Chapter 7
Optimization of Provider Ecosystem Through Actor–Resource Integration

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ABSTRACT

Information technology has enabled healthcare providers such as hospitals to extend their internal operations into external facilities such as urgent and ambulatory care centers and optimizeresources in support of patient care. With the development of the internet, social media, wearables, and telehealth technologies, the potential for patient engagement in preventive and post-discharge care transition has increased. Unlike other organizations where the provider has limited insight into the customer ecosystem, hospitals, for example, have an opportunity to gain insight into the patient ecosystem and influence patient behavior while the patients are within the provider ecosystem. This chapter looks at hospital engagement with patients in two settings—the emergency room (ER) and the patient room (PR)—to illustrate both the opportunities and the strategies that can help hospitals use patient touchpoints to improve continuity of care inside and outside hospital walls.

INTRODUCTION

Information technology has enabled organizations to not only extend their internal business operations across supply chains to optimize their resource utilization to reduce costs but also to partner with multiple technology partners to respond to market demands faster. With the internet/web enabling organizations to extend their business operations to assist and/or influence customer decision making, organizations must look at optimizing their resources using not only its internal and external supplier and partner resources, but also customer resources. This may include co-creating value propositions and using social media, the Internet of Things, and digital information exchanges that can let customers generate more information to help organizations react quickly to changing market demands and create new value propo-

sitions to stay competitive. In other words, organizations need to include customer resources, both their value creating potential and real time feedback, in optimizing their response to customer expectations on multiple dimensions, including cost, service, responsiveness, and novelty.

Leveraging customer resources in value creation and assessing value-in-use (post-purchase) to stay competitive is the basic tenet of service dominant logic (Vargo & Lusch, 2008) and is becoming critical in today's knowledge economy. S-D Logic refers to this as actor-resource integration, where both actors and resources can come from both the provider and the customer ecosystems (Lusch & Nambisan, 2015). Optimization of the actor-resource mix of both ecosystems is especially critical for organizations with short product use cycles, i.e. service organizations, where customer expectations change rapidly. Not leveraging continual feedback from customers on value-in-use can only lead to sub-optimization of the provider resource (Vargo et al., 2016) .

While most service organizations try to build agility into their operations using an optimal mix of resources, healthcare organizations have both a unique opportunity and a challenge. Their customers are patients who spend significant part of their time within the hospital (or clinic) when they need a medical diagnosis and design of a care treatment plan. This provides hospitals with a unique opportunity to learn about patients and their ecosystem (actors and resources patients must use to care for themselves). It also provides a challenge: how to convince patients to use this actor-resource mix of their ecosystem to optimize care management, given the diverse nature of the patient capabilities. The social, economic, cultural, and other factors influencing the behavior of patients within their ecosystem to sustain care treatment is unlike the roles the same patients play as customers when they purchase service products like food, entertainment, travel, etc. (Doremus, 1976).

Even if sustaining the value created for patients after they are discharged from a hospital is a goal healthcare providers have always had, the complexity of the patient ecosystem as well as the lack of financial incentives has made providers focus on the value they can provide to patients while they are in the hospital (e.g. diagnosis and treatment care plans) and allowing patients and other actors (family, community, and other external care providers) to address care continuity outside the provider ecosystem. However, recent changes in healthcare reimbursement and regulation in the US ("Medicare Hospital Readmissions Reduction Program", 2013) as well as general costs, care related delays, and hospital congestion around the world have started to force hospitals to look outside their own ecosystem to begin to optimize the value created for patients. They have started to use external care providers like pharmacies, ambulatory and urgent care centers, etc. to support care transition (Dreyer, 2014) and allow technology-empowered patients with smart phones and wearables to give them access to care-related information for remote monitoring and consultation (Herzig et al., 2016; Koh et al., 2016). However, the optimization of resources in patient and provider ecosystems in the US is mostly limited to those patients whose unplanned readmission leads to penalties and whose care is paid for as a bundle, i.e. paid for over a longer period patients spend inside and outside the hospital.

Patient satisfaction is not as dominant a factor in healthcare as is customer satisfaction in other service industries, since patients choosing a hospital consider many other factors, such as a hospital's clinical reputation, physician recommendation, payment related constraints through insurance providers, etc. However, with the increased use of provider technologies, such as portals, telehealth consultation, and smart phone communication, and improvements in patient empowering technologies such as wearables, smart phone apps, etc. patient expectations on demand for services will continue to increase.

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