

Study: Consumption-tracking technology mixed bag for consumers

July 15 2024, by Phil Ciciora



Credit: Pixabay/CC0 Public Domain

Penalty fees for consumers are prevalent in many service industries such as banking and cellular phone service, accounting for billions of dollars in "junk fees" that annually eat away at consumers' wallets like termites.

Such penalty fees can typically be chalked up to consumer forgetfulness, or to consumers underestimating their own forgetfulness, making consumption-tracking technologies—such as mobile banking apps that help monitor spending—a significant development for those who struggle to avoid such fees.

But new research from a University of Illinois Urbana-Champaign expert in [digital marketing](#) and [behavioral economics](#) ultimately finds mixed results for consumers.

On the one hand, consumption-tracking technologies offer the promise of providing an early-warning system to consumers about potentially incurring penalty fees. On the other hand, the availability of consumption tracking may instill a false sense of security or "complacency" among consumers who are only partially cognizant of their own forgetfulness, said Ying Bao, a professor of business administration at the Gies College of Business.

"Consumers may be forgetful about their past consumption and have limited sophistication about their future forgetfulness—traits that can make them vulnerable to penalty fees," she said.

The paper, which was [published](#) in the journal *Management Science*, investigated the effects of advances in consumption-tracking technologies.

According to the paper, the availability of consumption tracking often helped consumers at the expense of the firm.

"Our analysis shows that the availability of consumption tracking may help consumers directly as they can use the technology to track their spending and consequently avoid penalty fees," Bao said. "The availability of consumption-tracking technologies also may indirectly

help consumers—even those without access to the technology—by forcing the firm to reduce or even eliminate its penalty fees."

But if consumers are only partially sophisticated regarding their forgetfulness, the availability of consumption tracking may instill a false sense of security in that consumers expect to use the technology to avoid penalty fees, but ultimately decide not to bother, "making them especially susceptible" to those fees, Bao said.

"Notably, these consumers would have been more careful to avoid penalty fees by abstaining from first-period consumption in our model if consumption tracking had not been available," she said. "In this way, the illusion of security created by consumers' access to the technology can, ironically, make consumers more vulnerable to penalty fees while allowing the firm to increase the money it makes in fees."

The implications of the research highlight the potential value to firms of identifying or developing precise measures of consumer forgetfulness and sophistication, Bao said.

"We show that the firm's optimal [service contract](#) when consumers have access to consumption tracking will depend on the levels of consumer forgetfulness and their self-perception of their own forgetfulness," she said. "But even without precise measures, a firm may still be able to crudely and dynamically calibrate its penalty fee or subscription price if it finds that consumers are initially successful in avoiding penalty fees when new consumption-tracking technologies become available."

A firm's ability to efficiently adapt its service contract and penalty-fee clauses to such technologies would presumably be enhanced by a greater understanding of the levels of [forgetfulness](#) and sophistication among consumers in its market, Bao said.

"Even with a relatively low cost of using consumption tracking, our analysis suggests that a consumer may not use a consumption-tracking app due to the firm strategically setting its penalty fee at a low level for which consumers lack a sufficient incentive to use the technology," Bao said.

Another potential downside: The use of consumption-tracking technologies also may trigger data security concerns among consumers, the researchers noted.

From a policy perspective, encouraging new consumption-tracking technologies makes sense as a way of helping forgetful consumers remember their past consumption to reduce unnecessary [penalty](#) fees. But according to the paper, the effects of such measures may not be as straightforward when taking into account both the costs of using these technologies and the firm's strategic responses.

"Overall, we can see that many hurdles must be overcome for a consumer to make regular use of the app," Bao said. "The [potential benefits](#) to consumers from advances in consumption-tracking technologies aren't significant enough until the costs of using these technologies have decreased substantially."

More information: Ying Bao et al, Forgetful Consumers and Consumption Tracking, *Management Science* (2024). [DOI: 10.1287/mnsc.2023.00522](https://doi.org/10.1287/mnsc.2023.00522)

Provided by University of Illinois at Urbana-Champaign

Citation: Study: Consumption-tracking technology mixed bag for consumers (2024, July 15) retrieved 12 September 2024 from

<https://phys.org/news/2024-07-consumption-tracking-technology-bag-consumers.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.