COULD DIGITAL TECHNOLOGIES HELP IMPROVING MANAGEMENT ACCOUNTING IN PANDEMIC TIMES?

Patrick Ulrich *, Mona Kratt *

* Aalen University, Aalen, Germany

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Abstract

In the field of management accounting, there is an enormous backlog of demand from a scientific and practical point of view around the topic of implementing new technologies to increase efficiency and effectiveness. This applies not only, but especially to small and medium-sized enterprises (SMEs), which have fewer human and financial resources than large companies. This research-in-progress article discusses potentials and implementation obstacles of new technologies in management accounting on the basis of an empirical survey among German SMEs from the year 2020.

1. INTRODUCTION

Not only since the global COVID-19 pandemic has the implementation of new, increasingly digital technologies been a challenge for companies (Ritter & Pedersen, 2020). In principle, this applies to all companies and all functional areas, but in this research-in-progress project, we want to focus on two object areas that have not been so strongly in the focus of research at the interface of business administration and information science.

The first area we want to address with our research is SMEs. SMEs generally still play a minor role in academic research (Lavia López & Hiebl, 2015). Many of the solutions discussed for SMEs are downscaled solutions for large enterprises. However, this approach does not do justice to the specific reality in SMEs, because SMEs are not simply

small large enterprises (Welsh & White, 1981). They do have limitations, especially in terms of financial and human resources (Pearce, Pons, & Neitzert, 2018). At the same time, however, specifics such as proximity to the market, customer orientation and, in some cases, the character of the company through one or more entrepreneurial families must be taken into account (González-Cruz & Cruz-Ros, 2016).

When it comes to the adaptation of information systems in SMEs, there is so far only little and also only very specific literature, for example in the areas of innovation management (Rehm & Goel, 2017), risk management (Rehman & Anwar, 2019), business intelligence (Papachristodoulou, Koutsaki, & Kirkos, 2017), knowledge management (Cerchione & Esposito, 2017), or ERP systems (Mughal, Bhatti, Noman, & Ahmed, 2019). To date, however, there have been no comprehensive studies or findings devoted to the business functional area of management accounting as a whole (Andarwati, Nirwanto, & Darsono, 2018).

The field of management accounting itself is undergoing its own profound transformation, which is being intensified by digitalization in particular (Quattrone, 2016). Many of the activities that management accountants perform today relate more to operational aspects such as planning, budgeting, cost accounting and reporting (Lambert & Sponem, 2012). These areas are just as affected by a debate on increasing efficiency and effectiveness as are other sub-areas of so-called accounting information systems (AIS). In this respect, implications for the digital transformation of management accounting could be derived from research on AIS (Granlund, 2011).

Digital technologies are expected to offer the potential for increasing efficiency and effectiveness in management accounting. Companies hope to increase efficiency primarily through the automation of routine processes. Here, technologies such as process mining, robotic process automation (RPA) and variants of artificial intelligence such as machine learning and deep learning could be used to handle routine processes more quickly and thus more cost-effectively. Increasing the effectiveness of management accounting, on the other hand, is aimed at improving the basis for decisions in the sense of decision support. In addition to artificial intelligence (AI), technologies such as cyber-physical systems and chatbots should also be mentioned here (Keimer & Egle, 2018).

This research-in-progress project is dedicated to the area of tension between SME research and digitization research using the example of the implementation of new technologies and information systems in SMEs.

2. RESEARCH MODEL

In the research on management accounting, especially on management accounting systems, the contingency theory plays the most important role (Otley, 2016). For this reason, contingency theory is also

the reference theory for the theoretical considerations of this project. It is assumed that a number of contextual factors influence the principle assessment, technology acceptance, willingness to invest and potential implementation success of digital technologies in SMEs.

The first factor we see here is the size of the company. The size of the company influences the company structure, company systems, human and financial resources of the company and thus indirectly also the design of management accounting systems (Becker, Ulrich, & Staffel, 2011). Here it is assumed that SMEs have fewer and less formalized instruments and systems in management accounting compared to large companies (Lavia López & Hiebl, 2015).

Family influence is seen as another factor influencing the design of the management accounting system. Family influence in the sense of potential influence describes the impact that the entrepreneurial family exerts on strategic and structural decisions in the company. This influence can be approximated by the variable "*familiness*" (Chrisman, Chua, & Steier, 2005). Existing studies show that family businesses deal with management accounting per se (Hiebl, Duller, Feldbauer-Durstmüller, & Ulrich, 2015) but also with specific sub-topics such as performance management (Speckbacher & Wentges, 2012) and risk integration in operational planning (Ulrich & Rieg, 2020) in a significantly different way than non-family businesses.

3. METHODOLOGY

Data collection was carried out with the aid of a standardized online questionnaire containing open and closed questions. To check the questionnaire, a pre-test was first carried out with several test persons. Subsequently, the actual survey took place in the period from November to December 2020. For this purpose, e-mail addresses of German SMEs were randomly generated in advance using the Nexis database. A total of 8,890 companies were contacted by e-mail, whereby 1,016 e-mails could not be delivered. Thus, 7,874 companies received the link to the online survey. The online questionnaire was completed 168 times during the survey period. The response rate is therefore 2.1 percent, which is an acceptable result for an online survey.

4. FIRST EMPIRICAL RESULTS

The evaluations show that the majority of respondents see automation and digitization as the biggest future topics in management accounting. Trends such as artificial intelligence, robotics and social media are also integrated here, among others. The results of this study show that although some companies have recognized the relevance of cyber risks as well as cyber security, there is often a lack of strategic organizational

implementation in order to successfully master the challenges that companies face.

The next topic of the study touches on the degree of automation in the various areas of management accounting. Globally, the highest degree of automation is found in cost and profit accounting. However, only 32 percent of companies rate this as high or very high. All other sub-areas of the management accounting department show significantly lower automation rates.

5. CONCLUSION AND OUTLOOK

The project asked further questions about the effectiveness and efficiency of digitization and automation of the individual areas of management accounting. Furthermore, the topic of the role change of management accountants in the context of digitization was also addressed. Not yet included in this work-in-progress study were the topics of artificial intelligence in management accounting and the use of concrete software tools for various issues in management accounting.

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