



TripAdvisor of healthcare: Opportunities for value creation through patient feedback platforms

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ABSTRACT

The objective of this study is to explore new opportunities for hospitals to use patient feedback platforms (i.e., digital platforms on which patients express their opinions on their care journeys). Patient feedback platforms generate an ever-expanding amount of data on patient experience of care that is currently unused by most hospital or their business intelligence unit.

We used the methodological approach of netnography on the negative feedback received by one hospital combined with interviews to identify the potential value of the data generated by the patient feedback platform.

The main findings are that a digital feedback platform serves as a source of data to indicate: (1) Where to act (by localizing the negative comments), (2) On what to act (what thematic provides satisfaction and therefore is to be kept; or causes dissatisfaction and thus is to be improved), and (3) How to innovate (ideas about new practices to implement). It becomes evident that the platforms are developing a service to help hospitals make sense of this raw data and that a hospital can use patient feedback from other hospitals to improve their own practices.

The first implication of our results is that patient feedback platforms generate a complementary type of feedback (i.e. based on patient perception and not empirical fact), as well as a source of data (i.e., patients' external spontaneous feedback and not internally controlled survey feedback) for the Business Intelligence unit engaged in the transformation of the hospital towards patient-centered care. The second implication is that these platforms create a feedback network effect (i.e. A patient's feedback can be used by hospitals other than the focal hospital concerned by that feedback, therefore increasing the overall value of the platform). The third implication is that digital transformation is enabled not only by data generation on the platform but also by data analysis services provided by the third party that runs the platform.

1. Introduction

Patient feedback platforms (also called online review platforms) refer to digital platforms on which patients express their opinions on their care journeys and are popularized as the "TripAdvisor of health" (Quelch, 2016). The literature on patient feedback platforms in healthcare has evolved from an early focus on the thematic analysis of the content of the patient feedback and the explanation of positive and negative comments to an emphasis on the potential uses of the patient feedback platform (Wiig et al., 2013). However, in comparison to how the platform is used by patients (e.g., Lockie et al., 2015; Lu and Rui 2018; van Velthoven et al., 2018; Rothenfluh and Schulz 2017; Shah et al., 2021), its use by hospitals has received little attention, with a few exceptions exploring how feedback patient platform can be used for

assessing patient-perceived hospital service quality (James et al., 2017; A. Rahim et al., 2021).

In recent years, the practical use of these platforms by the hospital has proliferated (Lee et al., 2018), ranging from a sample tool to manage e-reputation (Lee, 2013) to a digital technology that replaces the internal patient feedback survey (Emmert et al., 2014). For instance, the private hospital "clinique Les Orchidées" in la Réunion is no longer using internal patient surveys and is instead asking the patient to post their feedback on an online patient feedback platform, which is consequently used as a quality management tool (James et al., 2017). The public hospital "Brignoles" in France is considering any negative comment received on these platforms as a quality incident that is to be managed.¹ Moreover, some public authorities are considering the use of these platforms to assess hospital performance (Shah et al., 2021; Marley

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¹ More information on these two French hospitals can be found in this webinar (in French): <https://share.vidyard.com/watch/rnFMc9zJTrLteRgyV9qhyb?>

et al., 2004). In the US, hospitals have shifted toward a market-driven approach of using patient satisfaction as a measure of organizational performance in addition to their traditional measures of cost reduction and improving quality and efficiency (Marley et al., 2004).

Given the increasing importance of patient feedback platforms, the present research asks: “How can hospitals use these feedback patient platforms?” In exploring this research question, we adopt a data generation perspective of digital transformation (Uriarte et al., 2017; Sousa et al., 2019; Nebeker et al., 2020), which suggests that the digital transformation of an organization or industry is enabled by the huge amount of data that digital technologies generate. This paper thus investigates the value of the data generated by the patient feedback platform to deduce (1) potential uses for hospitals; and more broadly (2) the digital transformation of the healthcare industry.

To unpack the value of the data generated by patient feedback platforms, we used a netnography approach of the negative feedback received by one hospital that we complemented by interviews from the platform and hospital point of view.

We contribute to the literature by identifying the uses of data generated by patient feedback platforms, developing a data-driven digital transformation of hospitals. We argue that the specificity of patient feedback platforms -making the patients’ feedback public and freely available-can create a competitive race of being the first hospital to sense and grab the patients’ feedback as a complementary source of data for business intelligence. Indeed, a hospital is not limited to use only its own feedback, as it can expand its data set using the feedback received by competing hospitals. Digital feedback platforms are thus changing the way patient feedback is used by hospitals, creating what we call a “feedback spillover” (i.e., the value of each patient feedback is exponential as it can be used not only by the focal hospital but also the others).

2. Digital transformation in healthcare: the potential of patient-initiated feedback platforms

2.1. Data and digital transformation in healthcare

The digital transformation refers to a fundamental change process enabled by the innovative use of digital technologies aiming at radically improving society, industry, business network or organization (Gong and Ribiere, 2021; Massaro, 2021). An analysis by World Economic Forum of more than 65 digital initiatives suggests that the combined value – to society and industry – of digital transformation across industries is upwards of \$100 trillion over the next 10 years.²

While past research has unpacked the fundamental change processes enabled by digital technologies in the corporate sector (Elia et al., 2020; Rippa and Secundo, 2019), a recent emerging group of research, to which this special issue belongs, are calling for research on the opportunities of the fundamental changes of institutions and organizations operating in the healthcare sector (Yoo et al., 2010; Cohen et al., 2017; Ramaswamy and Ozcan, 2018; Wang et al., 2020). Technology offers unknown possibilities to healthcare that need to be unpacked (Presch et al., 2020) such as empowering a patient-centric approach, increasing operational efficiency, or supporting workflow practices (Kraus et al., 2021). Earlier studies on digital transformation in healthcare analyzed how blockchain, robots, 3D printing, artificial intelligence and other digital technologies have been implemented, what patented inventions they generated and what are their intended and unintended benefits and consequences (Bardhan et al., 2020; Ting et al., 2020; Wang et al., 2020; Massaro, 2021).

A consequence of the growing adoption of digital technologies is the

² From World Economic Forum website, accessed June 2022: <https://reports.weforum.org/digital-transformation/an-introduction-to-the-digital-transformation-initiative/>.

generation of an ever-expanding amount of data that can be potentially used by managers and consultants to improve both decision-making and business processes (Uriarte et al., 2017; Sousa et al., 2019; Nebeker et al., 2020). In fact, the generation of a huge amount of data is viewed as one of the main effects of digital transformation in healthcare (Basile et al., 2022; Spanò et al., 2021). A stream of research, to which this paper belongs, focuses on this data generation perspective of digital transformation (Uriarte et al., 2017; Sousa et al., 2019; Nebeker et al., 2020).

After the recent pandemic, the number of studies in the field of data in healthcare and its applications has increased dramatically (Sechi et al., 2020). However, as noted by Basile et al. (2022), even if there are plenty of applications based on the use of data to improve medical processes (i.e., supporting physicians in selecting and monitoring prognosis and diagnosis) (Methaila et al., 2014; Topuz et al., 2018) or the ‘information and communications technology’ architectures and the data management systems (Ahmad et al., 2016; Ali et al., 2013; Meyer et al., 2014; Swarna Priya et al., 2020), the use of data for improving healthcare management processes is still limited (Liu and Lu, 2009; Patil et al., 2010). Said differently, while digital technology unlocks new opportunities to fundamentally change the healthcare processes using the huge amount of generated data, the healthcare organizations do not necessarily make use of all the vast amounts of data that are constantly being generated and accumulated. In this line, interesting research results point out that technologies can play a role in building antifragile strategies (Sohag et al., 2022; Cobianchi et al., 2020).

A central theme of debate among digital experts is whether humans in general and businesses, in particular, are capable of keeping up with the rapid and ever-increasing generation of data to employ them for well-defined aims. Being able to identify and exploit these data is a critical business intelligence capability for healthcare organizations (Basile et al., 2022). According to Basile et al. (2022), business intelligence is “a combination of processes, policies, culture, and technologies for gathering, manipulating, storing, and analyzing huge collections of data (the so-called “big data”) coming from internal and external sources, to communicate information, create knowledge, and inform decision making”. In light of this definition, the present study reveals how a specific type of unused data generated by digital technology can be used for business intelligence goals of healthcare organizations.

2.2. A critical type of data in healthcare: the feedback

For business intelligence, the use of quality information is critical. Quality information is one of the six-dimensional framework of Total Quality Management (Mahmoud et al., 2019). Its key attributes are accuracy, timeliness, appropriateness, reliability, completeness, relevance, and being cost-beneficial and user-targeted (Murtala, 2012). The information enables senior management to take a corrective decision and deliver the interventions at the right time (Murtala, 2012).

One way to enhance the quality of both information and staff performance is through implementing feedback processes (e.g., from partners and managers centering on client engagements) (Luxford et al., 2011). In an organization where performance feedback is present, two direct impacts are commonly visible: One is fostering a climate of learning on the job in the spirit of development and heightened performance. The second is conveying and reinforcing cultural values. Past research has found that organizations that preach service quality and do a good job at staff orientation and training are more likely to have their service quality messages and values embraced by their staff (Burke, 1999; Schneider and Bowen, 1995). Burke (1999) found that feedback measures had significant and positive relationships with the presence of a climate conducive to learning and development and the existence of cultural values supportive of high-quality job performance as well as quality service to clients.

2.2.1. Collecting patient feedback

Past research has highlighted the importance of listening and responding to patients' feedback, which can improve the quality of care in hospital settings (Barr et al., 2006; Berwick, 2013; Angelos, 2020). In healthcare, a big picture goal is to provide healthcare to a large number of people at a reasonable cost. However, since care ought to be patient-centered, this endeavor should be accomplished with the patient experience at the forefront (Lavela and Gallan, 2014). Despite the various definitions of patient experience, there is an overall agreement that this concept incorporates the patient's journey as a whole and carries important managerial and clinical implications (Wolf, 2019). At the hospital level, measuring patient experience is instrumental in meeting patients' expectations, enhancing strategic decision-making, improving care, monitoring healthcare performance (Batbaatar et al., 2016; Bjertnaes et al., 2012; Paddison et al., 2015) and providing opportunities for innovation (Oliveira et al., 2017). At the health policy level, patient experience is increasingly recognized as an indicator of the quality of healthcare provision in developed societies, being frequently cited in national and international health policy (e.g. Institute of Medicine, 2001; NHS England, 2013).

Patient-centered care is about providing care that is respectful of and responsive to individual patient expressed preferences, needs, and values, ensuring that patient values guide all clinical decisions (Browne et al., 2010). It is one of the six health care quality aims proposed by the Institute of Medicine (2001), along with safety, efficiency, effectiveness, timeliness, and equity. In parallel to traditional ways of collecting patient feedback (e.g., those initiated by the hospital through qualitative or quantitative feedback surveys), an emerging approach uses digital patient feedback platforms (Marsh et al., 2019). In this section, we overview the *traditional* way of collecting patient feedback before focusing on the *emerging* digital feedback platforms.

2.2.2. Traditional way of collecting patient feedback

A key way to measure whether care is patient-centered is by surveying people who have had contact with the health care system. Hospital-initiated feedback systems are effective for collecting patient responses (typically through quantitative surveys) and are the most widely used response-collection method (Gleeson et al., 2016). In addition to hospital feedback system, many national healthcare systems have adopted surveys to measure patient experience while overseeing hospital performance. Examples are General Practice Patient Survey (GPPS) in the UK, e-Satis in France, and the Hospital Consumer Assessment of Health-care Providers and Systems (HCAHPS) in the US.

The main advantages of these types of hospital or national surveys is that they are well-structured to capture the patient's experience on a diverse and inclusive range of topics. However, several studies have questioned the effectiveness of hospital or national surveys, highlighting issues such as invitation and response bias as well as the lack of a detailed account of the patient-doctor relationship (e.g., Robert et al., 2018; Asprey et al., 2013). Other researchers have argued that while such hospital or national surveys help inform patient-centered care initiatives, they are expensive to administer, slow to inform and rigid in their questioning and design (Chakraborty and Church, 2021). Recent research has even suggested that despite their coverage, such surveys may not capture a full and holistic picture of patient experiences, and therefore patients need to express themselves in an unstructured way (Boylan et al., 2020).

2.2.3. Emerging digital platform for collecting patient feedback

Past research has documented a growing interest in types of patient feedback that are not primarily collected by the focal organization such as online complaints and reviews (Gillespie and Reader, 2016; Griffiths and Leaver, 2018). As a complement to (and not a substitute for) traditional surveys, the recent emergence of digital review platforms in healthcare (hailed as the "TripAdvisors of health") offers an opportunity for patients to express what might not have been captured in formal

hospital surveys (James et al., 2017). For instance, a study of Physician rating websites (PRWs) exploring narrative comments about patients concerns, highlighted that patients are mostly satisfied with their physicians but physicians should focus on the time spent with the patients, waiting time, and take more attention to the patients (Emmert et al., 2014).

The specificities of the patient feedback generated on these digital platforms are that the patient feedback is collected by an external third party (i.e., not the hospital), and they are open to the public (i.e., anyone can read them). This open access to the feedback has two consequences: First, the future patient can use feedback from other patients to decide whether or not to choose a healthcare center over another (Holliday et al., 2017). Second, hospitals can use this publicly available feedback in the benchmarking and monitoring of organizational practices (Marsh et al., 2019).

During the past decade and with the growing popularity of patient feedback platforms, researchers and healthcare providers have increasingly paid attention to the content of posted comments, trying to unlock the drivers of high and low rankings of doctors (Rahim et al., 2021). For instance, a shorter wait time, treatment efficacy, communication, diagnostic quality, environmental sanitation, and cost were linked to positive rating (Lin et al., 2020; Zaman et al., 2021). In another research, the words "nurse" and "doctor" were mainly used in positive patient feedback, while "room," and "discharge processes" were used in negative feedback (Nawab et al., 2020).

To go beyond unpacking the percentage of subjects or themes with positive or negative sentiment, there are recent calls for studying how patient online reviews should go beyond basic descriptive analysis and test theory-based hypotheses in order to offer additional clinical and policy implications (Hong et al., 2019; Rahim et al., 2021). For instance, a study by Brookes and Baker (2017) found out that interpersonal skills, rather than technical (medical) competence, has been the basis of both positive and negative judgment of hospital staff by their patients. Based on this work, implications were deduced such as the importance of "soft" skills and therefore the need to focus upon and develop them in staff training programs. In another instance, Greaves et al. (2012) demonstrated that hospitals that were poorly evaluated by patients had a higher mortality rate, which calls for the use of online patient feedback to assess the quality of care and target areas for quality improvement.

Overall, this emergent source of digital patient feedback constitutes a nascent, immature field of study that provides more questions than answers (Gleeson et al., 2016; Lavela and Gallan, 2014). Common questions relate to what feedback to collect, how and when to enable process changes in the healthcare organization. Unlocking these questions is an important topic because even with the appropriate measures of patient experience in place, meaningful or systematic use of these measures may be missing (Wiig et al., 2013). It is also a timely topic because past research suggests that a lot of feedback is collected but is not used (Coulter et al., 2014). As a step to shed light on these important questions, we argue that patient feedback platforms are digital technologies that hospitals can embrace to detect areas and ideas for process change, making these platforms a key factor in the digital transformation of the hospital.

3. Methodology

3.1. Empirical context

Hospitalid e is an innovative solution that aims to maximize the spread and transparency of information regarding hospitals and clinics³ in France. Inspired by the success of review platform business models in the hospitality sector (e.g., the evaluation of restaurants and hotels),

³ Throughout the paper, the term "hospital" is used to refer to "hospitals and clinics."

Hospitalid e offers a digital platform where patients rate their stay at hospitals and clinics and share their positive and negative experiences. According to its founder and CEO, whose professional field is not the healthcare sector, this platform is a “tool for achieving health democracy”. His goal is to provide helpful information to patients during their choice of health professionals and organizations. For him, the platform does not focus on “the care but on the taking care” (e.g., the quality of the reception, the waiting time, the quality of care and the feeling of security when patients leave the establishment).

We picked the Hospitalid e feedback platform as the subject of our study for several reasons. First, this platform has a process through which the authenticity of the feedback is verified (in the case of the hospitals who chose to partner with the platform), which is a clear advantage compared to Google Opinion, where fake or malicious accounts cannot be easily identified.

Second, during an exploratory interview, the CEO of the platform stated that most hospitals resist joining the platform. Given this negative perception of the platform among hospitals, it is both relevant and interesting to explore the potential value that the platform creates for them.

Third, Hospitalid e was described as “one of the most promising platforms of its kind” and received several awards as one of the best e-health innovations in France. This recognition implies that it is a credible, innovative and important phenomenon to explore, and it is of potential interest to innovation scholars and practitioners.

3.2. Data collection

We decided to use the posted patient feedback on the digital platform as a data source to investigate the potential usage for hospitals of the generated data. We thus had to identify which sample of patient online feedback was appropriate to use. We decided to collect all the negative patients’ feedback posted on the patient feedback platform Hospitalid e with the first hospital who decided to partner with it. This choice was made after using Kozinets’s (2002) five criteria to identify the most suitable sample of comments. Indeed, Kozinets (2002) is a seminal methodological article for research using netnography approach. Netnography is a qualitative research method inspired from ethnographic technique and based on the internet and its active online communities (Kozinets, 2002). The first criterion is to “ensure the relevance of the feedback to the research question”. As we intend to identify the use by one hospital of the generated data on the platform, our level of analysis has to be the hospital and we decided to focus on patient feedback for one single hospital. We call this hospital OSTI (anonymized name). The choice of OSTI was deliberated due to OSTI being one of the first few hospitals to partner with Hospitalid e to access premium services. These services allow feedback authentication and also include a content analysis of the feedback that we were able to access.

The second and third criteria of Kozinets (2002) are the “higher traffic of postings” with “larger numbers of discrete message posters.” OSTI is asking its patients to publish their feedback on Hospitalid e and thus has more than 4000 feedback posted by different patients on its page. The fourth criterion is to “select the more detailed or descriptively rich data.” We decided to select all the negative feedback because extreme comments are expected to be the richest and most revealing. We consider that each feedback with a grade equal or under 3 (on a 5-points scale) is a negative comment as the average rating of Hospitalid e is 4 out of 5. This gives rise to 134 “negative” feedbacks. Data collection was conducted over a one-month period in July 2021. The collection was unobtrusive in nature (Kozinets, 2002) in the sense that patients posting on the platform were unaware of the data collection process when they posted the comment.

The fifth and final criterion is to adapt the data collection to the research question. As we intend to explore how the hospital is using the feedback platform, we enriched our methodological approach with primary data collection. This included three interviews with the CEO of

the platform and two with the quality director of OSTI who initiated the partnership with the Hospitalid e. These interviews were opportunities to triangulate our findings that emerged from the analyses of the patient comments.

3.3. Data analysis

A two-step content analysis has been done on all the negative comments published on Hospitalid e about OSTI. In the first step, we explored the “distribution” of the negative feedback to identify its origin.

In the second step, we analyzed the content of all the negative feedback for OSTI and took the sentences as the unit of analysis. The coding was based on a skim reading of each feedback. We identified all organizational, facilities, or relational elements that were mentioned. We used the constant comparative method of analysis: each unit was compared to the previously categorized units so that all of them could themselves be categorized. The coding process was continued until several themes emerged to achieve saturation. Using this method, we identified 52 different elements. After an exchange among the study’s authors about the categories and clarifying them, we ended up with 24 categories (cf. first order themes in Table 1).

Once the categories were defined and the feedback were put into context, three relationships emerged between them: (1) innovation required to improve patient experience, (2) practice to keep doing in order to maintain patient’s good experience, (3) practice to stop in order to improve patient experience (cf. second-order themes in Table 1). Then, the results were presented to Hospitalid e’s CEO for comments and feedback.

4. Results

4.1. Identifying the right place to act

An investigation into the unstructured feedback reveals some underexploited potential for hospitals. It provides information on where to act to improve patients’ perceptions of success and the experience of care (cf. Table 2).

Patients’ negative feedback concerns all types of stays offered by OSTI, namely stay with operating room (36), stay without operating room (3), outstay with operating room (8) and outstay without operating room (87). This negative feedback concerns different hospital activities: anesthesia and intensive care (1); oral surgery (1), surgery during a one-day stay (25), otorhinolaryngology surgery and visits (16), orthopedic and traumatology surgery (12), plastic surgery (6), urology surgery (11), vascular surgery (2), digestive and hepatic surgery (26), obstetric surgery (4), oncology (7), ophthalmology (1), pneumology (1) and urology (8). In eleven instances, the negative feedback does not mention the reason for the clinic visit. The identification of the department provides information on where actions for change can be focused. Therefore, digital feedback platforms inform organizations on the areas to change in order to increase patients’ perception of success and the experience of care.

4.2. Identifying on what to act

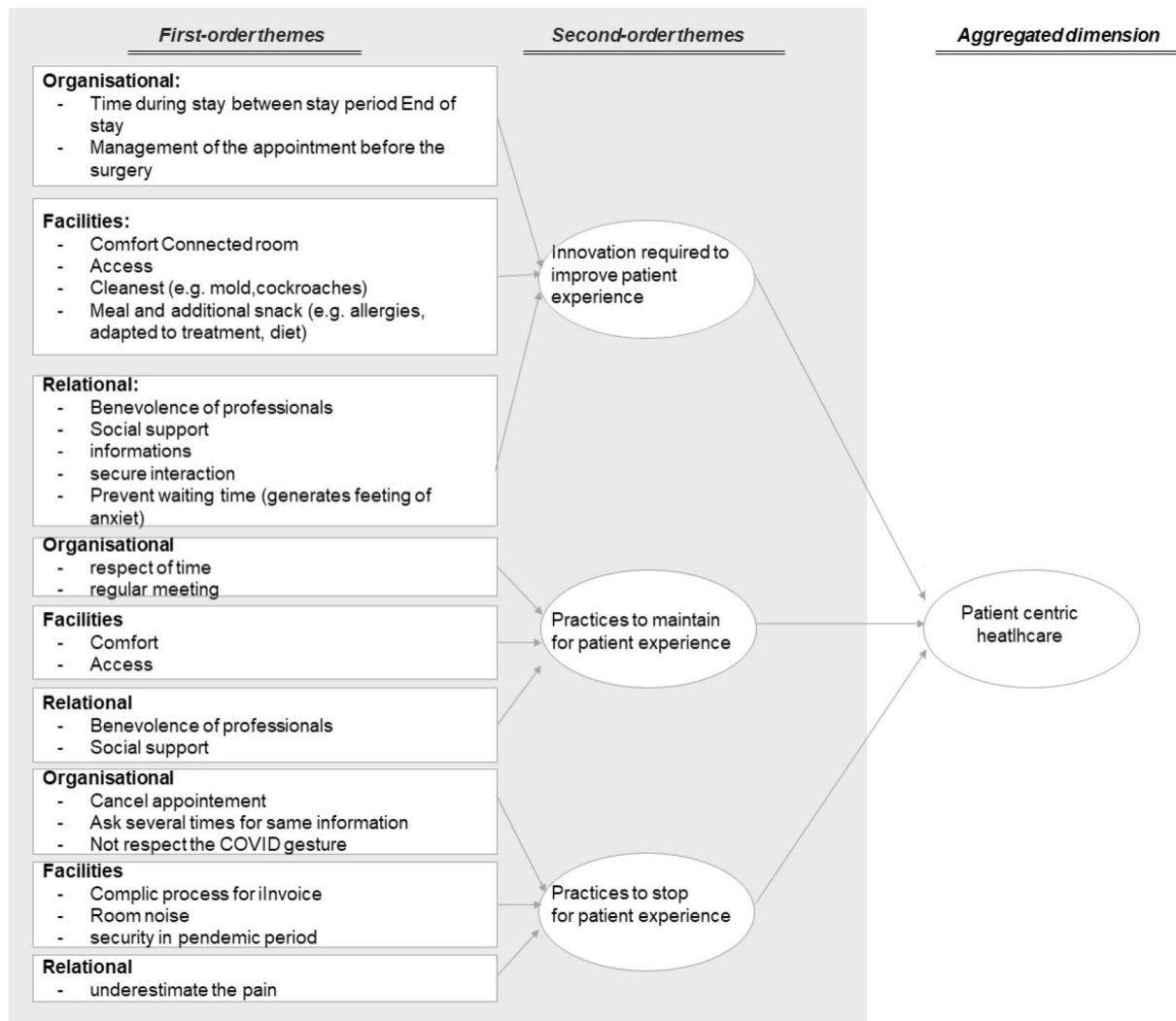
Patients’ feedback identifies the object of possible improvement. Three main topics emerged from the feedback: Relationship (51), organizational and coordinative aspects (27) and hospital facilities (40).

One group of feedback addresses the quality of the relationship between patients and health professionals. Patients mention their personal and interactional expectations, such as caring about patients (37).

“The benevolence of the nurses and care assistants who had a good sense of human relationships.”

Benevolence is expected of all the actors of the health organization,

Table 1
Coding of the negative comments of OSTI.



including physicians, nurses, hospital porters or administrative staff. Patients report that benevolence may be in the form of smiles, being attentive to patients' fear or lack of trust, providing physical support and reassurance after operations and ensuring transparency of the information provided by health professionals.

"Nice at first but then became unpleasant towards us "

A second group of feedback focuses on the facilities provided by the studied hospital. Attention is paid to various aspects, such as additional services or hospital infrastructure, including parking, room size, number of patients allowed in a room (particularly in the context of the Covid-19 pandemic), room comfort and the quality of hospital cleaning. Additional services, such as Wi-Fi equipment, wall plugs and the personalization of lunch and dinner, are also addressed.

"Old buildings need improvement in soundproofing."

A third group of feedback concerns coordinative and organizational aspects of care. For instance, patients mention the respect of the time of the medical appointment. The time providers take to respond to certain demands can point to a lack of coordination between them and a lack of coordination regarding the transmission of medical information and information associated with the patient's discharge from hospital.

"Patient care involved a two-hour wait time and two hours spent waiting for discharge"

4.3. Patients' fulfilled and unfulfilled expectations as well as undesired outcomes

Digital feedback platforms provide access to ideas that can increase patients' perceptions of success and their experiences of care. Indeed, negative feedback may contain both positive (43) and negative views (122) on several topics. This negative feedback shows that hospitals can meet patients' expectations in some areas but not in other areas, and this may influence their total rating. Additionally, it provides some information about what may be important for patients.

We can observe three situations: (1) an alignment between patients' expectations and hospital offerings, resulting in fulfilled patient needs, (2) a misalignment between patients' expectations and hospital offerings, resulting in unfulfilled patient needs and (3) a misalignment between patients' expectations and hospital offerings, resulting in hospital practices that are undesirable for the patient.

In the first situation, although we focused on negative comments, some patients' expectations were found to be fulfilled. More precisely, patient fulfilled expectations concern the quality of interactions with

Table 2

Distribution of the 134 negative feedback (collected in collaboration with Hospitalid e).

	Outstay with operating room	Outstay without operating room	Stay with operating room	Stay without operating room
	8	87	36	3
Anesthesia and intensive care		1		
Surgery during a one-day stay	6	16	5	
Oral surgery		1		
Otorhinolaryngology surgery		12		
Orthopedic and Traumatology surgery		8	4	
Plastic surgery		6		
Urology surgery		9	2	
Vascular surgery		2		
Digestive surgery	1	8	1	
Gastroenterology and Hepatics surgery		8	8	
Obstetric (no surgery)				
Obstetric surgery		2	2	
Oncology		5		2
Ophthalmology	1			
Otorhinolaryngology (sinus, noise ...)		2	2	
Pneumology			1	
Radiology				
Urology			6	2
No information			10	1

hospital employees, comfort of rooms, parking area and coordination of care. The majority of the favorable comments are associated with the interaction between patients and health employees. Feedback suggests that the quality of interactions depends on the perception of care from all the actors in contact with the patient.

“My son’s surgery was great; the hospital has quality surgeons. And there was a super stretcher bearer who knows how to manage children.”

In the second group of feedback, comments highlight hospital failures in several dimensions. Failures typically concern hospital infrastructure, which can be evaluated as old, not sufficiently following hygiene rules or lacking amenities, such as plugs, Wi-Fi, air conditioning, room comfort and vending machines for food and drinks.

“There is a lack of signs and the absence of pavements in your establishment. When I finally arrived in the right building, I was told that the appointment was on the first floor, that the lift had broken down (without being told when this occurred) and, moreover, that the practitioner could not come down to meet me under the pretext of not having software on the ground floor (and despite the advancements made to provide an office equipped for a consultation). I find this intolerable for a medical establishment.”

“Be careful with the diet because I had the bad experience of being served a dish that I couldn’t eat, so be very careful.”

Failures also concern organizational aspects of care. A lack of communication between professionals and patients emerged. Patients expect more explanations about the continuation of the care after the end of their stay. Some additional expectations deal with food constraints associated with treatment. They perceive that the hospital does not consider this indirect part of treatment. Additionally, during the pandemic, they noticed a lack of regard for health measures by health professionals.

“While waiting in the corridor, I saw a nurse take her mask from under her chin and put it back on when coming towards me. I cannot understand how they can touch a mask and put it back on. There is surely a risk of contamination involved.”

In the third group of feedback, patients state that the hospital may conduct some unexpected actions. For instance, they mention that the hospital studied does not have a time constraint mode, and this can increase the time spent by a patient in a unit. This can occur during an unexpected exposure to a virus or illness, especially in a pandemic context.

“The Covid test was not checked when I entered the department. This was a mistake that was only noticed on the third day during my fibroscopy. I could have contaminated the whole department, including obese people and the fibroscopy block.”

In contrast, some comments mention the perception of being under-considered due to the productivity trend of the hospital. Patients mention feeling pressured to limit the duration of their stay. Cost also plays a role in this, as patients wish to avoid paying a huge bill at the end of their stay.

“They wanted me to leave the clinic. I wanted to leave too, but I was too ill to. I was told that my blood pressure was good, so there was no reason why I couldn’t go. Finally, I threw up, which made me feel better, and I left the clinic. I left, but I shouldn’t have because I threw up everything I ate. I could have ended up dehydrated or worse.”

4.4. Identifying the value added to OSTI by Hospitalid e

Hospitalid e and OSTI have signed an official partnership. This partnership led to the production of a report by Hospitalid e to OSTI. Our analysis of Hospitalid e’s report revealed several pieces of information. First, Hospitalid e gives a quantified satisfaction rate provided by patients (i.e., a global rate for OSTI of 4.65 points out of 5), and a subjective evaluation of this rate is communicated to the OSTI. Here, in comparison with other hospitals, Hospitalid e qualifies OSTI as a very good hospital with a high global evaluation: *“The clinic has a good image BEFORE the patient’s arrival and builds satisfaction DURING the stay.”* Based on a quantitative evaluation before (4.16/5) and after the patient’s stay (4.46/5), Hospitalid e suggests that OSTI create value during the stay. Moreover, based on volume analysis, Hospitalid e notes that only 56% of patients will recommend OSTI to other patients.

Second, the data collected are classified to identify the strengths and weaknesses of OSTI. Data are collected by the platform during and after the stay and are compared with the evaluation before the partnership with Hospitalid e. The presentation highlights the importance of health professionals’ roles and attitudes (smile, benevolence, communication), which enable OSTI to achieve this good evaluation. Weaknesses, such as tariffs, administrative staff, patients’ rights, management of end of stay, services and meals are pointed out. General comments on these aspects include the following:

“Patients are (very) satisfied with their stay, mainly because of the relationship with the doctors and staff. However, points of ‘surprise’ or dissatisfaction significantly reduce the level of recommendation.”

Third, some proposals on adopting innovations based on the level of importance of patients’ needs and the level of complexity of the implementation are identified. One proposal concerns methods for reducing negative feedback and increasing reputation. To do this, Hospitalid e suggests that OSTI provide responses to each negative feedback (ratings under 3/5). Another proposal focuses on raising awareness of the services that receive many negative opinions. Each negative feedback can be qualified as an undesirable event that can be analyzed by the Risks and Quality department.

Fourth, Hospitalid e recommends OSTI to be involved in a more

regular and systematic evaluation of feedback from their hospital but also from other hospitals to improve its organization and reputation. Ideas such as “*hypnosis for maternity*” or “*offering two gowns for the patient to preserve the patient dignity, instead of one where we can see buttock in case they are standing*” can be found from the analysis of the patient feedback of other hospitals.

5. Discussion

Based on the netnography on the negative feedback received by one hospital, and combined with interviews, this paper discusses how the hospital can use the patient feedback platform in the interest of its digital “patient-centered care” transformation. Patient feedback platform generates an ever-expanding amount of data on patient experience of care and our paper identifies three main uses. It also shows that a key feature of the patient feedback platform is the feedback being publicly and freely available to anyone. This feature allows hospitals to use the patient feedback they receive but also those received by other hospitals. Another key feature is that the platform offers an add-on service in addition to collecting the feedback, which is to analyze the content of the feedback and offer recommendations for the hospital.

5.1. Theoretical contributions

The paper first contributes to the literature interested in unpacking how the data generated by digital technology can help care decision-makers (Uriarte et al., 2017; Sousa et al., 2019; Nebeker et al., 2020). In answering these calls, past research focused on how the data generated by these digital technologies can improve clinical care or processes (James et al., 2017). Indeed, our netnography demonstrated that data related to the doctor-patient relationship can be generated on the platform. Put differently, our study points the opportunities for health organizations to develop additional services or value creation expected by patients. In doing so, it contributes to reinforcing antifragile strategies within health organization in a competitive market (Sohag et al., 2022; Cobiainchi et al., 2020).

Moreover, our netnography unpacked an additional way to broaden what data a digital technology can generate. Digital technology can collect data on patient perceptions and experiences; in contrast to traditional collection of empirical data based on facts, e.g., as in James et al. (2017). This new trend enriches the framework of value in health (Porter, 2010). By integrating patients voices and highlighting the issue of transparency and power between doctors and patients (Massaro, 2021), it provides a broader scope and a qualitative evaluation of what health organizations provide to citizens and society.

Our second contribution is to the nascent literature on the use of patient feedback platform (James et al., 2017). Platforms in general are identified as a source of innovations, creating knowledge and positive management changes coupled with health economies (Presch et al., 2020; Spanò et al., 2021). Our study opens the scope to organizational point of view and healthcare process management (Basile et al., 2022). We identify digital feedback platforms as a source of data to indicate: (1) Where to act (by localizing the negative comments), (2) On what to act (what thematic provides satisfaction and therefore is to be kept; or causes dissatisfaction and thus is to be improved), and (3) How to innovate (ideas about new practices to implement). These are innovative reuse of the existing digital feedback platform to rethink the healthcare internal processes in a way that is respectful of and responsive to individual patient expressed preferences and needs (Browne et al., 2010). Based on this result, we call to rethink the digital feedback platform as a tool that healthcare organizations can embrace for digital transformation. It is thus to be understood as a technological tool in conjunction with technologies enabling digital transformation of healthcare, ranging from blockchain, robots, 3D printing to artificial intelligence (Bardhan et al., 2020; Ting et al., 2020; Wang et al., 2020; Massaro, 2021). More specifically, as the transformation is based on

generated data about the patient experience, needs and expectation, these feedback platforms enable a digital transformation focused on “patient-centered care.” Our study answers the calls for exploring how patient feedback can be used to improve the quality of care in hospital settings (Barr et al., 2006; Berwick, 2013). We call to continue this research by exploring more on digital transformation in healthcare aiming this specific “patient-centered care” digital transformation

Our third contribution is based on the finding that the platforms are developing a service to help hospitals make sense of the generated raw data. Our study highlights that the analysis of the data enabling the digital transformation can be outsourced to the owner of the technology that generates the data (Li, 2020). It echoes a current debate in platform strategy about the business model of platforms in healthcare (Garbuio and Lin, 2019). Our results show that while the data collection might be done for free, monetization is based on data analysis and data management. An additional result is that in this analysis of feedbacks a hospital can use its own patient feedback but also the feedback from other hospitals. This result has important implications as it explains the unique value of online feedback platforms relative to internal hospital-generated feedback. Any additional feedback from one patient creates a potential value to all the hospitals (i.e., positive spillover effect of one hospital’s patient feedback to all the other hospitals). Thus, the value of the patient feedback platform relies on the feedback being freely available to everyone. Its spillover effect (what we call “feedback network effect”) occurs in the following way: The more one producer of a product or service learns from the feedback of users of other producers present on the platform, the more valuable the platform becomes to each producer. This increased value occurs also for each user as each of their feedback improves the overall producers (and thus the industry). The identification of the “feedback network effect” is in line with Gregory et al. (2021) who argue that the success and scaling of the platform relies on more than the direct and indirect network effects. Gregory and al. (2021) identified the data network effect, and our paper identifies a network effect specific to the feedback platform: the feedback network effect. This effect also contributes to past research that identifies the limits of a hospital or national surveys in informing patient-centered care initiatives, e.g., being expensive to administer, slow to inform, and rigid in questioning and design (Chakraborty and Church, 2021). We extend this literature by identifying a unique advantage of the patient feedback platform that the hospital or national surveys do not benefit from.

5.2. Practical implications

There are three practical implications suggested by this paper, each related to one type of actor: First, for hospitals: We warn them of a competitive race of being the first to sense and grab the value of the data generated by the platform about where to act, on what to act, and how to innovate.

Second, for public policy: It might be reasonable to suppose that naturally there is underinvestment by the private hospital in contributing to the generation of “feedback spillover” as elaborated in this study. The role of public policy would be to help the society benefit from this spillover by fostering an environment of open exchange on transparent and freely available platforms.

Third, for the feedback platform: Their business model needs to rely in making the collected feedback open with public access. Thus, the monetization cannot be in giving access to the feedback, however, they can develop a data analysis service for which they can be paid. For this service, they might want to consider artificial intelligence to analyze not only the focal hospital’s feedback but all the hospitals’ feedback, in order to identify where the healthcare industry needs to act, what they need to change, and what innovative ideas patient have. Thus, the value proposition is also to empower the patient in rethinking the healthcare care delivery and processes.

5.3. Limitations and future research avenues

The research reported in this paper has some limitations that open up avenues for future research. First, focusing on the use of the feedback platform, we did not explore the consequences of using the feedback platform and could expect some dark side. The digital transformation generated by the patient feedback platform might promote what is called the “land of consumer dreams” (Viale et al., 2017, p. 296). Care service might transform into consumption and prioritize emotional needs relative to care. As an increasing number of people rely on the web to search for health information, the issue of reliable information is predominant (Miceli et al., 2021; Biancone et al., 2021). Feedback platforms may threaten the potential reliability of published information by relying on patients’ emotions. Thus our study uncovers the potential role of patient feedback platforms in the digital transformation of healthcare, but more research is needed to explore the positive or negative consequences of these transformations.

Second, our paper unpacks not only an underused, open and free-to-use feedback data but concrete ways to use this data. Based on these findings, we point out a forthcoming competitive race to be the first to seize the underused feedback which could generate a competitive advantage. Already in 2004, Porter had argued the role of digital tools in creating “the right kind of competition” (Porter, 2004). A whole research avenue opens on the competitive dynamic that might emerge from these feedback platforms.

Third, as Presch et al. (2020) argued, technology offers unknown possibilities to healthcare that need to be explored. We have studied the use of feedback platforms for hospitals, but did not explore the uses of these feedback platforms for other stakeholders. For instance, a patient feedback platform could even serve as a resource for drafting a healthcare industry technology roadmap outlining the patient needs to be addressed and how to do so. This roadmap could fit the acknowledged willingness for health policy makers to shift toward patient-centric care (Kraus et al., 2021).

Moreover, our results highlight that these platforms can perform analysis and thus could become partners of health policy to uncover trends of patient needs. However, this paper did not explore how the platform analyzes this exponentially growing set of patient feedback. A future study that explores how feedback platforms could use technologies such as artificial intelligence, machine learning, and blockchain could usher a promising area of research.

6. Conclusion

The purpose of this paper was to investigate how hospitals could use patient feedback platform. Hospitalid e is a patient feedback platform specialized in health experience. The netnography of the negative comments received by one hospital on this platform combined with interviews from both Hospitalid e and the partner hospital allowed us to reveal unknown uses of the data that is freely accessible to any hospital on this platform.

Our study has shown that through the patient feedback platform, hospitals can collect a new kind of data, i.e., “patient perception” (in contrast to empirical facts usually collected by traditional surveys), and these data can have three main uses (i.e., where to act, on what to act and how to innovate). Therefore, our paper moves from a passive to an active role of the patient in the care processes that assesses and advises change. Our paper confirms that patient feedback platforms enable a patient-centric digital transformation in which each stakeholder will have to position themselves.

The study also identifies a new type of network effect that we call the “feedback network effect”. The value of a feedback to a producer of service or product reaches to all the producers on the platform and thus increases the overall value of the same. The feedback network effect has some implications. First, we sense a competitive race to be the first hospital to benefit from this effect. Second, we argue that the existence

of “feedback network effect” might be accompanied with a socially suboptimal underinvestment of private hospital in leveraging patient online feedback. Policy makers will have to play a key role in leveraging this feedback network effect to the interest of the society.

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