Exploring artificial intelligence adoption in public organizations: a comparative case study

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Citizens expect public organisations to use AI to promote the common good and improve their efficiency. Despite the growing importance of this subject, empirical studies are lacking. This new contribution fills this gap by analysing the process of integrating AI into public organisations in Switzerland.

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Introduction

The use of artificial intelligence (AI) in public organizations has been much debated. With the growing spread of AI technologies, citizens expect

administrations to use AI for the public good—for example, to improve services, to provide fast, accurate answers, and to increase efficiency and effectiveness through automation. **Successful use of these technologies can be a decisive factor in strengthening public trust in politics and the administration (Aoki, 2020).**

Despite growing interest, empirical studies on the adoption of AI in the public sector remain limited. **This study is aimed at filling this gap by examining the process of adopting AI initiatives in Swiss public organizations.**

Using an exploratory qualitative research method, the study seeks to understand sector-specific challenges and favourable factors, considering adoption as an ongoing process. By introducing the dimension of time into an established framework of technology adoption, the study seeks to formulate propositions on the relevance of factors at different stages of adoption. In summary, this study contributes to a deeper understanding of AI adoption in the public sector, responding to the need for study on this.

Research process

Using the TOE (Technology Organization Environment) framework, which evaluates technological, organizational, and environmental factors in technology adoption, the study examines factors that influence the adoption of AI projects. TOE takes account of characteristics of the technology, internal aspects of the organization, and environmental factors, thereby allowing a holistic analysis of technology adoption.

Eight cases representing various institutional levels and types of Swiss public organizations were selected based on the characteristics of the organizations (e.g. legal structure and size) and their involvement in AI projects.

Data were gathered through semi-structured interviews with 17 experts directly involved in AI projects. The interview questions were designed to explore factors related to the technology, the organization, and the environment, in accordance with the TOE framework. Internal representatives of the organizations and external project partners were interviewed to obtain a more complete picture. However, it should be noted that the relatively low number of interviews precludes the drawing of generalizable conclusions.

The study assessed the various AI maturity levels by observing variance in the years when projects were launched and their outcomes. “AI maturity level” refers to the sophistication and effectiveness of AI solutions implemented in an organization. The analysis compares cases with differing AI maturity levels, highlighting the progressive importance of technological, organizational, and environmental factors.

Results, discussions and implications for decision-makers

The analysis revealed 24 categories of factors based on the TOE framework, highlighting various elements that influence AI adoption in public organizations.

In organizations with less experience, intrinsic motivation, and partnerships are crucial factors, while in more mature organizations, top management support and internal resources are key. Interestingly, environmental factors appear to have a relatively insignificant effect at all AI maturity levels.

The study proposes theoretical perspectives on the importance of various factors at varying AI maturity levels. However, its limitations include the focus on Swiss cases and the absence of ethical considerations in interviews. Future research should explore transnational differences and citizens' perspectives. For successful AI adoption, decision-makers must consider nuanced factors, prioritizing management support and internal resources, while ensuring ethical implementation of AI to uphold public values.

References:

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