

Reserving for loyalty rewards programs – Part I

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Casualty loss reserving seminar

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Agenda

- ▶ **What are loyalty rewards programs?**
- ▶ **Overview**
- ▶ **Actuarial roles in loyalty programs**
- ▶ **Basics of loyalty rewards**
- ▶ **Customer behavior**
- ▶ Comparison to insurance
- ▶ Current accounting treatment
- ▶ Basic estimation methods
- ▶ Loyalty programs in insurance
- ▶ Which program should I join?

What are loyalty rewards programs?

Loyalty rewards programs are marketing programs offered by companies to their customers where future contingent compensation is earned in exchange for repeated current business. Compensation may be in the form of money, goods or services.

Loyalty programs have become essential across numerous industries in order to:

- ▶ Incentivize repeat business from customers
- ▶ Develop an emotional connection with brand
- ▶ Differentiate from competitors
- ▶ Gain valuable insight into consumer behavior and demographics

Overview

History of loyalty rewards programs

While the use of loyalty programs has varied throughout the years, the ubiquitous spread of these programs can be traced back to the airline industry in the early '80s in the wake of the Airline Deregulation Act in 1978, which increased competition.

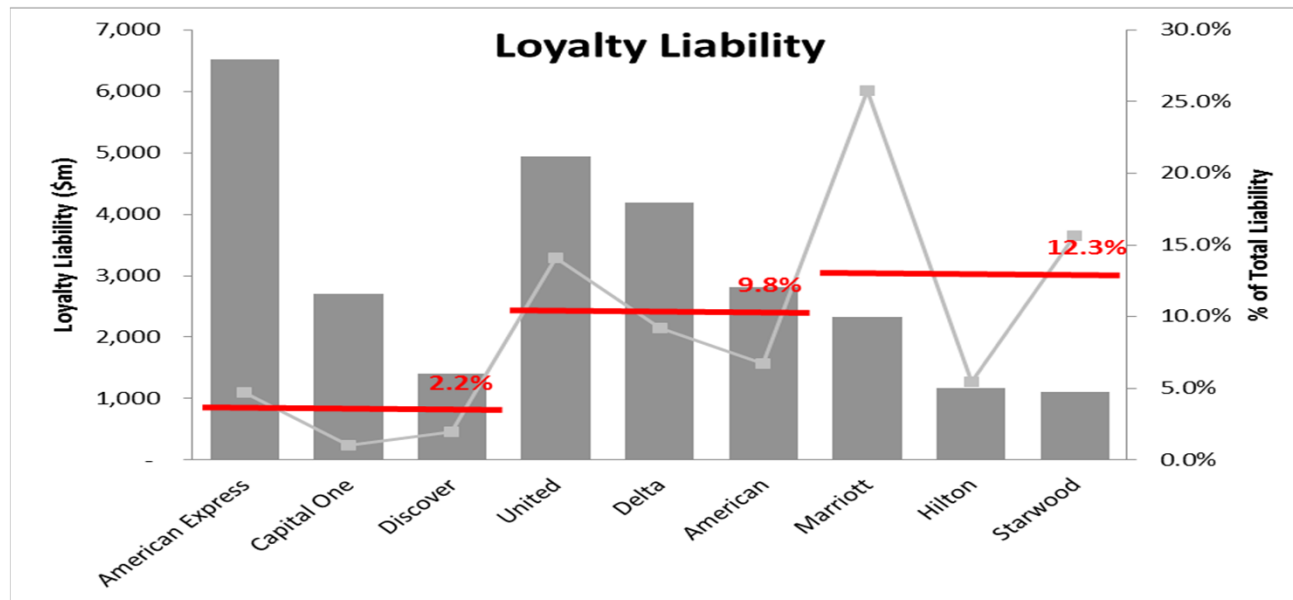
- ▶ 1981 – Formation of American AAdvantage and other airline programs
- ▶ 1983 – Formation of Holiday Inn, Marriott and other hotel programs
- ▶ 1989 – Citibank partners with American to offer miles on credit cards

Not all companies were quick to adopt loyalty programs, but the laggards discovered they were losing market share to companies with the programs.

As loyalty programs became more prominent, technological advancements have resulted in cheaper program administration. More importantly, businesses are now utilizing loyalty programs as a key source of data for customer analytics.

Overview

Size of loyalty rewards programs today



- ▶ American Express – \$6.5b in liability associated with Membership Rewards at year end 2014
- ▶ American – 7.9m redemptions for one-way travel in 2014 (5.5% of total mainland and regional revenue passenger miles during the year)
- ▶ Delta – 296b miles redeemed for 12.5m award redemptions during 2014. 7.4% of revenue miles flown on Delta were from award travel
- ▶ Marriott – More than 50% of room nights in 2014 were purchased by the 49m enrolled loyalty members
- ▶ Hilton – 50% of room nights in 2014 were purchased by the 44m enrolled loyalty members

Overview

How do the programs work?

- ▶ Customers enroll as “members” in the loyalty rewards program and agree to the program’s terms and conditions.
- ▶ As members purchase goods or services, they are awarded “points.”
- ▶ Members can also earn points via partnerships, such as credit cards.
- ▶ These points can be redeemed for goods or services in the future, subject to the terms and conditions (T&C).

Overview

Sample airline loyalty program terms and conditions

- ▶ Subject to change at any time
- ▶ Conditions of enrollment
 - ▶ Open to any person who has legal authority to agree to T&C
 - ▶ Must complete application
 - ▶ Only one account per person
 - ▶ Cannot transfer account or points to another member
- ▶ Mileage accrual
 - ▶ Mileage accruals are determined based on nonstop distances between departing and arriving airport
 - ▶ You may earn mileage only for purchased, eligible, published-fare tickets on qualifying routes – award tickets do not earn miles
 - ▶ Mileage can also be earned via partners, such as credit cards
 - ▶ You may request mileage credit for past flights up to 12 months from the transaction date
- ▶ Mileage redemption
 - ▶ Available awards and mileage are required to be set by the program administrator
 - ▶ Taxes, fees and other charges are not included in the award and are paid by the passenger
- ▶ Mileage expiration
 - ▶ Mileage is subject to expiration after 18 months of inactivity

Actuarial roles in loyalty programs

Actuaries have a long history of applying quantitative methods to solve financial problems within the insurance industry. Many of these skills lend themselves to serving roles in the loyalty rewards space.

- ▶ Common actuarial functions
 - ▶ Program design and development
 - ▶ Reserving for loyalty rewards programs
 - ▶ Cost-impact studies on program changes
 - ▶ Behavioral segmentation studies

These functions are generally aided by a statistical, financially modeled and applied business focus that is fundamental to the actuarial skillset.

Key data elements

When reserving for loyalty rewards programs, the key data elements to gather are:

- ▶ Redeemed points
- ▶ Earned points
- ▶ Forfeited points
- ▶ Points outstanding
- ▶ Cost per point
- ▶ Terms and conditions
- ▶ Others possibly required are prior redemptions or earnings activity, depending on method

Basic relationships

$$\text{Outstanding points} = \text{Issued points} - \text{Redeemed points} - \text{Forfeited points}$$

$$\text{Liability} = \text{Outstanding points} \times \text{Cost per point} \times \text{Ultimate redemption ratio on outstanding points}$$

$$\text{Liability} = \text{Cost per point} \times \left[\text{Issued points} \times \text{Ultimate redemption ratio on issued points} - \text{Points redeemed} - \text{Points forfeited} \right]$$

Key risks in loyalty rewards programs

Key risks and uncertainties in loyalty rewards reserving:

- ▶ Timing risk
- ▶ Redemption rate risk
- ▶ Inflation risk

Customer behavior

One of the key areas of difference between insurance reserving and loyalty rewards reserving is a focus on customer behavior and how it is affected by various circumstances.

- ▶ Behavioral patterns of customers with different tiers of membership
- ▶ How program changes affect member behavior and how different types of members are affected differently
- ▶ Program retention

Elite credit card

Case study

Elite credit card is interested in having an actuary review its rewards program to better understand the cost of redemptions and uncollected rewards.

Elite offers three different credit cards:

- ▶ Silver
- ▶ Gold
- ▶ Diamond

For all credit cards, points can be redeemed for cash rewards in 2,000-point increments.

Elite credit card

Case study

- ▶ The **Silver Card** is open to anyone and has no spending minimum. Cardholders earn one point for every dollar spent. Points expire after 18 months of inactivity.
- ▶ The **Gold Card** is open to anyone and has a US \$75 per year annual fee. There is no spending minimum. Cardholders earn five points for every dollar spent. Points expire after 18 months of inactivity.
- ▶ The **Diamond Card** is offered by invitation only and has a US \$100,000 spending minimum. The points never expire. Cardholders earn 10 points for every dollar spent.

Question 1

How are the behaviors of the cardholders of the three different types of cards expected to differ?

How should your analysis be adjusted to account for these differences?

Question 2

Two months before the end of the current year, Elite sends Silver cardholders who have not used their card in the past 16 months a warning letter letting them know that if they don't use their card in the next two months, their points will expire.

At the same time, Elite has also decided to change the program for Gold members. Effective immediately, points will no longer expire for Gold members.

What are the different ways that the liability will be affected?

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