A "Braive" New World: Exploring Adoption of Mental Healthcare Technology

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Abstract: Digitalization is a macro-trend affecting every sector, albeit in different ways. We study the process of digitalization of the public mental care system, by analyzing the case of the introduction of a new digital technology, Braive, within two Norwegian mental care clinics. Despite positive initial attitudes among the employees, we find that, absent effective managerial and organizational support, professional care providers will effectively resist the adoption of new technologies. Managers need to ensure that professional concerns are heard and integrated within the adoption process, if they intend to reap the potential rewards that digitalization offers for the medical care field.

Keywords: public-sector innovation; front-line employees; Professional Service Firms; public management.

1 Introduction

Anxiety and depression are one of the main contributors to the burden of mental illness worldwide. In Norway, about half of the population suffers from mental health problems, making mental health one of the country's most expensive welfare challenges. Despite the availability of psychotherapy and psychopharmacology, a substantial proportion of Norwegians suffering from mental health problems go untreated. The recognized obstacles in the current landscape are (1) individuals' barriers to seeking help related to stigma connected with psychiatric treatments, (2) physical challenges, and (3) systemic barriers such as long waiting lists and staff shortage.

The adoption of technology in mental healthcare is increasingly viewed as a solution to help overcome individuals' cognitive barriers towards receiving mental care and to

expand access to mental health treatments. Research on the clinical effectiveness of such treatment method is growing (Karyotaki et al., 2017) in line with research concerning the many systemic and technical aspects involved in such implementation process (Kadesjü Banck & Bernhardsson, 2020). Particular attention is given to organizational aspects, such as technical knowledge, management support, staff involvement, and employee training (der Vaart et al., 2019).

Despite growing evidence of digital psychotherapy's clinical effectiveness, however, successful organizational implementation of digital solutions in health care practice has proved to be challenging (Kadesjü Banck & Bernhardsson, 2020). This study contributes to the understanding of telepsychiatry innovations in the context of Norwegian mental healthcare. In doing so, this study investigates how organizational factors affect the implementation of one particular digital psychotherapy service – called "Braive" at Lovisenberg Community Mental Health Center, located in Oslo. Through qualitative in-depth interviews with nine central actors involved in the local implementation process, this study analyzes the organizational adjustments, challenges, and setbacks that have characterized the implementation of Braive to provide insights on the organizational challenges facing the technological development of mental health care.

The article is organized as follows. After this introduction, section 2 describes our theoretical framework of reference. Section 3 illustrates our methodology. Section 4 contains our findings, which are concluded in Section 5.

2 Theoretical framework

Rapidly developing digital information and communication technologies are becoming increasingly prevalent in every socioeconomic sector, including healthcare (Dowding, 2013; Murphy, 2010; Nohl-Deryk, Brinkmann et al, 2018). Their integration is bound to have significant consequences, as all welfare technologies are not neutral but rather value-laden; in particular, digital technologies in the healthcare context are expected to affect the care receivers, as well as the care workers (Frennert et al. 2019), the working environment, the care professionals' roles (Meskó et al., 2017), care services (Wu et al., 2009) and clinical practices (Sensmeier, 2011).

To understand the processes of change that digitalization will bring in the context of mental care, we can apply the theoretical framework developed for the analysis of so-called Professional Service Firms (PSFs from now on). Like PSFs, mental care clinics are characterized by high knowledge intensity, low capital intensity, and professionalized workforces (Empson et al., 2015; von Nordenflycht et al, 2015; Smets et al., 2017). Professionals working in these organizational contexts control the use of their knowledge by self-regulation (von Nordenflycht, 2010). The high knowledge intensity implies that value is created mainly from intellectual work by the personal attention (Løwendahl, 2009) of "front line workers" (Alvesson, 2000) in close cooperation with their patients. Since professional associations function as agents of reproduction of existing practices (Greenwood, Suddaby, & Hinings, 2002), PSFs have been able to resist the external pressures to change, such as digitalization, that have affected firms in other industries (Kronblad & Pregmark, 2019). This should not be understood as inertia, however.

Social workers active in the care sector can perceive the use of digital technologies in their day-to-day practice as a form of de-professionalization that depersonalizes social work practice (Parrott & Madoc-Jones, 2008), raises ethical issues (López, 2014; López-Peláez, Pérez-García & Aguilar-Tablada, 2017), and decreases managers' control over social workers' activities (Loos, 2016). These concerns can create a significant barrier to

the acceptance of digitalization (Deusdad et al, 2018). Healthcare professionals' attitudes and experiences will influence their willingness and motivation to use technology, with negative attitudes and experiences contributing to a lack of motivation among staff to use technology (Buntin et al., 2011). Organizational support is needed during the implementation of technology to ensure the meet the concerns of the key personnel and ensure the required commitment and readiness of the entire organization (Cresswell & Sheikh, 2013; Rippen et al., 2013).

3 Methodology

We conducted eight semi-structured interviews with practitioners and management at Lovisenberg Community Mental Health Center and one interview with a Braive representative, to gain in-depth insight into organizational members' reasoning and reflections. This allowed us to comprehend the logic through which they viewed the world (McCracken, 1988). Furthermore, in depth interviews provide an effective means of obtaining rich insights into the phenomenon of interest, as they provide access to detailed contextual information and individual insight that cannot be obtained from surveys (Gwinner, Gremler & Bitner, 1998). The informants were identified first through expert sampling, and then through snowball sampling, ensuring that all protagonists of the process have been interviewed, and their perspectives integrated

The interviews lasted from 32 to 53 minutes; they were digitally recorded and transcribed verbatim. To structure respondent explanations and interpretations, we inductively examined our data by following the procedure suggested by Gioia and co-authors (2013), a method considered particularly appropriate for research on change and sensemaking (Langley & Abdallah, 2011). In the first stage, we developed "open" codes by uncovering initial concepts from respondents' statements by using NVivo research software. Then, we confronted our results and integrated them, prioritizing adherence to the respondents' opinions to solve controversies. In the second stage, we classified these into higher order themes through axial coding based on the relationships among the initial first-order codes, translating the empirical results into relevant theoretical constructs.

4 Findings

Preconditions

This study identifies two main factors for Lovisenberg's adoption of Braive: early management commitment and public policy adjustments. In all interviews with the management group and occasionally during conversations with practitioners, informants refer to the *Adjusted Level of Effective Care* (ALEC) project as key for the choice to adopt a digital psychotherapy service. ALEC was an EU-funded research project aimed to design and review new digital ways of delivering therapy focusing on patient autonomy. In addition to Lovisenberg functioning as the clinical research partner, ALEC involved Braive and FRISQ Care, a Swedish digital patient involvement system company. Moreover, the hiring of Informant 7, the person in charge of the implementation process of Braive, too, reflects a commitment to integrating digital technologies within psychotherapy practice, as stated by a manager:

"We didn't want the project or the service to end up in the project cemetery and hired "Informant 7" ASAP to make sure that e-therapy actually could become something sustainable at Lovisenberg".

Furthermore, the governmental approval of digital psychotherapy provided more legitimacy for Lovisenberg to continue to offer this type of treatment:
"It has been crucial for us that there was a decision coming from the government that internet treatment is approved as an ordinary treatment. At that time, the documentation basis was considered so thorough and so good that there was no longer any reason to call e-therapy experimental" (Informant 8, management group).

Another crucial prerequisite was the changes in the public funding system for health care, which made it more economically beneficial for the center to provide internet-based mental health treatment.

Organization

Practitioners were recruited based on voluntary interest. The management group wanted to create an e-health team and envisioned that clinic A and B would commit to using Braive for 40% of their working week. Practitioners representing clinic B, familiar with the ALEC project, approved this approach to the implementation of Braive. However, this message was somewhat unclear for the practitioners representing clinic A:

"We were told that this was a pilot project and something that we could take part in. It was unclear at first what the framework and intention of this were. Then, it turned out that the management's side wanted to establish an e-health team at Lovisenberg. It also became clear that the idea was that we would spend 40% of our time on e-therapy. So, we all became a bit like, "wow, we did not expect that". When we expressed the confusion, the management said that the 40% was more a goal than a requirement. Anyway, I am definitely not close to the 40% target in my work. It is too difficult to motivate my patients" (Informant 2, clinic A).

The management group recruited practitioners on a voluntary basis because they did not want them to feel forced to become a part of the e-Health team: management hoped that an open invitation would spark interest in many practitioners. Fewer individuals made contact than what was initially expected, however. This recruitment process was perceived by clinic A practitioners as "getting information about what technology can do", rather than promoting large-scale adoption. However, since Covid-19 challenged usual face-to-face interventions, clinic A practitioners believed it was essential to try this new digital service.

The next step was to provide training in using the service. In addition to reviews of existing clinical research on digital psychotherapy, physical demonstration of Braive's programs, and a clinical manual, the training also included administrative and professional guidelines descriptions. The latter included information about registering treatment courses in the local patient system, coding this type of treatment, and invoicing such treatment courses. The guidelines were established by the management group, and perceived as a new, additional administrative burden by practitioners, who previously only had to follow an administrative "recipe" applicable to the standard face-to-face interventions.

Like most psychiatric treatments at Lovisenberg, the practitioners were reminded to individually assess whether digital psychotherapy is a method suitable for the relevant patient. Subsequently, the training also involved discussions about how to best structure

communication with patients. Using Braive means that the treatment course contains fewer actual conversations between the practitioners and the patients. Like many other digital psychotherapy services, the communication with patients through Braive includes telephone conversations and text-based feedback on patients' "homework". Both clinic A and clinic B practitioners perceived this approach to communication as an "unusual way of conducting psychological follow-ups".

As a reaction to these challenges, management later established monthly team meetings to facilitate an arena for open discussions and sharing of experiences, to reinforce the practitioners' sense of community:

"These meetings build a sense of community. To be honest, I sometimes feel very lonely working as a psychologist. I have to make many decisions and assessments alone without actually having someone to overwatch or guide me. And e-therapy makes it even more lonely, as I see my patients less frequently. It feels very safe to meet everyone once a month" (Informant 2, clinic A).

Using the service
While clinic A practitioners perceived the integration of this service as something that leads to more work (e.g., writing feedback, motivating the patient, registering work hours in a new way), and found it challenging to reach the 40% goal, clinic B practitioners, having more time at hand due to differences in the patient groups, highlighted the benefits of using Braive:

"I find it valuable that both my patients and I can see the recovery progress so clearly in Braive. In this way, I gain a much better overview of my patients' challenges and where we are in the process" (Informant 5, clinic B).

The management group claimed that the practitioners are free to decide how much time they spend on Braive treatments, despite the stated 40% goal. However, Informant 7 explicitly stated that the practitioners must "organize their own schedule and make time for this". The practitioners, on the other hand, stated that:

"There are constantly many issues with patients that I can and should dig deeper into, so I can't magically make up more time to become familiar with the programs. If, for example, my boss said, "you get fewer patients than the others because you should spend Mondays getting familiar with Braive", then I think it would have been more motivating for me. Now, I'm thinking that I can spend time on this (Braive) at any time, but also spend time on anything else, which is just as important" (Informant 2, clinic A).

Every informant believed that digital psychotherapy in general and Braive in particular can be beneficial. Moreover, positive experiences with using Braive are consistently mentioned by both the management and the practitioner groups in regard to patients' motivation and satisfaction. However, while clinic B practitioners described their patients as being more involved in the treatment course by taking responsibility for their recovery process, clinic A practitioners struggled to motivate their patient group.

"I find it valuable that both my patients and I can see the recovery progress so clearly in Braive. In this way, I gain a much better overview of my patients' challenges and where we are in the process" (Informant 5, clinic B).

"Patients are commonly eager at first, but this slips out during the course. That is difficult for us as psychologists. If we use Braive in combination with psychical appointments, much of the focus in the face-to-face meeting goes to reminding them of using the service. That balance is quite challenging" (Informant 1, clinic A).

5 Conclusions

Digitalization within mental healthcare contributes to expanding access to mental health treatment and overcoming citizens' obstacles to seeking professional help (Arnberg et al., 2014; El Alaoui et al., 2015). Against this background, this study focuses on how organizational factors influence the implementation of digital solutions (Helfrich et al., 2007).

We find that the combination of early management commitment and supporting external policy developments have been essential preconditions for the partial success of the program. We also find that factors such as clearly stated goals and intentions, supportive implementation practices and policies, and a champion's presence all played important roles in supporting the process. Where these factors were partially absent, the process of implementation has slowed to a halt, as the concerns of professionals were not taken into account, prompting their effective withdrawal from the process of technological adoption. Such a process requires holistic approaches and careful coordination between different levels of organizational units. Telepsychiatry implementation projects include staff from both the management, IT department, and other underlying clinics. The latter means that those in charge of organizing and guiding the process must find ways to integrate different skills, priorities, and knowledge to facilitate the collaborative process.

Firstly, decision-makers should form an organizational team dedicated to the practical implementation. In a process where frontline employees are most likely going through phases of uncertainty, acceptance, doubt, and adaptation - building a sense of community has proven to nurture employees' motivation to use the given innovation. The second suggestion is to give sufficient time for employees to become familiar with the new technology. Decision-makers should recognize the layers of "newness" that comes with the innovation and understand how this affects frontline employees' daily work. One way to build familiarity is to arrange regular team meetings where experiences and issues can be shared and discussed. Thirdly, the different interests among organizational groups should be recognized, respected, and managed. Identifying various groups' needs will, therefore, be beneficial to ensure a lean implementation process. Finally, we suggest it would be beneficial to identify individuals who can "champion" the implementation process by advocating for change and function as a direct link between the hospital or clinic's executives and frontline employees.

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