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Research: App-Reliant Investors Should Ignore the Dings of Push Notifications

To individuals who anxiously monitor their investments' ups-and-downs on their smartphones, a new accounting-journal study offers this counsel: Be wary of push notifications, those audible or visual signals announcing the arrival of news. In an era when professional investors commonly time trades in microseconds, push notifications may be a poor alternative for impatient non-professionals.

Heavily app-reliant investors are no small minority. The new study, in the current **American Accounting Association** journal ***The Accounting Review***, cites "recent survey data indicat[ing] that 65 percent of investors between the ages of 35 and 54 with online brokerage accounts now believe it is critical to be able to monitor their investments via mobile applications (apps), and 43 percent of these investors report that they frequently read financial news on a mobile device. The numbers are even higher among investors between the ages of 25 and 34, where 72 percent monitor investments and 60 percent read financial news via apps."

The research homes in on the fact that investment media increasingly deliver news in small pieces to optimize it for mobile delivery and that they seek to capture users' attention with audible or visual signals called push notifications. This combination can constitute a risk for users, according to the study's authors, Shana Clor-Proell of Texas Christian University and Ryan Guggenmos and Kristina Rennekamp of Cornell University.

The risk: investor overreaction.

Testing this with a good-news company press release of the kind that media commonly transmit, the study finds overreaction to be particularly pronounced for individuals who are greatly fearful of missing out (FoMO) on investment information. The authors label this investor fear "I-FoMO" and were able to measure it through a questionnaire they developed.

As the paper explains, when news is presented in small doses (that is, as "ungrouped information"), push notifications increase the likelihood that app users will process each small news item as it arrives rather than processing all the items together. And this plays into a highly relevant finding of cognitive research, the researchers write – namely, that "breaks between the pieces capture users' attention, thereby stimulating their curiosity and intensifying their experience. For example, users who receive positive information think that this information is more favorable if they receive it in smaller pieces, with breaks in between, than if they receive it all at once."

Comments Prof. Clor-Proell, "Since most corporate news on investment apps is positive, push notifications, combined with the ungrouped way news is frequently presented, tend to boost users' company valuations. Indeed, we found the boost to be sizable."

Adds Prof. Guggenmos, "Our study doesn't demonstrate that high I-FoMO needs always be a problem; sometimes it may actually be an advantage. We do, however, show how it can be problematic in a way that app-reliant investors definitely ought to be aware of."

The paper's findings emerge from an experiment involving 178 subjects recruited through an internet crowdsourcing marketplace frequently used in social-science research. Participants had a fair measure of financial sophistication, being, on average, about 36 years of age with about 14 years of work experience and an average of 2.5 accounting courses behind them. Eighty-seven percent had either purchased or planned to purchase stocks or mutual funds.

For an exercise that took an average of about 18 minutes, participants were divided into two groups, each with a different investment app.

One app featured grouped information – two press releases of about 600 words each concerning a hypothetical company in the consumer-goods industry. One press release provided favorable non-financial news about the company (its issuance of a sustainability report, its winning an award for good employee relations, its gaining recognition for high ethical standards); the second press release, presented separately, provided generally favorable company financial data.

The app of the remaining participants featured ungrouped information – exactly the same press releases as the first except broken up into six mini-releases presented successively at varying intervals – the kind of format app-users commonly encounter.

Each group of participants was further divided, with one half receiving audible push notifications for each news item and the other half not.

Based on the information provided in the press releases, participants were asked to indicate how much of a hypothetical $10,000 they would spend for company stock, with the understanding that the remainder would be spent for shares of competitors.

In addition, as suggested above, all participants were asked to complete a questionnaire to provide a measure of their I-FoMO. On a scale ranging from 1/"not at all true of me" to 5/"extremely true of me," participants responded to such statements as "I get anxious when I don't know what the companies I'm investing in are planning" and "I get worried when I am not able to check on my portfolio" and "When I miss out on industry news, it bothers me."

The professors found that, among participants whose I-FoMO level was below the sample median, push notifications did not significantly influence their investment judgments even when info was ungrouped (i.e., delivered in the six brief items). But for participants above the I-FoMO median, it was a much different story: if info was ungrouped, as is commonly the case in investment apps, push notifications boosted the amounts participants would invest from an average of $6,972 to $8,920, or about 28%.

Comments Prof. Clor-Proell: "Although there is always a question whether experimental results are a one-hundred-percent reflection of the real world, clearly the boost we found is impressive."

Thus does the study conclude that "information-ungrouping interacts with the presence of push notifications such that ungrouped information results in more favorable investment judgments in the presence of push notifications…Those [investors] higher in I-FoMO are more sensitive to the interactive effects of push notifications and information ungrouping than are investors lower in I-FoMO."

“One solution” the professors add, “would be to disable push notifications that relate to investment news,” even if this is something “higher I-FoMO individuals may have a difficult time…doing.”

The study, “Mobile Devices and Investment News Apps: The Effects of Information Release, Push Notification, and Fear of Missing Out,” is in the September/October issue of ***The Accounting Review***, a peer-reviewed journal published six times yearly by the **American Accounting Association**, a worldwide organization devoted to excellence in accounting education, research, and practice. Other journals published by the AAA and its specialty sections include *Auditing: A Journal of Practice and Theory, Accounting Horizons, Issues in Accounting Education, Behavioral Research in Accounting, Journal of Management Accounting Research, Journal of Information Systems, Journal of Financial Reporting, The Journal of the American Taxation Association,* and *Journal of Forensic Accounting Research*.