



Spiegel Research 3.0



The Mobile App Story

The effects of adopting and using a brand's
mobile application on purchase behaviors

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THE PROJECT

Smartphone penetration in the U.S. has reached 68 percent as of January 2014, according to Nielsen’s data. Smartphone penetration is only expected to increase as cell phone users choose smartphones when they buy new handsets. Gartner research also shows the number of downloaded apps increasing exponentially. Gartner shows 63 billion downloaded apps in 2012 and 102 billion in 2013. Gartner projects that number to double to more than 200 billion by 2016. Mobile apps are an exciting strategy to attract customers and increase brand loyalty. “Branded apps” which feature the brand prominently can be as diverse as the companies that create them. They are becoming an increasingly important way for brands to enable customer engagement, but, relatedly they can be easily dismissed after minimal use. The best branded apps will add value to the user experience while growing engagement. Relevance drives engagement, and its absence can be tracked via app **disengagement**.

While mobile apps have become an important platform for brands to interact with their

customers, but few studies have tested the long-term effect of using them among current customers. This study investigated whether adopting and using a brands’ app have an impact on purchase behaviors. We also investigate the impact of discontinuing the use of the app on purchase behavior.

The dataset came from Canadian Air Miles Reward Program (Air Miles) a large coalition loyalty program which is owned and run by Loyalty One, a division of Alliance Data. The program was launched in Canada in 1992 and 67 percent of Canadian households participate. When consumers make purchases at participating partner companies – which includes more than 100 companies in practically every consumer goods category – they earn points called “Air Miles.” Air Miles can then be redeemed for merchandise, gift cards, instant cash, travel or other items from participating partners, and even beyond.

Air Miles launched version 1.0 of its mobile app for Android and iOS in February 2012. Once logged into the app, members were able to check their current account balances, view

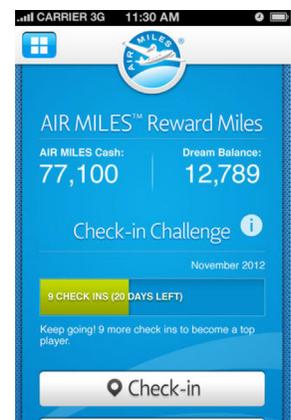
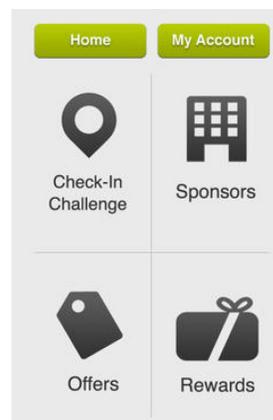


Figure 1. Air Miles mobile app interface

their recent transaction records, browse reward items, find sponsor locations near their current location and participate in the Check-In Challenge (Figure 1). One notable example of such advanced features is “check-in,” which allows customers to find nearby sponsor stores using GPS on their smartphone and check in at any of these sponsor locations that appear on the check-in map page. Mobile app users can play the “Check-In Challenge,” a monthly game that picks the top 50 members who complete the most check-ins by the end of the month. Those top 50 members receive double points earned in that month.

DATA

We analyzed the purchase behavior of two groups of Air Miles members. The first group consisted of 10,776 users who downloaded the app in September 2012. The second group consisted of 10,776 users who did not use the app, but who had similar purchase behaviors to as the app-user group prior to September 2012. We matched these Air Miles users at the individual level based on spending level and number of visits to unique sponsors during a six-month period before app adoption. This method allows us to reduce “selection bias,”

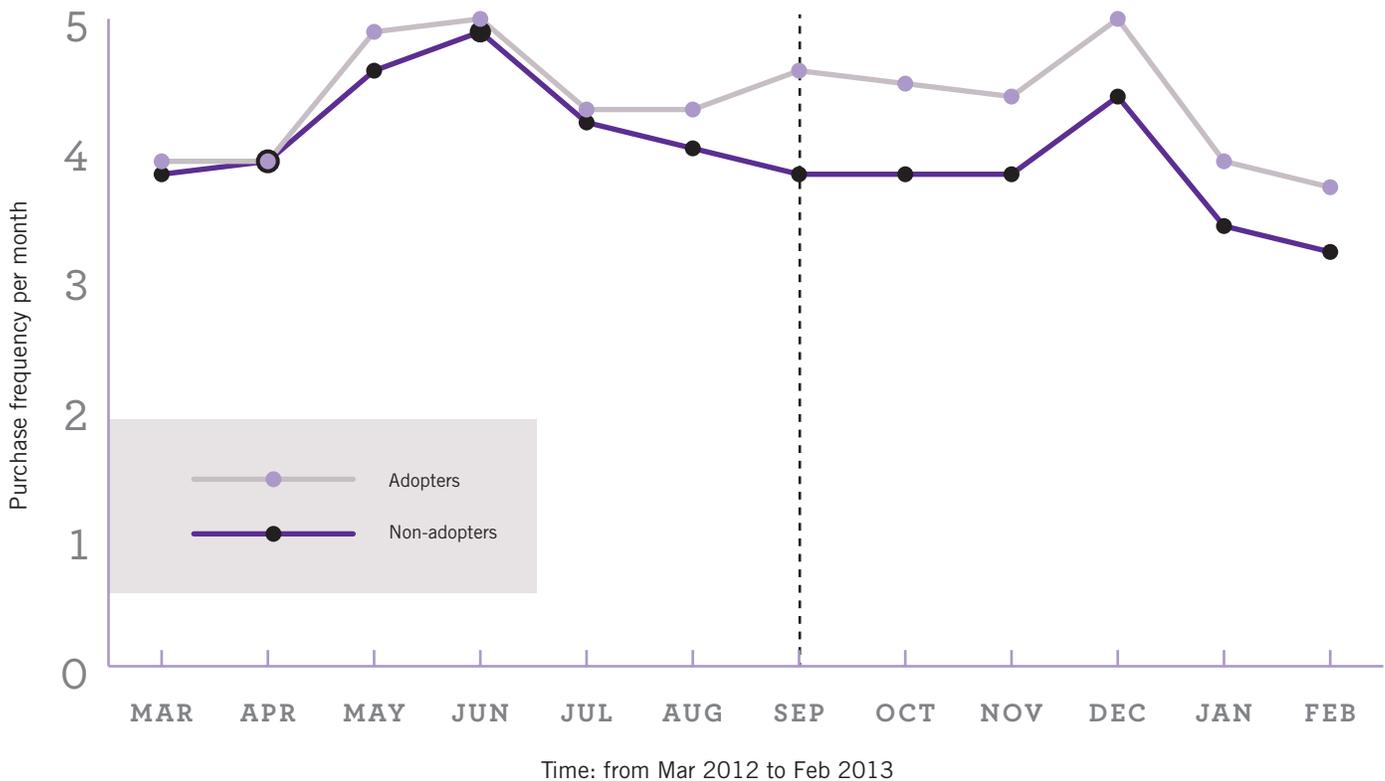


Figure 2. Purchase frequency before and after mobile app adoption. Mobile app adopters downloaded the app in September 2012, indicated by the dotted line.

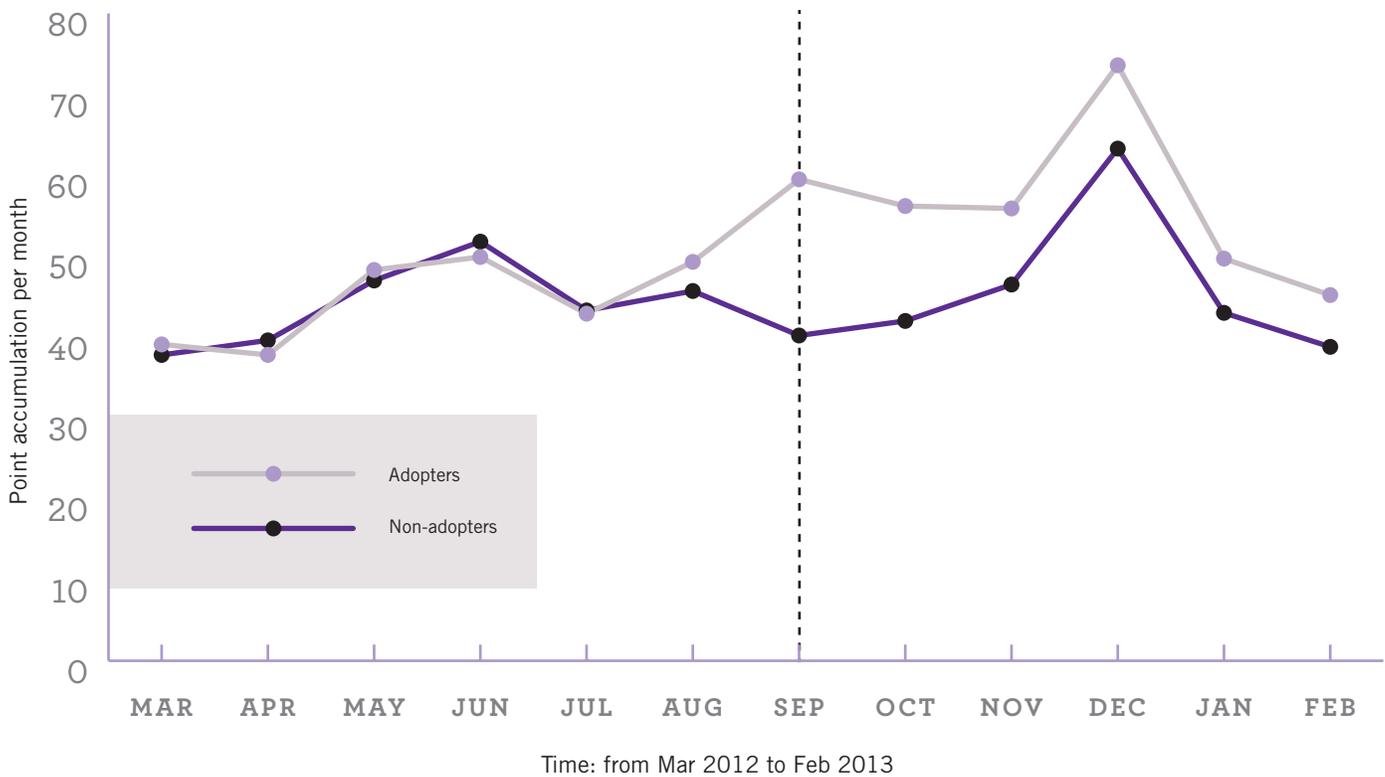


Figure 3. Point accumulation before and after mobile app adoption. Mobile app adopters downloaded the app in September 2012, indicated by the dotted line.

which is the possibility that those who choose to download the app are better customers than those who do not.

After matching the app adopter and the non-adopters at the individual level, we analyzed the purchase behavior of the two groups for five months – October 2012 to February 2013.

THE RESULTS

We hypothesized that using the branded app would increase purchase behaviors. *We found a significant difference in purchase behaviors between customers who downloaded the branded app and those who did not.*

In contrast to the almost identical level of purchase behaviors during the pre- mobile app adoption period, there is a large gap in both purchase frequency and point accumulation (our proxy for spending) between mobile app adopters and non-adopters. (Figures 2 and 3) On average, customers who downloaded the branded app made 4.3 purchases and collected 56.1 points per month after they became mobile app adopters (i.e., October 2012 – February 2013). Customers who did not download the app made 3.7 purchases and collected 46.7 points per month during the same period. App adopters had 16.2 percent greater purchase frequency and 20.1 percent greater mile accumulation over non-adopters.

HOW DOES THE APP MOVE THE NEEDLE?

We also hypothesized that among customers who downloaded the branded app, those who used the app more actively would increase purchase behavior to a greater magnitude than those who used the app less actively.

We divided app users into four categories of increasing engagement with the app:



Figure 4. Types of customer engagement with app

In general we found that those who used the app most actively had greater purchase frequency and greater point accumulation but it wasn't an upward trendline between all levels of engagement.

Compared with those who logged in only once and did not check in, those who logged in once and checked in increased purchase frequency 3.8 percent. Those who logged in multiple times and adopted the check-in feature increased their purchase frequency by 8.0

percent over those who only logged in once and did not check in.

When it comes to point accumulation, those who logged in multiple times without checking-in and those who logged in multiple times and adopted the check-in feature increased their spending by 6.4 percent and 14.8 percent respectively, compared those who logged in the app only once during the period of mobile app adoption.



Figure 5. Change in purchase frequency and point accumulation among app users

QUANTIFYING THE COST OF APP DISENGAGEMENT

We also investigated whether discontinuing app usage had any effect on purchase behaviors. To begin our analysis of this question, we looked at log-in recency over a six-month period after they adopted the app in September 2012. Log-in recency shows how recently a customer used the branded app. The greater the value of log-in recency the greater the number of days since a user's last login.

On average, those who used the app in the prior 10 days made 6.17 purchases per month, while those who did not use the app over the past 5.5 months made only 3.5 purchases per month. Customers who stopped using the app also spent less: those who logged in during the prior 10 days earned 100.93 points per month. This number is almost three times larger than the expenditure of the customers who had not logged on to the app for the prior 5.5 months (38.69 points per month).

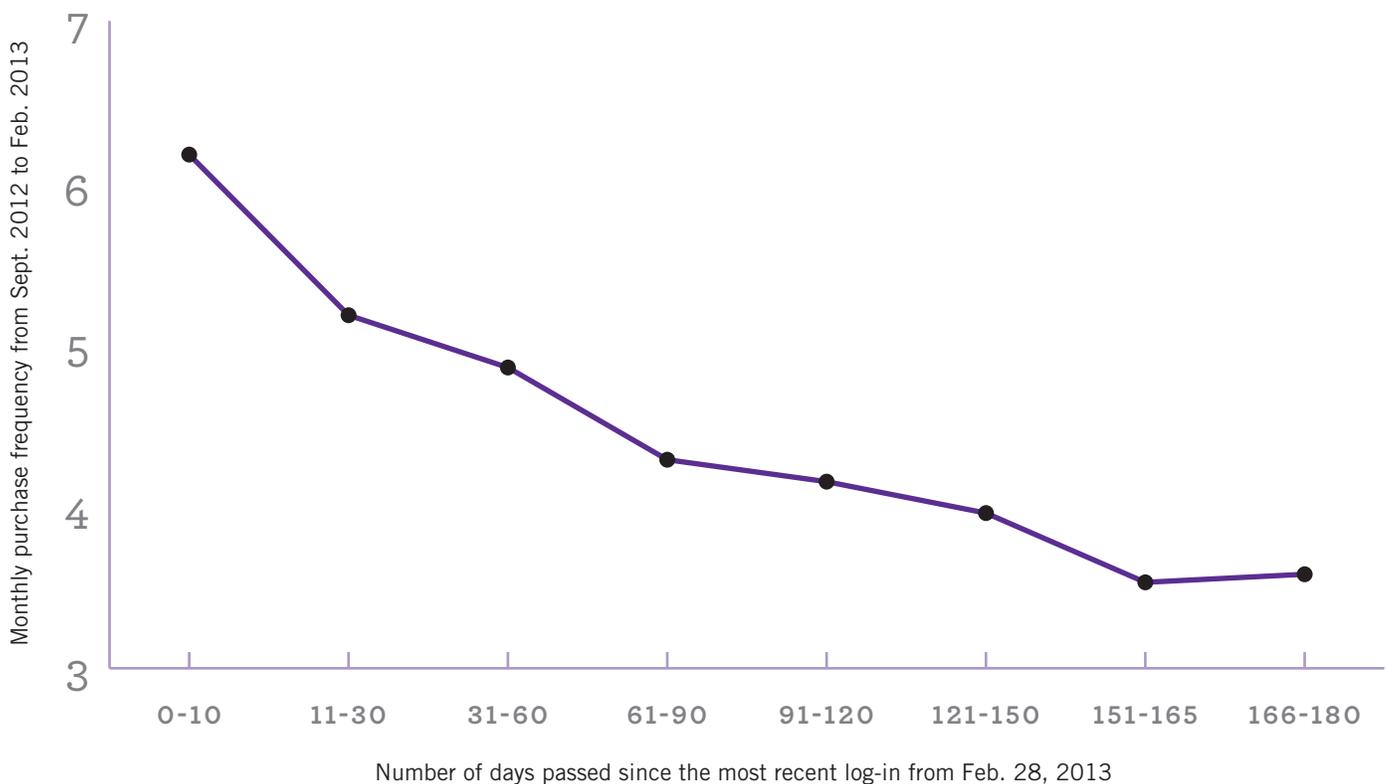


Figure 6. Effect of discontinuing mobile app usage on monthly purchase frequency.

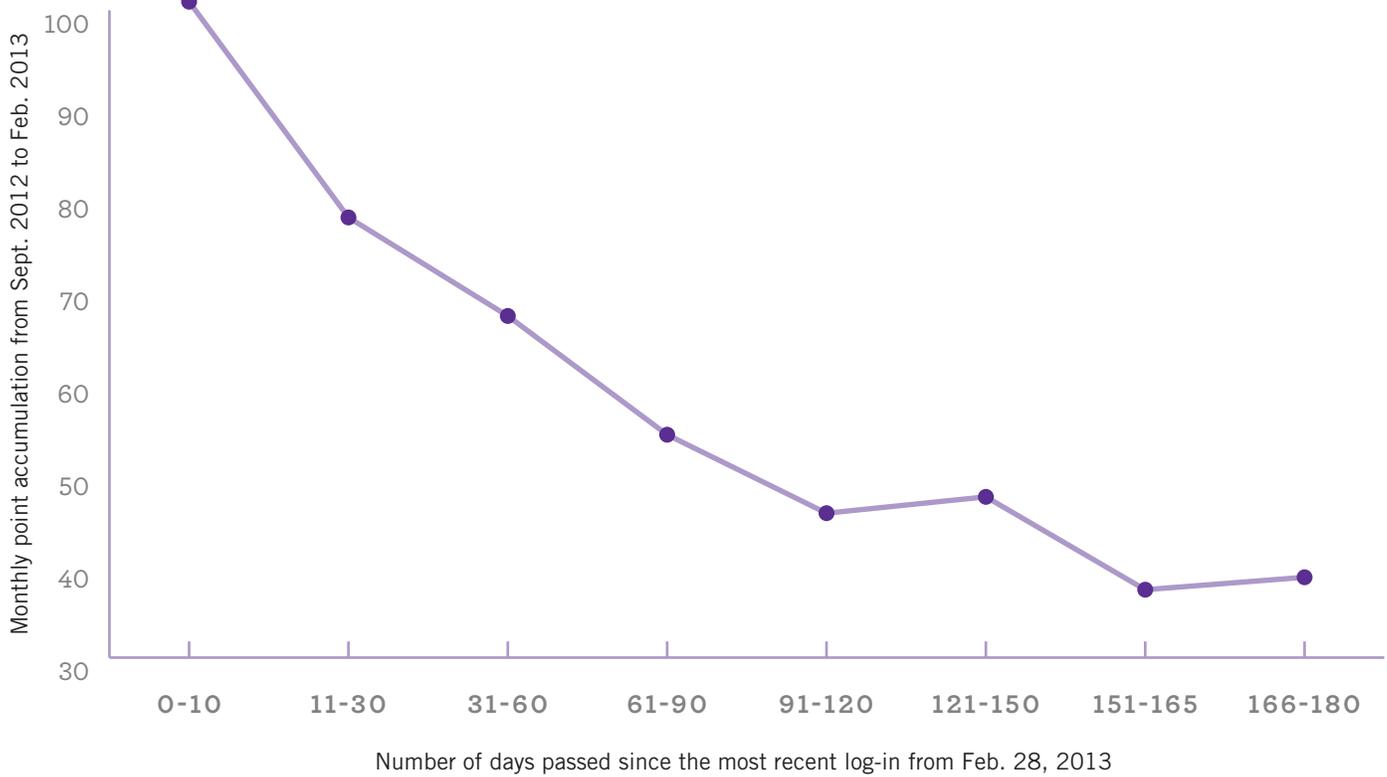


Figure 7. Effect of discontinuing mobile app usage on point accumulation.

AREAS FOR FUTURE RESEARCH

One limitation of our study is that when matching mobile-adopting and non-adopting consumers, selection bias is not completely eliminated. Only mobile adopter’s purchase behavior was considered in matching, but not demographic variables which might affect purchase behavior.

In addition, the findings of this study are limited to loyalty program category. The Spiegel Digital & Database Research Center has conducted similar research in the grocery category (Spiegel Research 3.0). Future research should focus on other categories.

Another limitation of our study is that we examined only the check-in feature. We did not have data on app-user’s other activities such as browsing reward items, checking transaction histories and sharing check-in activities in social media. Future research should also test the effects of other interactive features to see how they change consumer purchase behavior.