



Thai Tea: Experimenting with a Mobile App

Cam Nguyen felt overwhelmed. As the newly appointed director of customer engagement for Thai Tea, one of eastern Asia's fastest-growing tea and coffee chains, she saw tremendous opportunity to grow the business even further. But how to prioritize the many possibilities before her was a daunting task.

Thai Tea had been launched five years prior by an entrepreneur who saw an underserved 22-30 year old demographic. Thai Tea served tea, coffee, and snacks, in an inviting, upscale environment, and stayed open until 2 a.m. daily. It provided young professionals with the opportunity to meet, network, and socialize outside of the typical dance club environments.

Nguyen knew that one of the keys to sustainable growth of Thai Tea would be to deeply understand customer preferences and purchasing patterns. When she had asked the IT director for some customer data, she had been given many charts, graphs, and reports that gave a robust set of descriptive analytics, but little that could easily or reasonably be used for improved decision-making. She was, however, heartened by the amount of data that Thai Tea had, believing that she might be able to capitalize on it somehow.

Given their target of young professionals, Nguyen believed that engaging customers through their mobile devices would be an effective way to market and to continue to capture individual-level customer data. But how best to do it?

Professor Joel Shapiro prepared this case to provide material for class discussion rather than to illustrate either effective or ineffective handling of a business situation. The names of individuals and the company are disguised.

She began by reviewing a series of focus groups and surveys that had been conducted of Thai Tea customers over the prior six months, and saw that many customers wanted to be able to use a mobile app to order and pay and perhaps even customize their Thai Tea experience.

In fact, Thai Tea had once deployed a mobile app that customers could use to make in-store purchases. But it had proven difficult to use and used far too much memory on a mobile device, so Thai Tea discontinued the app only 6 months after launch. Very few customers had ever actually used it.

Nguyen did note that, in those six months of the app being live, app users had actually spent more money and placed more orders than non-app users. (Spending of non-app users had been tracked through a credit card identification algorithm provided by a third party technology vendor.) The purchasing outcomes - converted to US\$ - for app and non-app users from the six-month period are summarized below:

	App	No App
<i>US\$ / month</i>	\$47.02	\$21.55
<i># orders / month</i>	9.2	5.4
<i>Avg US\$ / order</i>	\$5.11	\$3.99

Nguyen had always liked the idea of an app, since customers would create individual accounts, giving Thai Tea good demographic data, and thereby allow for easy tracking of purchases, as well as giving Thai Tea an easy way to push promotions.

But before pushing an app to all users, Nguyen wanted to be able to better understand whether the app and all its features actually drove purchasing. That is, did the app cause people to buy more?

She knew, of course, that the best way to determine the causal effect of the app was to run a randomized experiment. And, to her great delight, among the many fields in Thai Tea's database were customer mobile phone numbers.

Her experiment would go as follows. She would take the mobile phone numbers in her database and randomly assign them to a treatment or control group.

- The **control group** would not receive any special communication or offer. They would simply be treated per the status quo.

- The **treatment group** would receive a text message prompting them to download the new, user-friendly, Thai Tea app.

Nguyen would then track purchasing of the app and non-app users over the three-month period immediately after the text was sent, and compare purchasing patterns of the treatment and control groups.

She presented her idea to Thai Tea's senior leadership, and was immediately asked two questions:

First, how would they reliably track the spending of non-app users in the control group? Nguyen explained that their robust data set was able to match mobile phone numbers with credit cards. Since they knew the credit card numbers of those in the control group, then they could reasonably track the purchases of those individuals. She admitted that they would not be able to track any cash purchases, but since very, very few Thai Tea customers paid in cash, she felt this would not be a barrier.

Second, how could Nguyen be sure that only those in the treatment group were downloading the app? Nguyen had thought of this, too. Each text included a code that was required to download the app. In addition, even if someone outside the treatment group somehow secured a code, Thai Tea would know from the customer's mobile phone number that they weren't part of the treatment group, and thus, they wouldn't be included in the analysis of the experimental data.

The CMO of Thai Tea loved Cam's commitment to rigor and measurement, and replied "Cam, it seems to me that we already have a pretty good idea that an app will work. Our old app was badly-designed, and still, the few people who used it spent much more than all of the customers that didn't use the app. But I appreciate your enthusiasm and desire to get more recent data. So, just clarify for me. If the treatment group were to spend, for instance, 50% more than the control group during the three-month trial period, that will we know that the app is causally responsible for that 50% increase?"

1. How should Nguyen address the CMO's comment about the effectiveness of the old app?
2. How confident should Nguyen be that any differences in purchasing behaviors between the control and treatment group will be due to the new app?