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Sultan Serpil Erдонmez
Politecnico di Milano

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EXPLORING THE POTENTIAL ROLE OF DESIGN TO REFRAME THE RESOURCES AND THEIR INTEGRATION IN THE PATIENT EMPOWERMENT PROCESS: THE EXAMPLE OF A PATIENT JOURNEY ANALYSIS IN CHRONIC CARE

SULTAN SERPIL ERDONMEZ
POLITECNICO DI MILANO
SULTANSERPIL.ERDONMEZ@POLIMI.IT

ABSTRACT
Chronic illnesses require comprehensive management of various resources to improve patients' overall health during their lifelong journey. As resources are dynamic and evolving concepts (Vargo & Lusch, 2008), patient empowerment process could enable the identifications and integration of resources to advocate of patients needs by assisting in reframing them through value co-creation and destruction. The patient empowerment process framework and one patient journey were created and used to identify the resources and to recognize the key moments of resource integration during the patient journey. The resulting patient journey map with an integration of a patient empowerment process framework was used to reflect on the role of service design in identifying fundamental gaps in integrating resources and facilitating empowerment processes.

INTRODUCTION PATIENT EMPOWERMENT AS A PROCESS
Patient empowerment is an essential process that enables patients to gain more control over their health and daily lives (Anderson & Funnell, 2005). Empowered patients can assess their health better and make informed decisions by sharing their experiences and information with healthcare providers (Colombo et al., 2012; van Uden-Kraan et al., 2009). Gibson (1991) suggested that patient empowerment is a process that helps individuals develop their inner capacities to recognize and solve their own problems, mobilize relevant resources, and utilize their knowledge to address their needs and adjust their resources. Since then, various similar concepts such as patient engagement (Thomson et al., 2005), patient activation (Hibbard et al., 2004), patient involvement and participation (Agner & Braun, 2018; Castro et al., 2016), and patient enablement (Hudon et al., 2010) have been associated with patient empowerment. Although these concepts share similarities, they have different
patients discover their own sources of power, evaluate status, and take to maintain and improve personal change, which includes patient involvement and patient participation (Castro et al., 2016). Patient involvement is related to motivation and helps patients to identify and understand their own health status, which is associated with health literacy, and acquiring skills and knowledge to participate in healthcare (Chatzimarkakis, 2010). On the other hand, patient activation is the process of growing awareness of having an essential role in one's healthcare situation and focuses more on specific goals (Hibbard et al., 2004). It is about having goals on more specific domains, and answering questions like "Do you know why you are supposed to take this medication?" (Fumagalli et al., 2015).

The patient empowerment process can then be continued by related with personal change, which includes patient involvement and patient participation (Castro et al., 2016). Both concepts involve an established relationship and collaboration with the healthcare provider (Sahlsten et al., 2018). Patient participation focuses primarily on shared decision-making (Sahlsten et al., 2008), which means interacting with healthcare providers and contributing one's opinion to the decision-making process (Bravo et al., 2015). Patient involvement, on the other hand, includes aspects of self-management and self-care (Hickmann et al., 2022), which refers to the actions individuals take to maintain and improve their own health status (Anderson & Funnell, 2010).

Patient engagement is related to motivation and helps patients discover their own sources of power, evaluate options, and make choices (Clancy, 2011). Having motivated behaviors leads to behavioral change, which means these two stages could be an iterative process.

Given the fundamental role played by both the enablement of patients’ own resources and the subsequent access to relevant internal resources through patient empowerment processes through these nested concepts, this paper applies the notion of “resources” articulated by the Service Dominant Logic paradigm as a theoretical lens (Vargo & Lusch, 2016).

RESOURCES AND RESOURCES INTEGRATION

Understanding the role of resources and their integration has attracted much attention (Kleinaltenkamp et al., 2012; Ostrom et al., 2015), as resource integration is considered an important key factor for value creation from the perspective of the Service-Dominant Logic (SDL) paradigm (Mele et al., 2010; Peters, 2016), which emphasizes the importance of services, interactions, and relationships between customers and companies in creating value (Vargo & Lusch, 2008).

Service-dominant logic identifies two different types of resources: operant and operand resources (Vargo & Lusch, 2004). Operant resources refer to intangible resources such as technologies, knowledge, and skills (e.g., health literacy and self-care skills), while operand resources refer to tangible resources such as materials (e.g., medicines) and places (e.g., hospitals). Resources are not only represented as tangible or intangible, but they are also defined as the result of a continuous process (Payne et al., 2008) and can be defined as "contextual" and "becoming" (Koskela-Huotari & Vargo, 2016). They are contextual because they are organized by regulative (rules, laws), normative (norms, roles), and cognitive (shared beliefs, understanding) functions (Edvardsson et al., 2014), e.g., the understanding of what is "care" depends on the medical and professional culture. As seen in Figure 2, awareness of contextual resources is the foundation for patients to develop the ability to be part of in their own healthcare. This helps patients to identify and understand the resources that are available to them, such as knowledge, skills, and technologies, as well as the regulative, normative, and cognitive functions that organize those resources.

Resources are also defined as "becoming" because they can be changed and activated through interaction with other actors (Koskela-Huotari et al., 2016), e.g., patients can develop health literacy by accessing effective and relevant information materials. Resources are not fixed things and can be configured differently since actors are also considered a possible and important resource and can be part of the resource integration process (Peters, 2016). As seen in Figure 2, “behavioral change” and

![Figure 1: Patient Empowerment Process](image-url)
“motivation” could be seen as a way of “becoming” a new resource, as individuals acquire new knowledge, skills, and attitudes that enable them to more effectively engage with their environment and achieve their goals. e.g., patients' own motivation to learn can facilitate the integration and application of self-care tools.

Resources do not have inherent value; they only create value when combined with other resources (Chandler & Vargo, 2011; Koskela-Huotari & Vargo, 2016). This means that resources "become" valuable when they are activated and integrated with other resources in a combinatorial process. This paper specifically focuses on the "becoming" of resources and aims to understand how resources can be transformed through a patient empowerment process. Resources have the potential to be reconfigured and integrated into new forms. In this study, we analyze existing resources and explore how they could "become" through design practices.

The purpose of developing this framework is to define the nested concepts in the patient empowerment process to aid in reframing these concepts throughout the process. To better understand the framework, a pilot study was conducted using a semi-structured interview method with a single chronic care patient, based on this conceptual model.

METHODOLOGY

A patient journey map was created based on a semi-structured interview with a chronic care patient. The interview guide was developed from the initial conceptual model of the patient empowerment process, as shown in Fig.02, and focused on the following key research questions:

1- What are the essential resources for empowering chronic patients on their healthcare journey? How do patients identify and access these resources?

2- What are the critical moments in the resource integration process? How can these moments contribute to value creation or destruction?

3- How can we identify the fundamental barriers and drivers in the resource integration process?

The interview transcript was used to develop a patient journey map that was divided into three distinct phases: "before diagnosis," "during diagnosis," and "after diagnosis." Additionally, a thematic analysis was carried out to identify recurring themes that emerged from the patient's perspective during her journey.

The insights from this analysis were then used to reflect on the potential role of service design.

PAPERS THE PATIENT JOURNEY MAP

The interviewee, a 33-year-old woman, was diagnosed with rheumatoid arthritis at the age of 24, which caused chronic inflammation of the joints and other parts of the body. Her condition affected her ability to move her fingers, hands, and arms, and later caused digestive problems and irrational bowel syndrome (IBS) due to food allergies. Despite facing numerous obstacles throughout her journey of managing the disease, she managed to access and integrate a diverse range of formal and informal resources to effectively manage the condition.

Initially, the patient sought emergency services and expert help to identify her situation, which could be considered as the patient enablement phase. i.e. being aware of the reason why she needs to take certain pills or why she could not use hot water in her condition. She then became an active participant in her own healthcare by seeking knowledge about her condition and questioning predetermined treatment decisions leading to the behavioral change phase, which is associated with the patient participation and involvement, i.e searching the information from the social media. As the patient gained an understanding of self-management, she became more participated in shared decision making with healthcare providers. Her motivation to gain more knowledge was driven by her desire for power and control over her condition, leading her to seek diverse resources to support her journey. i.e., healthcare providers were not the only resources; care providers, influencers, experts in various fields (health, exercise, wellness) began to become more visible through websites, social media, apps, and even some brochures as resources.

THEMATIC ANALYSIS

Thematic analysis was used to understand how resource integration concept could be used to better understand patient empowerment in her case. Firstly, initial codes were identified, such as "patient education," "patient involvement," "being part of the decision-making process," "information sharing," "patients' own resources," "value co-creation," and "value destruction" to understand the concepts that are nested within the patient empowerment framework with an integration of resources. These initial codes then formed into themes such as "access to resources," "patient education and information exchange," "patient involvement in decision making," and "the impact of patient involvement and resource integration on value outcomes." These themes led to group and identify the main themes that emerged from this analysis.

Here are the themes that emerged from the single pilot study;
Table 1: Themes that are emerged from the thematic analysis

<table>
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<th>Theme</th>
<th>Description</th>
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| Theme 01. The Importance of Trustworthy and Meaningful Information on Patient Empowerment | Accurate, meaningful and trustworthy information in the chronic care journey played a fundamental role in each moment of the process of diagnosis, management and decision-making of the studied patient journey. It was essential for effective chronic care management and decision-making, enabling continuity of care and enhancing patient empowerment through access to diverse resources.  

“...The thing that I am trying to say that I prefer to involve and know every step in health decisions because it is going to affect my health. I am the one who is gonna live with this situation” |
| Theme 02. The Complementarity of Resource Integration for Balancing Formal and Informal Support System | The interplay of formal and informal support systems was crucial in supporting the holistic health needs of the patient. The integration and development of both personal (e.g. parents) and institutional resources (e.g. hospital) assisted the patient to reach diverse resource in her healthcare journey. The complementarity of resources from different fields played a crucial role in the patient's ability to effectively manage her condition.  

“...I quickly reached the product because my family worked as health professionals and had contacts. Otherwise, my joint would have been damaged. .” |
| Theme 03. Incremental Process of Patient Empowerment through Resource Integration and Access | The process of empowering the patient involved both value destruction and creation by gradually identifying and bridging the gaps in accessing and integrating the right resources. The process of resource integration for the patient empowerment was clearly a gradual and incremental process, where each step was fundamental to reach the following one, e.g. the diagnosis is a fundamental step to access healthcare resources, which then opens up further search strategies for trustworthy and meaningful resources to the patient's specific needs.  

“My disease can affect a different body part. it can affect my eyes which may cause an inability to see; it can affect my heart which causes many problem... this booklet was explaining... No one told me that before. I knew because I searched” |

The Potential Role of the Design Practices to Reframe Resources and Their Interaction

Service design could support the development of the patient empowerment process that addresses the unique challenges of chronic care by assisting in reframing resources through the lens of patient needs and preferences (Sanders & Stappers, 2014). Mapping available resources through service design practices can identify the resources accessible to patients during the "awareness" stage of their journey, where they noticing (i.e. noticing that something is wrong and being aware of the symptoms), discovering (i.e. discovering the possible centers to gel help), revealing (i.e. reaching and understanding the knowledge about diseases) and identifying (i.e. identifying the patterns of diseases). By identifying barriers and drivers, mapping can facilitate the integration and activation of resources for the next step.

During the chronic care journey, patients may destroy the value of existing resources to create new ones through disruption and making, such as by getting health information from social media instead of healthcare professionals, since service design practices could co-create and co-destruct value through co-design, which involves designing healthcare services or interventions in collaboration with patients to create mutual benefits using their unique perspectives, resources, and knowledge (Bruce et al, 2019). Co-design practices enable resources to "become" as they combine the valuable resources of patients and healthcare providers.

Resources can "become" through co-creation and destruction in an ongoing process. For instance, a patient who realizes that provided resources are insufficient may transform resources by using social media to follow other patients and gain knowledge instead of following healthcare experts. However, reaching trustworthy and meaningful information in a complex world is not easy, so the patient may need assistance to map resources around themselves. By allowing the patient to speak up for themselves, co-design practices can assist in mapping resources, enabling the patient to be part of reframing and mobilizing resources. Service design practices could enhance patient empowerment by considering resources as a voice of the patient (Bogaert, 2021), allowing patients to bring their experiences, knowledge, values, beliefs and skills to the process and reshape resources through interaction between different resources (Vargo & Lusch, 2004).
CONCLUSION

A chronic condition is a long-lasting health condition that typically cannot be cured but can be managed with ongoing treatment and care (WHO). In recent years, there has been a growing focus on patient empowerment in chronic care which has been linked with similar concepts (Figure 1), however, the definition of it is still unclear. This research employed the term "patient empowerment" as an umbrella concept and utilized it as a progressive process that encompasses these similar concepts as stages. Figure 1 shows how these concepts could be interpreted through a progressive patient empowerment process.

Figure 2 provides a detailed overview of the situations that are associated with each stage of the patient empowerment process, as presented in Figure 1. These concepts are interconnected and play a vital role in patient empowerment and the chronic care journey. The purpose of developing this framework was to define the nested concepts in the patient empowerment process in terms of resource integration perspective, in order to aid in their reframing throughout the process. The patient empowerment process in chronic care requires ongoing and dynamic resource integration and access, which could be supported by service design practices. Through mapping resources, service design practices could identify the available resources and the gaps by mapping resources through noticing, discovering, revealing, and identifying; and then reframing them by disrupting and making.

The purpose of this paper is reflect the potential role of service design practices, particularly co-design, in both creating and destroying value through the patient empowerment process framework (Figure 2) and how it could assist to integrate resources within the patient empowerment process. In order to accomplish this, a framework for the patient empowerment process was developed and a patient journey was analyzed as a prototype, which identified key moments for resource integration in healthcare. This led to the creation of a patient journey map, which emphasizes the crucial role of co-design practices in identifying gaps and facilitating empowerment processes Figure 3. In this case, the patient went through the awareness stage by mapping resources by noticing, discovering, revealing, and identifying them. Then, patient was in a "behavioral change" and "motivation" stages by disrupting and making the resources. She destructed the value and created new one, i.e. keeping in touch with other patients to know what she should eat instead of going to nutritionist or used social media for healthcare knowledge. This complex system could be enhanced by co-creating and destructing value in co-design practices to reveal knowledge, beliefs, values, and skills of patients, resulting in them becoming resources.
REFERENCES


