Cultivating a Collaborative Consumption Platform: Lessons Learnt from GoGet Car-Share in Australia

By <<REMOVED FOR REVIEW>>

Given the significant growth in the collaborative economy, organizations are seeking to cultivate collaborative consumption opportunities through new product–service systems. Collaborative consumption is a socio-economic model with the benefits of ownership through the sharing, renting, swapping or trading of services and products, but without the burden of actual ownership; examples include car-sharing, house-renting and tool exchange. While research has highlighted a number of environmental, financial, health and social benefits surrounding collaborative consumption, numerous such initiatives across the United States, Europe and Asia-Pacific have failed to become self-sustaining. In this paper we present a study of GoGet, a successful car-sharing product–service system that has grown over the last decade. Adopting a mechanism-based theorizing approach, we reveal the role of technology through which critical mass, idling capacity, belief in the commons and trust between strangers are manifested in cultivating a successful collaborative consumption initiative during three main stages of growth. The proposed study aims to contribute to our understanding of how technology plays an evolving role in the success and expansion of such product–service systems.
I. Introduction

The benefits and experience of temporarily accessing goods and services for a fee—or other means of compensation—instead of buying or owning them is the basis for the socio-economic model known as collaborative consumption (Belk 2014; Botsman and Rogers 2010). This redistribution, sharing and increased value of existing resources is part of a wider pro-social sustainability transformation, responding to environmental issues such as resource depletion and waste (Piscicelli et al. 2015), as well as problematic cultural issues such as hyper-consumerism (Hamari et al. 2015). A global rise in collaborative consumption services, enabled through technological advancements, has been hailed as one of the significant shifts in consumption behaviour in recent times (Trang et al. 2015).

Today, the ubiquity of privately-owned vehicles has resulted in automobiles fading into the background as an everyday ‘tool’, despite being a ground-breaking technology that greatly advanced industrialized society. For over a century, the ongoing development of automotive technology has changed people’s day-to-day actions and the infrastructure that connects homes, businesses, and cities (Botsman and Rogers 2010; Kent 2014b). However, an endemic use of privately-owned cars has resulted in a number of unintended consequences that have now reframed the widespread use of private car ownership as a problem that requires urgent attention (Kent 2014b). Of particular interest in the context of this study is the rise of online car-sharing services, such as Zipcar, which epitomize the “product–service system” (Botsman and Rogers 2010; Kent and Dowling 2013) of collaborative consumption. Product–service systems enable private entities—whether individuals or organizations, for-profit or non-profit—to temporarily offer goods as a service. In addition to sustainability benefits (Kent and Dowling 2013), and potential health benefits (Kent 2014a), the growth in car-sharing services has caused a shift in the meanings associated with the material ownership
of pervasive technologies. In particular, there is a growing appreciation for the innate contradiction in the fact that car ownership provides freedom and autonomy, and yet, also comes with various burdens and restrictions relating to factors such as costs and maintenance (Belk 2014; Dowling and Kent 2013).

Collaborative consumption is of particular interest to IS research as the rising adoption of technological platforms (Hagiu and Wright 2013; Tan et al. 2013; Tiwana et al. 2010) has greatly contributed to the growing prominence of this phenomenon, and in the process has disrupted a number of incumbent industries, such as transportation. While research has begun to examine the antecedents of participation in such services (e.g. Kim et al. 2015; Matzner and Chasin 2015) little is known about how technologies are being used to facilitate successful collaborative consumption initiatives.

The objective of this paper is to investigate the role of technology in cultivating collaborative consumption initiatives. The study aims to provide recommendations for organizations about how to strategically incorporate technologies in cultivating collaborative consumption initiatives, growing from grassroots start-ups to more commercially-oriented businesses. The paper begins by briefly discussing the emergence of collaborative consumption, highlighting the role played by advancements in technologies, as well as emphasizing the four criteria central to its success. Next, we provide an overview of mechanism-based theorizing, which we will use in our analysis to theorize on how technology enables collaborative consumption. We then present the research design for our exploratory study of a product–service system provided by the Australian company, GoGet. We conclude this paper by presenting our preliminary analysis around three stages of growth in the GoGet car-sharing platform in order to better understand the context in which potential mechanisms operate in bringing about IT enabled collaborative consumption.
II. Background

Collaborative Consumption and Emergence of Car-Share

Developments in information and communications technology have fuelled the emergence of the collaborative consumption phenomenon over the last decade. In their book, “What’s mine is yours”, Botsman and Rogers (2010) brought the idea of collaborative consumption into the 21st century, highlighting its power to disrupt industries and its widespread growth through the internet and advancements in digital technologies. At its core, collaborative consumption is a socio-economic model based on the sharing, renting, swapping or trading of services and products, providing experiential benefits of temporary ownership but without the burden of ownership. There are many examples of collaborative consumption in the market today. Perhaps the most prominent example of collaborative consumption is that of Airbnb, where travellers rent lodging from other members of the community (Ikkala and Lampinen 2015). Another example is Zipcar, an organizational car-sharing service that provides an alternative to traditional car rental and car ownership services (Smolka and Hienerth 2014). While accommodation and transportation are two popular exemplars of collaborative consumption facilitated through online services, the phenomenon itself spans a myriad of different categories including the sharing of household and sporting equipment, electronic appliances, luxury goods such as clothing, as well as the sharing of privately owned spaces, such as gardens and storage units.

Car-sharing dates back before the Internet or even the automobile itself, through the hiring of horse-drawn carriages and drivers (Botsman and Rogers 2010). Today, car-sharing is implemented in a number of ways, from traditional taxicabs, peer-to-peer sharing, as well as services provided by car-sharing organizations (Dowling and Kent 2013; Trang et al. 2015). In relation to the
access services provided by car-sharing organizations, the term ‘product–service systems’ is used to describe “a product [that] is owned by a company or individual and multiple users share its benefits through a service” (Botsman and Rogers 2010, p. 101). A product–service system relates to products such as cars with high idling capacity that may fulfil the temporary needs of users. Car-sharing through peer-to-peer sharing as well as organizational services has grown in popularity as a result of the prevalence of Web 2.0 services and digital technologies that have brought about significant changes in the way in which the sharing of products and services can take place. This digitalization of collaborative consumption has provided greater efficiency through automation, providing potentially higher usability and service acceptance (Trang et al. 2015). For instance, owing in part to the ubiquitous connectivity, personalization and affordability of mobile devices and applications (Nolan 2012; Vodanovich et al. 2010), platforms such as Airbnb and Zipcar have created value and recognition by facilitating new services and opportunities for individuals, communities, organizations, non-profits and governments.

Emergence of Digitalized Initiatives and Platforms

In their attempts to create successful collaborative consumption initiatives, practitioners are facing a number of obstacles. For instance, in 2014, a review of 45 collaborative economy start-ups across the globe found that a number of collaborative consumption initiatives have failed due to reasons such as the inability to achieve critical mass, unclear value propositions, lack of product focus, insufficient funding, regulation challenges, trust issues and poor user experiences (see Collaborative Consumption website¹). Despite the importance of these four criteria in cultivating (i.e., initiating and maintaining) collaborative

¹ http://www.collaborativeconsumption.com/2014/12/18/failure-mapping/
consumption, research to date has failed to adequately discuss or examine the role played by technology in harnessing these fundamental requirements. In response, the objective of this study is to examine how technology is used over time to facilitate the successful initiation and development of collaborative consumption product–service systems.

In order for collaborative consumption initiatives and the use of technology to be successful, we posit that organizations must harness and cultivate a combination of: (1) critical mass, (2) idling capacity, (3) belief in the commons, and (4) trust between strangers (Botsman and Rogers 2010). To clarify, firstly, in reaching critical mass, a convenient amount of choices must be on offer to satisfy users. This is important in order to generate enough momentum for a system to become self-sustaining. While the specificity of achieving critical mass naturally varies depending on context, needs and expectations, the attraction of a core group of recurrent users appears to be central to creating social proof or social acceptance of the system. Secondly, harnessing idling capacity relates to the actual exploitation of resources, be they tangible or intangible assets, and redistributing their surplus capacity for productivity and usage amongst users. This unused potential of resources may incorporate the use of, for instance, an idle vehicle, or even the empty seat in a car during a morning commute. Thirdly, belief in the commons refers to the idea that, through participation, users are providing value and supporting a system and in turn adding value to a wider community. This idea “taps into an innate quest to be part of a solution or even a movement of people with similar interests… every single person who joins or uses [it] creates value for another person, even if this was not the intention” (Botsman and Rogers 2010, p. 91). Finally, trust between strangers relates to the idea that collaborative consumption ultimately rests on the creation of trust between people who are brought together through mutual engagement in the service. For instance, a level of trust is required when sharing a home or a car
with strangers. However, in cases such as organizational car-sharing, exchanges may be handled by a third party, thus minimizing the need to trust others.

Platforms that enable product and services exchange operate in an IT-enabled commercial network of suppliers, intermediaries and customers (Cusumano and Gawer 2002), and facilitates transactions between these different sides of the market to add value (Gawer and Cusumano 2008). Notable platforms include Yellow Pages for consumers and advertisers; eBay for buyers, advertisers and sellers; Google and Facebook for advertisers and Internet users; and Alibaba.com, with its large network of sellers, promoters and buyers (Eisenmann et al. 2006; Rochet and Tirole 2003). These multi-sided platforms leverage technology, such that advances in web technologies over the past decade have underpinned their growing affordances and usefulness (Boudreau and Hagiu 2009; Hagiu 2009b).

At its core, these platforms afford two functions: “reducing search costs, incurred by the multiple constituents before transacting, and reducing shared costs incurred during the transactions themselves” (Hagiu 2009a). The concept of multi-sided platforms is not new. Prior literature in economics and information systems postulates that it involves transactions among two or more groups of constituents (such as consumers, sellers, advertisers and suppliers) through an intermediary (Hagiu 2014; Tiwana et al. 2010). A shopping mall that brings together consumers and store owners is an example of a multi-sided platform. Platforms exist in multi-sided markets which have subsidised groups, namely, groups of platform users (typically sellers) who, when attracted in volume, are highly valued by the paying groups (typically buyers).

**Mechanism-Based Theorizing and Research Design**

This study employs the mechanism-based theorizing approach in studying collaborative consumption. This is a process-based approach that enables
researchers to explore the causal mechanisms underpinning a phenomenon of interest (see Averou 2013; Davis and Marquis 2005). To clarify, the term mechanism refers to a “pathway or process by which an effect is produced” (Gerring 2010, p. 161). The mechanisms that are theorized may be considered likely under some conditions (but not certain), while considered unlikely under other conditions. For example, Hedström and Swedberg (1998) proposed that the concept known as a “self-fulfilling prophesy” can be interpreted as a mechanism that explains how rumours regarding a bank’s solvency, even if untrue, can lead to liquidity problems because account holders’ beliefs (e.g. about the bank’s liquidity) lead to actions (e.g. withdrawing cash) that may result in the bank becoming insolvent. Nevertheless, explanations of how and why outcomes occur can usually not be explained by a single mechanism. Instead, mechanism-based theorizing seeks to understand how mechanisms cascade and operate in conjunction with each other, affecting the beliefs and desires of individuals as well as their opportunities for action in bringing about outcomes (see Campbell 2004; Hedström 2005). As mechanisms explain how and/or why one event or phenomenon leads to another, mechanism-based theorizing strives to overcome spurious associations that can result from variance models (Hedström and Swedberg 1998). Instead, they specifically reveal the underlying social processes connecting inputs and outcomes (Averou 2013; Falleti and Lynch 2009).

We adopt a case study approach to our study. Collaborative consumption forms an inherently complex and multi-dimensional phenomenon, therefore an objective approach to research might be difficult (Koch and Schultze 2011), making it more appropriate to examine the phenomenon by interpreting the shared understandings of the relevant stakeholders (Klein and Myers 1999). The case study research methodology (Walsham 1995; Walsham 2006) is particularly appropriate for such an exploratory research endeavour. The qualitative case research method adopted here allows us to unearth operational processes and to address our ‘how’ research
question (Walsham 1995; Walsham 2006). We adopt an interpretive approach (Klein and Myers 1999) as there is no established theoretical model to explain how collaborative consumption is achieved through digital technologies. We propose that product–service systems may be understood as a combination of mechanisms. These mechanisms can be defined in terms of actors (i.e. organizations or participants), their habits of cognition and behaviour (i.e. desires, beliefs and opportunities), related resources (e.g. information, knowledge embedded in routines, and technologies), and the actions they take when faced with a problem situation. This perspective of collaborative consumption aims to advance academic and practitioner knowledge by providing a more nuanced insight into the processes and use of technology by service providers and customers alike. Based on these criteria, we chose GoGet— the largest and most commercially successful car-sharing company in Australia— as our case organization. To date, we have conducted 14 face-to-face interviews with various stakeholders within GoGet. The internal informants were predominantly senior and middle managers of GoGet including the Communications Manager (three interviews), CEO and CFO, Marketing Manager, Client Service Managers, Business Development Manager, Accounts Manager, Client Service Officers, Fleet Manager, Operations Manager and General Manager of Melbourne operations. Finer details of data collection and analysis are available from the authors on request.

III. Lessons Learnt: GoGet Car-Share

As of 2014, GoGet operated 2,000 vehicles Australia-wide. The focus of GoGet is to provide a platform for customers to reserve a nearby GoGet car by web-enabled devices or telephone. GoGet currently serves areas in Sydney, Melbourne, Brisbane and Adelaide. In these cities, GoGet promotes car-sharing
initiatives on the basis that they enable more sustainable travel habits and help keep businesses and residents connected. The discussion in this section focuses on our preliminary findings on how technology helps to achieve collaborative consumption. With reference to the preliminary summary model in Figure 1, which illustrates how IT enabled collaborative consumption in this case organization over time. In the following sub-sections, we present our preliminary analysis around three stages of growth in the GoGet car-sharing platform in order to better understand the context in which potential mechanisms operate in bringing this platform to a success. GoGet started as a consumer-to-consumer (C2C), then transformed into a business-to-consumer (B2C) model. Finally, GoGet now operates a business-to-business (B2B) model by working directly with companies to provide a mobility system for their employees.

FIGURE 1: HOW GOGET ACHIEVES IT-ENABLED COLLABORATIVE CONSUMPTION

Stage 1: Collaboration at the Grassroots (C2C)

When GoGet initially started in 2003, only a handful of resident in the Sydney suburb of Newtown participated in the business model. These members held a
common belief, participating in a new type of local product-service with the intention of bringing about a change to benefit the environment and increase sharing and access to private transportation in their communities. At this stage, the members showed exceptional trust towards each other, making sure that the cars were maintained and parked in the right location, as well as sharing car keys with one another. Little digital technology was used to run the initial GoGet operations; the role of IT used by customers was largely limited to emails and texting, used to communicate the secure location of the car keys among members in the Newtown area. “So we didn’t have any in-car technology or remote access, we just had a public-facing website which we did by ourselves, and also the booking systems which include fleet management, and billing. We didn’t have payment gateway integrations as it was all done manually” [Business Manager].

The ‘idling capacity’ of the fleet at this time was high as utilization of the product-service was low due to low mass (i.e. members). Moreover, the current self-organized business model demonstrated limits for further growth. GoGet decided to move to a different type of business model to scale the platform and increase their revenues. They planned to acquire their own car fleet and changed the governance of the platform. As a result, the GoGet initial consumer-to-consumer (C2C) business model moved to a business-to-consumer (B2C) business model.

**Stage 2: Scaling the Platform (B2C)**

Soon after the business model change, GoGet invested in its first in-car technology called the unit or “magic box” and the FC system (a pseudonym for the purposes of our study) that managed the operations. A customer-facing website helped with online signups and registrations. The in-car technology included a radio-frequency identification (RFID) reader that assists in the remote
locking and unlocking of cars and a unit that records the location, speed and distance travelled for billing purposes. The company soon developed a critical mass, popularising the car-sharing initiative in the surrounding suburbs. “One of the reasons that GoGet has managed to grow into a car-share organization that is one of the largest in the world, is that we have had this focus of growing a network over making sure our technology was perfect before we put it out to the market” [Product Manager].

After GoGet launched its customer-facing website in 2008, it invested heavily in the integration of software to manage operations such as making bookings, determining location, solving customer issues and remotely unlocking its cars. The development of its product–service system improved idling capacity such that cars were available even during peak business hours within convenient distance.

“We want more utilization but up to a certain point because if a vehicle isn’t available for usage consistently in an area then people will stop using it at all. One of the things that we do with idling capacity is to look for a mix of both residential and commercial uses because if you have just personal use, you will find that everyone wants to use the car in the evening and during the weekends” [Product Manager]. The ongoing development of the system led to a shift in the motivation of car-share use. To clarify, this was a transformation from a conservation motivation to conscious consumerism, whereby the local population became increasingly educated and accepting of the service on offer. For instance, the growing body of members started accepting GoGet’s car sharing services for their own self-interests needs and benefits instead of believing in a particular environmental or sustainability agenda facilitated by the service. With over 40,000 members at this stage, local communities demonstrated a wide acceptance of the GoGet business model. The orange wing mirrors by which GoGet cars became known for throughout Sydney slowly became part of the urban topology, which helped spread awareness and uptake of the business. Giving ‘human
names’ to the GoGet cars was another small step taken by the organization to improve the sense of belonging and identity that customers developed with their local GoGet car. As the service grew, the perceived benefits reaped by temporarily accessing a local shared car began to be perceived as outweighing the benefits of owning a private car in the city. “So they will see that resource always a bit as belonging to them, they will recognize it and know some of the other people who use the vehicle in the same street. While it is not theirs, they still have some sort of vested feeling about it” [Communications Manager]. Over time, parking spots were allocated exclusively for GoGet cars throughout a number of suburbs, with the ‘super-pod’ in Sydney’s Central Park urban village being the largest bay parking facility for car-sharing in the world.

Stage 3: Expansion of the Collaborative Consumption (B2C&B2B)

Critical mass and idling capacity grew as the customer base extended from individual consumers to businesses. The forging of alliances between GoGet and local councils and organizations meant further development through digitization and institutionalization of the company’s core capabilities. Today, the company projects a 20% penetration of all households in Australia by 2020, and is currently working on driverless technology in making the idea of car-sharing an even more central part of the public transportation system in Australia. The RFID system and the in-car technology help members utilize facilities such as fuelling up, unlocking and locating cars, making them convenient to use and attracting more customers. GoGet’s CRM system, which maintains a profile on members, helps staff create more personalized connections with members, making them feel privileged. In satisfying different needs and preferences, the services GoGet offered grew from just cars to eventually vans, SUVs and luxury cars as well through as new booking models such as the minute-to-minute model.
Furthermore, GoGet has co-operated with IKEA to allow their customers spontaneous sign-up so they can use GoGet vans to transport bulky furniture home. In the IKEA scenario, the intermediary was able to offer a value proposition that generated value for GoGet, IKEA itself and their customers.

Although IT gives GoGet the ability to scale quickly, the growth in critical mass and sharing of resources with a larger unknown crowd meant that member concern, trust and sense of responsibility towards maintaining the shared resources declined. “As we have grown, it has become less feasible and as the percentage of those first-movers has decreased, people are less interested in GoGet as a community” [GoGet employee]. In order to manage the growing critical mass, the company nurtures self-transcendence among individuals to be considerate for the community. Trust and belief in commons are influenced using social media platforms to monitor the opinions of the public and build on these opinions. “It’s hard because we definitely have those two different types of members. The members that want to be in car-sharing for the green side, the environmental side, and really care about it and the other [group] don’t get car-sharing” [Customer Services Manager 2]. Therefore, the expansion to the business segment made sense in order to sustain the growth of the platform.

IV. Conclusion

Collaborative consumption is dramatically changing the way in which businesses operate, public services are used, and innovations are built, through the development of unique product–service systems. Our preliminary summary model illustrates that there is a clear interplay between the IT developments and the product–service system evolution. Whilst the preliminary findings have shown IT to be a function of promoting a car-sharing initiative, we found that it is not the sole driver cultivating the growth of the GoGet system. A radical change in the
business model was required in order to scale the platform. The agility of IT served as a great support to put the new business processes in place.

Ongoing work will attempt to develop the model further with a focus on developing the relation between the features of an IT artefact and the abilities of a subject in a given situation that give rise to opportunities to satisfy the motivational needs of the community. Our ongoing work will build on this initial exploratory phase of the study in bringing further clarity and explanation to the underlying mechanisms that operate throughout the stages of growth identified. Such research is necessary in order to better understand how service providers extract business value from technologies in formulating breakthrough strategies, designing compelling new products and services, and transforming management processes (Sambamurthy et al. 2003). Owing in part to the ubiquitous connectivity, personalization and affordability of mobile devices and applications (Nolan 2012; Vodanovich et al. 2010), emergent platforms such as Uber and Airbnb have created value by facilitating new forms of interactions in communities. Understandably, conventional coordination mechanisms found in the IS development literature cannot be readily applied to the significantly wider strategic scope of such platforms (Karimi and Walter 2015; Lucas and Goh 2009; Tan et al. 2011; Tan et al. 2012). The current study will further build on the literature and will address the knowledge gaps on how IT enables collaborative consumption and digital disruption, noting that these gaps continue to exist despite recognition that digital technologies are disrupting established ways of capturing value and doing business. We focus on the ways in which disruption is achieved through technology-enabled collaborative consumption, which is still understudied. Furthermore, our study attempts to contribute to current IS research in terms of how multi-sided platforms stimulate and channel innovation through technology.
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