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Pilot implementation: Organizational alignment when implementing an IT-system

Linnea Krista Herbæk, Carl Emil Derby Hansen, and Torkil Clemmensen[0000-0002-0934-2336]

Copenhagen Business School, Howitzvej 60, DK-2000, Frederiksberg, Denmark
{Lihe18ad; Caha18aj}@student.cbs.dk, tc.digi@cbs.dk

Abstract. Pilot implementation can be seen as a socio-technical design approach. This paper presents a design case that focused on the optimal implementation and organizational change process when a new IT system is to be implemented in an organization. The case was the pilot implementation of new self-service-oriented IT system for both customers and employees in a Danish SME 'proptech' company. 'Proptech' denote companies dealing with property and technology. The underlying epistemic view of the design case was that of functional pragmatism, and the collection and interpreting of data was aimed at analyzing how the case company managed to implement a new IT system from technical, organizational, and economical perspectives. The analysis revealed that though the case company did not do what current theory in the area prescribes, they still thrived with their pilot implementation. Our position is thus that organizational alignment is an important aspect of pilot implementation, and that it can be analyzed by analyzing various management practices related to the pilot implementation.

Keywords: Pilot implementation, Organizational alignment, Organizational structure.

1 Introduction

Organizational alignment is the process of aligning the organizational structure, culture, and resources with the individuals in the organization. In connection with pilot implementation, it is the process of giving the team behind the pilot implementation the best environment and resources that compliments the development, feedback loop and implementation of the new IT system. This paper argues for the importance of organizational alignment for a pilot implementation to thrive when implementing an IT system. Current theory about pilot implementation presents it as temporary opportunity to let a part of the target users (employees) experiences how the new system will be like to work with [1–3], see also [4–7]. This paper adds to the current theory about pilot implementation by focusing on the organizational alignment that is necessary for pilot implementation.

This paper builds on prior research done by Herbæk & Hansen [8]. They did a case study in a small company that implemented a new IT system through pilot

implementation. The findings from the case study supports this paper's points, and the case study highlights strengths and limitations in the studied company's organizational structure and how it affected their implementation process. Herbæk & Hansen's [8] design case focused on the optimal implementation and change process when a new IT system is to be implemented in an organization. The case was the pilot implementation of new self-service-oriented IT system for both customers and employees in a Danish SME 'proptech' company. 'Proptech' denote companies dealing with property and technology. The underlying epistemic view of the design case was that of functional pragmatism, and the collection and interpreting of data was aimed at analyzing how the case company managed to implement a new IT system from technical, organizational, and economical perspectives. The analysis revealed that though the case company did not do what current theory in the area prescribes, they still succeeded with their pilot implementation. Below we unfold the findings and the argument from the case.

2 Objectives

There are three main objectives for this position paper:

- To emphasize the importance of ensuring alignment between the technical side and organizational side of a pilot implementation.
- To contribute to the design of the optimal pilot implementation framework/process/model.
- To contribute with the findings of a conducted case study on pilot implementation

3 Organizational alignment

3.1 Why is organizational alignment crucial for conduction pilot implementation?

Pilot implementation is defined by "a field test of a properly engineered, yet unfinished system in its intended environment, using real data, and aiming – through real-use experience – to explore the value of the system, improve or assess its design, and reduce implementation risk" [2]. With the introduction of an unfinished system comes certain obstacles which the management must focus on to make the development and implementation process thrive.

We use the notion of organizational alignment to describe interventions that ensure that the pilot implementation and the current and the long-term business goals of the organization are aligned. It is well established that one of the key factors for successful organizations is the close linkage of its IT strategy and business strategy [9], and this is also true for socio-technical design and business strategy. Different conceptualizations of organizational strategies exists, and we follow the idea of strategy as practice [10] where the study object is how management practices are used to put strategy into

practice. Thus, the practices of managers should be aligned with the practices of designers to achieve successful pilot implementation.

However, if the organization is not aligned with the pilot implementation it could lead to stagnation of the implementation process, and to inefficiency in the work, test and development flow [8]. Herbæk & Hansen analyzed organizational alignment initiatives based on the theory of the three legged stool [11] that focuses on decision-making rights, performance evaluation and reward systems, and supported by the theories of Kotter's 8 steps for organizational change [12, 13] and the principles for lean startups of companies [14, 15]. The three-legged stool stipulates that decision-making rights, performance evaluation and reward systems must be in balance and aligned to the company's current situation to create success in what is desired to be accomplished. A finding from analysis of these three areas was that the initiatives of the case company management affected the pilot implementation in both positive and negative ways, and that though the case company did not do what current theory in the area prescribes, they still succeeded with their pilot implementation [8].

3.2 The importance of data management in pilot implementation

In the case of the company studied by Hansen and Herbæk [8], the company desired to develop and implement a new IT system through pilot implementation. In theory, pilot implementation requires iterative testing and flowing communication between the developers and employees participating in the testing of the new unfinished system [2]. The developers require the decision rights to develop and test anything they find valuable for the new system, if it is based on the feedback generated by the. It is important to minimize the bureaucracy and allow developers to test as this generates feedback about the system in development which is crucial in pilot implementation. For the feedback loop to generate sufficient and valid feedback about the system in development, good communication tools and data management is required.

However, the design case revealed a significant amount of freedom in the communication and reporting of feedback between the developers and employees, but a lack of structured data management when multiple employees reported feedback about the system in development to the developers. The lack of structured data management led to confusion among the developers, as the feedback data got unmanageable as there was a lack of overview [8]. The case study finding is thus that pilot implementation requires a refined data management structure to get the most out of the feedback generated from the employees.

3.3 Alignment of organizational reward systems to design practices

The use of an unfinished system in real-use experience tends to be accompanied by lower efficiency in the workflow in which the system is used. This can lead to employees choosing to not utilize the new system in full, as it does not generate the same outcome as the already established system. This resistance needs to be addressed by the management. If the organizational performance evaluation is not aligned with the need

for testing the new system, developers will have a harder time getting the necessary feedback in which they use to further develop the new system.

In the case of the company studied by Hansen & Herbæk [8], the management lowered their performance evaluation goals as a means to empower the employees' engagement in testing the new system. The lowering of the organization's performance evaluation goals furthered the development of the new system through organizational alignment and ensured that the employees' individual needs and the organization's vision and strategy was aligned [8]. The engagement of the employees used for testing as well as the developers is crucial. The allocated decision rights and the freedom that follows these decision rights needs support to sustain the level of engagement. This can be done through financial incentives. In the case of the company studied by Hansen & Herbæk [8], the organization allowed for the full time workers to obtain warrants, which represents an equity in the firm, as part of their salary. The inclusion of warrants generates a sense of ownership with the employees and further boosts the engagement, as they will know that whatever obstacles they face now are worth it, as it benefits the organization as well as them as individuals. The organizational alignment of organizational reward systems to design practices therefore benefits the development, testing and implementation process of a pilot implementation [8].

4 Discussion and conclusion

This position paper asks what management can do to support a successful pilot implementation and answer the question by pointing to organizational alignment. The major insight from the design case was that though the case company management did not do exactly what current theory in the area prescribes, their initiatives were still important to the pilot implementation. Thus, the practices of managers were aligned with the practices of designers and users to achieve successful pilot implementation. This contrasts somewhat current theory that do not mention management except as project management [2] or as a stop/go decision maker for pilot implementation [1]. Our position is that organizational alignment is an important aspect of pilot implementation, and that it can be analyzed as Herbæk & Hansen [8] did it by analyzing various management practices related to the pilot implementation. Future research on pilot implementation may analyze management not as external stakeholders but as co-designers.

We provide two starting points for further research on organizational alignment in pilot implementation. First, the management of feedback data should be studied by looking at how the feedback data management systems needs to align with the feedback requested and tests that are being conducted. Furthermore, innovative accounting practices should be studied with an eye on measuring progress using test and quantitative data derived from the tests conducted to supplement the qualitative descriptions of the progress that the development team has done. Second, the design of reward structures and performance evaluations related to the individuals participating in the pilot implementations should be aligned to generate motivation to generate feedback, as the individuals participating in the are likely to not utilize the system in development as much as needed for pilot implementation if it affects their performance bonuses.

5 References

1. Mønsted, T., Hertzum, M., Søndergaard, J.: A Socio-Temporal Perspective on Pilot Implementation: Bootstrapping Preventive Care. Comput. Support. Coop. Work. 29, 419–449 (2020).
2. Hertzum, M., Bansler, J.P., Havn, E.C., Simonsen, J.: Pilot implementation: Learning from field tests in IS development. Commun. Assoc. Inf. Syst. 30, 20 (2012).
3. Hertzum, M.: Organizational Implementation: The Design in Use of Information Systems. Synth. Lect. Human-Centered Informatics. 14, i–109 (2021).
4. Bansler, J.P., Havn, E.: Pilot implementation of health information systems: Issues and challenges. Int. J. Med. Inform. 79, 637–648 (2010).
5. Hertzum, M., Simonsen, J.: Effects-driven IT development: an instrument for supporting sustained participatory design. In: Proceedings of the 11th Biennial Participatory Design Conference. pp. 61–70 (2010).
6. Hertzum, M., Manikas, M.I., á Torkilsheyggi, A.: Grappling with the future: The messiness of pilot implementation in information systems design. Health Informatics J. 25, 372–388 (2019).
7. Torkilsheyggi, A. á, Hertzum, M.: User participation in pilot implementation: Porters and nurses coordinating patient transports. In: Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures: the Future of Design. pp. 290–299 (2014).
8. Hansen, C.E.D., Herbæk, L.K.: Proper - A study of a change and implementation process (unpublished bachelor thesis), (2021).
9. Baets, W.: Aligning information systems with business strategy. J. Strateg. Inf. Syst. 1, 205–213 (1992).
10. Jarzabkowski, P.: Strategy as practice: recursiveness, adaptation, and practices-in-use. Organ. Stud. 25, 529–560 (2004).
11. Brickley, J., Smith, C., Zimmerman, J.: Managerial economics and organizational architecture. McGraw-Hill Education (2015).
12. Kotter, J.P.: Leading change. Harv. Bus. Rev. 2, 1–10 (1995).
13. Appelbaum, S.H., Habashy, S., Malo, J., Shafiq, H.: Back to the future: revisiting Kotter's 1996 change model. J. Manag. Dev. (2012). https://doi.org/10.1108/02621711211253231.
14. Ries, E.: The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses. Currency (2011).
15. Eisenmann, T.R., Ries, E., Dillard, S.: Hypothesis-driven entrepreneurship: The lean startup. (2012).