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## Some Remarks on the Challenges of Digital Transformation Research in the Business Sectors

 **Christian Matt**

christian.matt@iwi.unibe.ch

Department of Philosophy

University of Bern

Institute of Information Systems



### Digital transformation and business collaboration

Since digital transformation is an applied field and not a purely theoretical one, collaboration with companies during research is essential. However, such research activities are often subject to two main types of challenges, one arising from the data collection process and the other from the publication process. I will now examine these two obstacles more closely and offer some solutions.

## Challenges in the data collection process

Trust is the fundamental basis for a successful collaboration between companies and researchers. However, building up the trust required to establish that initial connection can be difficult, especially when the parties do not know each other. Companies tend to refuse to collaborate with external researchers when the benefit and/or form of collaboration is not clear. However, even where basic trust has been established, companies often have reservations about disclosing the most sensitive and company-specific data. They may want to prevent them from falling into the hands of competitors or they may not want to publicly discuss failures. This reluctance represents a major problem for researchers, as such perceptions are important to the overall understanding of the underlying problem and would allow other professionals to learn from them. Withholding certain data also prevents the overall understanding of the research object.

Another key challenge in terms of collaboration is often the creation of a common timeline. In the business context, decisions can sometimes be made in a haphazard way, and deadlines are often short. This is not always consistent with the requirements that researchers face in their environment. For example, for practitioners with no academic background, it is often painful to understand that publication processes can take several years.

## Challenges in the publication process

For many researchers, publishing studies on digital transformation is often a difficult process due to the lack of theoretical foundations and development. While the findings may be relevant in practice, their integration into the body of knowledge and their implications for research are not always clearly defined. As research with companies is often carried out on a small scale, it can be difficult to ensure its generalizability or replicability.

It would therefore be necessary to anticipate a possible selection bias that could call into question the representativeness of the results, which is normally associated with a concern for the suitability of the interviewees who, for various reasons, would not be able to give their opinion on the different functions of the company or on the company as a whole.

In view of these frequent problems in the data collection and publication processes, some recommendations are made below:

In general, researchers should strive for long-term collaborations with companies, not only because it can strengthen mutual trust, but also because it may improve the efficiency of many collaborative processes. To this end, it could be useful to create a long-term plan together. Larger collaborative initiatives can be supplemented by a more institutionalized approach, such as regular meetings of stakeholders.

The key to success in establishing such partnerships is undoubtedly to highlight the benefits that the company can obtain. Only by sharing the benefits will companies be committed to supporting the researchers in the long term and assume any additional costs this may entail. The potential benefits of collaboration can be justified, not only by providing external expertise and methodological support, but also, for example, by providing better access to university knowledge resources or to high potential students.

Transparency is also crucial for establishing a trustworthy relationship. This should apply not only to operational issues, but also to the objectives pursued by both parties, including the clear definition of roles and responsibilities, as well as open and reliable communication on both sides. Researchers should inform companies of interim results and proactively share other issues of interest or possible project ideas that could also help to stimulate collaboration.

Whenever sensitive data is involved, a non-disclosure agreement (NDA) can be advantageous for both parties. Researchers will then have a more comprehensive and reliable insight into the research subject, while the company will ensure the protection of its sensitive data. From the researcher's perspective, although access to such sensitive data may be crucial, it is not necessary to publish all information, and anonymizing the data or publication blackout periods might mean information can be published without violating the NDA. However, since unexpected changes in the research environment are common in companies, researchers should have a Plan B.

When considering publication, it is advisable to develop a clear theoretical basis during an early stage of the research planning, without neglecting the possibility of generalizing the practical problem. Researchers should also identify the most appropriate publication options. Journals that are more practitioner-oriented

may offer advantages in terms of the length of the publication process, as well as a potentially more suitable target audience.

To ensure the scientific rigor of the research, it is advisable to select an appropriate number of respondents within the companies. It is highly recommended to triangulate the results with external sources (e.g. annual reports or newspaper articles) to reduce possible respondent bias. Researchers should also strive to make the selection of their respondents and enterprises as transparent and legitimate as possible. Detailed documentation of the research process and underlying methodology will further increase the confidence of the reviewers. While small-scale exploratory studies are particularly suitable for new areas of research, large-scale quantitative studies could be a good opportunity to verify the generalizability of the promise of the initial results.

## Conclusion

Digital transformation research "on living objects" can sometimes be fraught with difficulties, but if well prepared and considering the above-mentioned recommendations, researchers can overcome the double key challenge of such efforts.