Decision-making about and with AI from the perspective of effectuation and causation

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1. Extended Abstract für die Doktorandenwerksatt, Linie 2

Effectuation and causation characterize entrepreneurs' strategic decision-making about the exploitation of entrepreneurial opportunities in two complementary decision-making logics. On the one hand, *causation* describes decision-making according to conventional management principles on predefined goals, the selection of alternatives according to the expected return, the avoidance of unforeseen contingencies through best possible planning, the perception of other actors as competitors and of the future as predictable. On the other hand, according to *effectuation*, entrepreneurs initially develop goals based on the available resources, select alternatives according to the affordable loss, perceive unforeseen events as opportunities as well as market participants as potential partners and the future as to some extent controllable (Perry et al. 2012; Reymen et al. 2015; Sarasvathy 2022).

One of the most intensely discussed entrepreneurial opportunities currently in organizational and entrepreneurial studies is offered by artificial intelligence (Chalmers et al. 2021; Shepherd and Majchrzak 2022). Through its strong information processing capacity, AI is able to interpret large evolving data sets, learn from them, and use that experience to perform specific tasks that have not been explicitly preprogrammed before (Kaplan & Haenlein 2019) and fundamentally changes how new products or business models can be created (Kakatkar et al. 2020). However, in order to leverage the potential of AI, entrepreneurs have strategically to decide about how they want to co-create with AI, which has profound implications for how they will deploy it. So far, however, little consideration has been focused on the nature of AI deployment from a management decision-making perspective (Alzamora-Ruiz et al. 2021). However, with respect to effectuation and causation, it could be assumed that there might be a generally different approach to the use of AI due to the fundamentally different perspectives of the decision principles. Similarly, Grégoire and Cherchem (2020) also call for greater examination of the consequences of effectual or causal decisions, as little progress has been made in literature, particularly in their decision-making on technology deployment (Alzamora-Ruiz et al. 2021). With regard to AI, there are already a few articles that have examined parallels in the functionalities of specific AI methods to the two decision logics (Lupp 2022; Townsend & Hunt 2019; Zhang & van Burg 2020). However, they are all at a theoretical-conceptual level, and it remains open so far how entrepreneurs that make decisions primarily based on effectuation or causation actually decide on the deployment of AI in their organization. Therefore, this article

follows the research question: How do perspectives on co-creation with AI in organizational contexts differ between the decision-making logics of effectuation and causation?

Based on a mixed-methods approach, eight entrepreneurs are interviewed about their strategic deployment of AI in their organizations. Therefore, theoretical sampling (Eisenhardt 1989) is used to identify individuals from the top management of small and medium-sized organizations who are already actively deploying AI or are advising other organizations on how to implement it. The interviewees are managing directors or strategically responsible for the deployment of AI in their respective organizations. To capture as broad a range of experience as possible (Patton 2002), a high degree of variance is sought in terms of industry, management experience and age, and company size. In about 60-minute semi-structured and exploratory interviews, interviewees are asked by two interviewers about their experiences of using co-creation with AI in their organization. All interviews are audio recorded and fully transcribed. In addition, interviewees are further requested to complete a quantitative questionnaire with the respective randomly ordered items of Chandler et al.'s (2011) validated scale that capture the tendency towards effectuation or causation and have been adapted to the context of AI use. This results so far in four respondents who decide primarily by causation and four primarily by effectuation. Separated into these two groups, the interview content will be analyzed using Gioia's methodology through the inductive exploration of first-order concepts as well as their aggregation into second-order themes (Gioia et al. 2012). The combination of the quantitative questionnaire and the qualitative content analysis allows us to explore patterns about the strategic deployment of AI, as well as differences and overlapping aspects from the perspective of the two decision-making logics.

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