Sustainable Services for Healthcare Value Cycle Delivery in the time of Pandemic

Badr Nabil Georges, Carrubbo Luca, Tanniru Mohan

Purpose: The world was not prepared for a Pandemic such as COVID-19, which caused a severe impact to the Healthcare complex service ecosystem, disrupting the value chain[1].

"In a well-functioning health care system, the creation of value for patients should determine the rewards for all other actors in the system" [Porter, 2010, p.2477]. The integration of these direct and indirect actors, with their activities and interactions, contributes to enabling the value proposition of the service [Vargo et al, 2017].

Value measurement in general is at the consumer's vantage point, in a Pandemic, the consumer is the whole ecosystem. Public health 3.0 research argues for the public health to re-envisions itself to become *population ecosystem centric*, i.e. leverage cross-sector collaboration to assess how environmental, policy, and system level actions influence the social determinants of health of individual population groups or become community centric [DeSalvo et al, 2016].

Disruptive events, such as the COVID pandemic, introduce impediments to value creation due to the use of imprecise information from value-in-use to tailor practices, and reduction in capabilities of value fulfillment due to inadequate communication of information and misalignment of goals of actors used to disseminate and influence practice adherence. Therefore, our aim is to explore a Value Cycle Framework, to integrate resources and capabilities and to fulfill the sustainability agenda of healthcare for all, in the context of pandemic health disaster management

Methods: Service innovation research emphasizes the need to use each instance of value creation to learn and transform the way firms integrate its actors and resources to create new value [Lusch et al, 2015]. This becomes a challenge for public health agencies as value created through preventive practices is fulfilled by a partner network with many external actors, clinical and non-clinical, and value-in-use feedback to begin the next value cycle is often lacking in precision and timing for epidemiological analysis [Tanniru, 2020].

Grounded in the concepts of service science, we develop a Value Cycle Framework, to fulfill the sustainability agenda of healthcare for all. Then, we apply the lens of the SENDAI framework for Disaster risk reduction, to refine our theoretical framework in the context of pandemic health disaster management [Aitsi-Selmi, 2015].

Findings: When we overlay the disaster risk reduction and the value cycle delivery frameworks, we learn that, by understanding health inequities, through dimensions of socio and economic vulnerability, personal capacity and exposure to personal safety, we can start to understand the ensuing risks that expose the system to value erosion through compromised ability to coordinate the resources.

In order to maintain the sustainability of value producing functions and continuity of services in the healthcare ecosystem, value transformation is necessary to adapt to the changing conditions. Sustainability, in this case of a health disaster event, would require a structured approach to service continuity, through prevention, care coordination, preparation for successful response, and enhancing resilience and rehabilitation.

We also recognize that strengthening the governance of population health to manage health inequities, could create the environment of awareness and incentive necessary for the public and private sector to interact and curb the increased challenges and reduce the strain on the resources in the system.

This work also the importance of enhancing population health by effectively coordinating continuity of care prevention, preparing for successful health treatment, and recovery post-hospital discharge in support of care transition.

Originality / Implications: The topic may not be an original topic, however using the lens of this paper, we produce a work that connects the value creating services to the value fulfilling services in the context of Disaster Risk Reduction – at each of the goals / targets / priorities of action defined in the SENDAI framework.

We therefore propose a refined Value Cycle Framework to inform actors in a Health Ecosystem on aligning the priorities between value creating and value fulfilling services to prevent new and reduce existing disaster risk through the alignment of these services. As guidance for proper integration of resources for sustainability and value alignment, the contribution of our paper is expected to be surely in the scope of identifying critical services for value cycle delivery i.e. sustainability of the Healthcare ecosystem, and prepare it for a time of pandemic.