

Evolution of Consumption: A Psychological Ownership Framework

Journal of Marketing
 2021, Vol. 85(1) 196-218
 © American Marketing Association 2020
 Article reuse guidelines:
sagepub.com/journals-permissions
 DOI: 10.1177/0022242920957007
journals.sagepub.com/home/jmx



Carey K. Morewedge¹, Ashwani Monga, Robert W. Palmatier,
 Suzanne B. Shu, and Deborah A. Small

Editor's Note: This article is part of the JM-MSI Special Issue on “From Marketing Priorities to Research Agendas,” edited by John A. Deighton, Carl F. Mela, and Christine Moorman. Written by teams led by members of the inaugural class of MSI Scholars, these articles review the literature on an important marketing topic reflected in the MSI Priorities and offer an expansive research agenda for the marketing discipline. A list of articles appearing in the Special Issue can be found at <http://www.ama.org/JM-MSI-2020>.



Abstract

Technological innovations are creating new products, services, and markets that satisfy enduring consumer needs. These technological innovations create value for consumers and firms in many ways, but they also disrupt psychological ownership—the feeling that a thing is “MINE.” The authors describe two key dimensions of this technology-driven evolution of consumption pertaining to psychological ownership: (1) replacing legal ownership of private goods with legal access rights to goods and services owned and used by others and (2) replacing “solid” material goods with “liquid” experiential goods. They propose that these consumption changes can have three effects on psychological ownership: they can threaten it, cause it to transfer to other targets, and create new opportunities to preserve it. These changes and their effects are organized in a framework and examined across three macro trends in marketing: (1) growth of the sharing economy, (2) digitization of goods and services, and (3) expansion of personal data. This psychological ownership framework generates future research opportunities and actionable marketing strategies for firms aiming to preserve the positive consequences of psychological ownership and navigate cases for which it is a liability.

Keywords

access-based consumption, big data, digitization, privacy, psychological ownership, sharing economy

Online supplement: <https://doi.org/10.1177/0022242920957007>

Technological innovations are rapidly changing the consumption of goods and services. In modern capitalist societies, consumption is evolving from a model in which people legally own private material goods to access-based models in which people purchase temporary rights to use shared, experiential goods (Bardhi and Eckhardt 2012; Eckhardt et al. 2019; Rifkin 2001). Many urban consumers have replaced car ownership, once a symbol of independence and status, with car- and ride-sharing services that provide access to a vehicle or transportation when needed. Physical pictures occupying frames, wallets, and albums have been replaced with digital photographs; moreover, songs, books, movies, or magazines can be pulled down from the cloud at any time to suit a consumer's mood. Half the world population now buys, sells, generates, and consumes goods and information online

through connected devices (Goldfarb, Greenstein, and Tucker 2015), generating vast quantities of personal data about their consumption patterns and private lives. The many benefits that these technological innovations and new business models

Carey K. Morewedge is Professor of Marketing, Everett W. Lord Distinguished Faculty Scholar, Boston University, USA (email: morewedg@bu.edu). Ashwani Monga is Professor of Marketing, Provost & Executive Vice Chancellor, RU-Newark, Rutgers University, USA (email: ashwani.monga@rutgers.edu). Robert W. Palmatier is a Professor of Marketing, John C. Narver Chair in Business Administration, University of Washington, USA (email: palmatr@uw.edu). Suzanne B. Shu is John S. Dyson Professor of Marketing, Cornell University, USA (email: suzanne.shu@cornell.edu). Deborah A. Small is Laura and John J. Pomerantz Professor of Marketing and Psychology, The Wharton School, University of Pennsylvania, USA (email: deborahs@wharton.upenn.edu).

offer to consumers—from convenience to lower economic cost to greater sustainability—makes legal ownership of many physical private goods undesirable and unnecessary (Matzler, Veider, and Kathan 2015). Consumers are not, however, simply exchanging the consumption of solid goods (i.e., enduring, ownership-based, and material) for liquid goods and services (i.e., ephemeral, access-based and dematerialized; Bardhi and Eckhardt 2017; Bauman 2000). We argue that relationships between consumers and their goods are changing.

Aligned with a Marketing Science Institute priority (2018–2020) to examine how economic macro trends are influencing consumers, we examine how this technology-driven evolution in consumption affects consumer behavior. We focus on ways in which changing consumption patterns are threatening, transferring, and creating new opportunities to cultivate psychological ownership—the feeling that something is MINE (Furby 1991). It is a psychological state that is distinct from legal ownership. In contrast to the benefits accrued through consumers' reduced legal ownership of goods (for reviews, see Bardhi and Eckhardt 2017; Eckhardt et al. 2019; Lamberton and Rose 2012; Rifkin 2001), a commensurate reduction in psychological ownership should typically be detrimental to both consumers and firms.

Psychological ownership is, in many ways, a valuable asset. It satisfies important consumer motives and has value-enhancing consequences. Within consumers, psychological ownership satisfies an effectance motive—a basic and chronic motive to have control and mastery over their environment, and motives to express their identity to others and themselves (Belk 1988). Moreover, the feeling that a good is “MINE” enhances attitudes toward the good, strengthens attachments to the good, and increases its perceived economic value (for reviews, see Ericson and Fuster 2011; Morewedge and Giblin 2015; Peck and Shu 2009; Peck and Shu 2018). Downstream consequences of value to firms include increased consumer demand for goods and services offered by the firm, willingness to pay for goods, word of mouth, and loyalty (Atasoy and Morewedge 2018; Fritze et al. 2020; Fuchs, Prandelli, and Schreier 2010; Vandewalle, Dyne, and Kostova 1995). Given these important consequences, we argue that preserving psychological ownership in the technology-driven evolution of consumption underway should be a priority for marketers and firm strategy.

Our article starts with the proposal that technological innovations are changing consumption along two dimensions: (1) replacing legal ownership of private goods with legal access to goods and services owned and used by others and (2) replacing “solid” material goods with “liquid” experiential goods (for examples, see Figure 1). We theorize that important consequences for consumer behavior are determined by the way these changes affect psychological ownership for goods and services—that is, by threatening, transferring, or creating new opportunities to preserve it. We identify underlying mechanisms of each effect on psychological ownership as well as relevant concepts to guide thinking and responses. To illustrate the value of our

framework, we discuss these ideas in the context of three relevant macro trends in marketing: (1) growth in the sharing economy, (2) digitization of goods and services, and the (3) expansion of personal data. For each trend, our framework offers new predictions, opportunities for future research, and recommended marketing actions. We then note important caveats—cases in which psychological ownership could be undesirable or a liability to consumers and firms. We conclude by outlining next steps for consumer and strategy research within the three trends that we discuss in depth, and beyond, to other areas and broader questions.

Psychological Ownership

Psychological ownership occurs when one feels, subjectively speaking, that a thing is “MINE.” It can be considered a form of emotional attachment between consumers and the goods and services they use (Shu and Peck 2011). Antecedents of psychological ownership—perceived control, self-investment, and knowledge—do overlap with many of the property rights typically included in the “bundle of rights” provided by legal ownership of private goods (Morewedge 2020). However, even though legal ownership may often precede psychological ownership, legal ownership of a good is not a requirement to feel psychological ownership for it (Reb and Connolly 2007). Consumers feel psychological ownership for ideas and goods to which they have no legal claim, such as theories and neighborhoods (Shaw, Li, and Olson 2012; Verkuyten and Martinovic 2017). At the same time, consumers feel little ownership for organizations and goods to which they do have legal claim, such as companies in which they hold stock and sports memorabilia they plan to sell (List 2003; Pierce, Rubinfeld, and Morgan 1991). The Web Appendix provides a review of psychological ownership, including (1) motives and antecedents, (2) processes linking antecedents to outcomes, (3) consequences of psychological ownership, and (4) moderators and boundary conditions of these relationships.

Psychological ownership has value-enhancing consequences, which stem from an association of a good with the self and/or categorization of the good as “MINE.” Due to psychological ownership, traits associated with the self and positive self-associations are transferred to the good, increasing emotional attachment to the good and enhancing its perception and value (Beggan 1992; Gawronski et al. 2007; Weiss and Johar 2016). Explicit categorization of the good as “MINE” appears to reframe the reference point from which it is viewed, changing the evaluation of the good from something that could be gained to something that could be lost. Loss aversion and the heightened attention to positive features of the goods that accompany this reframing increase its value, making people more reluctant to exchange it for money or other goods (for reviews, see Ericson and Fuster 2011; Morewedge 2020; Morewedge and Giblin 2015). Even goods that have more negative than positive features, if consumers actively choose to acquire them, benefit from the value-enhancing effects of psychological ownership (Ye and Gawronski 2016).

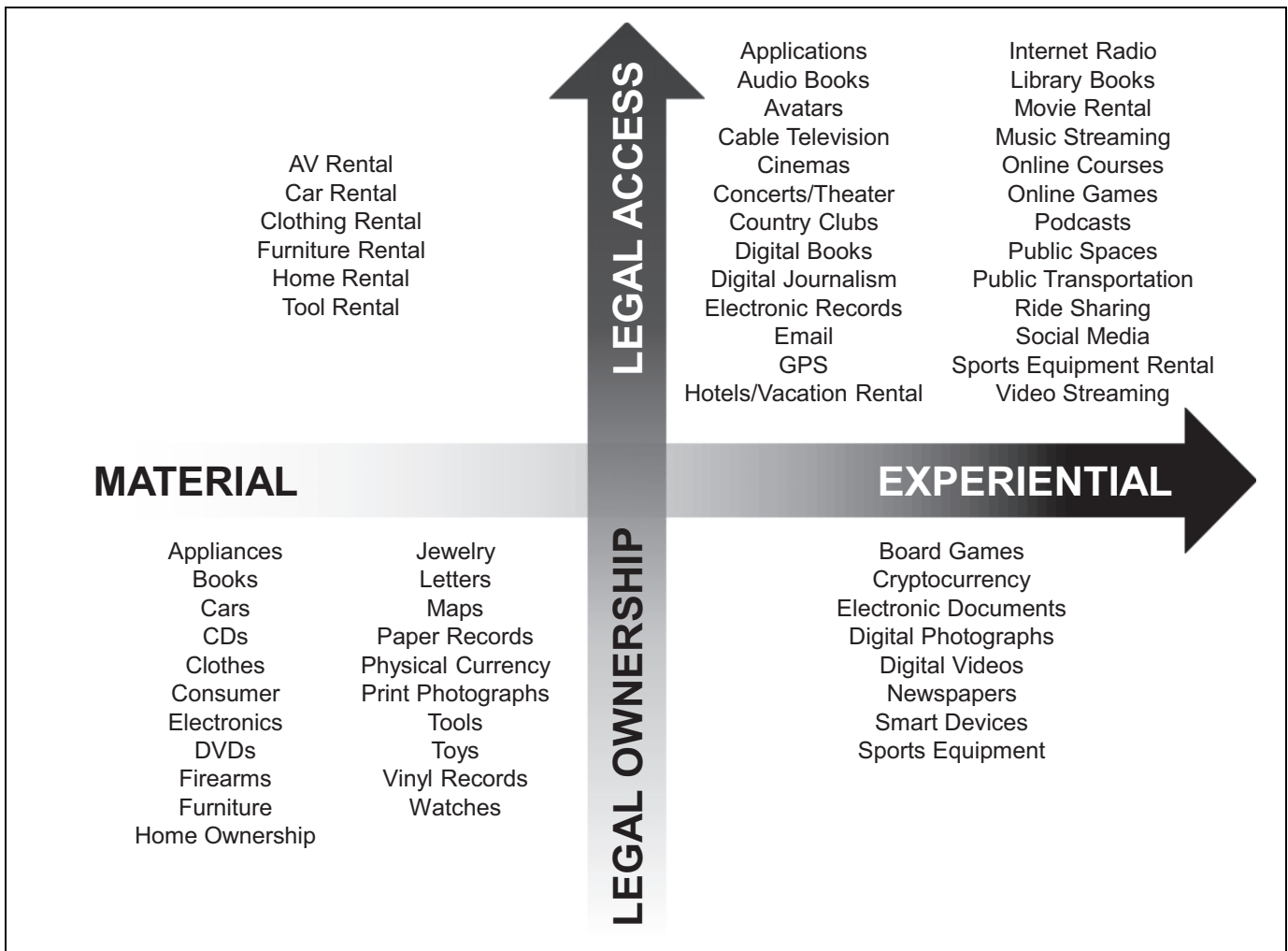


Figure 1. Evolution of consumption: dimensions of change and examples.

Notes: Consumption is evolving along two dimensions of change. Consumers are replacing legal ownership of goods with legal access to goods and replacing “solid” material goods with “liquid” experiential goods. Examples are sorted into quadrants; their location within a quadrant does not imply different values relative to others listed in that quadrant.

Attachment between the self and good for which psychological ownership is felt parallels attachment between consumer and brand (Park, Macinnis, and Priester 2008; Thomson, Macinnis, and Park 2015). As with an attachment between consumer and brand, psychological ownership for a good is positively associated with consumer demand, willingness to pay, customer satisfaction, relationships, word of mouth, and competitive resistance, as noted previously. Psychological ownership is thus a valuable asset for firms to preserve, capture, and redirect.

In short, documented effects of psychological ownership show it to be generally value-enhancing for consumers and firms (Ericson and Fuster 2011; Morewedge and Gilbin 2015; Peck and Shu 2009). Our perspective is consistent with this evidence. Our focus is thus on how to preserve the value inherent in psychological ownership for goods, services, and brands in the face of technological change. Of course, there are exceptional cases in which consumers and firms find

psychological ownership undesirable. To date, demonstrations of its liabilities have been limited to extreme cases, as when a good is associated with a personal failure or a disgusting stimulus (Lerner, Small, and Loewenstein 2004; Loewenstein and Issacharoff 1994). Subsequently, we identify more common instances in which consumers and firms may benefit from a decline in psychological ownership, an area ripe for future research to explore.

Evolution of Consumption

We propose that technological innovations are driving an evolution in consumption along two major dimensions. The first dimension of change is from a model of legal ownership, in which consumers purchase and consume their own private goods, to a model of legal access, in which consumers purchase temporary access rights to goods and services owned and used by others. The second dimension of change is from consuming

Table 1. Evolution of Consumption: A Psychological Ownership Framework.

Dimension of Change	Threats to Psychological Ownership	Transfers of Psychological Ownership	Opportunities to Preserve Psychological Ownership
<p><i>Legal ownership to legal access.</i> Personal ownership of private goods is replaced with temporary access rights to use collectively consumed goods and services.</p>	<p><i>Fractional ownership.</i> Bundle of rights associated with good divided among agents holding property rights to use, profit, change, or transfer ownership.</p> <ul style="list-style-type: none"> ❖ Emphasize liquidity and economic value. <p><i>Impermanence.</i> Consumers no longer expect to keep goods—they assume goods will be returned, impairing reference-point shift to owner (“My...”).</p> <ul style="list-style-type: none"> ❖ Extend/guarantee duration and consistency of consumption experience. 	<p><i>Collective consumption.</i> Ownership felt for private goods transfers to goods used collectively (“MINE” to “OURS”). Reduced importance of individual goods, potential contaminated by dissociative group associations. Psychological ownership transfers to consumer communities.</p> <ul style="list-style-type: none"> ❖ Develop object history/intimate knowledge, encourage self-investment, deploy counterconditioning, and develop consumer communities. 	<p><i>More consumer choice.</i> Improved preference-matching due to more (often immediately) available options, increases perceived control.</p> <ul style="list-style-type: none"> ❖ Provide larger assortments, increase mass customization. <p><i>New channels for self-expression.</i> Social media and reputation systems integral to access-based consumption platforms provide new outlets for social signaling.</p> <ul style="list-style-type: none"> ❖ Develop social media applications and marketing strategy, encourage microblogging, offer access to aspirational brands/goods with positive signal value.
<p><i>Material to experiential.</i> Material goods are replaced with physical or digital experiential goods.</p>	<p><i>Intangibility.</i> Consumers are less able to touch, hold, and physically manipulate experiential goods than physical goods.</p> <ul style="list-style-type: none"> ❖ Develop haptic interfaces; interactive content; offer control over rate and timing of consumption; emphasize sensory features. <p><i>Reduced evaluability.</i> Ownership status is harder to determine (e.g., ownership of a vacation less clear than ownership of a vacation home).</p> <ul style="list-style-type: none"> ❖ Make goods indexical connections—cues for personally meaningful events (e.g., cross sell physical goods, usage history reminders); gamification. 	<p><i>Higher categorization level.</i> Category for which psychological ownership is experienced rises from individual goods to intermediary devices, platforms, and brands.</p> <ul style="list-style-type: none"> ❖ Vertical integration, brand alliances, servitization, relationship marketing, intermediary device personalization. 	<p><i>Greater self-identification.</i> Experiences are easier to integrate with self-concept than material goods (e.g., experiential purchases may generate more positive self-signals).</p> <ul style="list-style-type: none"> ❖ Leverage identity marketing (e.g., “I am a skier” > “I own skis”).

Notes: ❖ = recommended marketing actions to manage psychological ownership threats, transfers, and opportunities.

solid material goods to liquid experiential goods. In this section, we unpack each change and how it affects psychological ownership. In general, we argue that the changes reduce psychological ownership and the value that accompanies it, but their effects are not uniformly negative. Table 1 identifies cases in which each change threatens psychological ownership; cases in which it transfers psychological ownership to other goods, groups, and brands; and cases in which changes in consumption patterns create new opportunities to preserve psychological ownership at prechange levels. Table 1 also includes recommended marketing actions to leverage each effect on psychological ownership, which are described in greater detail in the sections discussing the macro trends of the sharing economy, digitization, and personal data.

Change 1: Legal Ownership to Legal Access

In traditional capitalist markets, consumption of a private good was typically bound to sole, legal ownership of it. New access-based business models, made possible by technology-mediated platforms, fracture this model. Whereas property rights are typically bundled in private ownership (e.g., use, modify, profit from, or transfer rights; Honoré 1961), fractional ownership models unbundle property rights, allowing consumers to acquire a right to temporarily use goods and services that are often shared with tens, hundreds, or thousands of consumers (e.g., by paying for or sharing personal data; Eckhardt et al. 2019; Watkins, Denegri-Knott, and Molesworth 2016). These models are distinct from previous models of collective consumption

within families and communities (Findlay 2018). They relinquish ownership rights to firms and strangers and shift the goal of collaborative consumption. In collectives and families, the goal is to help others and facilitate relationship building. In access-based models, the goal is typically to provide financial or efficiency gains for consumers and firms (Lamberton 2016).

Access-based models facilitate the creation of new products (e.g., social media platforms, video conferencing), and provide considerable benefits by changing the way existing products are consumed. By relinquishing private legal ownership of goods, access-based consumption offers consumers greater economic value, better preference matching, convenience gains from avoiding the entanglements of ownership (e.g., maintaining a car or vacation home), more sustainable means of consumption (e.g., digital books), and the use of both scarce and new goods that would otherwise be unaffordable or infeasible (e.g., luxury goods and social media platforms, respectively). The economic, temporal, and social benefits derived from the absence of legal ownership have been well documented (e.g., Bardhi and Eckhardt 2017; Hodder 2012; Lamberton and Rose 2012; Rifkin 2001). We argue that when access-based models induce a commensurate reduction in psychological ownership, however, there are negative downstream effects for consumers and firms. We briefly introduce how access-based consumption affects psychological ownership by threatening it, by causing it to be transferred, and by creating opportunities to preserve it.

Access-based consumption models threaten psychological ownership in two ways (see Table 1). First, fractional ownership models of access-based consumption divide property rights across agents, who may each possess one or more of the legal rights to (1) use a good; (2) profit from its use or sale; (3) modify the form, substance, or location of the good; or (4) transfer possession of some or all of these rights between agents (Haase and Kleinaltenkamp 2011). This change impinges on perceived control over access-based goods, a critical antecedent of psychological ownership (Bagga, Bendle, and Cotte 2019). Second, the impermanence associated with access-based goods also threatens psychological ownership (Bardhi and Eckhardt 2017). Psychological ownership often entails the expectation that one will possess a good in the future. This expectation shifts the reference point from which the good is evaluated, as something that is to be lost, rather than as a potential gain. When consumers expect goods to be returned or relinquished, however, they do not shift the reference point from which they evaluate the good. They are users who perceive the good like a “buyer” would, not as an “owner” would. Users view its consumption as a temporary gain in their happiness or utility, not as part of a new status quo that will be lost when they give back the good (Morewedge and Giblin 2015).

Access-based models may also effectively transfer psychological ownership away from individual goods and toward consumer communities. Collective consumption of access-based goods may threaten psychological ownership for individual

goods because they are used (Kim 2017). They circulate among many consumers synchronously or asynchronously (Figueiredo and Scaraboto 2016). Their circulation makes them interchangeable means to fulfill a goal. Therefore, consumers may use a good but not view it as “MINE” or unique or special (McEwan, Pesowski, and Friedman 2016). Their circulation also makes the symbolic meaning of access-based goods particularly vulnerable to contamination by dissociative social groups, persons, or acts (Inbar et al. 2009). When consuming these used, circulating, or fungible goods, psychological ownership that would normally be directed toward an individual good (“It’s MINE”) may be replaced by psychological ownership of the group of consumers who use it (Fritze et al. 2020; Pierce and Jussila 2010). Collective psychological ownership is a feeling that all consumers of a good or service share ownership of it (“It’s OURS”) and gives each consumer a claim to membership, belonging, and ownership of the community formed (Pierce and Jussila 2010).

Finally, we see two opportunities for access-based consumption models to preserve psychological ownership at levels commensurate with the level observed for private goods. First, access-based consumption offers large assortments to consumers. More consumer choice could increase feelings of psychological ownership for goods and services through the greater control it provides to consumers (Huang, Wang, and Shi 2009; Morewedge, Gray, and Wegner 2010). A second opportunity stems from the new channels for self-expression that access-based models provide. Self-expression is a fundamental motive driving the desire to own and consume (Belk 1988), and access-based consumption facilitates this identity signaling (Belk 2013). Access to more choices within and across product categories, and to new channels such as social media platforms, provides consumers means to more precisely signal authentic and desired identities as well as to accumulate social capital, attention, and future economic gain (Barasch and Berger 2014; Fritze et al. 2020; Kuehn 2016).

Change 2: Material to Experiential

New technologies are replacing “solid” material goods (i.e., tangible objects that are acquired and owned by consumers) with “liquid” experiential substitutes (i.e., events or experiences that one encounters and lives through) to fulfill a variety of hedonic and utilitarian wants and needs (Bardhi and Eckhardt 2012; Bauman, 2000; Belk 2013; Gilovich, Kumar, and Jampol 2015). This mirrors a shift in consumer demand, driven by millennials but also applicable to other generations, whereby consumers now prefer to spend money on experiences rather than things and have increased the share of their income spent on experiences (Barton, Koslow, and Beauchamp 2014). Beyond the multitude of new experiential offerings made possible through the expansion of the sharing economy, digitization, and an information economy driven by personal data (discussed subsequently in detail), firms are making significant investments in servitization and experiential offerings. Firms now offer a variety of product-focused services and

experiences to consumers postpurchase. In many cases, even the acquisition of material goods is becoming refocused on its experiential components. Brick-and-mortar retailers, seeking differentiation from more convenient online platforms, for instance, have embraced “experiential shopping” (or “shoppertainment”) with pop-up shops, live events, interactive displays, activities, product lessons, and interactions with experts (Ganesan et al. 2009).

Many goods could be classified as material or experiential (e.g., a DVD is a tangible material object, but the film it plays is an intangible experience). Our classification scheme sorts goods according to the focal acquisition goal—to have a thing or an experience. A consumer could acquire an album with the goal to expand her record collection, or to listen to the music pressed into its vinyl form (Carter and Gilovich 2010). Even traditional solid goods (e.g., cars, computers, phones, watches) are often now also sold with accompanying experiential features (e.g., applications such as GPS, music streaming, and games). We predict that eventually the material versus experiential distinction will be blurred to the extent that consumers will view most goods as experiential by default. Next, we briefly introduce how the change from material to experiential consumption affects psychological ownership by threatening it and causing it to be transferred, as well as how this change creates opportunities to preserve it.

Two threats to psychological ownership arise from the substitution of material goods with experiential goods. The first is the intangibility of experiential goods. Psychological ownership is typically imbued through physical cues such as holding, touching, and manipulating a material object, which instantiate perceived control over it (Peck and Shu 2009; Reb and Connolly 2007). This lack of physical interaction should consequently reduce psychological ownership for experiential goods—and, thus, their value—to consumers (Atasoy and Morewedge 2018).

A second threat to psychological ownership is the reduced evaluability of ownership—the difficulty evaluating who owns experiential goods, such as determining which property rights belong to consumers, owners, and intermediaries (Bauman 2000; Carter and Gilovich 2010). When a consumer buys a concert ticket to a live event, what rights does that afford her other than access to the show? Can she be denied admission if she fails to comply with security and health protocols? Can she film it for personal consumption or share her recording on social media? Whether a consumer, intermediary, or firm “owns” an experience is often ambiguous, even when firms strive to make legal ownership transparent (e.g., who holds which property rights), and is muddled further when firms make legal ownership strategically opaque. Consumers who buy digital books, for instance, often mistakenly believe they have purchased more than the right to permanently view them (Helm, Ligon, and Riper 2018).

If consumers think of experiential goods at a higher categorization level than similar material goods (i.e., at a more abstract level), psychological ownership may transfer from individual goods (e.g., a book) to branded services,

platforms (e.g., Audible), or technological devices used to consume them (e.g., a tablet). Vertical transfers may direct psychological ownership for material goods to brands of experiential goods or the platform through which experiential goods are accessed. Self-brand attachments may strengthen, and possession–self attachments may weaken, as experiential goods replace material goods (Escalas and Bettman 2005; Fournier 1998). If psychological ownership manifests at the brand level, it can have positive downstream effects on consumer demand. Germans who felt more psychological ownership for a car-sharing service more frequently booked cars from that service, and students who felt more psychological ownership for a music streaming platform reported using it more often each week (Fritze et al. 2020). Horizontal transfers may direct psychological ownership from material goods to the intermediary devices used to access experiential goods. Phones, computers, smart panels, watches, and other technological devices may accrue greater psychological ownership, value, and significance in the eyes of consumers (e.g., Melumad and Pham 2020).

One opportunity to preserve psychological ownership at levels commensurate with feelings for material goods comes from consumer’s greater self-identification with experiential than with material goods (e.g., a trip to Italy vs. an Italian jacket; Carter and Gilovich 2010; Gilovich and Kumar 2015). We posit that the more positive social signal provided by experiential than by material purchases (Bastos and Brucks 2017) may undergird their potent value as self-signals. Consumers may forge stronger attachments to experiential than material purchases, because they are more socially appropriate means with which to define the self.

Three Marketing Macro Trends: Sharing, Digitization, and Personal Data

As evidence of the value of our psychological ownership framework, we present three macro trends in marketing disrupting existing business models, whose effects on consumer behavior are mediated by changes in psychological ownership: (1) growth in the sharing economy, (2) digitization of goods and services, and (3) expansion of personal data. We selected these trends because they are disrupting the marketplace and are active foci of interdisciplinary research. For each trend, following our framework, we identify specific threats to psychological ownership, transfers of psychological ownership to other stimuli, and opportunities to preserve psychological ownership at prechange levels. Marketing actions are then recommended to counter the threats and leverage transfers and opportunities. Exemplary case studies appear in Table 2 (ride sharing), Table 3 (digital music), and Table 4 (health and wellness), which concretely illustrate the explanatory power of our psychological ownership framework for scholars and practitioners.

Table 2. Case Study #1: Ride Sharing.

Dimension of Change	Threats to Psychological Ownership	Transfers of Psychological Ownership	Opportunities to Preserve Psychological Ownership
<p><i>Legal ownership to legal access.</i> Private ownership of a car replaced with temporary access rights to use a collectively consumed car.</p>	<p><i>Fractional ownership.</i> The right to drive, sell, and control use of a car reduced to access to specific rides.</p> <ul style="list-style-type: none"> ❖ Emphasize cost savings and convenience of not owning a car. <p><i>Impermanence.</i> Each ride is with a different car and driver, impairing development of psychological ownership.</p> <ul style="list-style-type: none"> ❖ Repeat service delivery with favorite vehicle types, makes, models, and drivers. 	<p><i>Collective consumption.</i> Private use of a car is replaced by use of cars in a fleet that circulates among a group of consumers, some potentially diseased (e.g., “coviidiots”).</p> <ul style="list-style-type: none"> ❖ Provide car features, driver history, celebrity brand ambassadors, and high sanitary standards; ask users to help keep cars clean; develop consumer communities (e.g., Uber Pool). 	<p><i>More consumer choice.</i> Improved preference-matching between car type, user, and occasion increases perceived control.</p> <ul style="list-style-type: none"> ❖ Optimize assortment of transportation options for specific uses (e.g., airport trips, commuting, dining out, groceries). <p><i>New channels for self-expression.</i> Positive feedback and displaying aspirational brand use on social media facilitate social signaling</p> <ul style="list-style-type: none"> ❖ Two-sided reputation systems, aspirational offerings (e.g., rider ratings, luxury/exotic vehicles).
<p><i>Material to experiential.</i> Ownership of a material car is replaced with access to the experience of a car ride.</p>	<p><i>Intangibility.</i> Consumers are less free to touch and manipulate ride experience than their own physical cars.</p> <ul style="list-style-type: none"> ❖ Provide choice of routes, sensory settings (e.g., temperature, conversation, music). <p><i>Reduced evaluability.</i> Ownership status is harder to determine; ownership of a ride is less clear than ownership of a car.</p> <ul style="list-style-type: none"> ❖ Provide consumers with record of trips, cars, drivers, and history with platform; gamify travel (e.g., pin map with landmarks visited). 	<p><i>Higher categorization level.</i> Psychological ownership shifts from a specific car to smartphone, platform, or brand.</p> <ul style="list-style-type: none"> ❖ Marketing emphasis on relationship with platform (e.g., Uber), optimizing customer satisfaction (mobile applications, experience). 	<p><i>Greater self-identification.</i> Goal of ride easier to integrate with self-concept than physical stimuli (e.g., road trip versus type of car driven).</p> <ul style="list-style-type: none"> ❖ Identity marketing (e.g., minimal, sustainable lifestyle—use car only when necessary).

Notes: ❖ = recommended marketing actions to manage psychological ownership threats, transfers, and opportunities.

Trend I: The Sharing Economy

Sharing has traditionally been restricted to familiar others, such as family members and homogeneous collaborative or cooperative social groups (Lamberton 2016). The new sharing economy is comprised of strangers, who together participate in “a scalable socio-economic system that employs technology-enabled platforms that provide users with temporary access to tangible and intangible resources that may be crowdsourced” (Eckhardt et al. 2019, p. 7). Its many forms of collaborative consumption include renting, reselling, lending, simultaneous consumption, and resource pooling (Botsman and Rogers 2010). Sellers provide temporary usage rights for unused goods in exchange for profit. Buyers acquire access rights to those goods without worrying about outright purchase or upkeep. Thus, value is created for both parties (Farronato and Fradkin 2018; Lamberton 2016). Sharing platforms lower matching costs between sellers and buyers, and secure the exchange of money, by strengthening trust through reputation systems

(Bardhi and Eckhardt 2012; Eckhardt and Bardhi 2015; Tadelis 2016).

The staggering growth of products available and platforms for sharing, including bicycles, boats, cars, clothes, homes, offices, rides, and scooters (e.g., Airbnb, Bird, Blue Bikes, Lyft, Poshmark, Rent the Runway, Turo, Uber, WeWork) may threaten the long-term viability of private ownership. For instance, personal car ownership declines when sharing is a viable option (Mishra et al. 2015), perhaps most for those who do not see car ownership as central to their identity (Belk 2014). As an example, Table 2 illustrates how ride sharing threatens, transfers and creates opportunities to preserve psychological ownership.

Legal Ownership to Legal Access

Threats to psychological ownership. Fractional ownership models prevalent in the sharing economy threaten psychological ownership, whether access-based goods are rented in exchange for

payment or borrowed for free. Consumers report feeling less psychological ownership for rented goods than goods they privately own. This gulf is widened when goods are free. Consumers feel less psychological ownership for borrowed than rented goods. Indeed, they feel no more psychological ownership for borrowed goods than goods they merely evaluate (Bagga, Bendle, and Cotte 2019). Marketing actions can be taken to counter threats posed by fractional ownership. First, marketers could emphasize the benefits of reduced costs and dependencies when forgoing legal ownership (e.g., avoiding car payments, gasoline, parking, cleaning, insurance, and general maintenance; Hodder 2012). Second, firms can recruit consumers as both users and suppliers, or “prosumers” (Eckhardt et al. 2019; Ritzer and Jurgenson 2010). Seeing the transaction from the role of supplier should increase value by increasing consumers’ attention to what is gained through fractional ownership (Morewedge and Giblin 2015).

A second threat to psychological ownership from sharing markets is that consumers rightly expect their ownership rights and possession of goods to be temporary. Marketers could counter this threat by extending access to goods and services consumed in the present, or promising future access to those particular goods and services (Ericson and Fuster 2011; Reb and Connolly 2007). A dress could be lent for longer, a ride-share platform could provide consumers with frequent access to their highest-rated vehicles and drivers, or a home rental service could give a consumer first claim to her favorite past rental on the same set of dates each year.

Transfer of psychological ownership. In the sharing economy, consumers interact with individual goods, but those goods are not the goal of consumption. The goods are fungible means to an end. Most consumers use a ride-share platform for transportation, for example, not to have the experience of riding in a particular car. The ensuing transfer of psychological ownership from individual goods to user communities can create a “tragedy of the commons” (Hardin 1968), whereby individual users take less care and responsibility for a shared good than they would if it were theirs alone. Bardhi and Eckhardt (2012) note such negative reciprocity for car sharing. Contamination concerns may also loom large in the sharing economy. Consumers may be disgusted by sleeping in a bed in a rental property that has been slept in by many others, or worried about riding in a car previously used by a sick passenger.

Multiple marketing actions can be implemented to preserve psychological ownership with such transfers. One marketing action to counter the lack of a unique relationship with any particular good may be to emphasize what is unique about the goods, such as their features, history, or owner (Grayson and Martinec 2004; Li and Lutz 2019). Second, beyond maintaining and advertising high standards for sanitation, background checks, and screening for irresponsible users, firms may use counterconditioning (Mason and Richardson 2012). Attractive, trustworthy brand ambassadors and clean and modern goods may counter the negative associations from dissociative groups

and contamination concerns (Argo, Dahl, and Morales 2008). Third, marketers could also try to retain psychological ownership at the group level, developing consumer communities around common geographic regions, interests, or goals (e.g., Uber Brooklyn; Uber Coachella; Uber Pool for work). Membership in such groups could reduce behaviors associated with reduced personal responsibility, such as obstructing sidewalks with electric scooters, and increase the attractiveness of sharing goods as a substitute for private goods (Fritze et al. 2020).

Opportunities to preserve psychological ownership. A shift from legal ownership to legal access also offers opportunities to preserve psychological ownership. More ride-sharing options enable users to better satisfy unique needs than car-buying consumers with one vehicle for all purposes (e.g., commuting, grocery shopping, travel). Decision aids may facilitate such preference matching. Soliciting the purpose of a trip or inferring it from locations (e.g., restaurants, airports), may allow a ride-sharing service to recommend suitable transportation options (e.g., a large SUV to carry luggage). Platform design can incorporate customization opportunities, such as choosing the brand of car or music in a ride share, the color of an outfit, or the towels and bath products in a home rental. Firms can also coordinate matches between customers and goods, such as when hotels configure mutable features of rooms to loyalty program member preferences (e.g., minibar, pillows). Psychographics should enable firms to target promotion-focused consumers willing to take risks with novel experiences and product categories, particularly as product trials are freed from the costs of long-term ownership.

Another opportunity to preserve psychological ownership is via self-expression, expressing preferences and identities with goods that would otherwise be unaffordable or untenable to consumers. A student might rent a designer gown through a platform for a special occasion or social media post. A couple on a date night might treat themselves to a ride in a limousine, a car that would be impractical and onerous for them to privately own. Being able to use and broadcast use of aspirational and luxury goods through sharing platforms may produce greater identification with, psychological ownership for, and loyalty to brands accessible through the platform, which consumers may not normally buy. This includes goods used infrequently (e.g., formal attire, party supplies), that are costly to maintain (e.g., boats, vacation homes), or that are expensive to buy (e.g., handbags, yard equipment). Firms may further benefit from facilitating user posting of experiences on social media for social signaling and from soliciting user feedback. Vacationers may feel greater attachment to a rental after sharing pictures of it, or after expressing their values by writing a review of the home (He, Melumad, and Pham 2018).

Material to Experiential

Threats to psychological ownership. In the sharing economy, consumers may remain in physical contact with “solid” material goods, but the focal goal is not to own material goods. It is

to consume goods in “liquid” experiential forms (Bardhi and Eckhardt 2012; Eckhardt et al. 2019; Rifkin 2001). A ride-share user purchases a ride, not a car. A vacationer purchases access to a home, not the home itself. A freelancer buys access to a workspace and its amenities, not the property on which she works. A first threat is raised by the intangibility of such experiential goods. This reduces physical control, and thus perceived control over the consumption experience. To offset this threat, marketers could use techniques that restore control through other dimensions, such as providing consumers with touchscreen interfaces (e.g., smartphones; Brasel and Gips 2014), or control over when and how goods will be consumed (e.g., scheduling rides and routes; Baxter et al. 2015), the sensory features of the experience (e.g., temperature, music), and less tangible options (e.g., interactions with the driver or owner; Schmitt 2010).

Second, the rights afforded by the purchase of a shared good (e.g., a ride, rental of a vacation home) are more subjective and less evaluable than the rights afforded by private ownership of good (e.g., a car, a home; Bauman 2000; Carter and Gilovich 2010). Consumers buy a contract for a ride from point A to point B, or to use a house for several nights, but which rights are included in that contract can be ambiguous. The end result is that consumers may not be able to discern (or feel) ownership of the experiential good they have purchased. To enhance the evaluability of owning shared experiential goods, marketers could cross-sell or bundle private material goods that serve as a marker of the experiential purchase. Tangible goods can serve as reminders of personal memories and meaningful consumption episodes (Wallendorf and Arnould 1988). The French Laundry gives diners a branded wooden clothespin, for instance, as a souvenir of their extravagant meal. Such cues create value through the indexical connections they form, tangible links between consumers and meaningful events (Grayson and Shulman 2000). Platforms could provide consumers with other cues such as usage history records or gamify use, such as by pinning maps with landmarks visited.

Transfer of psychological ownership. Psychological ownership for the concrete, tangible, material goods used in the sharing economy may be transferred to the more abstract, intangible branded platforms and intermediary devices through which experiential goods are accessed. While this may reduce psychological ownership for any individual experience, positive effects of this transfer could include higher brand loyalty, competitive resistance, and word of mouth for brands and intermediary devices (Asatryan and Oh 2008). We recommend that marketers emphasize the relationship with the platform in their strategy and actions. Consumers may care less about how the particular brands of cars available through a ride-share platform reflect on their identity, for instance, than the fairness of its prices or its treatment of drivers.

Opportunities to preserve psychological ownership. The sharing economy may afford particular opportunities to preserve psychological ownership. Consumers may more readily identify

with collections of unusual experiences (e.g., renting a 1980s Mercedes convertible while vacationing in California) than with material merchandise that does not reflect their authentic selves (e.g., buying the same convertible to drive to work; Keinan and Kivetz 2010). A consumer can purchase experiences to signal that she is adventurous or on trend (Bardhi and Eckhardt 2012; Belk 2010). Firms positioned toward identity marketing could target consumers who identify as “minimalists,” who prefer to avoid entanglement in the responsibilities of ownership (Hodder 2012). The appeal of using products collectively could be highlighted to appeal to consumers who identify with sustainable consumption, and firms could address their environmental concerns with premium sustainable offerings (e.g., electric cars, passive houses).

Trend 2: Digitization

Digitization of goods and services, wherein information is converted into a numerical format, has evolved from niche scientific and commercial applications in the 1950s and 1960s into a technology that has spread across and transformed society. Consumers exhibit strong demand for digital goods. There has been a recent rise in consumer demand for some vintage physical goods such as vinyl records (Nielsen 2019), but many analog products and services have been, or are being, replaced by digital substitutes. Digital cameras outsold analog camera sales by 2003. Both were outsold by smartphones in 2006, which were used to take most of the more than 1 trillion photographs taken in 2017 (Cakebread 2017). By 2018, record labels earned more through streaming services than physical CD sales. Mass digitization of millions of books is currently underway by Google, the Open Content Alliance, and Microsoft (Coyle 2006). Digital currencies, from dollars to information-based currencies such as Bitcoin and Ethereum, may eventually replace cash.

Digital goods provide similar consumption experiences as their physical counterparts, but their immateriality confers numerous advantages. A digital photograph can be shared instantly with friends and family members. It can be recovered even if the phone used to take it is lost or broken. Digital music and books can be purchased and accessed at home, on the beach, or in the air—anywhere with wireless access—from a pocket-sized device, never scratching, fading, or tearing. Digital goods have many environmental benefits, from lower carbon footprints to no waste on disposal (Mi and Coffman 2019). Effects of digitization on psychological ownership for goods, and its downstream consequences, are less clearly positive. As an example, Table 3 illustrates how digitization threatens, transfers, and creates opportunities to preserve psychological ownership of music.

Legal Ownership to Legal Access

Digitization is replacing permanent ownership models with access-based consumption models in many domains (Eckhardt et al. 2019; Watkins, Denegri-Knott, and Molesworth 2016). In the case of music, private ownership of physical albums is

Table 3. Case Study #2: Digital Music.

Dimension of Change	Threats to Psychological Ownership	Transfers of Psychological Ownership	Opportunities to Preserve Psychological Ownership
<p><i>Legal ownership to legal access.</i> Privately owned albums replaced with temporary access rights to use collectively consumed albums, songs, and videos.</p>	<p><i>Fractional ownership.</i> Rights to use, sell, share, or gift an album are replaced with access rights to album, song, or platform catalog.</p> <ul style="list-style-type: none"> ❖ Emphasize cost savings, convenience. <p><i>Impermanence.</i> Permanent ownership is replaced with access rights contingent on composition of platform catalog or longevity of software or firm.</p> <ul style="list-style-type: none"> ❖ Maintain consistency in offerings (e.g., recordings), guarantee long-term access to purchases. 	<p><i>Collective consumption.</i> Listening to a private library of music replaced with consumption of a catalog available to all platform users; ownership transfers from album to consumer group.</p> <ul style="list-style-type: none"> ❖ Provide information about recordings and artists; feature artist/influencers in marketing communications; make opportunities for cocreation (e.g., playlist, remixes); cultivate consumer groups (e.g., events, social media marketing). 	<p><i>More consumer choice.</i> Access to larger libraries increase match between state-dependent preferences and music available.</p> <ul style="list-style-type: none"> ❖ Provide omnichannel (mobile, desktop, offline) access to more songs, artists, and recordings in platform catalogs. <p><i>New channels for self-expression.</i> Consumers comment, review, discuss music (e.g., Twitter, YouTube, Reddit); create and share new music (e.g., SoundCloud).</p> <ul style="list-style-type: none"> ❖ Encourage microblogging, reviews, editing and publishing tools, increase access to new and rare recordings.
<p><i>Material to experiential.</i> Physical records, tapes, and CDs are replaced by songs, downloaded to or streamed on personal device.</p>	<p><i>Intangibility.</i> Consumers are less able to touch, hold, and manipulate digital music than physical records, CDs, tapes.</p> <ul style="list-style-type: none"> ❖ Use touchscreen and gesture-based menus and controls; skeuomorphic controls (e.g., virtual turntables); include album covers, videos, and samples in music. <p><i>Reduced evaluability.</i> Ownership of downloaded and purchased digital album is more ambiguous than ownership of a physical album.</p> <ul style="list-style-type: none"> ❖ Visual ownership and usage cues (pictorial menus, playlists), cross-sell physical merchandise (branded apparel, posters, household goods), gamification (top songs, percent of favorite artist's library heard). 	<p><i>Higher categorization level.</i> Psychological ownership transfers from album to smartphone, headphones, or platform.</p> <ul style="list-style-type: none"> ❖ Emphasis on relational marketing, develop mobile applications, personalization of intermediary devices (e.g., customizable headphones). 	<p><i>Greater self-identification.</i> Consumers more readily identify with artist or song than physical album/CD/tape.</p> <ul style="list-style-type: none"> ❖ Provide history of songs, artists, albums (e.g., lyrics, biographies, discographies), connect artists with salient social identities and causes.

Notes: ❖ = recommended marketing actions to manage psychological ownership threats, transfers, and opportunities.

being replaced with access-based consumption of digital downloads and streamed music (Table 3). Streaming is now the most popular way to consume music. Diffusion of digital access-based models is also widespread for books, email, films, magazines, maps, news, and television.

Threats to psychological ownership. Access-based consumption of digital goods typically entails the temporary right to use a good, housed on a cloud server, which is owned and fractionated by a third-party provider. Consumers cannot sell, trade, or gift digital goods for which they purchased “permanent” access; they have only purchased a right to personally consume it. Consumers often do not even own

digital consumption objects they create (e.g., annotated books, avatars in games, playlists). We suggest that this fractional model of ownership threatens the psychological ownership felt by owner-users, potentially transferring perceived ownership to the platforms and brands providing consumers access to digital goods. Indeed, consumers feel less psychological ownership and are thus less willing to pay for digital books, films, and photographs than their physical counterparts, (Atasoy and Morewedge 2018; see also Siddiqui and Turley 2006). In addition, even though users spend more than an hour of their time each day on social media platforms each day, they are willing to forgo access to their content and online social networks for

relatively small sums of money (Brynjolfsson, Collis, and Eggers 2019). Marketing actions for firms to address this threat could highlight the considerable economic and transactional benefits of access-based digital goods, which are often more attractive than the benefits of legally owning private goods (Sinclair and Tinson 2017).

Second, consumers (rationally) view their ownership of access-based digital goods as impermanent. Streamed goods are often not even rented. Consumers pay for access to a platform's catalog, and individual goods are only possessed for the duration of their consumption. The ability to consume access-based digital goods—even goods that consumers themselves created—is typically determined by the platform on which they are hosted (Molesworth et al. 2016). Consumers may thus not feel ownership even for the digital goods they can “permanently” access. Indeed, consumers are willing to pay more to purchase than rent utilitarian physical goods (e.g., a hardcover textbook), but they are not willing to pay more to purchase than rent similar digital goods (Atasoy and Morewedge 2018; Bagga, Bendle, and Cotte 2019). We suggest that marketers respond to impermanence threats by assuring consumers that they will have continued access to the same digital goods. Platforms could extend streaming access to favorite titles in their catalog, or guarantee access to digital goods purchased “permanently” for a specified time period. When updating platform designs and formats, we conjecture that retaining elements that instill a perception of continuity may reduce this threat.

Transfer of psychological ownership. Issues around transfer of psychological ownership due to the collective consumption of digital goods raise different concerns than those described in the sharing economy. Digitization should mitigate physical contamination of goods, but consumers may still be concerned about acquiring digital goods from dissociative groups, who may add malware or viruses. We speculate that contamination may also affect digital goods at higher construal levels. Whereas consumers may be primarily concerned with the previous owners of *one* copy of a physical good (e.g., “This paperback of *The Fountainhead* was owned by a white nationalist”), consumers may be concerned with the previous and other owners of *any* copy of a digital good (e.g., “*The Fountainhead* is popular on Facebook with white nationalists”). As contamination effects become more diffuse, however, they may also become more diluted. Contamination may be more potent when it applies to one rather than to all copies of a particular good. As digitization facilitates the coordination of social groups around collective activities and interests (e.g., games, music, news, photography, design, literature, videos), ownership for goods may be replaced with ownership for these consumer communities (Pierce and Jussila 2010). Consumers may feel psychological ownership for the community itself as well as for their contributions that further the goals and formation of these groups (e.g., posts, comments, virtual objects).

Marketing actions to retain psychological ownership for an individual digital good include providing consumers with more

information about its background (e.g., history; critical reviews and summaries; information about individual artists, actors, or musicians involved in its production; Li and Lutz 2019), and counterconditioning by featuring beloved artists, awards, or celebrity users in marketing communications for the good (e.g., social media influencer endorsements). Marketers who aim to benefit from the transfer could grow consumer communities by creating officially licensed clubs, posting content in spaces where consumers interact with each other and brands or artists (e.g., Facebook fan pages, Twitter), and providing consumers ways to engage with and invest their time and energy in digital objects and these social groups (e.g., hosting forums, posting reviews and comments, creating collaborative quests and interconnected worlds; Franke, Schreier, and Kaiser 2010). That investment is likely to foster a feeling of psychological ownership for digital consumption objects (e.g., avatars, posts, virtual cities; Karahanna et al. 2015; Norton, Mochon, Ariely 2012), which have considerable value for firms as means to lock in consumers to their platforms (Molesworth et al. 2016).

Opportunities to preserve psychological ownership. Digitization provides opportunities to preserve psychological ownership through the panoply of options and channels for the self-expression it affords consumers. Digital goods enhance control and provide consumers with large assortments of content to match their preferences. Consumers typically can choose which digital media to consume anytime, anywhere, with even more choice on the go than when choosing similar kinds of physical goods at brick and mortar retailers (e.g., books, games, movies, music). Digital goods can also enhance control by facilitating the personalization of consumption experiences. The increased control imbued by enhanced consideration sets and customization may create a greater level of psychological ownership than is experienced for comparable physical goods (Huang, Wang, and Shi 2009; Morewedge et al. 2010). Marketing actions that can leverage these benefits include maintaining large choice sets, even as recommendation systems improve (Karakayali, Kostem, and Galip 2018), offering consumers ways to customize their consumption experiences, and direct control over those experiences or the content offered (e.g., in games or media feeds). Low marginal costs and image filters for digital photographs, for instance, allow consumers to capture many images of the same subject and edit the photograph that best realizes their vision (Van Dijck 2008). As illustrated by the consumer backlash against Apple for adding U2's *Songs of Innocence* album to user libraries in 2014 (Baxter and Aurisicchio 2018), firms should avoid curating consumer content without their explicit consent.

A second opportunity to preserve psychological ownership stems from the many new ways digital goods allow consumers to create and signal their identity to others through the cocreation of public digital consumption objects. Indeed, consumers invest considerable labor in creating and curating their image, content, and contacts on social media, in games, and in online virtual worlds (Molesworth et al. 2016). Marketing actions that facilitate these forms of self-branding and identity

signaling would provide consumers with ways to share their preferences for and consumption of digital goods through social media and recommendation systems, and by including aspirational digital goods in their catalog of offerings (e.g., Pinterest walls, upvotes and downvotes, digital artifacts, new or exclusive content).

Material to Experiential

Digitization, by definition, translates analog material media to an immaterial digital format that can be transmitted and consumed experientially through a variety of devices, including computers, smartphones, tablets, headphones, radios, and wearable devices. Digitization can also facilitate new material forms of consumption and exchange. For example, 3D printing may present consumers with new ways to buy, share and create material goods, based on digital plans acquired from business-to-customer or customer-to-customer markets, exchanges, or collaborations.

Threats to psychological ownership. One threat posed by this transformation is intangibility. The immateriality of digital goods imbues them with many remarkable benefits but prevents consumers from having physical interactions with digital goods (Brasel and Gips 2014; Peck and Shu 2009; Reb and Connolly 2007). Consequently, consumers are less likely to establish a feeling of psychological ownership for digital goods, which leads them to value digital goods less than similar physical goods (Atasoy and Morewedge 2018). Marketing actions to directly address this threat include interfaces that restore physical cues signaling control (Brasel and Gips 2014), allowing consumers to control the rate, time, and place at which digital goods are consumed (Baxter et al. 2015) and positioning digital goods along sensory dimensions where they outshine physical analogues (e.g., Schmitt 2010). Digital games allow consumers to navigate virtual worlds with joysticks, touchscreens, or their bodies (e.g., Xbox Kinect), for instance, to play at any time with people around the world and explore complex novel worlds. Online courses might benefit from haptic annotation tools, the ability to watch lectures at accelerated rates or asynchronously, the opportunity to save screenshots of slides and whiteboards, and novel animations that would be infeasible to incorporate in offline courses.

A second threat to psychological ownership is reduced evaluability. It is often difficult to determine who owns experiential, digital goods (Oram 1997). Consumers may incorrectly identify who owns the rights to share and transmit the goods, particularly in contexts where they are allowed to share physical goods. A consumer might see that it is illegal to sell a stranger access to her streaming account but will freely share access with roommates or family members. Beyond cross-selling and bundling physical goods with digital goods to create physical reminders of ownership (e.g., toys, clothing), digital goods may be able to serve as indexical reminders of meaningful memories by incorporating usage history features that identify when, where, and with whom they were

consumed. Digital photographs, for instance, already include information about their date, location, and the people included in the photograph. Digital goods are ripe for gamification, whereby levels of ownership may be indicated by completion of real or arbitrary goals and status levels (e.g., pages read each week).

Transfer of psychological ownership. Digital goods may lead consumers to transfer psychological ownership from the particular good being consumed (e.g., “My LP”) to higher levels of categorization or abstract properties of the consumption experience, such as the genre, artist, recording, brand, or platform (e.g., “I’m listening right now to *Kind of Blue* by Miles Davis on my Spotify playlist”). This could also lead consumers to feel greater ownership for the services and intermediary devices they use to consume digital goods, such as platforms and smartphones (Fritze et al. 2020), as those touch points will be the primary means by which consumers control experiential goods (Baxter et al. 2015). We suggest that digital goods are likely to be perceived more as services than goods. Consumers expect interactions with firms to entail the delivery of a consumption experience or experiences over time and to be an enduring relationship, rather than a fleeting transactional exchange (e.g., buying access to stream an evolving catalog of music vs. buying a vinyl album, respectively). Firms need to adapt their marketing strategy toward this service orientation in the minds of their consumers. Problems with digital goods, for example, are thus likely to be perceived as service failures, and strategies to maintain customer satisfaction may need to change. On the upside, servitization may then become a potential route through which to preserve psychological ownership at the brand level. Depending on the level at which psychological ownership manifests, brands may need to retain and develop consumer brand attachment through vertical integration or brand alliances that allow them to sell intermediary devices, which may become important means of self-expression (e.g., recognizable designs for smartphones, headphones, laptops).

Opportunities to preserve psychological ownership. One opportunity to preserve psychological ownership is that the experiential nature of digital goods may increase consumer identification. Identity marketing strategies, such as emphasizing associations or the fit between digital goods and salient consumer identities (e.g., trendiness or sustainability) may be particularly effective (Bhattacharjee, Berger, and Menon 2014). Given their flexible categorization, if digital goods are marketed as experiences rather than as digital substitutes for material goods (e.g., as readings of books by their authors vs. as audio books), consumers may more strongly identify with their consumption and feel levels of psychological ownership comparable to that felt for their material substitutes.

Trend 3: Expansion of Personal Data

The expansion in the recording of and analytics to manage and use personal data, defined as “any information that relates to an identified or identifiable living individual” (European Commission 2020), is fundamentally changing life and business, particularly how marketing is done for firms and experienced by consumers (Palmatier and Martin 2018). Technological advances in collection, storage, and analysis as well as the transformative shift to online search, shopping, and fulfillment has both enabled and enhanced the value of firms using consumer data to power their marketing decisions. Consumers are realizing that their personal data have significant value (Marthews and Tucker 2017). They want a share of that value as well as protection of their privacy (Rainie and Anderson 2014). Regulatory bodies are dramatically increasing the legal ownership rights of consumers to their personal data by requiring consumers to “opt in” to permit firms to use/sell the data (e.g., General Data Protection Regulation, California Consumer Privacy Act; Downes 2018). In early 2020, two U.S. states have passed and nine other states are in final stages of passing new consumer data regulations, where “we’re witnessing the beginning of a massive shift toward protection for consumer data and accountability for businesses that control and process it” (Schryver 2019, p. 1).

The changing regulatory policies illuminate a tension between firms and consumers with regard to who owns the incredible breadth and depth of personal data. Firms try to capture as much data as possible on potential and existing customers to target the “best” consumers with the right products at the right time, increasing sales and profits. This data, once constrained to the history of a consumer at a single business, is increasingly associated with identity-relevant information about all facets of their lives (e.g., locations visited, photographs and videos, search history, medical and genetic information). In this context, firms would like to reduce consumers’ psychological ownership of their personal data because this would promote consumer sharing their data with fewer restrictions or needs for compensation. As emerging firms (e.g., Datawallet, Midata) offer consumers opportunities to regain control of their personal data and sell it to firms, consumers may become more concerned with retaining ownership rights (Acquisiti, John, and Loewenstein 2013). Understanding these changes and identifying heterogeneous segments will be key to effective marketing strategies related to personal data and consumer privacy. As an example, Table 4 illustrates how the expansion of personal data threatens, transfers, and creates opportunities to preserve psychological ownership of health and wellness data.

Legal Ownership to Legal Access

In the past, consumers received and saved paper copies of their financial transactions, providing them physical ownership of these data. Now, consumers receive online access to platforms

of financial intuitions providing cloud-based digital records of their personal financial data on as-needed basis. In government and business sectors, digitization is rapidly replacing physical documents with digital files from taxes to driving and medical records (e.g., Campbell and Hanschitz 2018). Housing consumer data and giving consumer online access can result in switching barriers and consumer loyalty (Chaudhuri, Voorhees, and Beck 2019), but we argue that this model is changing consumer psychological ownership of their personal data.

Threats to psychological ownership. First, access-based models are fractionalizing data ownership. Data is becoming more distributed, which could threaten consumers’ psychological ownership of their data. Once private to consumers, data is now gathered and sold (or shared) by companies to third-party vendors (e.g., advertisers). The results of genetic testing were once accessible only to the consumer and her doctor. Firms such as 23andMe now offer consumers access rights to their genetic records, which are also shared (anonymously) with the parent company, other firms, and researchers. Tax records were once physical documents consumers prepared (perhaps with an accountant) and submitted to the government, keeping private physical copies stored in their files. Now taxes are prepared through intermediary platforms that keep a digital record, which the platforms use to market credit cards and loans back to their consumers. Even private copies of records stored by consumers in an electronic form may be accessible to cloud server hosts (e.g., Dropbox, Google). Location data, once exclusive to consumers, is now tracked by phone companies, government, GPS, and sold for profit (e.g., for mobile advertising).

Initial technological and purchase trends associated with fractional ownership reduced consumer data privacy (social media, peer-to-peer payments, online shopping), but this is being offset by new technologies (blockchain, two-factor authentication) and regulations addressing data privacy concerns. Privacy and anonymity can be provided in exchanges by the use of cryptocurrency (e.g., Bitcoin), blockchain open source commuting platforms (e.g., Ethereum), or emerging decentralized autonomous organization, a complex form of smart contracts using token governance rules (Zyskind, Nathan, and Pentland 2015), which offer multiple research opportunities. Marketers may find that these technologies give consumers real and perceived control over their data, reducing threats to psychological ownership posed by fractional models of legal ownership.

Second, the perceived impermanence of personal data threatens psychological ownership in situations where electronic access replaces permanent storage of a “hard copy” (e.g., lab reports, tax returns). As with digital goods, access to these data depends on the longevity and security of the hosting platform. When platforms hosting data close, or organizations change where their data is housed, data not transferred to new platforms may be lost. The frequency and scope of data breaches and ransomware attacks are additional salient reminders of the impermanence of personal data, even when firms prioritize privacy (Martin, Borah, and Palmatier 2017). Marketing

Table 4. Case Study #3: Health and Wellness Data.

Dimension of Change	Threats to Psychological Ownership	Transfers of Psychological Ownership	Opportunities to Preserve Psychological Ownership
<p><i>Legal ownership to legal access.</i> Private paper office records are now accessed and shared through platforms, applications, and intermediary firms.</p>	<p><i>Fractional ownership.</i> Private records controlled by consumer are replaced with electronic data shared without knowledge by firms and third parties through data exchange (e.g., Cures Act).</p> <ul style="list-style-type: none"> ❖ Emphasize benefits of accurate and accessible health and medication history. <p><i>Impermanence.</i> Permanent paper office records are replaced with electronic records contingent on platform longevity (e.g., MyChart).</p> <ul style="list-style-type: none"> ❖ Standardize records platform across providers; guarantee access to records. 	<p><i>Collective consumption.</i> Private health and fitness data are replaced by data that are collectively consumed (e.g., heart rate displays in fitness classes). Health status ownership/identity transfer from individual to social group (e.g., “My diabetes.” to “Our diabetes.”).</p> <ul style="list-style-type: none"> ❖ Develop patient communities (e.g., collective goals), solicit self-investment. 	<p><i>More consumer choice.</i> Consumers gain new opportunities to select and manage data inputs, outputs, and visualizations from tests and medical devices, review records and results online (e.g., 23andMe, Apple Health)</p> <ul style="list-style-type: none"> ❖ Increase data integration and personalization across devices. <p><i>New channels for self-expression.</i> Consumers can disclose health and wellness data to social media or applications (e.g., Fitbit; Nike+; Peloton).</p> <ul style="list-style-type: none"> ❖ Encourage microblogging, offer social media applications.
<p><i>Material to experiential.</i> Physical medical records indicative of health status replaced with in vivo electronic dashboards plotting health over time (or in real time).</p>	<p><i>Intangibility.</i> Physical records of and interactions with patient at doctor’s office, replaced with cloud-based electronic records and communications.</p> <ul style="list-style-type: none"> ❖ Increase consumer control over how and when they consume their data. <p><i>Reduced evaluability.</i> Greater ambiguity for ownership of continuous heart rate data than static report (e.g., app display vs. report from doctor).</p> <ul style="list-style-type: none"> ❖ Increase access to longitudinal data and account personalization (e.g., trends in health states, photos and avatars); gamification of goals, states, activity (e.g., miles run, REM sleep). 	<p><i>Higher categorization level.</i> Psychological ownership transfers from private records to intermediary devices and platforms used to record or display data (e.g., wearables, MyChart).</p> <ul style="list-style-type: none"> ❖ Relational marketing, personalize intermediary devices (e.g., smartwatches). 	<p><i>Greater self-identification.</i> Increase in data provides deeper portrait of health status and history, increasing identification with it (e.g., light/deep sleeper, low heart rate).</p> <ul style="list-style-type: none"> ❖ Health status treated as social identity in positioning and marketing communications.

Notes: ❖ = recommended marketing actions to manage psychological ownership threats, transfers, and opportunities.

actions providing consumers with the permanence necessary to preserve psychological ownership for their data may include long-term file storage, and continuity in file structures and platform interfaces. Providing real safeguards and privacy protections should be an effective marketing strategy to attract consumers with security-based psychological ownership concerns (e.g., Datawallet, DuckDuckGo, Midata).

Transfer of psychological ownership. A change in the consumption of personal data and experiences may transfer psychological ownership from the individual to the collective space (Karahanna et al. 2015). Most consumer data were formerly consumed individually or among family members. Now, with the increased availability and consumption of metadata, social

media, community forums, and other network-based apps, those data are now often consumed jointly or collectively. Power companies present the energy consumption of individual households and their neighbors side by side (Schultz et al. 2007). Patients share information in online health forms about their health conditions with strangers (Tanis 2008), which may provide them with a feeling of membership in and ownership of a patient community. Workout classes at Orangetheory Fitness publicly display identifiable consumer heart rate data, in real time, on the same monitor with others in their class. The normative influence of social comparison and the emotional relief of sharing experiences can be powerfully motivating, but may replace psychological ownership of personal data with membership in the groups with which it is shared.

Firms may increase collective psychological ownership for this data by soliciting consumer investment in its inputs; facilitating prosharing norms by asking consumers to share experiences, strategies, and ideas (e.g., medical symptoms and treatments; Sun, Rau, and Ma 2014); having consumers vote on goals for the community to pursue (e.g., how to reduce energy consumption); and helping consumers further the goals shared by the group (e.g., fundraising for members struggling to make their health care payments). Firms can present group-level data as a benchmark of progress toward collective goals, or to differentiate rival groups (e.g., competitions between neighborhoods in average household energy consumption). Platforms dependent on user-generated content may be particularly invested in such forms of community building, which are known to increase member contributions and usage (Sun, Rau, and Ma 2014).

Opportunities to preserve psychological ownership. Access-based models also afford potential opportunities to preserve psychological ownership. Consumers have more choice as they select and manage data inputs, outputs, and visualizations from medical tests and devices. These choices can be facilitated by increased data integration and personalization. Regulatory changes are also helpful in offering more choice in privacy options, such as via the “right to be forgotten.” Customizable disclosure settings give consumers the ability to selectively remove their data from the collective space and increase their individual privacy (Faitelson 2019). Fine-tuning desired disclosure levels across multiple platforms and audiences could increase perceived control of the data. To foster psychological ownership, developing and communicating policies that give the customer greater control and choice over which data is harvested or shared will be important, such as by providing consumers with an opt-out default as they trade access for personal data (Acquisiti, John, and Loewenstein 2013). Other means to preserve perceived control include enhancing consumer control over shared data with analysis tools for evaluating and displaying personal data shared with a firm.

A second way to preserve psychological ownership of personal data is through the considerable opportunities for self-expression and social group membership afforded by publishing personal data. While the majority of users do not post personal information on social media (Sun, Rau, and Ma 2014), many consumers do divulge a variety of personal data online, such as their location on Foursquare or Instagram, their employment on Twitter or LinkedIn, their family on Facebook, and their spending on Yelp, Amazon, or Mint. Firms can facilitate new channels for positive social signaling—such as ways to express desirable knowledge, experience, or status—to increase data disclosure and consumer ownership. This strategy may work best with digital natives, extraverts, and narcissists, who are particularly likely to disclose personal information on social media platforms (Sun, Rau, and Ma 2014).

Material to Experiential

The expansion of the collection and use of personal data in business is recategorizing data that was once associated with material or physical records as experiential. Data that was “static” in the past, such as a physical report of heart rate and blood pressure measured once during an annual physical, are often now continuously collected and displayed in real time on wearable devices or through application dashboards with animation, audio, and gamification (Koivisto and Hamari 2019; Lurie and Mason 2007; see Table 5). Another emerging and potentially sensitive source of experiential personal data comes from the Internet of Things, as many home appliances (refrigerators, washers) and systems (electrical, HVAC, water) are continuously monitored and their output harvested, capturing activity about consumers’ daily lives (Wedel and Kannan 2016).

Threats to psychological ownership. These more experiential forms of data may threaten psychological ownership due to intangibility, more ambiguous evaluations of ownership, and the higher categorization level at which experiential data are construed. Consumers may feel less control over disclosure of intangible cloud-based continuous data than static physical records. Perceived control may be particularly impaired if firms remove actual user control by fixing the manner in which data is collected, accessed, and presented. A shift to experiential consumption of data, however, could increase psychological ownership of that data if firms give consumers more control of its disclosure, display, and delivery, facilitating identification with the data and its consumption (e.g., see their health data as an indicator of “me” rather than “it”; Franke, Schreier, and Kaiser 2010; Weiss and Johar 2016). Internet-enabled devices and wearables could give consumers the ability to “mute” data reporting. Platforms can facilitate the accessibility of data when consumers desire it. At any time of day or night, a patient may receive test results and request referrals from her primary physician on MyChart or initiate a prescription refill via SMS or IVR communication with her pharmacy. Psychological ownership could also be enhanced through haptic (e.g., touchscreen) interfaces and dashboards that control privacy settings (e.g., Brasel and Gips 2014).

A second threat to psychological ownership that arises from the immateriality of data is reduced evaluability, meaning that it is difficult to determine who owns the data. A consumer might feel less psychological ownership for a dynamic heart rate report during a fitness class than for a printout reporting her static heart rate during a physical because ownership of the dynamic data is more ambiguous. It may belong to the consumer, the firm that manufactured the device on which it is recorded, the firm supporting the application on which it is displayed, or the firm running the cloud server where it is stored. In other cases, consumers may claim ownership for data that are not “theirs.” When consumers use the internet to answer questions, for instance, they misattribute possession of that knowledge to themselves (Ward 2013). Indexing or gamifying data to form a record of meaningful personal events

(e.g., exercise classes, family birthdays, graduation), or making it a meaningful story in itself, such as achieving a health or wellness goal, may bolster consumer psychological ownership.

Transfer of psychological ownership. A shift from more material to experiential forms of personal data may prompt a transfer in psychological ownership between categorization levels, from the individual data (e.g., my cholesterol level) to the applications and intermediary devices and platforms that provide access to that data (e.g., iHealth, iPhone, or MyChart, respectively). Consumers may feel considerable ownership of their accounts and devices. They may also hold platforms and firms rather than themselves responsible for security. Beyond providing consumers with opportunities to personalize their accounts and intermediary devices, firms should prioritize customer satisfaction and position brands and platforms in ways that allow consumers to feel psychological ownership for them (e.g., highlight identity consistency, emphasize the unique history of the company or platform, encourage consumer self-investment).

Opportunities to preserve psychological ownership. A related opportunity to preserve psychological ownership for personal data as it shifts to more experiential forms is to capitalize on consumer identification with experiences. As data evolve from static documents to dynamic portraits of the self across time, data may provide a record of experiences that confirm important identities to consumers. A record of a run could be a social signal to potentially broadcast to others but could also reaffirm an important identity to a consumer (e.g., runner, athlete, fit). Identity marketing, whether integrated into data capture or display or positioning, could create feelings of ownership for these dynamic experiential records of consumers' lives.

Liabilities Associated with Psychological Ownership

We view psychological ownership as an asset that is typically valuable for consumers and firms to preserve (Fritze et al. 2020; Morewedge and Gliblin 2015), even in cases in which legal ownership is inconvenient or undesirable. Of course, there are caveats where consumers, firms, or both may benefit from its decline. We suggest four important cases for each.

Liabilities for consumers. Consumers may find psychological ownership to be undesirable (1) when it would amplify the pain of a sure loss, (2) when it would link them with identity-incongruent goods, (3) when it would increase the meaning of negative events or decrease the meaning of positive events, or (4) when a good will be shared. We discuss each of these points. First, when possession of goods is short term, consumers may wish to forgo psychological ownership to reduce the pain felt when returning goods, such as a rental car or dress, and thus avoid the strong feelings of loss felt when selling their car or donating their clothing (Trudel, Argo, and Meng 2016). This avoidance is evident in the lack of psychological ownership felt by expert traders for goods they expect to sell (List 2003) and by consumers of borrowed and rented

goods (Atasoy and Morewedge 2018; Bagga, Bendle, and Cotte 2019).

Second, because psychological ownership changes how consumers perceive not only the good but also themselves (Weiss and Johar 2016), they may avoid psychological ownership for goods that are identity incongruent. A cinephile may prefer to digitally stream a film before committing to the self-signal that buying it entails, for example, and pornography consumers may prefer to not feel psychological ownership for their browsing and search history.

Third, consumers may eschew psychological ownership of goods that would increase the meaningfulness of negative events, such as a funeral or personal failure (Loewenstein and Issacharoff 1994), and goods that would muddle other reminders of meaningful positive events (e.g., memorabilia from an unmemorable conference at a place where they vacationed with family; Zauberman, Ratner, and Kim 2008).

Fourth, consumers may try to avoid high levels of psychological ownership for goods that will be shared with others. Feeling greater psychological ownership for personal data could change consumers' personal comfort equilibrium with trading their data for free access to platforms that will sell it (e.g., Facebook), and prompt them to discontinue use of those desirable and "free" goods and services. Reduced psychological ownership should help reduce jealousy or territoriality when sharing physical goods (Kirk, Peck, and Swain 2018). Psychological ownership for a good, and a more general attachment to goods (Ferraro, Escalas, and Bettman 2011), should thus be key predictors of engaging in the supply side of the sharing economy. For example, firms may find that a prospective homeowner who has yet to develop psychological ownership for a home (Nash and Rosenthal 2014; Strahilevitz and Loewenstein 1998) should be more comfortable with renting her home to strangers. Having decided to rent it, she might even purposely furnish it in a style that is discordant with her personal taste to establish a boundary between the properties in which she lives and lets.

Liabilities for firms. We identify four cases in which firms may benefit if consumers feel low levels of psychological ownership for goods, intermediaries, and brands: (1) when changes in access rights are likely, (2) when consumers are the product, (3) when it creates frictions in sharing markets, and (4) when service quality is inconsistent. First, like consumers, firms may prefer low levels of psychological ownership when access to goods is short-lived. When Microsoft ended sales of eBooks in April 2019, it deleted and refunded all books purchased through the platform. Consumers who felt stronger psychological ownership for the books in their digital library may have felt greater loss and anger when their access rights were revoked. More generally, for any digital goods or personal data, strong psychological ownership may breed resentment that access rights cannot be shared with or transferred to other consumers through sales, gifts, or inheritances.

Second, many firms earn considerable profit from "free" services by mining and selling consumer personal data. In such

cases, it may benefit firms to enact policies, contracts, and contexts that minimize psychological ownership of personal data (e.g., Acquisti, John, and Loewenstein 2013). Consumers with high psychological ownership for their data may demand a share of profits or divulge less personal information (Marthews and Tucker 2017).

Third, if consumers feel high levels of psychological ownership for particular goods and brands, it may create frictions in matching consumer demand and supply, similar to market frictions in the endowment effect literature (Ericson and Fuster 2011; Morewedge and Giblin 2015). A consumer with strong attachment to and psychological ownership for Mercedes cars, for instance, might be reluctant to book a car from a car-sharing platform if only Fords are available. Consumers who feel psychological ownership for a “third place”—a social space other than at home or work, such as a seat in a café, bar, or park—may be more likely to visit it but will linger in that space (Griffiths and McGilly 2012). Firms may wish to keep psychological ownership low for access-based and experiential goods so that consumers are more receptive to a variety of goods and brands, or turn over quickly.

Fourth, when dealing with consumers with high psychological ownership, firms will need to more carefully manage expectations and customer satisfaction (Tsiros, Mittal, and Ross 2004). The value-enhancing effects of psychological ownership, if it has been transferred from the good to the brand, may heighten expectations and make firms more accountable for service failures in the eyes of consumers. If a ride-share car breaks down during a ride, for example, the consumer may hold the platform responsible rather than the driver or the automotive brand. Preserving psychological ownership may thus be a counterproductive exercise for platforms when service failures are likely.

Future Research Directions

Applying our psychological ownership framework and associated concepts to three macro trends in marketing identifies many opportunities for future research, some of which we previously outlined. Table 5 suggests additional opportunities for exploration. Psychological ownership is a central theme, but the list engages with a variety of major themes in marketing research. In consumer behavior, our framework informs research examining how technology is changing the self-concept, as well as critical relationships between consumers and technologies, goods, brands, and other consumers (e.g., Hamilton et al. 2020).

Researchers focused on firm strategy and technological innovation will find that our framework delineates important considerations, boundaries, and opportunities for the acceptance and adoption of new consumption models and technologies. Many traditional brands have stumbled when entering access-based markets (e.g., car-sharing services such as BMW’s ReachNow and GM’s Maven) or when launching digital products (e.g., Barnes & Noble’s Nook e-reader). Marketing strategists navigating the transformation from private material

goods to access-based experiential goods cannot solely focus on and tout benefits of relinquishing legal ownership. Marketers should consider trade-offs between legal and psychological ownership as well as how to maintain the attachments, value, and loyalty to goods and brands that consumers derive from psychological ownership. Behavioral researchers need to identify the brands and sectors for which those attachments, value enhancements, and loyalties are most contingent on the preservation of psychological ownership (e.g., luxury goods). Firms and strategy researchers should test when product development, branding, and repositioning strategies preserve psychological ownership (e.g., servitization, vertical integration, brand alliances), which could be a lifeline for struggling industries and firms (e.g., retail, telecommunications, financial services). We have made many such suggestions throughout this article.

The threats and opportunities to preserve psychological ownership identified by our framework generalize beyond the three macro trends in marketing we explore here to many technology-driven trends reshaping modern economies and life. Psychological ownership may affect consumer motivations for sustainable consumer behavior. It could increase preservation of shared resources, as it does for private goods. It could also be counterproductive and increase the consumption of those resources, if consumers anticipate others using them. Remote work and the move from live personal interactions toward virtual interactions is an area experiencing growth, accelerated by the COVID-19 pandemic. If remote work is the future of employment, how will virtual interactions affect psychological ownership among the parties involved? Will employees who work from home feel more or less psychological ownership for their ideas, projects, and firms, as compared to a live office environment? Will students feel less psychological ownership for online courses and degrees received for remote learning? Automation and artificial intelligence in both firm and residential applications is another such trend. Psychological ownership has numerous direct applications to its intersections with retailing and labor. Consumers may feel less psychological ownership and attachment to items chosen or purchased by or with the help of a recommendation system if using recommendation systems feels like relinquishing choice to another agent. The desirability of psychological ownership may then be an important factor in determining for which product categories recommendation systems, touchscreens, and voice interfaces should be integrated as decision aids or replace live salespeople. More generally, whether consumers feel psychological ownership for intelligent devices may depend critically on their positioning (e.g., tool vs. intelligent agent).

Although we have suggested that transfer can occur, an important question remains regarding what happens to the aggregate level of psychological ownership felt by a consumer in response to these changes. When a consumer relinquishes a traditional good, does the aggregate level of psychological ownership she experiences also decline? Psychological ownership once felt for her amassed library of books, movies, and

Table 5. Evolution of Consumption and Psychological Ownership: Open Questions.

Dimensions of Change	Research Questions
<i>Legal Ownership to Legal Access</i>	
Consumer issues	<ul style="list-style-type: none"> • When does access-based consumption increase and decrease demand for future private ownership of goods? • How do risks of future loss (e.g., discontinued access) affect PO? • Are antecedents and consequences of individual and collective PO different? • Do larger consideration sets and more customization increase PO? • Are access-based goods weaker influences on, and expressions of, self-identity? • Does social signaling increase or crowd out PO? • Is PO developed for aspirational goods and brands through access-based use? • Does selling access to goods reduce PO for owners/prosumers? • Do consumers feel reduced PO for goods chosen with recommendation systems? • Are threats and opportunities to PO culturally specific (e.g., individualistic cultures)? • Is consumer well-being improved, in the aggregate, with the substitution of access-based models for legally owned goods?
Firm issues	<ul style="list-style-type: none"> • What access-based models best preserve PO (e.g., rent-to-own, rent, streaming)? • Can impermanence threats be mitigated in access-based models (e.g., guarantees)? • Which marketing strategies help increase PO for brands? • How should choice be balanced with choice overload (assortment sizes vs. recommendation system)? • Are access-based goods downward stretches for luxury/status brands? • When should PO be reduced for personal data versus adopting proprivacy positioning? • What are the net effects of threats and opportunities on PO by technology/context?
<i>Material to Experiential</i>	
Consumer issues	<ul style="list-style-type: none"> • What material goods cannot be fully replaced by experiential goods? • What interface designs/application features preserve PO (e.g., haptic, rate control)? • Do different sensory features instantiate PO for material and experiential goods? • What determines PO of an experience (e.g., indexicality, goal achieved)? • When are associated material and experiential goods PO complements or substitutes (e.g., movie and smartphone, song and band T-shirt, trip and souvenir)? • What determines categorization level of PO (e.g., good, device, platform, brand)? • Why is there greater self-identification for experiential goods than material goods? • Are threats and opportunities to PO generationally specific (e.g., digital natives)?
Firm issues	<ul style="list-style-type: none"> • Is adoption of experiential goods impaired/facilitated by owning material substitutes? • When should firms implement fully experiential vs. hybrid offerings (e.g., music, courses)? • When will demand for material complements justify cross selling (e.g., books)? • How should indexical connections and gamification for experiential goods be implemented? • Does vertical integration of brands with platforms capture transfer of PO? • When should experiential goods be marketed as services? • How do experiential versus material purchases affect PO for brands and intermediaries? • When are firm versus consumer values more important for identity marketing?

Notes: PO = psychological ownership.

photographs, for instance, could decrease as it is digitized or transferred to devices and streaming platforms. Indeed, if psychological ownership is bundled into devices or platforms, diminishing marginal utility suggests that it will decline in the aggregate (Thaler 1985). However, psychological ownership satisfies core motivational drivers, so consumers may instead strive to maintain a set level of aggregate psychological ownership for their various attachments. They may then transfer the psychological ownership lost for one good to other targets (e.g., goods, devices, platforms). Our article focuses on changes to psychological ownership felt for individual goods, but how technology-driven consumption changes affect the aggregate

level of psychological ownership consumers experience is a question critical for understanding the ebbs and flows of psychological ownership.

Finally, we do not address heterogeneity in the experience of psychological ownership, but it is likely that features of psychological ownership are not universal or static. They are manifested differently across cultures as well as within cultures with different forms of economic transaction. Psychological ownership does not appear to generate the same degree of value enhancement for East Asians or descendants of East Asian cultures, for instance, as it does for White Americans or people descended from European cultures (Maddux et al. 2010).

Generational differences may affect how psychological ownership is affected by the macro trends we have identified. Digital natives who have grown up with music streaming and targeted mobile advertising may be less threatened. Firms need guidance to develop and deploy effective targeting and positioning strategies across cultures, generations, and other groups.

Conclusion

Technological innovations are changing consumption models from permanent legal ownership of private physical goods to access-based use of temporary, experiential, and collective goods. Consumers benefit from forgoing legal ownership of goods in these fractional ownership models (e.g., money, time, effort; Bardhi and Eckhardt 2017; Lamberton and Rose 2012). However, giving up legal ownership does not imply that psychological ownership, a generally desirable source of value for both firms and consumers, must or should also be relinquished.

We illustrate the worth of a psychological ownership framework for anticipating and understanding consumer responses to this technology-driven evolution in consumption. Our framework predicts when technological innovations will threaten, transfer, and create opportunities to preserve this valuable asset, and it identifies accompanying research opportunities for marketing scholars. We have mapped our framework to three key macro trends: (1) growth in the sharing economy, (2) digitization of goods and services, and (3) the expansion of personal data. For each trend, we offer recommendations for how managers can counter threats to psychological ownership and leverage opportunities to preserve or enhance it through a variety of strategies. We also note cases in which consumers and firms benefit from letting psychological ownership decline. More broadly, our framework applies to many sectors where technology is changing consumption, and it is informative for managers vying to attract and retain customers within these new environments. It outlines many ways in which psychological ownership will continue to be a valuable lens through which to view, understand, forecast, and manage the consumer experience.

Acknowledgments

The authors thank Garrett Johnson, Amit Kumar, and Marketing Science 2019 attendees for helpful feedback on an earlier version of the article, and Carl Mela and the Marketing Science Institute for the impetus to write it.


Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Carey K. Morewedge  <https://orcid.org/0000-0001-7502-9279>

References

- Acquisti, Alessandro, Leslie K. John, and George Loewenstein (2013), "What Is Privacy Worth?" *Journal of Legal Studies*, 42 (2), 249–74.
- Argo, Jennifer J., Darren W. Dahl, and Andrea C. Morales (2008), "Positive Consumer Contagion: Responding to Attractive Others in a Retail Context," *Journal of Marketing Research*, 45 (6), 690–701.
- Asatryan, Vahagn S. and Haemoon Oh (2008), "Psychological Ownership Theory: An Exploratory Application in the Restaurant Industry," *Journal of Hospitality & Tourism Research*, 32 (3), 363–86.
- Atasoy, Ozgun and Carey K. Morewedge (2018), "Digital Goods Are Valued Less Than Physical Goods," *Journal of Consumer Research*, 44 (6), 1343–57.
- Bagga, Charan K., Neil Bendle, and June Cotte (2019), "Object Valuation and Non-Ownership Possession: How Renting and Borrowing Impact Willingness-to-Pay," *Journal of the Academy of Marketing Science*, 47 (1), 97–117.
- Barasch, Alixandra and Jonah Berger (2014), "Broadcasting and Narrowcasting: How Audience Size Affects What People Share," *Journal of Marketing Research*, 51 (3), 286–99.
- Bardhi, Fleura and Giana M. Eckhardt (2012), "Access-Based Consumption: The Case of Car Charing," *Journal of Consumer Research*, 39 (4), 881–98.
- Bardhi, Fleura and Giana M. Eckhardt (2017), "Liquid Consumption," *Journal of Consumer Research*, 44 (3), 582–97.
- Barton, Christine, Lara Koslow, and Christine Beauchamp (2014), "How Millennials Are Changing the Face of Marketing Forever," BCG (January 15), <https://www.bcg.com/publications/2014/marketing-center-consumer-customer-insight-how-millennials-changing-marketing-forever>.
- Bastos, Wilson and Merrie Brucks (2017), "How and Why Conversational Value Leads to Happiness for Experiential and Material Purchases," *Journal of Consumer Research*, 44 (3), 598–612.
- Bauman, Zygmunt (2000), *Liquid Modernity*. Cambridge, UK: Polity Press.
- Baxter, Weston L. and Marco Aurisicchio (2018), "Ownership by Design," in *Psychological Ownership and Consumer Behavior*, Joann Peck and Suzanne B. Shu, eds. Cham, Switzerland: Springer, 119–35.
- Baxter, Weston L., Marco Aurisicchio, and Peter R.N. Childs (2015), "A Psychological Ownership Approach to Designing Object Attachment," *Journal of Engineering Design*, 26 (4–6), 140–56.
- Beggan, James K. (1992), "On the Social Nature of Nonsocial Perception: The Mere Ownership Effect," *Journal of Personality and Social Psychology*, 62 (2), 229–37.
- Belk, Russell W. (1988), "Possessions and the Extended Self," *Journal of Consumer Research*, 15 (2), 139–68.
- Belk, Russell W. (2010), "Sharing," *Journal of Consumer Research*, 36 (5), 715–34.

- Belk, Russell W. (2013), "Extended Self in a Digital World," *Journal of Consumer Research*, 40 (3), 477–500.
- Belk, Russell W. (2014), "You Are What You Can Access: Sharing and Collaborative Consumption Online," *Journal of Business Research*, 67 (8), 1595–1600.
- Bhattacharjee, Amit, Jonah Berger, and Geeta Menon (2014), "When Identity Marketing Backfires: Consumer Agency in Identity Expression," *Journal of Consumer Research*, 41 (2), 294–309.
- Botsman, Rachel and Roo Rogers (2010), "Beyond Zipcar: Collaborative Consumption," *Harvard Business Review*, 88 (10), 30.
- Brasel, S. Adam and James Gips (2014), "Tablets, Touchscreens, and Touchpads: How Varying Touch Interfaces Trigger Psychological Ownership and Endowment," *Journal of Consumer Psychology*, 24 (2), 226–33.
- Brynjolfsson, Erik, Avinash Collis, and Felix Eggers (2019), "Using Massive Online Choice Experiments to Measure Changes in Well-Being," *Proceedings of the National Academy of Sciences*, 116 (15), 7250–55.
- Cakebread, Caroline (2017), "People Will Take 1.2 Trillion Digital Photos this Year—Thanks to Smartphones," *Business Insider* (August 31), <https://www.businessinsider.com/12-trillion-photos-to-be-taken-in-2017-thanks-to-smartphones-chart-2017-8>.
- Campbell, David F.J and Georg Hanschitz (2018), "Digitalization of Tax: Epistemic Tax Policy," in *Handbook of Cyber-Development*, Elias G. Carayannis, David F.J. Campbell, and Marios Panagiotis Efthymiopoulos, eds. Cham, Switzerland: Springer International.
- Carter, Travis J. and Thomas Gilovich (2010), "The Relative Relativity of Material and Experiential Purchases," *Journal of Personality and Social Psychology*, 98 (1), 146.
- Chaudhuri, M., Clay M. Voorhees, and Joshua M. Beck (2019), "The Effects of Loyalty Program Introduction and Design on Short- and Long-Term Sales and Gross Profits," *Journal of the Academy of Marketing Science*, 47, 640–58.
- Coyle, Karen (2006), "Mass Digitization of Books," *Journal of Academic Librarianship*, 32 (6), 641–45.
- Downes, Larry (2018), "GDPR and the End of the Internet's Grand Bargain," *Harvard Business Review* (April 9), <https://hbr.org/2018/04/gdpr-and-the-end-of-the-internets-grand-bargain>.
- Eckhardt, Giana M. and Fleura Bardhi (2015), "The Sharing Economy Isn't About Sharing at All," *Harvard Business Review* (January 28), <https://hbr.org/2015/01/the-sharing-economy-isnt-about-sharing-at-all>.
- Eckhardt, Giana M., Mark B. Houston, Baojun Jiang, Catherine Lambertson, Aric Rindfleisch, and Giorgos Zervas (2019), "Marketing in the Sharing Economy," *Journal of Marketing*, 83 (5), 5–27.
- Ericson, Keith M. and Andreas Fuster (2011), "Expectations as Endowments: Evidence on Reference-Dependent Preferences from Exchange and Valuation Experiments," *Quarterly Journal of Economics*, 126 (4), 1879–1907.
- Escalas, Jennifer Edson and James R. Bettman (2005), "Self-Construal, Reference Groups, and Brand Meaning," *Journal of Consumer Research*, 32 (3), 378–89.
- European Commission (2020), "What Is Personal Data?" (accessed September 24), https://ec.europa.eu/info/law/law-topic/data-protection/reform/what-personal-data_en.
- Faitelson, Yaki (2019), "Why U.S. GDPR-Style Privacy Laws Are Good for Business," *Forbes* (December 19), <https://www.forbes.com/sites/forbestechcouncil/2019/12/19/why-u-s-gdpr-style-privacy-laws-are-good-for-business/#2b6f9f3d8756>.
- Farronato, Chiara and Andrey Fradkin (2018), "The Welfare Effects of Peer Entry in the Accommodation Market: The Case of Airbnb," Working Paper No. 24361, National Bureau of Economic Research.
- Ferraro, Rosellina, Jennifer Edson Escalas, and James R. Bettman (2011), "Our Possessions, Our Selves: Domains of Self-Worth and the Possession–Self Link," *Journal of Consumer Psychology*, 21 (2), 169–77.
- Figueiredo, Bernardo and Daiane Scaraboto (2016), "The Systemic Creation of Value Through Circulation in Collaborative Consumer Networks," *Journal of Consumer Research*, 43 (4), 509–33.
- Findlay, Isobel M. (2018), "Precursors to the Sharing Economy: Cooperatives," in *The Rise of the Sharing Economy: Exploring the Challenges and Opportunities of Collaborative Consumption*, Pia A. Albinsson and B. Yasanthi Perera, eds. Santa Barbara, CA: Praeger, 9–28.
- Fournier, Susan (1998), "Consumers and Their Brands: Developing Relationship Theory in Consumer Research," *Journal of Consumer Research*, 24 (4), 343–73.
- Franke, Nikolaus, Martin Schreier, and Ulrike Kaiser (2010), "The 'I Designed It Myself' Effect in Mass Customization," *Management Science*, 56 (1), 125–40.
- Fritze, Martin P., André Marchand, Andreas B. Eisingerich, and Martin Benkenstein (2020), "Access-Based Services as Substitutes for Material Possessions: The Role of Psychological Ownership," *Journal of Service Research*, 23 (3), 368–85.
- Fuchs, Christoph, Emanuela Prandelli, and Martin Schreier (2010), "The Psychological Effects of Empowerment Strategies on Consumers' Product Demand," *Journal of Marketing*, 74 (1), 65–79.
- Furby, Lita (1991), "Understanding the Psychology of Possession and Ownership: A Personal Memoir and an Appraisal of Our Progress," *Journal of Social Behavior and Personality*, 6 (6), 457–63.
- Ganesan, Shankar, Morris George, Sandy Jap, Robert W. Palmatier, and Barton Weitz (2009), "Supply Chain Management and Retailer Performance: Emerging Trends, Issues, and Implications for Research and Practice," *Journal of Retailing*, 85 (1), 84–94.
- Gawronski, Bertram, Galen V. Bodenhausen, and Andrew P. Becker (2007), "I Like It, Because I Like Myself: Associative Self-Anchoring and Post-Decisional Change of Implicit Evaluations," *Journal of Experimental Social Psychology*, 43 (2), 221–32.
- Gilovich, Thomas, and Amit Kumar (2015), "We'll Always Have Paris: The Hedonic Payoff from Experiential and Material Investments," *Advances in Experimental Social Psychology*, 51, 147–87.
- Gilovich, Thomas, Amit Kumar, and Lily Jampol (2015), "A Wonderful Life: Experiential Consumption and the Pursuit of Happiness," *Journal of Consumer Psychology*, 25 (1), 152–65.
- Goldfarb, Avi, Shane M. Greenstein, and Catherine E. Tucker (2015), *Economic Analysis of the Digital Economy*. Chicago: University of Chicago Press.

- Grayson, Kent and Radan Martinec (2004), "Consumer Perceptions of Iconicity and Indexicality and Their Influence on Assessments of Authentic Market Offerings," *Journal of Consumer Research*, 31 (2), 296–312.
- Grayson, Kent and David Shulman (2000), "Indexicality and the Verification Function of Irreplaceable Possessions: A Semiotic Analysis," *Journal of Consumer Research*, 27 (1), 17–30.
- Griffiths, Merlyn A. and Mary C. Gilly (2012), "Dibs! Customer Territorial Behaviors," *Journal of Service Research*, 15(2), 131–49.
- Haase, Michaela and Michael Kleinaltenkamp (2011), "Property Rights Design and Market Process: Implications for Market Theory, Marketing Theory, and SD Logic," *Journal of Macromarketing*, 31 (2), 148–59.
- Hamilton, Ryan, Rosellina Ferraro, Kelly L. Haws, and Anirban Mukhopadhyay (2021), "Traveling with Companions: The Social Customer Journey," *Journal of Marketing*, 85 (1), 68–92.
- Hardin, Garrett (1968), "The Tragedy of the Commons," *Science*, 162 (3859), 1243–48.
- He, Daniel, Shiri Melumad, and Michel Tuan Pham (2018), "The Pleasure of Assessing and Expressing Our Likes and Dislikes," *Journal of Consumer Research*, 46 (3), 545–63.
- Helm, Sabrina V., Victoria Ligon, Tony Stovall, and Silvia Van Riper (2018), "Consumer Interpretations of Digital Ownership in the Book Market," *Electronic Markets*, 28 (2), 177–89.
- Hodder, Ian (2012), *Entangled: An Archaeology of the Relationships Between Humans and Things*. Chichester, UK: John Wiley & Sons.
- Honoré, Anthony M. (1961), "Ownership," in *Oxford Essays in Jurisprudence*. Oxford: Oxford University Press, 107–147.
- Huang, Yunhui, Lei Wang, and Junqi Shi (2009), "When Do Objects Become More Attractive? The Individual and Interactive Effects of Choice and Ownership on Object Evaluation," *Personality and Social Psychology Bulletin*, 35 (6), 713–22.
- Inbar, Yoel, David A. Pizarro, Joshua Knobe, and Paul Bloom (2009), "Disgust Sensitivity Predicts Intuitive Disapproval of Gays," *Emotion*, 9 (3), 435–39.
- Karahanna, Elena, Sean Xin Xu, and Nan Zhang (2015), "Psychological Ownership Motivation and Use of Social Media," *Journal of Marketing Theory and Practice*, 23 (2), 185–207.
- Karakayali, Nedim, Burc Kostem, and Idil Galip (2018), "Recommendation Systems as Technologies of the Self: Algorithmic Control and the Formation of Music Taste," *Theory, Culture & Society*, 35 (2), 3–24.
- Keinan, Anat and Ran Kivetz (2010), "Productivity Orientation and the Consumption of Collectable Experiences," *Journal of Consumer Research*, 37 (6), 935–50.
- Kim, Jungkeun (2017), "The Ownership Distance Effect: The Impact of Traces Left by Previous Owners on the Evaluation of Used Goods," *Marketing Letters*, 28 (4), 591–605.
- Kirk, Colleen P., Joann Peck, and Scott D. Swain (2018), "Property Lines in the Mind: Consumers' Psychological Ownership and Their Territorial Responses," *Journal of Consumer Research*, 45 (1), 148–68.
- Koivisto, Jonna and Juho Hamari (2019), "The Rise of Motivational Information Systems: A Review of Gamification Research," *International Journal of Information Management*, 45, 191–210.
- Kuehn, Kathleen M (2016), "Branding the Self on Yelp: Consumer Reviewing as Image Entrepreneurship," *Social Media + Society*, 2 (4), 1–9.
- Lamberton, Cait (2016), "Collaborative Consumption: A Goal-Based Framework," *Current Opinion in Psychology*, 10, 55–9.
- Lamberton, Cait P. and Randall L. Rose (2012), "When Is Ours Better Than Mine? A Framework for Understanding and Altering Participation in Commercial Sharing Systems," *Journal of Marketing*, 76 (4), 109–25.
- Lerner, Jennifer S., Deborah A. Small, and George Loewenstein (2004), "Heart Strings and Purse Strings: Carryover Effects of Emotions on Economic Decisions," *Psychological Science*, 15 (5), 337–41.
- Li, Charis X. and Richard J. Lutz (2019), "Object History Value in the Sharing Economy," in *Handbook of the Sharing Economy*, Russell W. Belk, Giana M. Eckhardt, and Fleura Bardhi, eds. Cheltenham, UK: Edward Elgar Publishing.
- List, John A. (2003), "Does Market Experience Eliminate Market Anomalies?" *Quarterly Journal of Economics*, 118 (1), 41–71.
- Loewenstein, George and Samuel Issacharoff (1994), "Source Dependence in the Valuation of Objects," *Journal of Behavioral Decision Making*, 7 (3), 157–68.
- Lurie, Nicholas H. and Charlotte H. Mason (2007), "Visual Representation: Implications for Decision Making," *Journal of Marketing*, 71 (1), 160–77.
- Maddux, William W., Haiyang Yang, Carl Falk, Hajo Adam, Wendi Adair, Yumi Endo, et al. (2010), "For Whom Is Parting with Possessions More Painful? Cultural Differences in the Endowment Effect," *Psychological Science*, 21 (12), 1910–17.
- Marthews, Alex and Catherine E. Tucker (2017), "Government Surveillance and Internet Search Behavior," working paper, doi.org/10.2139/ssrn.2412564.
- Martin, Kelly D., Abhishek Borah, and Robert W. Palmatier (2017), "Data Privacy: Effects on Customer and Firm Performance," *Journal of Marketing*, 81 (1), 36–58.
- Mason, Elizabeth C. and Rick Richardson (2012), "Treating Disgust in Anxiety Disorders," *Clinical Psychology: Science and Practice*, 19 (2), 180–94.
- Matzler, Kurt, Viktoria Veider, and Wolfgang Kathan (2015), "Adapting to the Sharing Economy," *MIT Sloan Management Review*, 56 (2), 71–77.
- McEwan, Stephanie, Madison L. Pesowski, and Ori Friedman (2016), "Identical but Not Interchangeable: Preschoolers View Owned Objects as Non-Fungible," *Cognition*, 146, 16–21.
- Melumad, Shiri, and Michel Tuan Pham (2020), "The Smartphone as a Pacifying Technology," *Journal of Consumer Research*, 47 (2), 237–55.
- Mi, Zhifu and D'Maris Coffman (2019), "The Sharing Economy Promotes Sustainable Societies," *Nature Communications*, 10 (1), 1–3.
- Mishra, Gouri S., Regina R. Clewlow, Patricia L. Mokhtarian, and Keith F. Widaman (2015), "The Effect of Carsharing on Vehicle Holdings and Travel Behavior: A Propensity Score and Causal Mediation Analysis of the San Francisco Bay Area," *Research in Transportation Economics*, 52, 46–55.

- Molesworth, Mike, Rebecca Watkins, and Janice Denegri-Knott (2016), "Possession Work on Hosted Digital Consumption Objects as Consumer Ensnarement." *Journal of the Association for Consumer Research*, 1 (2), 246–61.
- Morewedge, Carey K. (2020), "Psychological Ownership: Implicit and Explicit," working paper.
- Morewedge, Carey K. and Colleen E. Giblein (2015), "Explanations of the Endowment Effect: An Integrative Review," *Trends in Cognitive Sciences*, 19 (6), 339–48.
- Morewedge, Carey K., Kurt Gray, and Daniel M. Wegner (2010), "Perish the Forethought: Premeditation Engenders Misperceptions of Personal Control," in *Self-Control in Brain, Mind, and Society*, Ran R. Hassin, Kevin N. Ochsner, and Yaacov Trope, eds. Oxford, UK: Oxford University Press, 260–78.
- Morewedge, Carey K., Lisa L. Shu, Daniel T. Gilbert, and Timothy D. Wilson (2009), "Bad Riddance or Good Rubbish? Ownership and Not Loss Aversion Causes the Endowment Effect," *Journal of Experimental Social Psychology*, 45 (4), 947–51.
- Nash, Jane Gradwohl and Robert A. Rosenthal (2014), "An Investigation of the Endowment Effect in the Context of a College Housing Lottery," *Journal of Economic Psychology*, 42, 74–82.
- Nielsen (2019), "Nielsen Music Mid-Year Report," (accessed September 24), <https://www.nielsen.com/wp-content/uploads/sites/3/2019/06/nielsen-us-music-mid-year-report-2019.pdf>.
- Norton, Michael I., Daniel Mochon, and Dan Ariely (2012), "The IKEA Effect: When Labor Leads to Love," *Journal of Consumer Psychology*, 22 (3), 453–60.
- Oram, Jon H. (1997), "The Costs of Confusion in Cyberspace," *Yale Law Journal*, 107 (3), 869–74.
- Palmatier, Robert W. and Kelly D. Martin (2018), *An Intelligent Marketer's Guide to Data Privacy*, working draft of forthcoming book, in press, Palgrave Macmillan.
- Park, C. Whan, Deborah J. MacInnis, and Joseph Priester (2008), *Brand Attachment: Construct, Consequences and Causes*. Boston: Now Publishers.
- Peck, Joann and Suzanne B. Shu (2009), "The Effect of Mere Touch on Perceived Ownership," *Journal of Consumer Research*, 36 (3), 434–47.
- Peck, Joann and Suzanne B. Shu (2018), *Psychological Ownership and Consumer Behavior*. New York: Springer Publishing.
- Pierce, Jon L. and Iiro Jussila (2010), "Collective Psychological Ownership Within the Work and Organizational Context: Construct Introduction and Elaboration," *Journal of Organizational Behavior*, 31 (6), 810–34.
- Pierce, Jon L., Stephen A. Rubinfeld, and Susan Morgan (1991), "Employee Ownership: A Conceptual Model of Process and Effects," *Academy of Management Review*, 16 (1), 121–44.
- Rainie, Lee and Janna Anderson (2014), "The Future of Privacy," *Pew Research Center* (December 18), <https://www.pewresearch.org/internet/2014/12/18/future-of-privacy/>.
- Reb, Jochen, and Terry Connolly (2007), "Possession, Feelings of Ownership, and the Endowment Effect," *Judgment and Decision Making*, 2 (2), 107–14.
- Rifkin, Jeremy (2001), *The Age of Access: How the Shift from Ownership to Access is Transforming Modern Life*. New York: Penguin Business.
- Ritzer, George and Nathan Jurgenson (2010), "Production, Consumption, Prosumption: The Nature of Capitalism in the Age of the Digital 'Prosumer'," *Journal of Consumer Culture*, 10 (1), 13–36.
- Schmitt, Bernd H. (2010), *Customer Experience Management: A Revolutionary Approach to Connecting with your Customers*. Hoboken, NJ: John Wiley & Sons.
- Schryver, Kyle (2019), "The Future of Data Privacy in the United States," *CPO Magazine* (August 1), <https://www.cpomagazine.com/data-protection/the-future-of-data-privacy-in-the-united-states/>.
- Schultz, P. Wesley, Jessica M. Nolan, Robert B. Cialdini, Noah J. Goldstein, and Vladas Griskevicius (2007), "The Constructive, Destructive, and Reconstructive Power of Social Norms," *Psychological Science*, 18 (5), 429–34.
- Shaw, Alex, Vivian Li, and Kristina R. Olson (2012), "Children Apply Principles of Physical Ownership to Ideas," *Cognitive Science*, 36 (8), 1383–1403.
- Shu, Suzanne B. and Joann Peck (2011), "Psychological Ownership and Affective Reaction: Emotional Attachment Process Variables and the Endowment Effect," *Journal of Consumer Psychology*, 21 (4), 439–52.
- Siddiqui, Shakeel and Darach Turley (2006), "Extending the Self in a Virtual World," in *Advances in Consumer Research*, Vol. 33, Connie Pechmann and Linda Price, eds. Duluth, MN: Association for Consumer Research, 647–48.
- Sinclair, Gary and Julie Tinson (2017), "Psychological Ownership and Music Streaming Consumption," *Journal of Business Research*, 71, 1–9.
- Strahilevitz, Michal A. and George Loewenstein (1998), "The Effect of Ownership History on the Valuation of Objects," *Journal of Consumer Research*, 25 (3), 276–89.
- Sun, Na, Patrick Pei-Luen Rau, and Liang Ma (2014), "Understanding Lurkers in Online Communities: A Literature Review," *Computers in Human Behavior*, 38, 110–17.
- Tadelis, Steven (2016), "Reputation and Feedback Systems in Online Platform Markets," *Annual Review of Economics*, 8, 321–40.
- Tanis, Martin (2008), "Health-Related On-Line Forums: What's the Big Attraction?" *Journal of Health Communication*, 13 (7), 698–714.
- Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199–214.
- Thomson, Matthew, Deborah J. MacInnis, and Whan C. Park (2015), "The Ties That Bind: Measuring the Strength of Consumers' Emotional Attachments to Brands," *Journal of Consumer Psychology*, 15 (1), 77–91.
- Trudel, Remi, Jennifer J. Argo, and Matthew D. Meng. (2016), "The Recycled Self: Consumers' Disposal Decisions of Identity-Linked Products," *Journal of Consumer Research*, 43 (2), 246–64.
- Tsiros, Michael, Vikas Mittal, and William T. Ross Jr. (2004), "The Role of Attributions in Customer Satisfaction: A Reexamination," *Journal of Consumer Research*, 31 (2), 476–83.
- Van Dijck, José (2008), "Digital Photography: Communication, Identity, Memory," *Visual Communication*, 7 (1), 57–76.
- Vandewalle, Don, Linn Van Dyne, and Tatiana Kostova (1995), "Psychological Ownership: An Empirical Examination of Its Consequences," *Group & Organization Management*, 20 (2), 210–26.

- Verkuyten, Maykel and Borja Martinovic (2017), "Collective Psychological Ownership and Intergroup Relations," *Perspectives on Psychological Science*, 12 (6), 1021–39.
- Wallendorf, Melanie and Eric J. Arnould (1988), "'My Favorite Things': A Cross-Cultural Inquiry into Object Attachment, Possessiveness, and Social Linkage," *Journal of Consumer Research*, 14 (4), 531–47.
- Ward, Adrian F. (2013), "Supernormal: How the Internet Is Changing Our Memories and Our Minds," *Psychological Inquiry*, 24 (4), 341–48.
- Watkins, Rebecca D., Janice Denegri-Knott, and Mike Molesworth (2016), "The Relationship Between Ownership and Possession: Observations from the Context of Digital Virtual Goods," *Journal of Marketing Management*, 32 (1/2), 44–70.
- Wedel, Michel and P.K. Kannan (2016), "Marketing Analytics for Data-Rich Environments," *Journal of Marketing*, 80 (6), 97–121.
- Weiss, Liad and Gita Venkataramani Johar (2016), "Products as Self-Evaluation Standards: When Owned and Unowned Products Have Opposite Effects on Self-Judgment," *Journal of Consumer Research*, 42 (6), 915–30.
- Ye, Yang and Bertram Gawronski (2016), "When Possessions become Part of the Self: Ownership and Implicit Self-Object Linking," *Journal of Experimental Social Psychology*, 64, 72–87.
- Zauberman, Gal, Rebecca K. Ratner, and Kyu B. Kim (2008), "Memories as Assets: Strategic Memory Protection in Choice over Time," *Journal of Consumer Research*, 35 (5), 715–28.
- Zyskind, Guy, Oz Nathan, and Alex Pentland (2015), "Decentralizing Privacy: Using Blockchain to Protect Personal Data," *2015 IEEE Security and Privacy Workshops*, 180–84.