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COMMENTARY

On the role of scarcity in marketing: Identifying research opportunities across the 5Ps

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Introduction

Over the past decade, marketing researchers have demonstrated a renewed interest in unpacking the effects of scarcity on consumer behavior. This has led to a proliferation of published research on the topic (see Blocker, et al., 2022; Cannon, et al., 2019, and Hamilton, et al., 2019 for reviews). However, most of these research efforts have studied the effects of resource scarcity from a consumer psychology perspective, while research on the role of scarcity for marketing practice has been sparser. As this special issue illustrates, there are still many avenues for research investigating the role of scarcity in marketing. We draw from the 5Ps of the marketing mix (taken from the 7Ps framework; Booms and Bitner, 1981; Das, et al., 2021) to identify open research questions about the role of scarcity in marketing practice. The 5Ps framework (i.e., Product, Price, Promotion, Place, and People) allows exploring the effects of scarcity on both marketing strategy and consumer behavior. Below, we identify research avenues for each of these topics in turn, which are summarized in Table 1.

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Product

Prior research on product scarcity has mostly studied it from the perspective of commodity theory, which postulates that as a desired product (or service) becomes scarcer, consumers' valuation of this product increases (see Cannon, et al., 2019 and Hamilton, et al., 2019 for reviews). However, the nature of products (and services) has evolved since most of the seminal work on commodity theory was conducted. Products can now vary on other key dimensions such as tangibility (e.g., physical vs. digital goods), which may affect their perceived value when scarce. For instance, some digital products such as non-fungible tokens (i.e., NFTs) do not seem to accrue the same interest and valuation when scarce than their physical counterparts (e.g., physical art), suggesting a more muted relationship between product scarcity and value for some digital (vs. physical) goods. Scarcity may be considered differently for less tangible products (e.g., e-books, streaming services) than more tangible ones (e.g., physical books, vinyl records) partly due to their differing levels of psychological ownership (Atasoy & Morewedge, 2018; Goldsmith, et al., 2021). Whether, when, and why scarcity may be less effective for increasing interest in less (vs. more) tangible products are open research questions that have important implications for both marketing researchers (e.g., boundaries of commodity theory) and practitioners (e.g., effectiveness of scarcity tactics).

In addition, research on resource scarcity has identified various contextual cues (e.g., social comparison, news articles about macro-level scarcity) that prompt consumers to feel as if they do not have enough resources (see Cannon, et al., 2019 for review). However, less is known about marketing tactics that firms can control that may increase scarcity perceptions and consequently change how products are evaluated and/or consumed. For instance, Williamson et al. (2022) found that "sharing size" labels (vs. "super/king

Table 1 Research opportunities about the role of scarcity for marketing across the 5Ps

Five Ps	Open research questions
Product	When and why is scarcity less (vs. more) likely to impact the perceived value of products (e.g., intangible vs. tangible)? Which marketing cues (e.g., packaging, labels) are more (vs. less) likely to prompt feelings of scarcity and impact product evaluation and/or consumption? How do consumers experiencing financial (vs. time) scarcity respond to products intended to save them money (vs. time), or to products intended to help them manage other potentially shameful resources (e.g., calories)? How do consumers respond to self-imposed (vs. externally imposed) scarcity and adopt relevant resource-management products (e.g., budgeting app)?
Price	How is the pain of paying experienced under resource scarcity? How do consumers trade off resources (e.g., money vs. time) for product acquisition when they are resource constrained? How can a firm's pricing strategy inadvertently hurt its more financially constrained customers?
Promotion	In which shopping environments are scarcity promotions less (vs. more) effective drivers of purchase behavior? How does experiencing resource scarcity impact consumers' receptiveness to various types of promotional messages? When is a purchase more (vs. less) likely to be perceived as a saving (vs. an expense) by resource constrained consumers? Which type of promotional messaging (e.g., means to an end vs. end goal) is more (vs. less) persuasive for consumers in need of resource management products (e.g., budgeting app)?
Place	How do consumers respond to a lack of availability versus access to products? What are the effects of product unavailability? How does its experience differ from that of limited availability? How can firms best manages consumers' responses to unavailability? Does resource scarcity make consumers less responsive to tools (e.g., algorithms, AI) that would further deplete their sense of control? When are resource constrained consumers more (vs. less) likely to see the benefits (e.g., saving time) versus downsides (e.g., price discrimination) of tools such as algorithms and AI?
People	What are the interpersonal dynamics across individuals or groups of varying levels of resource scarcity (e.g., between wealthier salespeople and poorer customers, or vice versa)? How should payoffs (e.g., smaller vs. larger, immediate vs. delayed) be structured (e.g., loyalty program) in order to maintain resource-constrained customers' motivation and increase their retention? Which types of rewards are more (vs. less) motivating for resource constrained customers (e.g., based on how they want to address their experienced scarcity)? What are the compounding effects of simultaneously lacking multiple types of resources (e.g., products and money)?

size" or no labels) on food packaging prompt consumers to consume more of the food. This is because "sharing size" labels indicate that the food is meant to be shared, and thus vulnerable to being depleted by others (i.e., it may become scarce). Future research should further unpack which types of packaging cues and product labels may also trigger scarcity concerns and inadvertently impact consumers' product evaluation and/or consumption.

Many products and services are designed to help consumers better manage their resources (e.g., money, time, calories), but resource-scarce consumers are often unwilling to adopt such products. For example, consumers experiencing financial scarcity (vs. time scarcity or control) experience more negative emotions and infer lower status positions when offered gifts intended to save them money (vs. time), even if they would benefit the most from such gifts (Lee-Yoon, et al., 2020). However, it is less clear whether financially (vs. time) constrained consumers would have similarly adverse responses to purchasing for themselves products intended to save them money (vs. time) – or help them manage other potentially shameful resources (e.g., calories). This could also have important implications for the distribution of such products (e.g., public vs. private shopping contexts), as perceived social judgment (vs. self-image) may impact consumers' interest.

Finally, resource management products can allow consumers to impose scarcity on themselves, such as when deciding to restrict one's spending or caloric intake with the help of an app. However, there is a lack of research on whether self-imposed scarcity (e.g., deciding to use a food tracking app) versus externally imposed scarcity (e.g., having your doctor restrict your caloric intake) produce distinct (vs. overlapping) behavioral consequences. Future research might examine this to allow for a better understanding of how and when such tools might be most effective.

Price

Purchasing products and services requires parting with money, which may be especially painful for more (vs. less) financially constrained consumers. However, there is little research, to our knowledge, on the pain of paying (i.e., the psychological distress consumers experience when contemplating or making a purchase; Rick, 2018) under resource scarcity. This is an important research opportunity for marketing academia and practice, as consumers tend to be less likely to buy (or buy again) the more pain of paying they experience (Rick, 2018). This pain can be affected by the price of the products (or services) and/or consumers' subjective perceptions of their own financial constraints, which can arise independently of their objective wealth (Cannon, et al., 2019).

In addition to the money spent on the actual purchase, consumers must incur various costs to acquire products, such as the time spent on searching, evaluating, and purchasing products. However, there is a lack of research on how consumers make trade-offs among resources (e.g., money vs. time) for product acquisition, especially when they are resource constrained. Financially constrained consumers tend to also be more time constrained (Giurge, et al., 2020), which can create additional burdens on these consumers. For instance, prior research has shown that lower (vs. higher) income consumers are willing to travel farther for smaller discounts, due to their lower sensitivity to context effects (e.g., proportional thinking; Shah, et al., 2015). This finding suggests that lower (vs. higher) income consumers not only undervalue the time they spend for acquiring a product, but also the money they spend on the purchase, as they are willing to trade off more time for less savings, even if they are resource constrained on both fronts. A better understanding of how consumers trade off resources for product acquisition would allow firms to develop pricing (and distribution) strategies that could lessen the burdens on their more constrained customers.

In addition, although prior research has identified ways in which pricing may inadvertently harm financially constrained consumers, more research is warranted to better understand the breadth of unintended consequences of a firms' pricing strategy. For instance, liquidity constraints often prevent more (vs. less) financially constrained households from taking advantage of intertemporal savings strategies, such as bulk buying or accelerating purchase timing to take advantage of a deal, even if they would benefit the most from such strategies (Orhun & Palazzolo, 2019). Further, even though they are more price sensitive, poorer (vs. wealthier) consumers are willing to pay higher prices and accept lower-value rewards to avoid shopping at commercial settings where they expect to be discriminated against (e.g., a high-end shopping mall; Jacob, et al., 2022). In addition, poorer (vs. wealthier) consumers are less likely to take advantage of benefits programs that help them save money (Hall, et al., 2014); an effect that might carry over to related services such as payment plans. As many consumers are feeling financially vulnerable (Salisbury, et al., 2022), firms who aim to be socially responsible need to have a deeper understanding of the unintended effects of their pricing strategies (and related services) on such populations.

Promotion

Scarcity promotions (e.g., limited-time, limited-quantity) have been shown to be powerful drivers of purchase behavior (see Hmurovic, et al., 2023 for review). However, the shopping contexts in which scarcity promotions are used have evolved since most of the seminal work on such promotions was conducted. For instance, recent work has shown that time scarcity promotions (e.g., countdown timers) have become much less effective online (vs. offline; Hmurovic, et al., 2023), partly due to their proliferation in online shopping environments, which has made consumers wearier of them in that context. In a similar vein, the product shortages and quantity restrictions experienced throughout the COVID-19 pandemic may have impacted how consumers now respond to limited-quantity promotions. Thus, there are many research opportunities about whether scarcity promotions are still effective in "newer" shopping environments (e.g., online, mobile) and contexts (e.g., post-pandemic).

Experiencing resource scarcity may also impact how consumers respond to promotional messages. For instance, Goldsmith et al. (2020) found that, for consumers experiencing resource scarcity, the effectiveness of different types of messaging (i.e., highlighting personal vs. prosocial benefits) on their interest in sustainable products differed based on their price. Specifically, prosocial benefit messages (e.g., "save the environment") increased purchase intentions for lower price sustainable products, whereas personal benefit messages (e.g., "save money") increased purchase intentions for higher price sustainable products (Goldsmith, et al., 2020). Future research could further investigate how firms can best communicate promotional messages to resource-constrained consumers, and if messaging effectiveness varies based on other Ps of the marketing mix (e.g., product type, price).

In addition, there are research opportunities regarding how consumers react to promotional messages related to their own experienced scarcity. For example, firms sometimes employ slogans and other promotional messages that attempt to frame purchasing their goods as a way to ultimately save money, but there is a lack of research about whether such promotional messages prompt consumers to construe such products in terms of what they can save in the future (vs. what they have to spend now). As another example, promotional messages for resource management products (and services) can frame better managing one's resources as a means to achieve other goals (e.g., saving money to buy a house), or frame better resource management as the end goal (e.g., saving money to become richer). Presently, there is a lack of research regarding when and why each type of messaging may be more (vs. less) persuasive when consumers feel their resources (e.g., money) are constrained. Future research could investigate whether an "end goal" (vs. "means to other goals") framing is more (less) threatening, and thus less (more) effective, because it focuses on the experienced scarcity (vs. alternative goals).

Place

Consumers may be unable to acquire or consume products (or services) due to either a lack of availability (i.e., extent to which products/services are present in consumers' environment) or a lack of access (i.e., extent to which available products/services can be obtained by consumers; Blocker, et al., 2022). Although prior research on product scarcity has investigated the effects of a lack of availability (e.g., product shortages due to a lack of supply and/or high demand), and prior research on impoverished consumers has investigated the effects of a lack of access (e.g., food deserts, service-related discrimination; see Blocker, et al., 2022 and Hamilton, et al., 2019 for reviews), there are many research opportunities related to the roles of unavailability and inaccessibility in the marketplace and their interplay. For instance, the COVID-19 pandemic created both a lack of availability of (e.g., product shortages) and a lack of access to (e.g., purchase quantity restrictions) various products, but it is unclear whether consumers' perceptions of and responses to the scarcity varied based on the cause, or when both were experienced simultaneously (e.g., across a grocery store). In addition, given that restricted access is a common marketing practice (e.g., limited edition product, VIP experience), future research could investigate how consumers respond to the various ways access may be restricted (e.g., lottery, pricing).

Further, the availability of products can be limited to various degrees, which can increase their desirability due to the scarcity principle (see Hamilton, et al., 2019 for review), up to the point where they become unavailable. Product unavailability can decrease desirability due to the frustration it causes (Verhallen, 1982). Research on the psychology of zero has shown that people perceive a zero probability substantially differently than they do small positive probabilities (Shampanier, et al., 2007), which suggests that the experience of complete unavailability may differ from that of scarcity. Although there has been extensive research on limited availability, less is known about unavailability (Cannon, et al., 2019). There are thus many research opportunities about the role of unavailability (e.g., on product substitution; Hamilton, et al., 2019), how its experience differs from that of scarcity, and how firms can best manage consumers' responses to it (e.g., in terms of brand switching; Khan and DePaoli, 2023). This has important implications for marketing practice, as more supply chain breakdowns and shortages are expected in the future (e.g., due to climate change, an aging workforce, future pandemics).

Lastly, prior research has shown that experiencing resource scarcity can make consumers feel a loss of control (see Cannon, et al., 2019 for a review), which may make consumers less responsive to products (or services) that would further deplete their sense of control, such as having to rely on algorithms or artificial intelligence (AI) for decision-making (André, et al., 2018). Such tools are increasingly used to support product distribution (e.g., product search and recommendation), but knowledge gaps remain as to how consumers experiencing resource scarcity would respond to them, and when they might be more (vs. less) likely to see their benefits (e.g., saving time) versus their downsides (e.g., a loss of personal agency).

People

There is limited research on the interpersonal effects of resource scarcity – that is, how resource scarcity affects consumer decision-making involving others (see Blocker, et al., 2022 for review; Hosany and Hamilton, 2022). For instance, prior research in sociology has shown that some wealthier consumers experience psychological discomfort when interacting with poorer service workers (e.g., their housekeeper), due to their deep ambivalence about identifying as affluent (Sherman 2017). In a similar vein, salespeople often have to interact with customers of varying socioeconomic backgrounds, which may impact how they deliver their services, as well as their customers' perceptions of how they are being treated (e.g., discrimination). Interpersonal dynamics such as these have important implications for retailing, service marketing, and personal selling.

In addition, there are many research opportunities for probing the effects of resource scarcity on motivation and goal pursuit, which have implications for customer relationship management and loyalty programs. For instance, although prior research has shown that experiencing resource scarcity tends to make consumers more myopic (e.g., preferring a smaller immediate payoff over a larger future one), recent work has shown that providing financially constrained consumers with a smaller immediate payoff increased their likelihood of being willing to wait for a larger payoff (van der Heijden, et al., 2022). Such finding can help inform the design of a rewards structure targeted to resource constrained customers, as smaller more frequent (vs. larger less frequent) rewards might be more motivating for (and thus help better retain) such customers. This could be tested in future research. Further, prior work has argued that resource constrained consumers are motivated by different goals (i.e., directly addressing their experienced scarcity vs. indirectly restoring their sense of control) depending on whether they believe their scarcity-related situation is changeable (vs. not; Cannon, et al., 2019). This finding may help firms identify the types of rewards that would be more (vs. less) motivating for resource constrained customers through understanding the factors that shape consumers' perceived ability to address their experienced scarcity (e.g., economic recession, unemployment rates).

Finally, although researchers have started unpacking the conditions under which lacking different types of resources produce divergent consequences (e.g., money vs. time; Lee-Yoon, et al., 2020), there is a lack of research on the compounding effects of simultaneously lacking multiple types of resources (e.g., money, time, and space; Hosany and Hamilton, 2022), which is a common occurrence for consumers. Investigating such compounding effects would help illuminate how scarcity induced by the marketing mix interacts with scarcity experienced by consumers in their everyday lives (e.g., products vs. resources; Hamilton, et al., 2019). For instance, future research could test whether resource constrained consumers react more negatively to scarcity marketing tactics because it causes further rumination on their feelings of resource scarcity.

Conclusion

We hope this commentary will help marketing academics and practitioners appreciate the fact that there are diverse research opportunities for expanding our understanding of scarcity's relevance to marketing. To spark new research ideas, we offered several open and undertheorized avenues for future research pertaining to the 5Ps of the marketing mix (Booms & Bitner, 1981; Das, et al., 2021), but this list is far from exhaustive. We hope it will guide researchers in generating even more research ideas about scarcity that will deepen our understanding of this ubiquitous and fascinating phenomenon.

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Declarations

Conflict of interest The authors have no conflict of interest.

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