

**Business Management Sciences disciplinary survey on the intersection of new internet/ICT consumer-oriented business models and consumer protection**

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**BACKGROUND**

The Canadian Partnership for Public Policy-Oriented Consumer Interest Research (PPOCIR), supported in part by Industry Canada, is looking to gather a set of overview papers from leaders in the main PPOCIR-related academic disciplines. These papers are intended to provide a survey of state of the art research in each PPOCIR sub-discipline and act as a basis for helping the Partnership's goal of identifying and focussing PPOCIR-related research themes across disciplines. As a contribution to the Partnership's work, Industry Canada has offered to commission some of these disciplinary surveys.

Below is a survey of the Business Management literature on changing business models as applied in the internet/information and communications technology (ICT) context, with a focus on the consumer dimensions of same. Much of the business management/model internet/ICT literature appears to have adopted somewhat of an entrepreneurship orientation, focusing on understanding business models from the perspective of identifying how changes in digitally connected business models thinking might reveal opportunities for successful new ventures, rather than being strongly preoccupied with the consumer interest/protection orientations of same. This is in keeping with the general mentality and perspective of business schools. As one business scholar puts it, “Business [schools] divided [their] studies into strategy, marketing, OBHRM [Organizational Behavior and Human Resource Management], operations, finance and accounting *to create better market advantage and sustainable profits.....*” (emphasis added) (Ng, 2013). In other words, in business schools and in business management literature, consumers are viewed as a profit centre, and their protection is not a central concern. That being said, there appears to be some promising discussions and insights being made in the business management literature<sup>1</sup> concerning evolving understandings of business models in the internet/ICT-based context – discussions and insights that could have significant consumer/PPOCIR implications, manifested in new ways for firms to interact with consumers (and consumer products) in an increasingly connected, network economy, new roles for consumers, rising importance being given to consumption and experiential data, in construction of techniques to maintain consumer trust in B2C contexts, and other issues. The discussion of the evolving thinking concerning business models in a connected economy is arguably highly complementary to the PPOCIR survey work that has already been completed (e.g., pertaining to legal-technology and behaviour sciences). An underlying focal point of research flowing from this internet/ICT consumer oriented business model survey work revolves around **better understanding**

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<sup>1</sup> The focus of this survey is on business management literature generated by business management scholars. In addition, where relevant, other sources (e.g., government and inter-governmental reports) that contain relevant business management insights will be drawn on.

**the capabilities and limitations of the emerging business models in terms of their ability to adequately address consumer interests and protect same, interaction of these business models with government/regulation/public policy, and possible new roles of government and regulatory/public policy approaches in relation to these emerging business models.**

## **OBJECTIVE**

The overarching purpose of the survey is to focus on the state of the art of business management-related thinking and research in the area of internet/ICT consumer-oriented business models, in terms of key consumer interest and public policy manifestations, dimensions and implications associated with the new developments. More specifically, from a PPOCIR perspective, the survey is intended to:

1. present an overview of the evolution of the business model scholarly thinking in the area of internet/ICT consumer-oriented business models.

*(An overview of scholarly thinking re: the evolution of the internet/ICT-related business model is provided below)*

2. provide a summary of the main research issues revealed in the business models literature, selecting those elements most important from the perspective of consumer protection issues and consumer policy analysis.

*(A summary of the main research issues revealed in the business models literature is provided below)*

3. present key take-away messages regarding consumer policy implications, in a way that facilitates knowledge-sharing between researchers in academia and the broader PPOCIR community.

*(A summary of key take away messages regarding consumer policy implications is provided below)*

4. identify the main researchers operating in the field, through an annotated bibliography of key books and articles.

*(A bibliography is provided below)*

### **1. Overview of the Academic Thinking re: Evolving Business Models as pertains to the Online Consumer Context**

Based on a review of the business management literature, I have identified five emblematic articles (and sets of authors underlying those articles) that discuss the evolving conceptualizations of the digital economy business model in ways that in my opinion illuminate understanding of the changing consumer and PPOCIR dimensions of these business models. I present the five articles in chronological order, because in some ways they either explicitly or implicitly seem to build on each other.

In the 2005 article “Clarifying Business Models: Origins, Present, and Future of the Concept,” authors Osterwalder, Pigneur and Tucci canvas the business management literature on business models in an ICT/internet context to develop the following composite definition of “business model”:

A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams.

Key points to note in this definition include the fact that a business model is *not* synonymous with the firm, it is rather a conceptual way of expressing a particular value proposition to a particular segment of a firm’s customers, describing the “business logic” behind the value proposition and the relationships between a particular set of elements associated with the proposition (i.e., “if we do X, then Y will happen”), and that the business model includes the associated architecture of the firm and its network of partners for creating, marketing and delivering on the proposition and collecting revenue from it.

The authors are careful to distinguish between this full and comprehensive concept of the “business model” and constituent parts of the business model:

An online auction, for example, is not a business model, but a pricing mechanism and, as such, part of a business model. . . . Similarly, an online community is not a business model in itself, but potentially part of the customer relationship. Finally consider revenue sharing. It is not a business model in itself either, but a way of exploiting partnerships to address the customer and distribute the resulting revenues. In our opinion, a business model needs to be understood as a much more holistic concept that embraces all such elements as pricing mechanisms, customer relationships, partnering, and revenue sharing.

Thus, for example, the business model for eBay involves online auctioning, most assuredly and centrally, but also it involves the architecture that allows buyers and sellers to track the offered prices of products, to easily make transactions (and the architecture to capture revenue, associated with these transactions), to track the performance of each other as buyers and sellers, and to address problematic activity among buyers and sellers (among other things). Taken together, this is the “business model” underlying eBay.

According to the authors, there are nine “building blocks” to their conception of the business model:

Table 3. Nine Business Model Building Blocks

Pillar	Business Model Building Block	Description
Product	Value Proposition	Gives an overall view of a company's bundle of products and services.
Customer Interface	Target Customer	Describes the segments of customers a company wants to offer value to.
	Distribution Channel	Describes the various means of the company to get in touch with its customers.
	Relationship	Explains the kind of links a company establishes between itself and its different customer segments.
Infrastructure Management	Value Configuration	Describes the arrangement of activities and resources.
	Core Competency	Outlines the competencies necessary to execute the company's business model.
	Partner Network	Portrays the network of cooperative agreements with other companies necessary to efficiently offer and commercialize value.
Financial Aspects	Cost Structure	Sums up the monetary consequences of the means employed in the business model.
	Revenue Model	Describes the way a company makes money through a variety of revenue flows.

As will be discussed later in the survey, this “nine building blocks approach” could potentially be useful from a PPOCIR standpoint, assisting regulators (and others) in breaking down and understanding whether current consumer policy frameworks adequately address a particular building block aspect of a business and its business model.

At a broader level, Osterwalder, Pigneur and Tucci visually depict the “business model” in relation to the firm, strategy, and other factors, as follows:

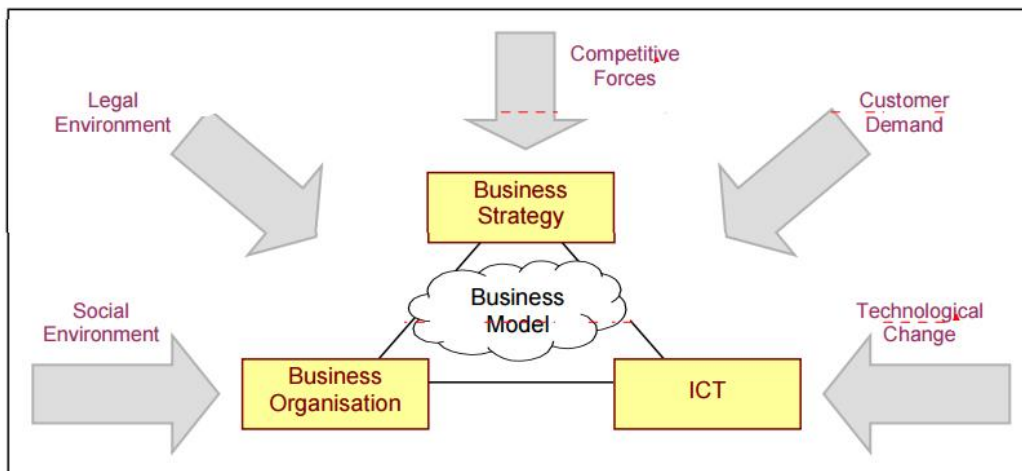


Figure 5. The Business Model's Place in the Firm

As understood by the authors, there is a triangular relationship between the business organization, its business strategy, and the firm’s information and communications technology: the firm’s business model plays a critical conceptual role in making this a working relationship, with a host of other external factors also playing shaping or constraining roles (including customer demand and the legal environment). One value of this depiction is arguably the way it makes it clear to the reader that the business model is

not so much a particular configuration of technical characteristics so much as it is an overall “way of looking at” a business opportunity and how it can be realized.

Osterwalder, Pigneur and Tucci point out that part of the inter-connection between advances in the internet and ICT stems from the business model’s roots in transaction cost economics: in effect, it is increasingly easy (and inexpensive) for firms to work in what the authors call “value webs,” because coordination and transaction costs have fallen substantially. Arguably, the reduced transaction costs associated with the internet and ICT can allow for entirely new business models, where not only the value proposition, as well as value creation and revenue stream aspects take new forms, but also, potentially, so does “the firm” as we know it today.

In a 2011 Journal of Management article, “The Business Model: Recent Developments and Future Research,” authors Zott, Amit, and Massa canvassed the business management literature concerning business models from 1975 to 2009. According to the authors, while there is still considerable disagreement as to what is meant by a “business model,” the phrase is employed mainly in trying to address or explain (1) e-business and the use of IT in organizations (2) strategic issues, such as value creation, competitive advantage, and firm performance, and (3) innovation and technology management. Drawing on the works of others, the authors state that recent advances in communication and information technologies, such as the emergence and swift expansion of the Internet and the rapid decline in computing and communication costs, have allowed the development of *new ways to create and deliver value*, which offer scope for the *creation of unconventional exchange mechanisms and transaction architectures* (emphasis added), and have accentuated the possibilities for the design of *new boundary-spanning organization forms* (Daft & Lewin, 1993; Dunbar & Starbuck, 2006). As will be discussed later in this survey review, the authors appear to be correct on these italicized points.

Zott, Amit, and Massa also observed that there were some emerging common themes evident in the scholarly literature. First, they noted that the business model concept is emerging as a new unit of analysis. Second, discussion in the literature about business models tends to emphasize a *system-level, holistic approach* to explaining how firms “do business”. Third, the various conceptualizations of proposed business models are being strongly informed by the activities of the firms. Fourth, the literature on business models tends to be focused on both how value is created and how it is captured.

Building on these earlier authors, in “New Business and Economic Models in the Connected Digital Economy,” (2013), Irene Ng provides an insightful analysis of how business model thinking is being re-shaped as a result of internet/ICT-related developments. Before discussing the nature of this re-shaping, it is useful to review Ng’s conception of the three key critical components of the business model. Ng arrives at these three business model components while acknowledging and drawing on the two above identified articles (among others) in terms of their attempts to survey the literature on the meaning of “business model” and its key components. According to Ng, the first component is the *value proposition* – described by Ng as the product or service which the firm is responsible for. The second component is *value creation* – which Ng describes as the experience of the product or service by the customer. The third component is the *revenue resource stream* (also referred to as “value capture”) – which is the manner in

which the firm derives benefit (monetary or otherwise). By themselves, Ng's three identified components represent a useful simplification of the nine building blocks of Osterwalder, Pigneur and Tucci. What is more interesting, in my opinion, is how Ng describes the *changing nature of the relationships between these three components*.

According to Ng, in the connected digital economy, the nature of each of these components has been transformed, and the three components are now more "tightly coupled" than ever before, with significant implications for business and consumers alike:

...the way value is created by the customer within their use context is changing the firm's relationship with the customer into one that is longer, more enduring and intricately linked to other firms. This then impacts upon the revenue resource streams back to the firm, which in turn changes the way the firm is designing and configuring its products. In other words, the three components of the business model are becoming more tightly coupled and changing one component's impacts on the other two.

Ng describes the production and consumption experience of a watch as an example of how the "old" pre-Internet business model (and its component parts) worked. When the firm sold a watch, the experience (purchase) of the watch was at market spaces such as retail stores, and the entire post-manufacture customer experience had little connection back to the firm. Compare that with a smartphone (which is a watch, among many other things). The customer buys it as an "incomplete product" and "completes it" by personalizing it with apps and by changing its interfaces. Moreover, the nature of the relationship between customer, his/her smartphone, and the various services available through the smartphone (e.g., i-tunes) is ongoing and long term, and the revenue streams are ongoing and long term (both conventional monetary revenue streams and consumption data streams, which can be monetized and hence are indirect revenue streams).

Because in a traditional product economy, value propositions, value creation and resource revenue streams were loosely coupled, Ng explains that from an academic perspective each component could be analyzed, improved upon or changed without much impact of each on the other. So there could be separate, non-integrated academic study of each component. In the digital economy.....

....it isn't just about product or service innovation or the changing revenue/resource streams, such as money from ads instead of buying the music, or the customer experience enabled through a digital medium, but potentially all three, due to the tighter coupling of the components. *A more tightly coupled business model requires a fundamental transformation of the firm in terms of the way it structures itself so as to continue to function in the economy* (emphasis added).

Ng makes a distinction between business models and economic models, with the former being about how firms do business, whereas the latter "sits at the level of the economic or market system, and the allocation of rents to the multiple entities participating in the system." Business models are nested within economic models. One way in which the economic model has changed in the digital economy (perhaps a fundamental

transformation?), as identified by Ng, is in terms of the new role of data, with Ng saying that the digital connectivity between objects and people isn't merely about changing the use or experience of such objects but also about unleashing a new economic resource for both firms and individuals – that of *consumption and experiential data*:

Such data becomes a precious commodity for the customer that the firm would like to trade for as it is more accurate than big data predictions. The availability of consumption data as an economic resource will clearly change the relationship between the customer and the firm, which could, in turn, change revenue and resource streams for firms.

The potential for use of this sort of consumption and experiential data are likely to increase now that people are carrying their geo-connected smartphones everywhere they go, and as we move to more full realization of an “internet of things.” We will return to the subject of consumption and experiential data, and big data, later in this survey.

The next publication selected for discussion in this survey focuses on the topic of online platforms, which have emerged as an important new form of business model in the digital economy. Over the past years, there have been numerous important articles on platforms (e.g., Eisenmann, Parker, Van Alstyne, 2011; Parker and Van Alstyne, 2005). I selected a 2014 Question and Answer session with Van Alstyne because it represents the most recent thinking I could find by Van Alstyne, and it therefore captures ideas that I have not yet seen captured in the formal articles, and it captures key points in easy to understand language (“Q&A with Marshall Van Alstyne, Professor, Boston University School of Management and Research Scientist MIT Center for Digital Business,” August, 2014).

Van Alstyne describes platforms, and their connection to business models, as follows:

The platform allows third parties to conduct business using system resources so they can actually meet and exchange goods across the platform. Wonderful examples of that include Airbnb where you can rent rooms or you can post rooms, or eBay, where you can sell goods or exchange goods, or iTunes where you can go find music, videos, apps and games provided by others, or Amazon where third parties are even allowed to set up shop on top of Amazon. They have moved to a business model where they can take control of the books in addition to allowing third parties to sell their own books and music and products and services through the Amazon platform. So by opening it up to allow third parties to participate, you facilitate exchange and grow a market by helping that exchange.

Platforms existed prior to and outside of the internet economy (e.g., credit card systems are platforms that connect merchants and consumers) but the internet facilitated widely different types of platforms. According to Van Alstyne, a major challenge with platforms is in developing the right incentives among the parties so that they transact on that platform:

The secret is that, in effect, the goal of the platform is to increase transaction volume and value. If you can do that...then you can create massive scale. Increasing the transaction value and transactions volume across your platform means that the owner of the platform doesn't have to be the sole source of content and new ideas provided on the platform. If the platform owner is the only source

of value then the owner is also the bottleneck. The goal is to consummate matches between producers and consumers of value. You want to help users find the content, find the resources, find the other people that they want to meet across your platform. In Apple's case, you're helping them find the music, the video, the games, and the apps that they want. In Airbnb's case, you're helping them find the rooms that they want, or Uber, you're helping them find a driver. On Amazon, the book recommendations help you find the content that you want. In all the truly successful platforms, the owner of the platform is not providing all of that value. They're enabling third parties to add that value....

Thus, the “value proposition” is now on two levels: producers who use the platform are creating value that is consummated in matches with consumers. And the platform owner's value proposition is in creating the opportunity for producers and consumers to consummate particular transactions. According to Van Alstne, critical concepts underlying the platform business model include “network effects,” and double/multi-sided markets:

Network effects allow you to build platforms where users attract other users and you get feedback that grows your system. As more users join your platform, more developers join your platform, which attracts more users, which attracts more developers. You can see it on any of the major platforms. This is also true of Google. As advertisers use Google Search, the algorithms get better, people find the content that they want, so more advertisers use it. As more drivers join Uber, more people are happier passengers, which attracts more drivers. The more merchants accept Visa, the more consumers are willing to carry it, which attracts more merchants, which attracts more consumers. You get positive feedback.

The consequence of that is that *you tend to get market concentration*—you get winner take all markets. That's where platforms dominate. So you have a few large firms within a given category, whether this is rides or books or hotels or auctions. Further, once you get network effects changing your business model, the linear insights into pricing, into inventory management, into innovation, into strategy breakdown.

When you have these multi-sided markets, pricing breaks down because you often price differently to one side than another because one side attracts the other. Inventory management practices breakdown because you're selling inventory that you don't even own. Your R&D strategies breakdown because now you're motivating innovation and research outside the boundaries of the firm, as opposed to inside the internal R&D group. And your strategies breakdown because you're not just looking for cost leadership or product differentiation, now you're looking to shape the network effects as *you create barriers to entry* (emphasis added).

Of note here are the economic (and other) impacts of a platform that extend beyond the platform, as is the case with the apps store for Apple, to entrepreneurs on one side (who are variously incentivized to create new apps in exchange for royalties), and to musicians on another side (who can download their songs onto Apple, and are incentivized to do so in exchange for royalties) and consumers, on to consumers on yet another side (who are the beneficiaries of the creativity of the other two sides, as facilitated by the Apple



platform). From a PPOCIR standpoint, also of note are the potential anti-competitive aspects of such platforms – both in terms of market concentration and the possibility of creation of barriers to entry.

As an approach to creating value, the platform business model differs in significant ways from conventional business models, and hopefully the “boundary spanning” aspects referred to by earlier commentators are readily apparent:

Think of it the following way—imagine that value is growing as users consume your product. Think of any of the major platforms, as more folks use Google, search gets better, the more recommendations improve on Amazon, and the easier it is to find a ride on Uber, so more folks want to be on there. It is easier to scale network effects outside your business than inside your business. There’s simply more people outside than inside. The moment that happens, the locus of control, the locus of innovation, moves from inside the firm to outside the firm. So the rules change. Pricing changes, your innovation strategies change, your inventory policies change, your R&D changes. You’re now managing resources outside the firm, rather than inside, in order to capture scale. This is different than the traditional industrial supply economies of scale.

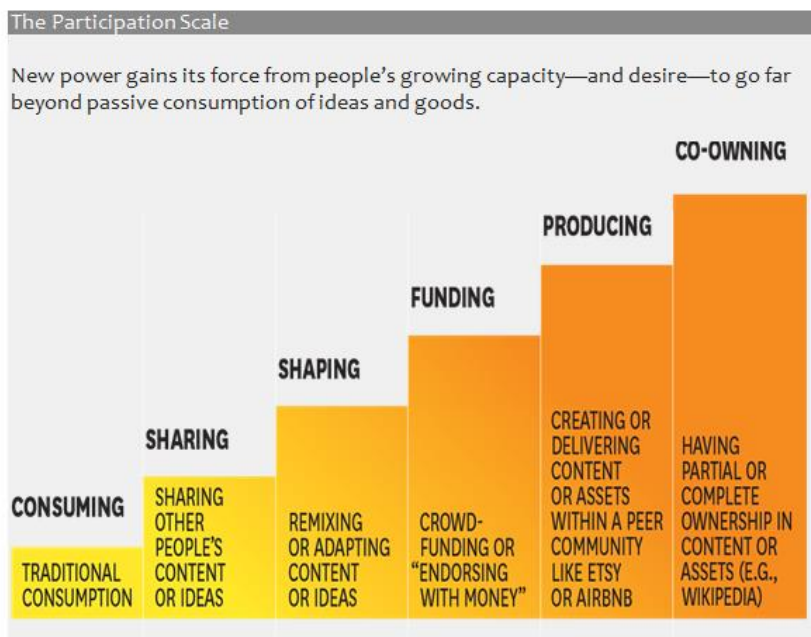
Old systems are giving away to new systems. It’s not that the whole system breaks down, it’s simply that you’re looking to manage network effects and manage new business models. Another way to see this is that previously you were managing capital. In the industrial era, you were managing steel, you were managing large amounts of finance in banking, you were managing auto parts—huge supply economies of scale. In telecommunications, you were managing infrastructure. *Now, you’re managing communities and these are managed outside the firm.* The value that’s been created at Facebook or WhatsApp or Instagram or any of the new acquisitions, it’s not the capital that’s critical, it’s the communities that are critical, and these are built outside the firm (emphasis added).

From a PPOCIR standpoint, this management by the platform of what could be called “social capital” is a quasi-regulatory role, albeit a quasi-regulatory role played by a private party, and can take the form of online monitoring of behaviour, rules of conduct, dispute resolution, censoring of certain material, building of reliability/trust systems, etc..

Van Alstyne suggests that certain types of businesses (and sectors) are particularly suited/vulnerable to “platformization,” from highly information intense sectors (e.g., media, music, video) at one end of the continuum through to services that require some form of “certification” (external approval) such as the professions (including law, medicine education), through to physically intensive industries in which data plays a critical role.

Clearly, the platform business model is an important emerging business model in the digital economy. And PPOCIR-related issues, such as how to effectively protect consumer interests on the one hand, while encouraging innovation on the other, are going to be an ongoing challenge.

The final article that I have identified as containing significant consumer-oriented insights about evolving conceptions of business models, is not an article about business models, and nor does it reference any of the articles and authors reviewed above. However, in my opinion, the article is very relevant to evolving business management conceptions of business models, and the consumer/user dimensions are given considerable prominence in the article. In the December 2014 Harvard Business Review article “Understanding ‘New Power,’” authors Heimans and Timms speak of an economic shift toward “new power models” (Heimans and Timms, 2014). According to the authors, old power models tend to require little more than conventional one-way “passive” consumption from their consumers (e.g., a magazine asks readers to renew their subscriptions). Today, they say, a more participatory interactive relationship between firms and users is becoming prevalent, reflective of a shift in power dynamics. Heimans and Timms set out a “participatory scale”:

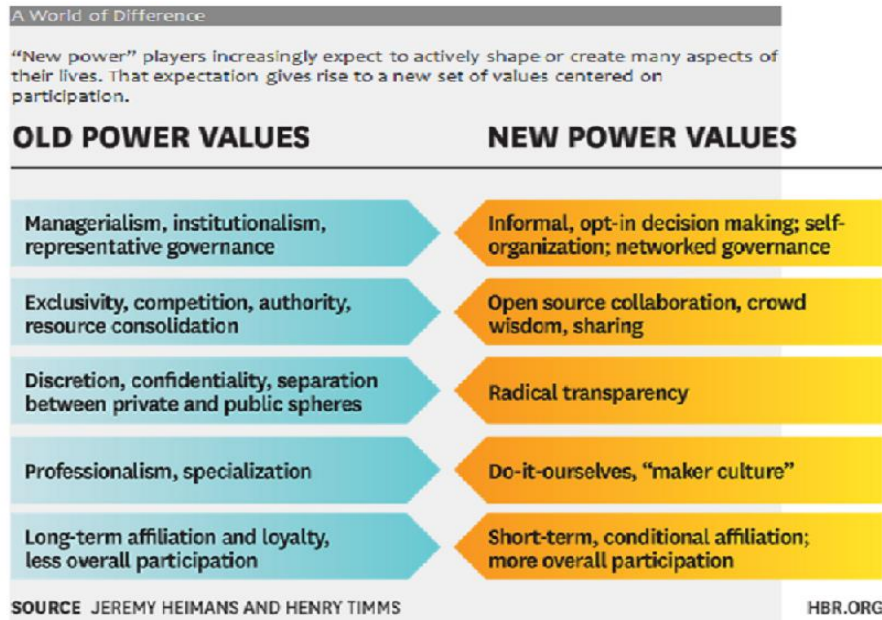


The authors say nothing about the critical role that ICT/internet developments have played in facilitating more participatory forms of power, but the role is implicit in the article (as evidenced by the examples the authors used, and one statement that “technology underpins these models”).

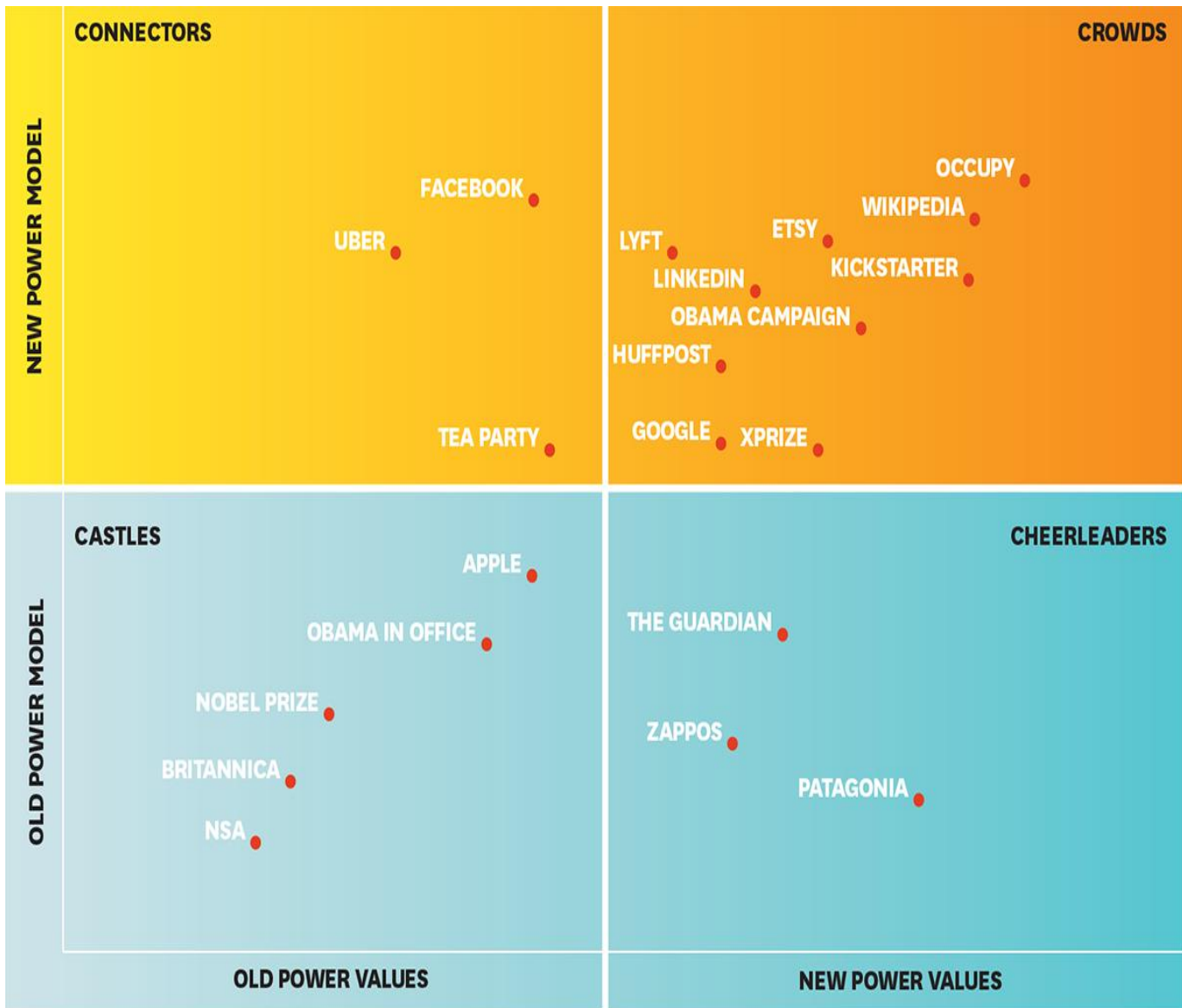
Heimans and Timms (2014) analyze the old and new power dynamic in two ways: the old power/new power *model* axis, and the old power/new power *values* axis. In terms of the old power/new power *model* axis, in the old power model, power is described as jealously guarded, with the powerful having a substantial store of it to spend. It is characterized as closed, inaccessible, leader-driven, and top down in approach. And as we have noted, little more is required from consumers other than passive consumption. By contrast, the new power model is characterized by diffuse sharing of (e.g., of content), shaping of existing content, group approaches to financing (e.g, crowd funding, peer to peer funding), participatory approaches to production and creation (e.g, etsy and Airbnb),

and co-owning (as in open source approaches like Linux). Taken as a whole, Heimans and Timms (2014) say, the new power model centrally revolves around the "uploading" of diffuse power from "the many" to "the many".

With respect to the old power values/new power *values* axis, the authors develop the following comparative grid:



Comparing the old power and new power values itemized by Heimans and Timms, it is apparent that the new power values have been shaped or facilitated to a considerable extent by the Internet and ICT advances, although this is largely unacknowledged by the authors. We are now in a position to examine the Heimans and Timms' framework for understanding the players, plotted on the models and values axis.



SOURCE JEREMY HEIMANS AND HENRY TIMMS

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The “castles” quadrant is described as an old power model with old power values, with the example given of Apple following this approach, in the sense that the company operates in a top down manner, eschewing use of open source approaches, and is renowned for its secrecy and aggressive approach to IP protection. The authors admit that there are some cooperative aspects (e.g., the App store). But the consumer role is on the whole quite passive. I specifically bring the Apple example to the reader’s attention here because one can make an argument that Apple is extremely innovative in terms of its business models (eg., iTunes, app Store, iphones), and yet from a power standpoint, it is “tightly held,” very “top down” in terms of operation, and the consumer role is quite conventional and passive. From a PPOCIR standpoint, it could be said that Apple draws on conventional legal approaches to “guard” their castle (e.g., aggressive protection of their intellectual property to among other things create a “ring fence” around its products, so that consumers do not have easy inter-operability between Apple products and

companies creating similar products), and Apple has attracted criticism concerning potentially anti-competitive practices.<sup>2</sup>

The “connectors” quadrant is a mix of a new power model and old power values. According to Heimans and Timms (2014), both Facebook and Uber fall into this category. Facebook is described as depending on participation (“made by many”), but firms in this quadrant have “old power sensibilities” as evidenced in certain Facebook decisions that seem to ignore the wishes of the community. Similarly, although the Uber ride sharing service is characterized as a new power model, Uber’s unpopular suggestion of a move towards driverless cars is taken as evidence of alignment with the old power values.

In the “cheerleaders” quadrant are firms that espouse new power values but still operate using old power models (such as Patagonia). The “crowds” quadrant involves new power models and new power values, and is described as including the purest “new power actors,” including Etsy and Google (which the authors distinguish from Apple due to its use of open source approaches).

I have included the Heimans and Timms (2014) article in this review of scholarly thinking on emerging consumer-relevant business models for three reasons: first and most importantly, because it makes a good case for considering the changing power dynamics associated with the digital economy (a factor missing from the analysis of business model scholars); second, because it provides a framework for analyzing digital economy actors that with some adjustments may be useful in further PPOCIR work concerning business models; and third, because the article is in the influential Harvard Business Review, we can anticipate that the business models scholarly community may eventually draw on it.

The suggestion is not made here that shifting power dynamics will necessarily be the central theme in scholarly thinking about business models. However, from a PPOCIR perspective, a persuasive case can be made that the evolving “power dynamics issue” and the move towards more participatory user approaches in business models is likely to be both a hallmark of the digital economy in the years to come, and that the more participatory approaches are likely to raise particular challenges from a PPOCIR perspective, as roles change. Therefore, the power dynamic should perhaps be factored into systematic consideration of the emerging business models.

From a PPOCIR standpoint, the evolving literature on business models as it pertains to consumer oriented online business activity is useful in the sense that it provides the public policy community and related interested stakeholders (e.g., consumer organizations, businesses and industry associations) with a somewhat dispassionate and analytical “window” on how e-based consumer activity is being viewed amongst business scholars (when compared with consumer activity undertaken through conventional bricks-and-mortar approaches). Scholars are variously developing insights concerning how the emerging e-consumer business models can change (or are changing) the nature of customer-firm relationships and marketing and the role of information, how they can result in differing approaches to value creation and value capture, and how the models

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<sup>2</sup> E.g., Toronto Star Staff, “Apple probed by Competition Bureau,” Toronto Star, Dec. 11, 2014; Bill Thompson, “Time for Apple to face the music?” BBC News, September 19, 2007.

can facilitate or are facilitating technological innovations with significant impacts in terms of inter-consumer and business cooperation, collaboration, and communication. In some ways, the aforementioned business model innovations described and discussed by business management scholars may pose challenges for traditional consumer protection frameworks – a line of inquiry missing in the business management literature, but one that will be considered later in this survey.

## **2. Summary of Main Research Issues**

Based on my review of the relevant business models literature, here is a summary of some of the key research issues, from the perspective of the PPOCIR community.

### ***Research Issue #1: The Rise of Collaborative Consumption and the “Sharing Economy”***

Essentially, collaborative consumption allows individuals to redistribute underutilized assets, matching those who have the products/services with those who want to buy in a way not so easily possible prior to the Internet, by reducing the transaction costs between buyers and sellers in terms of making products/services available for sale, and the transactions costs associated with searching for the products/services (Botsman and Rogers, 2010).

From a largely chronological standpoint, the rise of collaborative consumption can perhaps be plotted against 4 different versions of consumer-oriented business model that have emerged with advances in ICT and the internet. Version 1.0 of the collaborative consumer online business model might be exemplified by simple transformations of “offline” approaches for peer to peer transactions, such as the transformation of classified ads into Craigslist. For the most part, consumers participated in the online transaction process little more than they had in the pre-online versions, except for the fact that the platform was e-based, and hence actual human interaction with the intermediary (e.g., the telephone operator at the newspaper responsible for receiving and processing the classified ads) was minimized. Collaboration among the parties was minimal. A more sophisticated online goods exchange platform is eBay. In this platform, the potential purchasers and the sellers interact throughout the transaction process, self-enforcing trust/reliability mechanisms largely regulate the performance of the parties, and in the event of disagreements, eBay has established a dispute resolution process. Botsman and Rogers (2010) refer to the Craigslist and eBay sort of transaction system as a “redistribution system.” Version 2.0 represents an early form of “access” transaction platform, but where the goods being accessed remain the property of a third party, such as Zipcar. Botsman and Rogers (2010) refer to this as a “product service system”.

Version 3.0 takes us further down the continuum in terms of operating as a “peer to peer” behaviour-mediated platform -- and here is where the sharing dimension starts to come to the forefront, as with Airbnb and Uber. Botsman and Rogers refer to this sort of peer to peer platform as a “collaborative lifestyles” system, as it entails real life encounters between strangers concerning access to less tangible personal assets of those strangers

(such as time, space, and skill). Here we see, for example, the lodgings and transportation services of individuals being shared, potentially disrupting the conventional business models that normally provide such services (hotels and taxis).<sup>3</sup> At each stage, information about the parties to the transactions is playing an increasingly critical role, allowing both sides of the transaction to make accurate assessments about the reliability and performance characteristics of the other. Referring to the old power/new power models and values described by Heimans and Timms (2014), sharing at this stage essentially represents a challenge to “old power” approaches to the provision of those services (i.e., services which conventionally necessitate enormous investments that are held by a comparatively small number of players).

Version 4.0 of a collaborative consumption business model arguably takes the Botsman and Rogers (2010) “collaborative lifestyles” system platform to another level, and is perhaps best viewed as still somewhat “on the horizon” at this stage, in terms of exactly how it might work. An example might be a ride sharing service called La’Zooz, a work in progress briefly described here:

Like Uber...it’s an attempt to implement real-time ridesharing, but without the company. Using the same technology underlying the virtual currency Bitcoin... the La’Zooz network would exist on the phones and computers of its community of users, rather than any central server. Rather than Bitcoin’s “proof of work” method of generating new tokens, which requires enormous computational power, La’Zooz generates new tokens—called “zooz”—with “proof of movement.” Basically, turn on your La’Zooz-enabled phone and drive. As you drive, you earn zooz tokens. Then, when you want a ride from someone else in the community, you can pay in zooz (Schneider, 2015).

Aligning with Ng’s (2013) suggestions, in this model, the information aspects of driver behavior are explicitly commoditized, and the conventional corporate form for the platform is replaced by a more community based structure that is intended to stimulate a network effect (Van Alstyne, 2014) and that distributes power more widely (Heimans and Timms, 2014):

Making this a community project is not just a bonus or a nice thing—it’s what will overcome what caused others to fail. With [Bitcoin-type] technology, power is automatically distributed to the whole community. To raise a critical mass of participation, you can invent a token, then distribute that token to whoever contributes. They can be developers, founders, purchasers, or even early adopters. In that way there is an incentive for early participation. Then, as soon as the thing that you are trying to build is operational, there is a critical mass of participants ready to use that same token in the system. In our case, riders will share the cost of a drive with zooz tokens (Schneider, 2015).

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<sup>3</sup> Discussion of the wide-ranging and potentially significant negative implications of such models, from a PPOCIR standpoint, are largely missing from the business management literature, but will be returned to later in this survey.

At each stage of these four collaborative consumption models, we see the role of information (and sophisticated techniques for making use of that information) becoming a more critical and central part of the business model (because there is the potential for personal encounters among strangers as we move from selling of objects to sharing of lodgings or transportation). La'Zooz perhaps represents the “bleeding edge” in terms of the critical role of information and in terms of innovations to collect it, commoditize it and protect it:

Part of the system will be a social matching algorithm, which will identify people's similarities and dissimilarities from very esoteric data on the network—for instance, Facebook data. For security, also, we've thought of having an alert button connected to the application. Since the system is community-based, people driving nearby can respond to an alert if someone finds themselves in a situation that is not wanted..... all information will sit on a cryptographic [technology like Bitcoin]...., which means that nobody—including us—will be able to access the information. Whenever a rider and a driver are matched, only the part of the information that is necessary and public will be available between them (Schneider, 2015).

Whether or not La'Zooz will catch on is difficult to say at this point. I include it here because it perhaps provides us with a glimpse of the next stages in terms of peer to peer platforms that are decentralized and more reliant on information as its key currency.

Botsman and Rogers (2010) characterize collaborative consumption as a disruptive innovation or technology (Christensen, 1997) in terms of the ways in which collective consumption behaviour is taking place: it is redefining traditional market relationships and challenging previous conventional business models of production, distribution and consumption. Botsman and Rogers maintain that collaborative consumption is reinventing not just what we consume, but how we consume (2010). Botsman and Rogers do not discuss the potentially significant public policy oriented consumer policy implications associated with collaborative consumption approaches such as Uber and Airbnb (a subject that is briefly addressed later in this survey).

Botsman and Rogers (2010) suggest that collaborative consumption represents a shift away from the 20th century fixation with hyper-consumption (consumption for its own sake, and a fixation with accumulation of material goods). Instead, collaborative consumption involves an increased emphasis on access over ownership and the primacy of experience over more material goods. While the Internet itself and related technologies may be critical drivers of the sharing economy, Gansky (2010) speaks of the “triple bottom line” benefits (environmental, social and economic) that flow from what she calls the “mesh economy.” Following this line of thinking, there are arguably considerable opportunities for environmental gains if/when we move away from ownership of goods (e.g., tools and cars and lodgings) towards sharing of same, and there is a concomitant more widespread use of peer to peer platforms such as eBay to re-distribute no longer wanted goods to those who do need them. There are also considerable opportunities for new social relationships to develop (e.g., as homeowners



in one city invite guests from other countries into their homes), as well as new opportunities for the generation of income outside of conventional corporate-based employment.

### ***Research Issue #2: The Challenge of Consumer Trust in the Digital Economy***

A recurring and central theme that I have identified in my review of the business literature on new consumer-relevant internet-based business models is *the centrality of developing a practical method for establishing and maintaining consumer trust* (and related conceptions associated with establishing and maintaining reputation), for the efficient and effective functioning of these emerging online business models. Trust by the consumer in the online merchant, in the description of the attributes of the product, and in promises associated with the product (such as delivery details, privacy, and security) are critical for business to consumer (B2C) online ecommerce. In peer to peer transactions, the reputation of both seller and purchaser (i.e., trust in the seller and purchaser) are also central considerations, as cultivated by the platform owner. The issue of how consumer trust in online contexts is established and maintained among total strangers, including strangers who might be located in different countries, with different mother tongues, different cultures and legal systems and different currencies (e.g., as is the case with a German couple staying in an Ottawa couple's apartment, in an Airbnb transaction) represents a particular and evolving challenge as the technologies change and as new issues arise.

#### *Consumer Trust in Business to Consumer Online Contexts*

On this subject, the focus of most business literature that I have reviewed to date is on the business perspective concerning construction of consumer trust in the B2C online context (e.g., Yannapoulou, 2014). Occasionally one can find articles that focus on consumer-oriented concerns associated with trust in online business contexts. A 2011 article on ethical issues in e-commerce involved an online survey of 400 shoppers (Nardal and Sahin, 2011). The authors concluded that trust-related ethical problems associated with security, privacy, reliability and non-deception are core issues that limit the growth of online retailing (Nardal and Sahin, 2011).

Trust seems to be a preoccupation of business scholars whether the context is business to consumer (B2C) transactions (e.g., how does a small business located in jurisdiction X represent itself as trustworthy to a consumer located in a different jurisdiction who has no prior connection to that business?) or in peer to peer contexts (such as with Airbnb, as discussed below).

Business scholars are examining what trust means in e-commerce customer relations (McKnight and Chervany, 2002), the different effects of online consumer reviews on consumer purchase intentions depending on trust in online shopping malls (Lee, Park and Han, 2011), the role of third party certifications (e.g., Chang, Cheung and Tang, 2013; Kim and Kim, 2010); and the influence of perceived ease of use and corporate credibility

in reducing online privacy risk to facilitate e-service adoption (Featherman, Miyazaki and Sprott, 2010).

A general review of the literature on the antecedents of online trust (Beldad, de Jong and Steehouder, 2010) observes that the development of online trust appears to be influenced by:

- consumer experience with the technology used for the transaction;<sup>4</sup>
- the users' tendency to trust or by the quality of the website used for the transaction;
- the presence of security assurances on the website;
- users' experiences with online organizations; or
- the reputation of those organizations.

In a somewhat similar vein, McKnight et al (2002) posit that the construction of trust in the vendor starts with the personal disposition of the user on trust issues, and this is then coupled with the institutional disposition of the user towards trust (e.g., general web experience beyond a particular merchant). This is then personalized vis-à-vis a particular web vendor, based on the user's perception of the integrity of vendor as revealed in indicia of trust provided on the website (this could take the form of third party certification to a privacy standard, such as e-trust) as well as interactions with that vendor (e.g., if the user asks a question concerning a particular product, or concerning delivery, and receives a prompt and appropriate reply from the vendor). A point not explored by McKnight et al. is whether consumer dispositions of trust in online merchants is likely to vary depending on the age of the consumer (for example, will the millennial generation be more inclined to have trust in online vendors than the baby boomer generation or generation X?).

#### *Consumer Trust in Peer to Peer Online Contexts*

We will now turn our attention specifically towards the construction of trust and reputation in peer to peer (P2P) contexts. In keeping with general observations of Heimans and Timms (2014) and Botsman and Rogers (2010) about the movement towards collaborative sharing models, where diffuse power is increasingly drawn on or tapped into, the challenge associated with construction of trust and a positive reputation in these contexts is that the seller is likely to be an amateur (i.e., it is not their full time occupation), and so the regular indicia of business reliability (e.g., business licence and subjection to a conventional regulatory framework) is not so certain.

In some ways, the trust mechanisms being developed in online contexts represent a particular form of operationalization of the French philosopher Foucault's concepts of governmentality and responsabilization. Drawing in particular on his writings concerning governmentality (e.g., Foucault, 1991), responsabilization is described here as the process whereby societal actors are encouraged or compelled to acknowledge and assume a pro-active or reflexive moral capacity to govern their own risks (Shamir, 2008). In other words, governmentality and responsabilization bring together the economic sphere and

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<sup>4</sup> This presumably includes consumer experience with the technology associated with payments.

the moral sphere of societal activities, rather than keeping them separate, suggesting that every actor has moral regulatory capacity in all activities (Shamir, 2008).

A pioneer in P2P reputation systems is eBay. In an article on eBay, Resnik and Zeckhouser (2002) describe a reputation system as something that “collects, distributes, and aggregates feedback about participants’ past behaviors.” In effect, purchasers and sellers “earn” their online reputation, using online informational tools developed by the platform business, that track behavior in a transparent way, rewarding responsible conduct and discouraging misconduct. For all of its sophistication, eBay represents a P2P platform where there is relatively little on the line in the sense that at the end of the day, usually there is a transference of products from seller to buyer, but no direct face to face interaction between seller and buyer.

As we move more towards the collaborative “sharing” consumption concept, the relationships and interactions among parties become more direct. The next stage up from product exchanges is the access-based product system (Botsman and Rogers, 2010) described earlier, such as Zipcar, where the platform business owns the cars, and the members, who are strangers to each other but united by being in the same community of car users, access them. In “Access-Based Consumption: The Case of Car Sharing” (2012), authors Bardhi and Eckhardt examine customer perceptions of Zipcar. They define “access-based consumption” as transactions that can be market mediated but where no transfer of ownership takes place. Bardhi and Eckhardt identify six dimensions that distinguish access-based “consumptionscapes”: temporality, anonymity, market mediation, consumer involvement, the type of accessed object, and political consumerism. The authors conclude that car sharing of this type is guided by norms of negative reciprocity (i.e., users tend to engage in negative behaviour toward each other, such as failing to clean out the Zipcar) so that in turn car sharing of this type lends itself to “big-brother-type governance”:

Our findings demonstrate that in market-mediated, anonymous, limited duration of use, and self-service access consumptionscapes, consumers engage in opportunistic behaviors toward the company and one another; they look out for their own interests at the expense of the object as well as the other users. This is in contrast to more social, less anonymous, and more not-for-profit types of access, such as toy libraries, as well as less material types of access such as digital file sharing, where consumers do seem to feel a sense of responsibility toward one another and the community. [references omitted] Thus, car sharing is governed by the surveillance-style governance models employed to induce equitable usage among the community. Because of the negative reciprocity that characterizes our context of access, the surveillance and command controls are welcomed, supporting [the] controversial conclusion that big-brother control models can be beneficial to consumers. This finding is in contrast to the widely accepted negative stance on surveillance both in academia and among consumers.

In effect, there is a problematic element of irresponsibility between users of a car sharing service such as Zipcar, where (at least as described by the authors) the “market-mediated”

anonymous members have limited incentive to clean up after themselves after their car usage. In this sort of circumstance, “surveillance and command controls” implemented by the platform business are not perceived as problematic by the users surveyed by the authors.

The nature of the relationships (or “consumptionscapes”, per Bardhi and Eckhardt, 2010) between P2P buyers and sellers seems to change and become more personal the further one goes along the collaborative/sharing continuum –where face-to-face interactions between sellers and buyers are common. In a 2015 paper on Airbnb, Zervas, Prosperio and Byers describe the unique attributes of Airbnb in terms of trust/reputational issues as follows:

First, while most review platforms studied to date predominantly evaluate products, goods and services, and professional firms, Airbnb reviews are much more personal, and typically rate an experience in another individual’s home or apartment. Therefore, the social norms associated with these intimate Airbnb transactions may not be reflected in previously observed rating distributions or captured by previously proposed review generation models. Second, trust can be especially difficult to build in the loosely-regulated marketplaces comprising the sharing economy, where participants face information asymmetries regarding each others' quality. Information asymmetries arise because buyers and sellers in the marketplace typically know little about each other; moreover, unlike firms with large marketing budgets, few of these individuals have an outside source of reputation, nor the means to build it, by investing in advertising or related activities. Therefore, a distinguishing feature of reviews on peer-to-peer marketplaces like Airbnb, is that for most marketplace participants, this is their only source of reputation (Zervas, Prosperio and Byers, 2015).

A variety of online informational rating tools are being employed in collaborative P2P contexts (Pick, 2012), including numerical reviews (e.g., the five star Airbnb categories include: accuracy, cleanliness, check in, communication, location, value, and overall satisfaction); actual user comments; connections to social media platforms (e.g., an option that is reported as becoming popular especially for P2P platforms allows a consumer to connect to the P2P platform using “Facebook connect”, which thereby acts as an indirect external centralized identity verification system of a sort); and direct identity verification (e.g., as is done by eBay where eBay contacts the phone number provided by the purchaser/seller). Reputation systems are not perfect, and have been the subject of criticism, such as when there has been dishonest feedback (Xiong & Liu, 2004).

What can be seen is that as one moves towards the collaborative/sharing end of P2P platform contexts, information is playing a more and more critical role. Essentially, referring to Heimans and Timms (2014), sharing at this stage represents a challenge to “old power” approaches to the provision of those services (services which conventionally necessitate huge investments that are held by a comparatively small number of players who are closely and conventionally regulated (e.g., through centralized

licensing and inspections), and the regulation of the fairly small number of players is (in hindsight) fairly straightforward, when compared with the scenario of regulating the tsunami of individual apartment renters or condo owners or home owners or car owners who are now allowing consumer “access” to their assets/services. It could also be argued that P2P sharing involving services that require face to face interactions between sellers and buyers might also represent challenges to conventional consumer protection frameworks, as discussed later in this survey.

As the collaboration takes the form of peer to peer transactions pertaining to services such as lodging and transportation, a safety element that has heretofore been carried out largely by the state (e.g., safety checks of taxi drivers or hotel accommodations) is instead at least in part carried out by a private sector intermediary. Indeed, following a high profile burglary, vandalism and identity theft incident in San Francisco in 2011, Airbnb added a \$1 million host property guarantee and established an in-house task force devoted to the manual review of suspicious activity.<sup>5</sup>

The suggestion made here is that online trust, reputation and reliability systems have emerged as important mechanisms for responsabilization – allowing purchasers and sellers to assess each other and thereby make more informed decisions about each other. Considerable scholarly research into these trust systems has been undertaken. However, as a direct human safety element is introduced into access consumption involving face to face interactions between sellers and buyers, the limits of these systems is perhaps becoming particularly apparent, and the need for some form of state-based consumer protection regulatory framework is perhaps also becoming more apparent.

### ***Research Issue #3: the increasing importance of consumption information and experiential data***

Consumption information is at least in part becoming a central preoccupation because Western consumers are increasingly living in a *network economy*, where consumers are connected to the internet on an almost 24 hours a day, 7 days a week basis, whether it is through smartphones and increasing consumer adoption of mobile commerce (e.g., Trites, Gibney and Lévesque, 2013)., or through wearable devices, or through the “internet of things” that is connecting homes and consumer products to the internet and between and among consumers as never before:

The internet of things movement is therefore a new frontier for the understanding of demand and customer choices, informed by actual consumption behaviours (Ng, 2014).

As Ng (2014) observed, the digital connectivity between objects and people isn’t merely about changing the use or experience of such objects but it is also about unleashing a new economic resource for both firms and individuals – that of consumption and experiential data:

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<sup>5</sup> Per: Airbnb, <http://blog.airbnb.com/our-commitment-to-trust-and-safety/>

What is new .....is that consumption data can now be separated from the person, allowing for its commodification into a resource for economic activity such as buying food, or planning future consumption.....technology creates the ability for the firm to participate in consumption activities by proxy such as allowing for the product to be dynamically reconfigured based on changing contexts of use.....

The digital visibility of customer experience of a product, available as personal data, is therefore potentially the firm's biggest opportunity to create market advantage through configurable products or services (Ng, 2014).

According to Ng, the very role of consumption information to business has changed dramatically:

Business needs to move beyond viewing consumption data as only useful as intelligence to feed back for demand management: especially when data is real time, and can allow for demand stimulation as well as dynamic and personalised response to serve customers in context and on demand (Ng, 2014).

This observation aligns well with Ng's notion (described earlier) of the increasingly "tightly coupled" and ongoing relationship between a business model's value proposition, value creation and revenue streams:

The availability of consumption data as an economic resource will clearly change the relationship between the customer and the firm, which could, in turn, change revenue and resource streams for firms.....

The current distance in terms of time and space between purchase and consumption is a market inefficiency that technology can quickly resolve..... Customers are often more willing to buy closer to when they need an offering, and firms will derive greater revenues (Ng, 2014).

Ng suggests that the nature of experiential consumer data as a monetized resource of consumers could have a number of implications:

If the personal data is owned by the customer, there may be greater willingness to generate more of the data through the voluntary installation of sensors in the home. Such data becomes a precious commodity for the customer that the firm would like to trade for as it is more accurate than big data predictions. Future revenue and pricing researchers will have to understand the marginal rate of technical substitution between personal data and monetary revenues. The worth of personal data is dependent on the contexts through which the personal data could be useful. Google shows that data is potentially revenue. But data can only be converted into revenues if it is a resource to be used in the right context, such as converting our search needs into targeted advertising opportunities.

As envisaged by Ng, in a digital economy, consumer information is likely to be of increasing value to businesses and consumers alike. Although Ng herself does not address the point, the PPOCIR implications flowing from this increase in value of individualized consumer information may necessitate a re-think of current regulatory approaches to protection of personal information of consumers. This issue is briefly discussed later in this survey.

### *Consumption Information and Big Data*

Moving beyond the question of the increasing value of individualized consumption information and experiential data, there is also increasing interest by businesses and business scholars in the topic of “big data” as applied in consumer (and other) contexts -- its utility, value, limitations and potentially problematic dimensions (e.g., see Davenport, Barth and Bean, 2012; Tirunilla and Tellis, 2014). As understood here, big data can be described as “gigantic datasets held by corporations, governments and other large organisations, which are then extensively analyzed using computer algorithms.”<sup>6</sup> An alternative definition that is referred to in the literature describes big data as “datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyse.”<sup>7</sup> In effect, big data has been enabled by the internet (in terms of capturing the data) and advances in information and communications technology (in terms of storing, managing and analyzing big data). It is undoubtedly true that big data can assist businesses in terms of understanding consumer behaviour and can provide opportunities for improved business decision making and greater efficiencies in operations.

At the same time, big data raises many significant PPOCIR issues, such as those associated with data protection and privacy risks, the increased potential for tracking and profiling, unintended secondary use of data, inequality of access. Unfortunately, these issues, though important, cannot be adequately addressed in a modest overview survey such as this. Two issues will be briefly discussed. The first pertains to big data and the rules on data protection, consumer protection and competition law. The second pertains to the need for caution in conducting big data research and drawing conclusions based on big data.

### *Big Data and the Rules Pertaining to Data Protection, and Competition Law*

In a 2014 preliminary opinion of the European Data Protection Supervisor (EDPS), the EDPS observes that EU principles and rules on data protection, competition and consumer protection have been designed to promote a thriving internal market and to protect the individual. Greater convergence in the application of these policies could help meet the challenges posed by the big data economy. However, to date, these policies have tended to be developed in parallel with little interaction on subjects of common

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<sup>6</sup> Per : Article 29 Working Party, Opinion 03/2013 on purpose limitation, p. 35. This definition is provided in European Data Protection Supervisor (2014).

<sup>7</sup> Per : McKinsey Global Institute, *Big data : The next frontier for innovation, competition and productivity* (June, 2011). This definition is provided in European Data Protection Supervisor (2014).

concern. EU policy makers and regulators have until now typically focused on markets for products and services traded in exchange for money. As consumers and businesses both adapt to and propel constant changes in technology, there is an onus on policymakers and regulators to keep pace. The EDPS suggests that the control of personal information taking the form of big data contributes to market power in the digital economy and the implications for data protection. The EDPS also notes the risks to the consumer posed by concentrations of such information and the abuse of market dominance where firms process massive amounts of personal data. Finally, the EDPS notes how the growth of a vibrant market for privacy –enhancing services can be encouraged by strengthening informed consumer choice. For this reason, the EDPS stresses the importance of coordinated thinking, enforcement and cooperation between regulatory authorities at the international, EU and national level.

### *The need for caution in big data research*

In a 2014 Academy of Management article, George, Haas and Pentland summarize the situation well: as digital technologies, big data, social media and computational thinking become more pervasive, research practice across all disciplines is on the brink of a potentially transformative era. Data is becoming available in unprecedented volumes from sources and in forms previously unimaginable. The digital revolution and emergence of big data and social media have raised important questions for the way in which Management and Organizational Research is conducted and the appropriateness of its traditional model of practice (George, Haas and Pentland, 2014). Scholars suggest that to extract the scientific value from this sort of data skill profiles will need to be reconfigured to include computer science, develop novel analytic capabilities and research collaborations and even to ask different questions.

In a 2014 article, Derek Ruths, a computer science professor at McGill University and co-author Jurgen Pfeffer observe that, on the one hand, “massive social media data sets” have allowed researchers to probe human behaviour with unprecedented ease, through a growing body of work that combines machine learning, language modelling, network analysis and statistics. At the same time, however, the authors express concern that some researchers may be seeking “anything that resembles statistical significance.”

Some of the potential problems itemized by Ruths and Pfeffer include: ensuring a representative sample, a problem that is sometimes, but not always, solved by ever greater numbers. Another is that few studies try to “disentangle the human from the platform,” to distinguish the user’s motives from what the media are enabling and encouraging the user to do. Another is that data can be distorted by processes not designed primarily for research. Google, for example, stores only the search terms used after auto-completion, not the text the user actually typed. Another problem is simply that many social media are populated to a significant extent by non-human robots, which mimic the behaviour of real people. It has been said that even the cultural preference in academia for “positive results” can conceal the prevalence of null findings. “The biases and issues highlighted above will not affect all research in the same way,” Ruths and Pfeffer write, “[but] they share in common the need for increased awareness of what is



actually being analyzed when working with social media data.” (Ruths and Pfeffer, 2014).

Thus, while “big data” represents a transformative moment in scholarly research on consumer data, it will be critical to ensure that the limitations associated with the data are fully acknowledged and taken into account.

#### ***Research Issue # 4: Developing meaningful consent in online contexts***

Consent increasingly underpins our digital lives, and this is particularly the case in consumer contexts. Researchers are now asking “how meaningful is the consent that is provided in digital contexts?” A project on Meaningful Consent in the Digital Economy project has been established at the University of Southampton. Project researchers describe the consent problem as follows:

We tick the box without knowing what it means, or click the button just to get rid of the message. This poses problems for individuals who aren't aware of their rights and obligations, and for organisations that rely on this meaningless consent as a legal protection (University of Southampton, 2014).

Despite being asked to "agree" constantly to terms of service, the project notes, we do not currently have "meaningful consent." It is unclear whether having simple and meaningful consent mechanisms would change business fundamentally or enhance new kinds of economics around personal data sharing. Since consent is deemed necessary and part of a social contract for fairness, however, without meaningful consent, that social contract is effectively broken and the best intent of our laws undermined.

The potentially problematic nature of consumer consent as a trigger for collection and use of personal information in the context of big data technologies and practices is well described by Donovan and Finn (2014):

For there to be ethical consent, the consent must be meaningful, and the approach: “Give us your data or we won’t serve you [...]” cannot be considered meaningful consent. It has become common practice in that “individuals are often faced with a denial of services as the only avenue through which they can withdraw consent.” .....Just because content is publicly accessible doesn’t mean that it was meant to be consumed by just anyone” .....data mining generally.....has been criticised for compromising ethical values such as privacy. Knowledge discovery allows considerable insight into data. This brings with it the inherent risk that which is inferred may be private or ethically sensitive. The process of generating rules through a mining operation becomes an ethical issue when the results are used in decision making processes that effect people, or when mining customer data unwittingly compromises the privacy of those customers (references omitted).

The rise to prominence of consent as a trigger (and basis) for data collection is a comparatively recent phenomenon, connected to changes in information and

communication technologies. One scholar (Alessandro Mantelero) has been reported as describing the earlier approach to data protection, the emergence of the consent model, and a possible move away from the consent model, at least in certain circumstances:

Alessandro Mantelero points to earlier experiences in the mainframe era where a clear imbalance in knowledge existed between individuals and governmental or corporate mainframe operators at which a concentration of information took place. The first data protection models from this age focused on providing a counter-control through transparency and independent control authorities. Later ICT became more widespread and accessible, diminishing the power imbalance. In this period the consent model emerged, which supposes the capacity of consumers at informational self-determination. Nowadays we see a new power imbalance and concentration of information at big data operators who control a wide range of sensors in their capacity...[as] service providers. This concentration of information creates also a new opacity of big data processing and diminishes the capacity of informational self-determination. Therefore Mantelero also proposes to move away from the consent model, although limited to big data applications, but...counterbalancing it with independent public authorities (Donovan and Finn, 2014).

According to the University of Southampton Project, meaningful consent has implications for transforming current digital economy data practices; change will require potentially new business models, and certainly new forms of interaction to highlight policy without over burdening citizens as we go about our business. “We have set out a vision to achieve an understanding of meaningful consent through a combination of interdisciplinary expert and citizen activities to deliver useful policy, business and technology guidelines.” (University of Southampton, 2014).

Some of the questions that are being posed as part of the project include: (1) What is necessary in order for consent to be “meaningful”? (2) When does consent matter? (3) When do scenarios require meaningful consent, and are there different degrees of consent that are required? (4) What can consent practices from other domains teach us about consent in a digital world? (5) What approaches can be taken to regulate online consent? (6) What support can we give to individuals to make their consent mean something and does failure to engage really reveal that individuals "don't care"? (University of Southampton, 2014).

At this point, the major research outputs appear to have been two workshops that variously attempt to answer some of the research questions set out above. The suggestion made here is that this sort of broad and multidisciplinary project is addressing a critical issue that underlies much online consumption activity.

#### ***Research Issue # 5: Other potentially promising research***

There are a number of other potentially promising research issues that are beyond the scope of this modest survey of the business management literature. One research issue

pertains to examining the engagement of individuals as consumers on social networking sites (e.g., Chu and Kim, 2011), the forms, roles, strengths and limitations of online consumer reviews (e.g., Lee, Park and Han, 2011), and other non-conventional ways in which marketing can take place on the internet (e.g., Chiou-Wei and Inman, 2008). The role of consumer organizations in the governance of e-commerce consumer protection is a topic recently the subject of exploration by scholars (Ha and McGregor, 2013). The enhanced potential for and merits and limitations of dynamic pricing in online retail contexts is also an area that has attracted scholars (e.g., Hinz, Hann and Spann, 2011; Lyons, Messinger, Niu, and Stroulia, 2012). Another set of research questions revolve around the challenges and obstacles associated with online payment systems (e.g., Jaw, Yu and Gehrt, 2011).

At a general level, the United Kingdom's Hub of All Things Project (<http://hubofallthings.com/>) may represent a particularly useful research resource for PPOCIR researchers interested in the latest thinking on evolving business models as pertains to the online consumer context. The project attempts to bring together scholars and others to explore such topics as evolving business models, the role of consent, the role of data, and other matters.

### **3. Academic Literature on Evolving Business Models as pertains to the Online Consumer Context- PPOCIR Implications and Key Takeaway Messages**

As Ng (2014) noted, business schools, through their various divisions pertaining to strategy, marketing, organizational behavior and human resources management, operations finance and accounting, are largely fixated on the question of how to create better market advantage and sustainable profits. This review of the business literature confirms this fixation – most of the articles examined seem to be written with minimal acknowledgement of or attention to the fact that there are a number of important consumer public policy oriented implications associated with the evolving business models that are emerging, and the thinking of business management scholars concerning consumer welfare and the consumer policy framework that does or should apply to these evolving business models is conspicuous by its absence.

This having been said, this survey provides support for the proposition that in the course of conducting their research and making their observations concerning evolving business models, and related issues such as collaborative consumption, the construction of consumer trust in online contexts, the increasing importance of consumption information and experiential data, and explorations of the role and value of consent in digital contexts, business scholars are shedding useful light on issues of potentially considerable interest from a PPOCIR perspective.

The research surveyed here concerning evolving business models provided a number of insights concerning the evolution from conventional, loosely coupled offline approaches to the business model's value proposition, value creation and revenue capture, to the new more "tightly coupled" approaches to value propositions, value creation and revenue

capture that are taking shape in the digitally connected economy. The suggestion that in a more tightly coupled online business model, the interactions among the three business model components can create new opportunities for wealth creation, and a much different, more ongoing and intensive set of data-rich relations between business and consumer are particularly interesting. The transformational potential of these new business models is still being worked out, and in turn, the PPOCIR implications associated with these transformations bear close scrutiny. One could ask: are current consumer public policy frameworks applying to these emerging business models similarly “tightly coupled,” or are they more “loosely coupled,” in terms of operating in an integrated and cohesive manner? For example, are there systematic, coherent and unified data-rich interactions (sharing) among the various different regulatory authorities with mandates to address the activities and business models of global actors such as eBay, Uber and Airbnb? Are consumers put at a disadvantage, from a PPOCIR standpoint, when the data aspects of the regulatory response are not at the same level of sophistication and cohesiveness as those of eBay, Uber and Airbnb?

Additionally, the suggestion made here is that the “nine building blocks” approach to understanding new e-based business models developed by Osterwalder, Pigneur and Tucci (2005) is potentially useful from a PPOCIR standpoint, assisting regulators or other parties interested in better understanding the PPOCIR dimensions of evolving business models by asking more pointed and systematic questions about particular aspects of the emerging business models. Thus, for example, with respect to eBay, examining the “Partner Network” building block aspect of eBay, there are a diversity of partners involved in the business model, including individuals acting as “sellers,” PayPal acting as a partner in terms of payment method, and couriers ensuring expeditious delivery of sold items to buyers. Similarly, with respect to Uber or Airbnb, in terms of the “Partner Network” building block, there are a diversity of partners involved. For example, there are individuals acting as “drivers” for Uber, or individuals acting as “hosts” for Airbnb, and with respect to both Uber and Airbnb, insurance companies play a role with respect to protection for Uber drivers and passengers and Airbnb hosts and guests. One can ask whether at a global level, the various elements of the consumer protection regulatory framework in operation today are capable of adequately “tracking” and addressing the eBay, Uber, and Airbnb and its partners that act cohesively in their business model networks, or whether some adjustments to the overall consumer policy framework might be advisable or necessary. The point is: from a consumer perspective, Airbnb and its partners (for example) act as one cohesive and unified model serving consumers at a global level, yet the consumer policy framework applying to the unified business model is typically fractured jurisdictionally as well as in terms of different laws (and regulatory agencies) applying to different partners and their activities.

Similar useful PPOCIR-oriented inquiries could arguably be asked with respect to the other “building blocks,” directed at a particular business model employed in a consumer context.

The scholarly discussion of the rise of platform or multi-sided businesses, where network effects can lead to ecosystems of business and consumers interacting under the cultivation and direction of the platform businesses, raises questions about the adequacy of current competition law to address the “winner take all” market concentrations

associated with such models, and to address the potential barriers to entry this poses for new competitors.

Related to this are the discussions of a possible transformation from “old power” to “new power” models, where large numbers of heretofore largely “powerless” economic actors are banding together in ways that can potentially disrupt conventional businesses and raise difficult questions concerning regulation in a more decentralized environment. While business scholars might laud and celebrate Uber and Airbnb and their associated business models because they are disruptive of conventional consumer service models such as taxis and hotels, from a PPOCIR standpoint, the question can be asked whether current regulatory frameworks are equipped and capable of responding to the new challenges associated with your neighbor and his van transforming into a “driver for hire” (what safeguards are in place to ensure that the passengers will be safe?) and the condominium unit on the floor below your own suddenly becoming effectively a “rent a room.” Could Uber or Airbnb be subjected to a new form of regulatory regime, whereby they would be responsible for issuing individual permits to drivers and hosts, and ensuring compliance with same, that ensure that publicly acceptable standards are met, comparable to those applying to taxi drivers and hotel proprietors?

The increasing possibilities for collaborative consumption made possible through P2P collaborative “sharing economy” platforms allowing for redistribution of products, and access to otherwise underutilized lodgings, transportation, and other services, have significant environmental, social and economic implications, and if the challenges can be overcome, open up the possibility of consumer societies built more around the concept of access than ownership. But they also raise PPOCIR questions concerning drivers and apartment tenants transforming themselves into commercial actors but operating without a licence, and acting beyond the terms of regulatory regimes.

The enormous opportunities for ongoing data-rich interactions between consumers and businesses and the various products and properties of consumers is also potentially transformational in terms of the way in which consumer/individual behaviours may change, and the opportunities for new business models and opportunities associated with the commoditization and sale by individual consumers of their highly particularized data. Similarly the ability to collect, store and analyze “big data” opens up new opportunities for businesses (and others) to better understand consumer behavior and to provide products and services that better align with consumer wants and needs. But these developments also raise significant questions about the adequacy of protections of personal information, perhaps even stimulating a review of the “consent” mechanism which is the lynchpin of modern personal information protection regimes: do consumers really have an effective ability to refuse to provide their consent, if the consequences are denial of service? Does the possibility of monetization of consumer data provide an opportunity for a revisiting of current personal information protection regimes?

Certain of the new business models employ innovative approaches to the construction of trust and reputation. For example, an integral part of the eBay, Uber and Airbnb systems involve reputational buyer/seller rating systems and dispute resolution systems, that to a certain extent incentivize participants to regulate their own online behaviour (and thereby

earn high levels of trust from their counterparts). What is not clear at this point is what role governments should play in developing specialized approaches for addressing egregious online behaviour that goes beyond simple reputational issues. For example, is it possible for Uber to adequately address the problem of unsafe drivers (e.g., those with criminal records) outside of the regulatory structure associated with taxis?

A final comment I will make is that there is an implicit “public good” dimension to much legal and economic research (as is evidenced in the two completed surveys concerning legal-technology and behavioural sciences/economics). In the business management literature concerning evolving business models in an increasingly digitally connected economy, the public good dimension may be largely ignored by the authors of scholarly articles, but as may be apparent from this survey, this does not mean that this literature is not of considerable value to those seeking to better understand the public policy implications associated with these evolving business models.

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