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Review

Prospects and challenges of sharing economy for the public sector

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ABSTRACT

The sharing economy entails peer-to-peer exchanges for renting goods and services utilizing the Internet. In this paper, we critically examine the sharing economy's prospects and challenges for public sector, and explore the policy responses to the sharing economy. The sharing economy is innovative in capitalizing on underutilized assets using Internet platforms, but has adverse impacts as well (e.g. it could exacerbate inequality). As users, public agencies could adapt internal procurement processes focused on renting, and partner with sharing platforms to complement and supplement public services. As regulators, government agencies have a paradoxical role to maintain the sharing economy's innovation while addressing its downsides. Our study shows mixed policy reactions to sharing economy in three prominent sectors (mobility services, accommodation sharing, and gig labor). We suggest a research agenda that e-government scholars should focus on in order to critically examine the different facets of the emerging sharing economy.

1. Introduction

The sharing economy is broadly characterized by peer-to-peer exchanges for renting goods or services utilizing Internet platforms. The sharing economy platforms focus on peer-to-peer economic transactions by facilitating the sharing or renting of space, assets, and labor in real time. Airbnb and Uber are popular examples of the sharing economy, which facilitate the sharing of residence, car, and labor. Such platforms are distinctive from other social media and e-commerce platforms which are oriented toward peer to peer communications and commercial goods transactions respectively. The sharing economy is also largely mobile first, i.e., the platforms are explicitly oriented toward the smartphone users. With mobile apps, users can request the sharing economy services from any place at any time.

The sharing economy has grown exponentially over the last decade. PricewaterhouseCoopers (2015) pegged the sharing economy to grow from $15 billion dollars in 2014 to $335 billion dollars in 2025. The market value of some of the sharing economy platforms has surpassed long established firms in the sector. Uber (started in 2009) is valued at US $68 billion, which is more than each of the three big American automobile firms of Chrysler, Ford, and General Motors (Chen, 2015). Airbnb (launched in 2008) is valued at $30 billion, which is more than the Hilton hotel chain and nearly as much as the Marriott hotels (Schechner & Bensinger, 2016). Besides accommodation and car sharing, the sharing economy has spread across several sectors, including education, finance, goods, utilities, and workspace.

The rapid rise of the sharing economy is pertinent in the context of adaptive and agile governance where public agencies are expected to adapt quickly to the environmental changes (Gong & Janssen, 2012; Janssen & van der Voort, 2016; Mergel, 2016). In this paper, we explore the opportunities and challenges of the sharing economy for public sector in general and digital government in particular. On the upside, the rapid rise of sharing economy presents new opportunities for the public sector. The sharing economy is innovative in using underutilized assets and spare labor. It holds environmental benefits as it re-uses existing assets at capacity. Adaptive governance in the context of sharing economy would imply that public agencies should take advantage of the new opportunities for both internal management and external public service delivery. Internally, agencies do not need to own and manage assets; they can be rented flexibly based on demand. Digital government processes could facilitate the sharing to use assets at capacity. Externally, public agencies could partner with sharing platforms to enhance public services like transit.

On the downside, the rental emphasis of the sharing economy could exacerbate inequality by privileging those who own property already. The sharing economy is also re-shaping work, creating a class of independent workers who depend on piecemeal gigs without workplace benefits. Moreover, the sharing economy challenges the established businesses and labor unions. Regulating the sharing economy to address the downsides could be quite paradoxical since the innovative aspects of the sharing economy should be retained. Current policies aimed at the sharing economy range from benign acceptance to active resistance.

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As digital government researchers and policymakers begin to deal with consequences of the sharing economy, our paper is a useful step in taking stock of the major debates on the opportunities and challenges of the sharing economy. We suggest a research agenda on the nexus between sharing economy and the public sector. The paper is structured as follows. The next section reviews the major dimensions of the sharing economy and its growth. Then, we outline the prospects of sharing economy for the public sector, followed by the challenges of the sharing economy. After this, we outline the government's regulatory role in dealing with the sharing economy. We conclude with the principal features of sharing economy that require further research and attention from e-government scholars and practitioners.

2. Sharing economy's dimensions and its growth

The sharing economy is not entirely new. Traditionally, the sharing economy has implied an alternative to the capitalist profit-making economy, often characterized by collective ownership and collaborative consumption. Informal networks of sharing and collaboration have existed across societies. The newness of the present sharing economy lies in the use of information technology. In very broad terms, the present day sharing economy could be characterized as peer-to-peer sharing of goods and services utilizing the Internet platform. We must acknowledge that there are various debates surrounding the nomenclature of sharing economy. Parallel terms used include “collaborative economy” (Botsman & Rogers, 2010), “crowd-based capitalism” (Sundararajan, 2016), “elancing” (Aguinis & Lawal, 2013), “gig economy” (Mulcahy, 2016), “mesh economy” (Gansky, 2010), “on-demand economy” (“The Future of Work, 2015), and the “platform economy” (Parker, Van Alstyne, & Choudary, 2016). Each of these terms focus on a specific dimension of the broader scope of the emerging sharing economy. Despite definitional ambiguity, prominent scholars of the new digital economy have begun to rally around the term *sharing economy* to capture the core aspects of the emerging digital economy, while recognizing the other dimensions (Belk, 2014; Frenken & Schor, 2017; Sundararajan, 2016). For example, Sundararajan (2016, p. 27) argues: “Although I find “crowd-based capitalism” most precisely descriptive of the subject matter I cover, I continue to use “sharing economy” … because it maximizes the number of people who seem to get what I'm talking about.”

There are two key dimensions of the present sharing economy. First, the sharing economy centrally depends on Internet platforms to enable the peer exchange. Second, the emphasis of sharing is on creating exchange value through *sharing* assets, rather than *owning* assets. More accurately, the assets are often *rented* rather than shared, as the exchanges are usually commercial rather than being free (Rifkin, 2000; Sundararajan, 2016). The sharing economy has expanded across many sectors, including mobility (such as car and ride sharing), space (such as short-term residential and commercial work space rentals), and labor (part-time gigs).

2.1. Internet platforms enabling peer-to-peer connections

The advent of Internet in the mid-1990s spurred e-commerce, when peer-to-peer online marketplaces, such as Amazon, eBay, and Craigslist were born. In the 2000s, Web 2.0 mechanisms such as social media (Facebook, LinkedIn, and Twitter), blogs, and wikis enabled peer-to-peer communications within personal and professional collaborative networks (Tapscott & Williams, 2008). Platforms like Flickr, Pinterest, and Youtube enabled sharing multimedia. Crowdsourcing (e.g. Wikipedia) and crowdfunding platforms (e.g. Kickstarter, Kiva) catalyzed voluntary content and funding online respectively. The Internet is also central to the present sharing economy for enabling peer networks, bringing together service providers and consumers in a common online forum. The e-commerce, social media, crowd, and the sharing economy platforms have similar and distinctive characteristics. They are similar in using the Internet platforms for establishing peer networks, but the networks are used for different functions. E-commerce and sharing economy focus on transactional exchanges, but the former is oriented toward buying and selling goods, and the latter is for renting goods. Social media is oriented principally toward peer communication networks, not for transactional exchanges. Crowd platforms tap on knowledge and money from willing volunteers.

With the growth of mobile devices and the availability of wireless broadband over the last decade, Internet connected smartphones and sensors have spawned the mobile app economy and location based services (Ganapati, 2016). The smartphones have created new opportunities for peer-to-peer networking from anywhere at anytime, whereby citizens can obtain services at the location in real time. Location-based services capture the mobile user's real-time location information to give customized personal services in the immediate vicinity. Indeed, many of the sharing enterprises have taken a mobile first approach, i.e., they are designed from the beginning for the smartphone user. Lyft and Uber, for example, are essentially location-based services which connect a user with a driver in order to provide a ride on demand at the location (Ganapati, 2017).

Sharing economy enterprises use the Internet platform to establish connections between people and organizations across time and space. The platform provides the technological infrastructure for exchanging, interacting, communicating, and participating in the network. The platform is multisided since it brings together different groups of producers and consumers. The platform's overarching purpose is to be matchmakers so that there is exchange of goods and services between peer groups (Evans & Schmalensee, 2016). The sharing platform is a “business based on enabling value creating interactions between external producers and consumers” (Parker et al., 2016, p. 5). The U.S. Department of Commerce's Economics and Statistics Administration (ESA) (2016) classifies the sharing economy enterprises as “digital matching firms” which are “online platforms (or marketplaces) that enable the matching of service providers with customers” (2016, p. 2). The firms typically use an app or a website to facilitate peer-to-peer transactions.

A critical mass of peers—producers and consumers, service providers and service seekers, employers and workers—is required in the network for the functioning of the sharing economy platforms. The peers could be both producers as well as consumers, often referred to as *prosumers* where consumers are involved in co-production (Humphreys & Grayson, 2008; Ritzer & Jurgenson, 2010). Gansky (2010) describes the sharing networks as a mesh which “allows any node to link in any direction with any other node in the system.” Similarly, Sundararajan (2016) also conceptualized the sharing economy as crowd based capitalism. The crowd-based networks are horizontal with loose connections among individuals, rather than centralized vertical hierarchies of corporate entities. Individual peers, rather than corporations, supply the capital and labor. The crowd networks are loose as the individual peers are strangers, brought together by the platforms.

The platforms need to provide a digital mechanism for establishing peer-to-peer trust among strangers in the network. Information asymmetry and moral hazard problems loom among the peers in the online, virtual environment. The platforms use data driven systems to track goods and their usage, and to strengthen customer intelligence. Typically, the mutual trust is established in the sharing network through a feedback mechanism where clients as well as providers weigh each other. The feedback system is often bilateral, so that the providers also have an assurance about the integrity of the customer giving the review or ratings. Online customer reviews and ratings systems are open and publicly available; the trust system is thus horizontally distributed in the network, rather than being vertically enforced in a traditional firm. The digital platforms aggregate the reviews and rank the providers, which go toward building the reputation of the provider (Thierer, Koopman, Hobson, & Kuiper, 2015). The sharing economy is therefore also referred to as the “reputation economy” (Fertik &