Chapter 6
Ventilator Production in Turkey Amid Pandemic Through Service-Dominant Logic Lenses

Aslisah Senak
https://orcid.org/0000-0003-2717-6850
Eskişehir Osmangazi University, Turkey

Nuray Girginer
Eskisehir Osmangazi University, Turkey

ABSTRACT

This chapter aims to demonstrate the value co-created by local ventilator production amid pandemic and how fast a technological product can be co-manufactured by interaction and resource integration among actors. The aim is to discuss the manufacturing process of ventilators as an emerging healthcare strategy amid pandemic with a service dominant logic lense and how well this case fits Gummeson and Mele's value co-creation model in a many-to-many network setting. Formation of a self-governed network of resource-integrating and service-exchanging actors by domestic production of intensive care ventilators dempnstrate the importance of network-based perspective for post-COVID-19 era.

INTRODUCTION

With coronavirus disease spreading the globe, the demand for healthcate equipments such as masks and ventilators sky rocketed. Patients with Covid-19 pneumonia not responding to non-invasive respiratory support need to be intubated and thus mechanical ventilators became the most needed equiment at intensive care units.

As mechanical ventilators appeared to be the most critical product for patients who need intensive care because of Covid-19 infection, countries that manufacture this product took measures of export restrictions to be able to answer the need of their own population. One of the main challenges faced for many emerging countries was to supply health care equipment to fight with pandemics. For countries

DOI: 10.4018/978-1-6684-6762-6.ch006

who already have ongoing production, the challenge was to meet the growing demand without importing critical components or the product itself. Before pandemics there was no mass production of ventilators locally in Turkey. Therefore Turkish Ministry of Industry and Technology and Ministry of Health started an initiation to manufacture local ventilators as an emerging strategy to be able to provide sustainable healthcare services to Turkish citizens during Covid 19 pandemics. Some similar co-operations to manufacture ventilators took place in other countries because of supply chain interruptions.

Ventilator manufacturing initiations in different countries due to restrictions on mobility of healthcare products show importance of networks and of the emerging strategies shaped by actors invloved such as the government, the private sector and other institutions and their networks during pandemics. These emerging strategies are cases of value co-creating within networks.

'Many studies about value co-creation are theoretically grounded in the marketing literature. Value co-creation is one of the main axioms of so called 'service dominant logic (S-D logic)' perspective which is a relatively new paradigm in the literature. S-D logic suggests that service is the fundamental basis of exchange and value is co-created by multiple actors always including the beneficiary through actor generated institutions and institutional arrangements. This perspective is based on the concepts of service ecosystems and institutions formed by actors within complex network structures. Accordingly the case study is evaluated with a marketing and service dominant lense within this chapter.

The study is derived from the PhD thesis of one of the authors and aims to explore constitution of an ecosystem through production of a specific product –ventilators- within a specific context – Covbid-19 Pandemic-. It demonstrates how fast a technological product can be co-manufactured with interaction and resource integration among actors within a network.

Data is collected by document analysis to respond the following research questions; 'Which are the actors invloved in local ventilator manufacturing ecosystem during pandemics and which are the outputs of this ecosystem'?

The chapter first outlines the urgent need of intensive care type ventilators and interruptions of healthcare equipment caused by trade restrictions amid Covid-19 pandemic. The challenges concerning supply chain of mechanical are explained to put forth the need for the manufacturing the ventilators locally. Further on the ecosystem formed to manufacture ventilators locally is presented. The main actors and their networks that constituted the ecosystem are defined. Subsequently, value co-creation through this ecosystem is linked with service dominant logic which emphasizes importance of institutons and institutional arrangements within networks. It is argued that the outcome of this ecosystem is not only the product itself but also the value co-created among actors in complex network relations. In the last part, the value co-creation process through ventilator manufacturing is adapted to Gummesson and Mele's value co-creation model. The chapter concludes by discussing the importance of networks in value co-creation in post Covid-19 era.

CHALLENGES AND EMERGING STRATEGIES CONCERNING MECHANICAL VENTILATORS AMID COVID-19 PANDEMIC

Throughout history, humanity has faced the threat of many epidemics and pandemics. While infectious diseases affecting a certain population in a certain region are described as epidemics, the emergence of a new virus that can easily spread, cause serious diseases and affect the global population is defined as a pandemic. It is known that globalization and related factors such as rapid population growth, in-