Consumer behaviour on food-logging tools reveals initial expectations don’t match actual experience.

We all have the best intentions in life, whether it’s reading more, regularly going to the gym or watching what we eat. But keeping to these goals isn’t always easy or straightforward. Fortunately, a growing number of apps are designed to help us better track and achieve our ambitions.

Featuring the gamification of targets and harnessing behavioural techniques such as nudges, prompts and incentives, such apps can help maintain an individual’s focus on hitting their targets. But to what extent do they work, and how can they be engineered for optimal effectiveness? Furthermore, does user behaviour tally with their initial expectations?

Jackie Silverman, Kristin Diehl, and Gal Zauberman and I set out to investigate this through the study of food-logging tools, and how different
techniques – specifically, photo-based logging versus text-based logging – affect consumers’ perceived and actual logging behaviour and experiences. Our findings suggest that while people have a clear idea of what will best help them reach their goals, these expectations don’t quite align with reality.

**Mistaken expectations**

Consumers with healthy-eating targets are often encouraged to record their food intake. Food logging is associated with greater success in avoiding unhealthy foods, and past research has documented a positive link between logging frequency and weight loss. Of course, this needs to be done consistently to be effective – which can be a challenge in and of itself.

Our research looked into whether the food-logging system used had an effect on anticipated and actual user behaviour. We were particularly interested in any potential disconnect between what people believe will be the ideal method for logging their food intake, compared to what they actually discover to be the most effective tool for fostering long-term adoption in practice.

In a study of 425 participants who all wanted to monitor or alter their eating habits, we had them consider two food-logging services. One required them to record their consumption by taking a picture of their meals or snacks, and the other through entering a text description.

As we predicted, participants were more likely to opt for the photo-based method, believing it would be more useful in helping them attain their targets compared to a text-based tool. They also thought the photo-based option would be easier, faster and more enjoyable to use, and that they would feel more compelled to continue logging meals in the future.

However, this wasn’t true in practice. In a separate investigation, we asked hundreds of participants with similar food-related aims to record their food intake for a week using either a photo-based tool or a text-based system. Compared to those who carried out text-based logging, those that performed photo-based logging ended up reporting a smaller total amount of their food intake. They also felt less inclined to continue logging after the study and had a more difficult and less enjoyable experience.

Our findings reveal a disconnect between anticipated and actual consumer behaviour, which offers insights into the differences between how individuals
approach goal pursuit and the factors that affect them when it comes to following through. This also illustrates the tendency for people to make forecasting errors - in this instance, by incorrectly predicting what they imagined would best assist them in achieving their food-related targets.

**Photo versus text logging: the reality**

There are a myriad of possible reasons why study participants were more likely to select a photo-based tool. For starters, pulling out a smartphone and recording an image with a single tap can seem less tiresome than typing out a description of their food. They could also have expected pictures to document what they ate more accurately. After all, a photo can capture a full visual representation of a meal or snack. Achieving the same completeness through words may seem more challenging.

Smartphones and social media have also made it common for people to snap pictures of what they eat, and photo-based logging may be perceived as a natural extension of such enjoyable, everyday behaviour. Furthermore, taking pictures – compared to writing – could also provide a more vivid and immersive experience. This may lead to positive associations with the act and make users believe they would be inclined to continue this behaviour in a food-logging context.

However, as our results show, photo-based logging can actually hinder goal progress. A significant reason for this could be the tricky temporal aspect: Photo-based logging has to be done within a specific and narrow timeframe to be effective. But there could be times when users simply forget to snap a picture; are distracted by other routines or interactions; or are so hungry that they start eating before remembering to take a photo. Once this happens, it’s impossible to backtrack, and their food-logging streak is compromised.

Breaking a streak can be an immensely demotivating and anxiety-inducing factor that curbs goal adherence. Although the gamification of such logging behaviour can seem great when consumers are on track, it can also backfire if there’s no way for them to remedy any slip-ups.

Compared to photo-based logging, an important advantage of text-based logging – which could explain the higher adoption and satisfaction rate among study participants – is that it can be done asynchronously. Forget to log your sandwich before digging in? Using a text-based tool gives you the flexibility of doing so later and achieving the same results.
Indeed, while remembering to document your food intake is generally difficult, having to do so right then and there – or risk breaking a streak – presents an additional challenge. As a result, photo-based records may contain a lower proportion of people’s total consumption than text-based logs, making them less useful for consumers.

**Future solutions**

Although our findings show that text-based logging is currently more effective for tracking food intake, further advances in AI could make photo-based logging more sophisticated and improve the user experience.

For instance, companies could invest in AI technology that allows photo-based software to furnish information that text-based tools can’t provide. This may include detailed summaries of calorie counts, portion sizes and nutritional data, which can be gleaned from the image a person uploads to the app.

Individuals could harness this information to help them make better decisions about their food intake and goals. This could compensate for the more cumbersome aspects of photo-based logging – although they may not be swayed if the benefits don’t outweigh the hassle.

**Optionality is key long-term**

Our research throws up several suggestions for companies creating food-logging apps and apps in general. Although a photo-based tool may initially attract consumers, a text-based system is more likely to supply greater value and encourage them to stick around.

People can mispredict what they want or how they’re going to behave, and their intentions don’t always align with their logistical realities. Offering both options – what users think they want, and what they actually find more useful in facilitating goal pursuit – could maximise consumer adoption and user retention, while giving individuals the freedom of choice.

It will also be key for developers to combine both tools into a seamless interface, such as by making photo-based logging and text-based logging look and feel consistent. Users could then switch between the two – such as when a photo-based logger forgets to take a picture of their food and has to record it using text – without feeling a sense of failure or the perception of an interrupted streak.
Ultimately, our research suggests that offering both photo-based logging and text-based logging in a single food-logging app may be the ideal approach. This would entice people to download the app, as well as stay the course – thereby creating a win-win situation for both the company and the consumer.

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