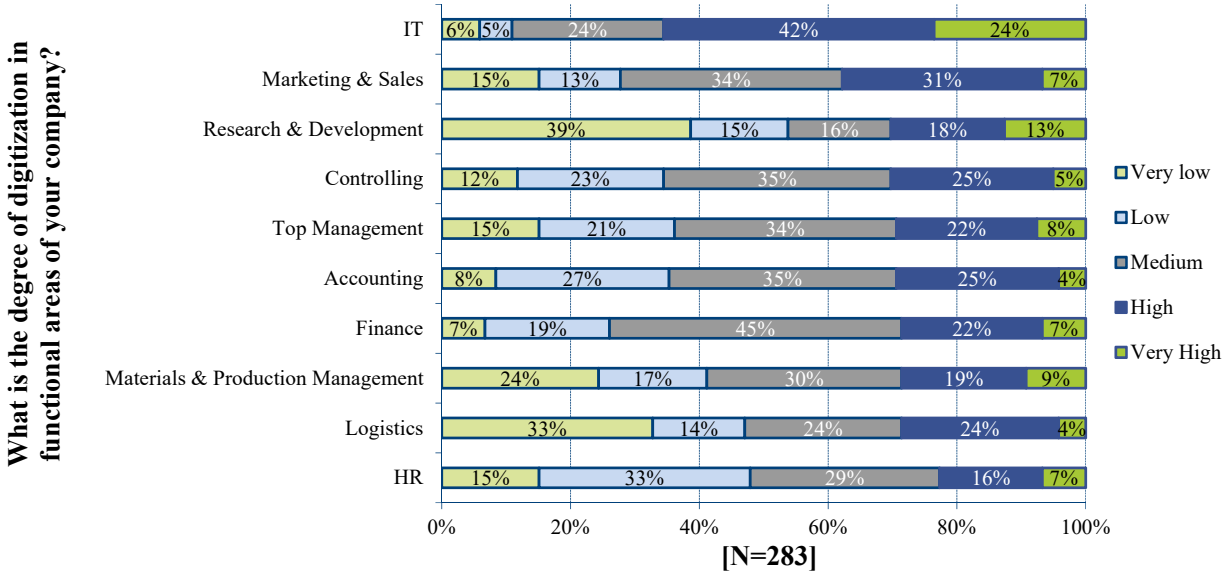

Figure 1: Degree of digitalization in various areas

In addition, the companies were asked to provide information on the suitability of using AI in some areas of the company. IT and logistics are seen as the most suitable divisions for AI. Sixty-five percent of respondents indicate that IT is very strongly suited to the use of AI (34 percent very strongly and 31 strongly). This also includes logistics with 59 percent (28 percent very strongly and 31 percent strongly). In this question, too, controlling is in the moderately valued range (19 percent very strongly, 26 percent strongly and 30 percent medium).

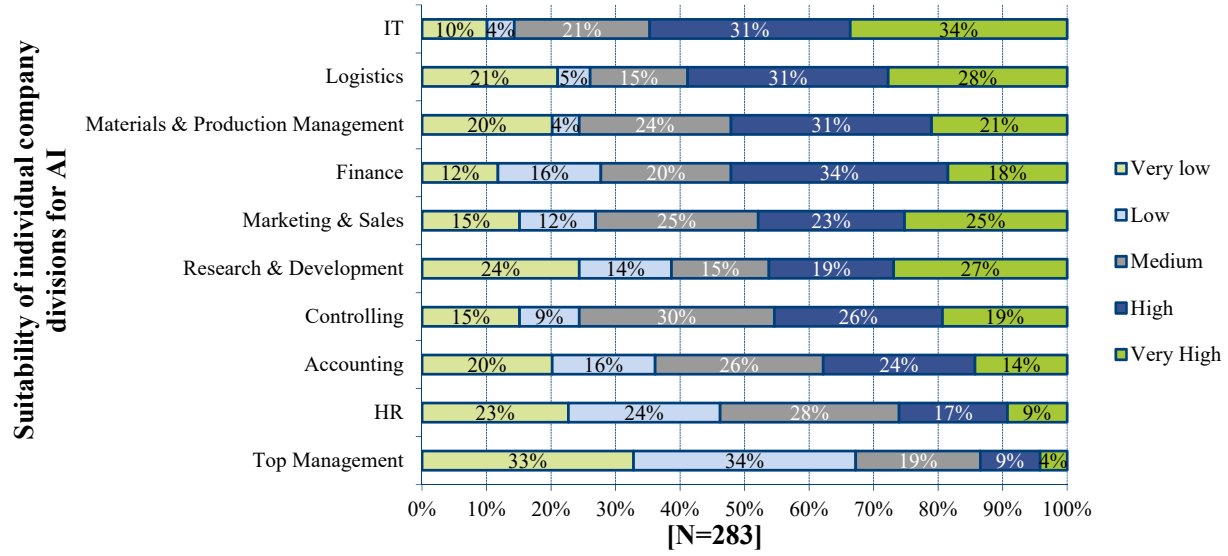

Figure 2: Suitability of functional areas for AI

In the companies surveyed, 20 percent use RPA in controlling. 13 percent use ERP software and data analytics in their company. Another 13 percent do not use AI in logistics. The survey participants also stated that they use key figures from neural networks (7 percent), prediction (7 percent), process mining (7 percent), machine learning (7 percent), SAP (7 percent) and software services (7 percent) in logistics.

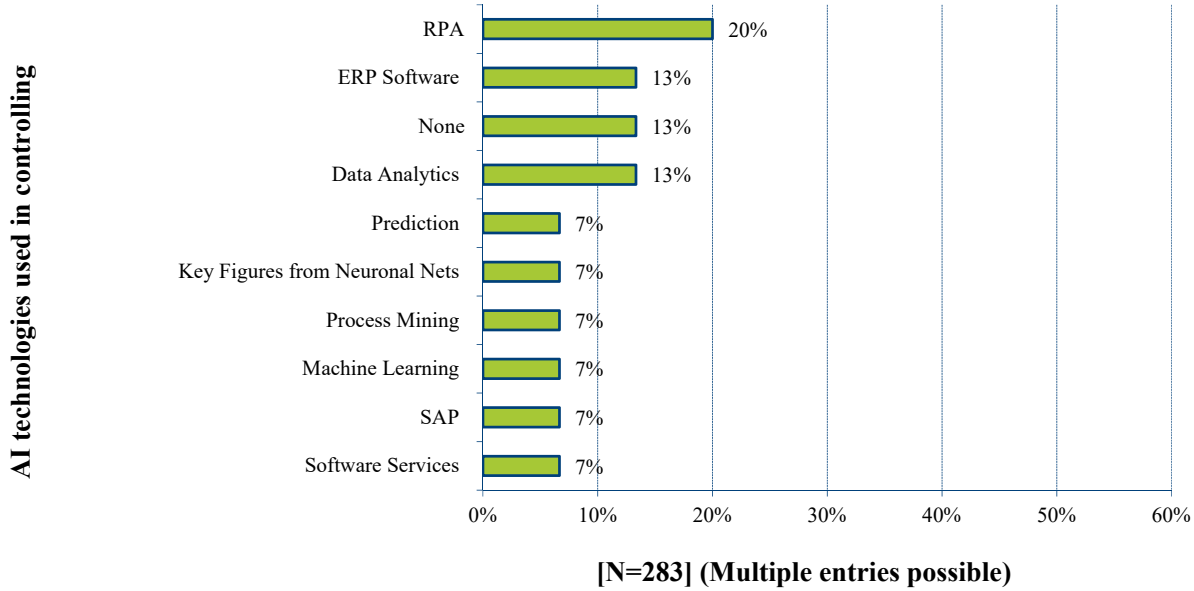

Figure 3: Technologies used in Controlling

4 Conclusion

The results provide an insight on how the use and perceived suitability of AI varies in different functional areas of SMEs. In regard to the hypotheses formulated, this study confirms the moderate use of AI in Controlling today. Furthermore, the assumption of Robotic Process Automation rising in interest is verified, since RPA is the most commonly used AI technology in the Controlling division. According to the respondents, other AI applications are to be found in ERP Systems and Data Analytics.

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