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Assessing the Benefits of Reward Programs: A Recommended Approach and Case Study from the Lodging Industry

Clay Voorhees Ph.D.

Michael McCall Ph.D.
Cornell University, mm114@cornell.edu

Bill Carroll Ph.D.
Cornell University, wjc28@cornell.edu

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Abstract
Two groups of independent hotels experienced an average 50-percent increase in annual revenue when customers joined their loyalty programs, almost entirely due to increased patronage. These guests were already the hotels' best customers, but the number of annual room-nights they purchased increased by an average of 50 percent after they joined the program. On the other hand, ADR for the loyalty program guests increased modestly (1 percent for one hotel group and 5 percent for the other). The analysis compared customer behavior of matched pairs of hotel guests, where one member of the pair had enrolled in the hotels' loyalty program and the other had not. By identifying matched pairs of the guests before enrollment, the analysis could record the differential behavior of guests after one member of the pair joined the loyalty program.

Keywords
hotels, loyalty programs, average daily rate (ADR), case study, rewards programs

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by Clay M. Voorhees, Ph.D., Michael McCall, Ph.D. and Bill Carroll, Ph.D.

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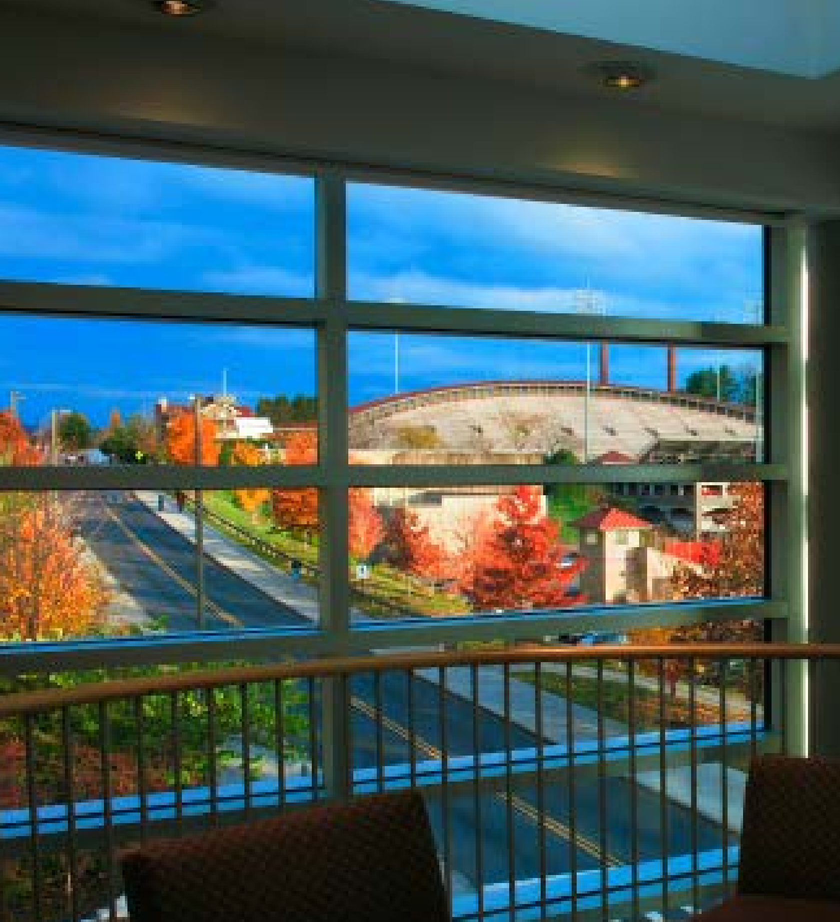

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Center for Hospitality Research
Cornell University
School of Hotel Administration
537 Statler Hall
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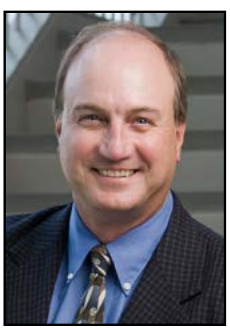
EXECUTIVE SUMMARY

An analysis of the loyalty programs for two groups of independent hotels demonstrated a notable lift in patronage after guests joined the program, even accounting for the fact that these were already the hotels' best customers. While ADR for the loyalty program guests increased modestly (1 percent for one hotel group and 5 percent for the other), the number of annual room-nights for each guest increased by nearly 50 percent for both hotel groups, increasing total revenue per year per enrolled guest by a similar amount. The analysis compared customer behavior of matched pairs of hotel guests, where one member of the pair had enrolled in the hotels' loyalty program and the other had not. By identifying matched pairs of the guests before enrollment, the analysis could record the differential behavior of guests after one member of the pair joined the loyalty program. In addition to documenting measurable financial effects from the hotels' reward program, the report demonstrates a logical way to evaluate program effectiveness with the paired customers approach.

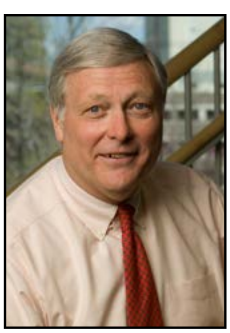
Key words: Hotel marketing, loyalty programs, Stash Hotel Rewards

ABOUT THE AUTHORS

Clay M. Voorhees, Ph.D., is associate professor of marketing, Department of Marketing at the Eli Broad College of Business at Michigan State University (voorhees@bus.msu.edu).



Michael McCall, Ph.D., is professor of marketing and chair, Department of Marketing and Law, at the School of Business at Ithaca College. He is also a visiting scholar and research fellow at the Cornell University School of Hotel Administration (McCall@ithaca.edu; MM114@Cornell.edu).



Bill Carroll, Ph.D., is senior lecturer at the Cornell University School of Hotel Administration (wjc28@cornell.edu).

Assessing the Benefits of Reward Programs:

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Customer reward and loyalty programs are prominent and costly aspects of most hospitality firms' marketing strategy. Although most hospitality operators are convinced that these programs are of critical importance—and offer a strong return on the investment—little evidence about the benefits of these programs has been provided in either the academic or popular press. Even when companies claim that their program is a key reason for revenue growth, as occurred in 2013 with both Starbucks and Walgreens, for example, firms are hard pressed to demonstrate continued revenue benefits using existing metrics. Public claims of program effectiveness by major corporations like these often fuel demand for increased accountability of reward programs, but important details are often missing, and so are the actual results needed to support the findings and derive useful insights.

These issues play out against a competitive background that essentially requires every hotel firm to offer some kind of loyalty program. Mindful of loyalty program managers' need for a solid methodology to justify the investment in their chain's program, we review some key outcomes of reward programs in this report, present a tiered approach to evaluating their effectiveness, and present a case study from the hospitality industry that documents a reward program's effectiveness from strategic and financial perspectives. Our analysis is made possible by analyzing the effects of a particular hotel rewards program for two different, independent hotel chains. Through this case study, we are able to provide valuable insight that separates the effects of a hotel's brand from the program itself.

Understanding the Benefits of Reward Programs

A major challenge in determining loyalty program benefits is simply defining exactly what these benefits should be—beyond matching competitors' programs. Given the dynamic nature of market competition and the natural evolution of a loyalty program, the benefits sought by firms change from program launch to maturity. For example, firms pioneering a loyalty program may explicitly focus on customer acquisition and increased spending among current customers. The program's accomplishments should be relatively easy to gauge in these instances, since one could tally incremental revenue and contribution generated by the program before and after its launch (or before and after a guest joins).

Given a competitive market saturated with loyalty programs, however, revenue growth and increased customer acquisition may be unrealistic goals. Instead, the program goal may be reduction of customer churn or switching, meaning that the program is structured as a switching barrier for current consumers. In that case, the firm would have to determine how to measure those outcomes. In the lodging industry, an additional motivation for investing in a reward program is to encourage direct booking by customers (on Brand.com) in an effort to avoid fees charged by intermediaries, particularly online travel agents (OTAs).

The challenge inherent in focusing on improving firm performance at a broad level is that many factors influence that metric. Instead, hospitality firms need to be able to assess specific, measurable results from their loyalty programs. If a firm has in fact set up its program as a switching barrier, then the program should be calibrated on its ability to retain consumers, generate more business from loyal customers, and reduce consumer attrition. Those results are quite different from a program that is intended to improve customer acquisition. Without clearly establishing logical goals up front, a program cannot be effectively evaluated or designed and it is near impossible to assess its "benefits."

Barriers to Program Evaluation

This measurement challenge has come through in our discussions with hospitality managers. One hotel executive told us:

> "You know, I have this customer reward program. It is kind of expensive, but I feel like I have to have a program because everyone else has one. Honestly, I don't know what if anything it actually does for me."

As this quote suggests, many programs' goal is simply to help firms level the playing field with their competitors. In these instances, loyalty programs are often written off as a cost of doing business and there is little follow through on assessing whether they do provide any value. We think this state of confusion has been caused by the following three key issues, which we examine next:

(1) Commoditization of reward programs;

(2) Data overload in the analysis of program effectiveness; and

(3) Fear of what an analysis may show from a financial standpoint.

Commoditization of Reward Programs

One major issue plaguing reward programs is commoditization, as competitors quickly copy any program innovation. As hospitality reward program provisions converge, they become less effective as marketing tools, since customers who are members of multiple programs simply book as they please and collect their points. If a program has no differentiated value over those of its main competitors, assessing potential benefits of increased customer acquisition may be a fruitless exercise. Ultimately, firms will have basically provided a universal discount for all their customers without promoting differentiation between competing brands. So, the result is that market share stays the same and profits drop by the cost of the loyalty programs.

Data Overload

A major benefit of reward programs is the rich customer data they can provide when those data are used to enhance service (for customer retention) or derive additional revenue from those customers by determining and meeting consumers' wants. Firms can use their program data to improve reward program operations, support broader marketing efforts, enhance customer service, and drive incremental revenue—provided they have sufficient analytic support. Unfortunately, gaining analytical insight at this level can be too expensive for all but the largest hotel chains. Instead, many small hospitality firms may be better off using the simpler analytic approaches that we propose in this report. We

Exhibit 1

Tiered framework for reward program evaluation

Evaluation Tier	Description and Activities
Tier 1 **Consumer reactions to the program**	Measure consumers' initial reaction ot the loyalty or rewards program: • Concept tests • Initial sign-up rates • Maxdiff designs to assess changes to the program
Tier 2 **Consumer attitude change**	Measure changes in consumers' attitudes toward the program, parent brand, organization, and employees: • Customer experience surveys • Program evaluation surveys
Tier 3 **Consumer behavioral change**	Measure changes in consumer behavior with the organization and within the program: • Program enrollment rates • Program and redemption activity • Revenue (core and supplementary purchases)
Tier 4 **Controlled incrementality assessment**	Explicitly assess the incremental revenue and profitabiliy attributed to loyalty program involvement.
Tier 5 **Return on investment**	Measure the total value of the benefits and costs of the program, establish return, and compare to original standards.
Tier 6 **Optimization**	Identify strategic opportunities or conditions under which program performance can be optimized: • Market segments • Promotional activity • Competitive intensity

will suggest ways to evaluate programs regardless of a firm's analytical capabilities, with a goal of improving program value.

Fear of What the Results May Reveal

We believe that the single biggest barrier to producing insights into a reward program's effectiveness is the fear of what the analysis might reveal. If a manager has successfully defended a program based on strategic arguments related to raising switching costs in a competitive market, it's possible that quantitative measures of revenue growth may not live up to those claims. Even if the program does create barriers, we suggest that the assessment of a loyalty program should not be so narrow. Instead, we recommend developing (and measuring) "all the benefits" desired from a rewards program from inception to maturity. Like many investment decisions, loyalty program decisions should not be made strictly on an ROI basis. Rather, critical program goals, both strategic and financial, should be identified and results measured against them.

In the following section, we introduce a tiered framework for reward program evaluation (shown above in Exhibit 1), which can be applied by hospitality firms to better understand how their reward programs are performing and identify opportunities for improvement. Later, we suggest a relatively streamlined approach to program effectiveness evaluation that should work well for smaller hospitality firms.

Multi-focused Framework for Program Evaluation

Our tiered approach involves matching the level of evaluation to the firm's size and available data. At the most basic level, firms can simply monitor consumer assessments of the program directly through attitudinal surveys. Alternatively, they may rely on social media to monitor consumers' assessment of the program and any changes to that sentiment. At increasingly sophisticated levels, firms can continually evaluate program effectiveness at every level and maintain a regularly updated management dashboard for their program. At the most advanced level, firms can optimize their programs based on a comprehensive set of attitudinal, behavioral, and cost data.

In the following sections, we provide an overview of the different tiers of program evaluation that firms can adopt, as summarized in Exhibit 1.

Tier 1: Consumer Reactions to the Program

Evaluation can begin even before a program is launched by asking consumers about their attitudes toward a potential program or, if the program is operating, to evaluate an existing program. These assessments can take many forms, including in-depth interviews with key customers and quantitative surveys that evaluate different aspects or features of a program.

Tier 2: Consumer Attitude Change

By simply extending survey efforts and timing survey administration before and after the launch of a program, firms can develop estimates of the extent to which a program has resulted in attitudinal changes (e.g., satisfaction with the firm, engagement) and behavioral intentions (e.g., repeat purchase intentions, willingness to recommend).

Tier 3: Consumer Behavioral Change

Once a program is operating, firms have an opportunity to explicitly show the financial returns it offers. Firms can tackle this assessment in one of two ways. First, for any program (new or established) firms can connect program activity to spending behavior by developing predictive models where program participation rates are used to predict overall spending. Such a model gives important insight into the relationship between the program and customer spending, but it misses the key issue of whether the program cements customers' loyalty or whether it simply attracts customers who are already spending the most. To get around this issue at the basic level, firms can conduct a pre-program and post-program test. With these test designs, customers' spending patterns are compared for a time period before they join the program and a similar time after program enrollment or other landmark program events (notably, promotion to a new tier) to assess the extent to which their spending has increased.

Tier 4: Controlled Incrementality Assessment

To truly assess the incremental lift in revenue, firms have to undertake a more complex analysis, a paired assessment of program members versus non-members. Although this sounds challenging, we explain how this works in the case study that follows.

Tier 5: Return on Investment

Classic ROI measurement takes into account all costs and benefits. Since it is data intensive, only the largest of firms can conduct such an analysis.

Tier 6: Optimization

Optimization involves full attention to making the most of all aspects of the program. We offer some suggestions in this direction following the case study.

Case Study: Assessing the Incremental Financial Benefits of Stash Hotel Rewards

The streamlined comprehensive tiered approach that we present in this case study is a structured approach for program assessment that provides a set of key financial measures that provide high-level insight into Stash Hotel Rewards' effectiveness across two independent hospitality groups. This approach mirrors the approach described in Tier 3. Such an approach could be easily replicated by most hoteliers and other hospitality managers. We close our analysis with a more rigorous investigation of the incremental benefits offered in the reward program as an example of what is possible with a more sophisticated statistical approach.

To demonstrate the key financial value offered by rewards programs, we partnered with two hotel groups that participate in the Stash Hotel Rewards program, which is the largest points-based reward program for independent hotels in the United States. Stash partner hotels tend to be independent hotels in the 3.5- to 4.5-star range, with an average of 150 to 200 rooms.[1] The Stash program offered the opportunity to evaluate a single-tier, points-based rewards program across two independent and separately branded hotel firms. In doing so, the approach provided a more decisive test of the effect of the same reward program on two different brands in the context of multiple geographic and competitive markets.

About the Hotel Groups

This analysis compares the experience of two diverse hotel groups. Hotel Group A is a regional hotel group with over a dozen properties and an average ADR of $73. Interestingly, this group had yet to formally assess the impact of the Stash loyalty program on its hotels' performance. Located in a different region in the United States, Hotel Group B also has over a dozen properties, but captures a significantly higher ADR of $261. This group had been actively monitoring the effects of the Stash rewards program on customer spending, but was interested in an independent assessment of the program. Both hotel groups had the following specific questions regarding the Stash Hotel Rewards program:

(1) What types of customers are enrolling in the program?;

(2) To what extent was the program driving increases in total stays, total nights, and average revenue per night? That is, are Stash members coming more often, staying longer, and spending more?; and

(3) Are these effects constant across newly acquired and established customers?

Data Overview

Each hotel group provided over two years of transactional data for thousands of guests, both members and non-members of the reward program. For each hotel group, data were

[1] Stashrewards.com.

Exhibit 2

Overview of loyalty program study data

	Hotel Group A	Hotel Group B
Time Period	June 1, 2010–May 31, 2012	May 10, 2010–March 31, 2013
Number of members	4,336	1,400
Number of non-members	40,771	4,300
Average revenue per night	<$100	>$250

Exhibit 3

Comparison of spending habits of eventual Stash members and non-members prior to the enrollment period

Hotel Group A		
	Non-members	Stash Members
Average revenue per night	$70.19	$97.65
Total nights per year	2.84	8.69
Total stays per year	1.15	3.26
Total revenue per year	$190.75	$712.59
Hotel Group B		
	Non-members	Stash Members
Average revenue per night	$269.02	262.41
Total nights per year	4.46	5.77
Total stays per year	1.79	2.21
Total revenue per year	$1,296.05	$1,591.25

only provided for customers who had at least one stay during both the pre-enrollment period and the year following. Complete details on the data are provided in Exhibit 2.

Who Is Enrolling in the Program?

As we indicated above, a key issue with reward programs is whether the reward program makes customers more loyal or whether it simply attracts the most loyal customers in the first place. By profiling customers who enrolled in Stash rewards for both hotel groups and comparing those loyalty-program guests to the broader customer base, we found that the programs did indeed attract customers who were already visiting more often, staying longer, and spending more on average. Given that rewards programs should ideally be targeted at a firm's best customers, this is reasonably good news. Heavier users of the hotel's services have been attracted to the program, in part because these individuals also have the most to gain. In Exhibit 3, we provide a side-by-side comparison of the members and non-members based on their spending habits.

While these results confirm the widely held belief that the programs simply attract the best customers, it does not necessarily rule out the potential for the program also to increase spending among these individuals and to make these loyal customers even *more* loyal to the brand. However, it does set a tougher hurdle for the program as it must now change the behavior of those who are already positively pre-disposed to the brand but who may have less inclination or ability to spend more. Thus we needed a more formal analysis to assess the program's impact.

The Program's Impact on Customer Spending

Returning to the main issue surrounding reward programs—whether they do in fact cause customers to become more loyal (i.e., visit more often and spend more), we analyzed historical data from the hotel groups' reservation systems

Exhibit 4

Changes in guest spending due to enrollment in Stash Hotel Rewards program

Hotel Group A		
	Numerical change	Percentage change
Average revenue per night	$3.62	4%
Total nights per year	3.9	45%
Total stays per year	1.46	45%
Total revenue per year	$404.94	57%
Hotel Group B		
	Numerical change	Percentage change
Average revenue per night	$2.41	1%
Total nights per year	2.83	49%
Total stays per year	1.15	52%
Total revenue per year	$780.65	49%

and Stash's enrollment records to create an experiment with quasi-treatment and quasi-control groups. We established matched pairs of loyalty-program customers and non-members, so that we could compare how the members' relative spending changed after they enrolled in the program. Our analysis was conducted as follows:

(1) We first identified a random set of Stash members within each hotel group's reservation system.

(2) Based on each member's enrollment date, we calculated their total room-nights, total stays, average spending per night, and total revenue for the 365 days preceding and following the enrollment date. This provided us with a pre-enrollment and post-enrollment test sample for the membership group.

(3) To develop the control group, we randomly selected a substantially larger population of customers from each hotel group's reservation system. For each of these non-members, we simulated an enrollment date from within the distribution of enrollments among Stash members. Although the simulation was random, the result allowed us to match non-members who had the same number of stays in a given time period, same room rate, and same lengths of stay, as we describe in a moment.

(4) Finally, using the simulated enrollment dates as anchors for the non-members, we calculated their total nights, total stays, average spending per night, and total revenue for the 365 days preceding and following their simulated enrollment date.

To provide a stable estimate of the effect of reward program enrollment, we created pairs of guests using coarsened exact matching with a one-to-one matching option.[2] Coarsened exact matching is a technique used to estimate causal effects when random assignment to conditions is not a feasible part of the research design. Essentially, it allows for the mathematical creation of an ideally matched twin for each participant within the treatment group. At a basic level, this algorithm works like this:

(1) First, the computer reviews spending behavior for a program member for the pre-enrollment time period.

(2) Based on that spending behavior, the algorithm searches through the database of non-members developed in the process we just outlined until it identifies the closest exact match in terms of number of visits, spending levels, and other variables. That becomes one matched pair in the working dataset.

(3) This process is repeated for each Stash member in the dataset.

(4) Finally, the data for Stash members who cannot be paired with a close match from the non-member sample are discarded from the analysis and the matching process is concluded.

This process, the results of which are shown in Exhibit 4, allowed us to create paired samples of Stash members and

[2] Stefano Iacus, Gary King, and Guiseppe Porro, "Causal Inference without Balance Checking: Coarsened Exact Matching," *Political Analysis*, Vol. 20, No. 1 (2012), pp. 1-24.

non-members that we could compare to examine whether enrollment in the loyalty program affected guests' spending in the year following their enrollment. This process provides a direct "apples to apples" comparison that contrasts the spending behavior of Stash members after enrollment to the post-enrollment-time spending behavior of non-members who had virtually identical spending behavior in the pre-enrollment time period. This provides the most controlled possible analysis into any changes in spending behavior due to enrollment in the loyalty program after controlling for the fact that the program tends to attract the best customers in the first place.

As shown in Exhibit 4, we can conclude that the loyalty program did increase revenue among its members. These results show remarkable consistency for the two hotel groups. There was a slight increase in average revenue per night (4 percent for Group A and 1 percent for Group B). However, the increase in total room-nights among members was substantial, at 45 percent for Group A and 49 percent for Group B. Needless to say, such frequent traffic resulted in noteworthy revenue gains—57 percent per member for Group A and 49 percent for Group B.

Discussion of Implications

Based on this analysis, our conclusion is that the hotels in both groups are seeing a substantial revenue increase when their guests enroll in the Stash Hotel Rewards program. We offer the following implications and suggestions for further investigations.

Membership Makes a Difference

For both hotel groups there were noticeable and measurable benefits directly attributable to reward program membership—and not merely because the program members were already the hotels' best customers (although that was also the case). Our results indicated a solid "lift" arising from enrolling guests in a loyalty program. We saw that days between stays were significantly reduced, and on average, guests who were enrolled in the program stayed more than non-members. These findings mirror those that have been reported in the academic literature in the form of positive relationships between reward program membership and customer retention,[3] increased spending,[4] and further increases in spending when membership is accompanied by a tier upgrade in status.[5]

Being Smart Is Critical

Reward program management must be a critical and integral part of a firm's overall marketing strategy. Moreover, reward program managers currently have a wealth of customer data available to them. As both the quantity and quality of these data increase, program managers will have the information necessary to make critical program choices. As hotels lead the way in collecting "big data," firms now have the capability of identifying key member segments in ways that are actionable and profitable. As analyses become more sophisticated, managers will be more informed on how to grow programs in a manner that drives ROI and improves customer satisfaction. With increased satisfaction comes the opportunity to go beyond the typical repeat patronage goals of a loyalty program and form emotional connections with the customer that in turn create customer advocacy.

Moving Forward

In the three decades since the modern-day reward program was launched by American Airlines, these programs have grown rampantly throughout the hospitality industry, including hotel companies. A chief goal of the analysis we present here is to gain better control of these programs. We demonstrate that a properly conceived and executed program can and does deliver positive results in terms of revenue, stay frequency, and consumer spending. This increase in average customer spending was observed even after accounting for the potential benefit associated with direct hotel booking. Consequently, we have begun to answer questions about the true benefit of a rewards program.

Managers can now take this information and begin thinking about how they might structure their programs to optimize the "lift" that their program can offer. Future research can also begin to understand how program structure and reward frequency might further encourage customer spending. Finally, there is also value in gaining a better understanding of how a program might drive bookings to the hotel website and away from alternative booking venues. We conclude by again noting that membership matters, and targeting your "best" customers to become members will have an overall positive impact for your firm. ■

[3] Gail Ayala Taylor and Scott A. Neslin, "The Current and Future Sales Impact of a Retail Frequency Reward Program," *Journal of Retailing*, Vol. 81, No. 4 (2005), pp. 293-305.

[4] Yuping Liu, "The Long-Term Impact of Loyalty Programs on Consumer Purchase Behavior and Loyalty," *Journal of Marketing*, Vol. 71, No. 4 (October 2007), pp. 19-35.

[5] Xavier Drèze and Joseph C. Nunes, "Recurring Goals and Learning: The Impact of Successful Reward Attainment on Purchase Behavior," *Journal of Marketing Research*, Vol. 48, No. 2 (April 2011), pp. 268-281.

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Cornell University
School of Hotel Administration
The Center for Hospitality Research
537 Statler Hall
Ithaca, NY 14853

607.255.9780
shachr@cornell.edu

www.chr.cornell.edu