**Frequent Flyer Marketing Data Collection and Use**

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# **Data Science 780**

# **Data Science and Strategic Decision Making**

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# **Introduction**

Airline loyalty programs, known as frequent flyer programs, were introduced in 1979 by Texas International Airline. When first emerging, these programs used a straight forward reward of flights for a specific number of miles flown. Since that time, the programs have evolved from a reward based on miles to being based on money spent (Rosen, E). Despite this change, the system still uses the term “miles” to describe its reward “currency”(Gao, Y.).

While this reward system has some aspects similar to currency, it is not regulated by the IRS (Gao, Y.). Airlines have taken full advantage of this freedom to expand their plans far beyond basic airline mile accumulation and flight rewards. Over the years, airlines have continuously modified the membership levels, reward availability, and type of rewards awarded to consumers for their purchases (Rosen, E). Currently, frequent flyer programs are often partnered with credit card companies, hotels, restaurants, and car rental companies to offer multiple ways to earn credit, as well as offering many non-flying types of rewards(ref). This is critical to airlines as the ability to provide sufficient flights to cover their rewards is limited (Gao, Y.). Partnering with outside services helps guarantee consumers can receive value for their loyalty even if the airline is unable to guarantee the ability to provide free or discounted flights.

While it may be difficult to place a value on the frequent flyer programs due to their dynamic nature (Gao, Y.), airlines were able to use future income from these programs as collateral to cover loans needed during the 2020 pandemic (Chen, S. Y. and de Boer, E.). This demonstrates the value of these programs to both airlines and backing financers, and highlights the critical importance of marketing these programs.

# **Data Sources for Marketing Frequent Flyer Programs**

To ensure successful marketing of modern frequent flyer programs, airlines will require a large amount of data. The primary data to collect would be customer details. This would include demographic data gathered from the airline’s own customer data, as well as details gained from partnership programs such as credit cards, rental agencies, hotels, restaurants, and even public records. This would primarily serve to provide data for market segmentation.

Another key source of data would be POS (Point of Sale) data. This would be gathered from ticket purchase data and airport check in data, as well as payment, web, and mobile device data. This would involve details including when the ticket was purchased, how it was purchased, what devices were used for purchase, what method of payment was used, when the customer checked in at the airport, the origin, route, and destination airports, and the results of their flight service. With the use of frequent flyer mobile applications(ref), airlines may be able to track interest in promotions, usage of the application, as well as geographic movement within and outside of the airport. Overall, POS data can be aggregated to find purchasing patterns, as well as providing more timely updates to issues that demand attention.

In order to remain competitive, the airline would likely collect data on its competition. This might be publicly available information from a competitor’s web site, trade journals providing business insights, the stock market, as well as social media sources. The airline would want to know what markets are being served, the composition of the competitor’s fleet, the market share and popularity of their frequent flyer programs, as well as their financial health. This would serve to find ways to differentiate the airline and its frequent flyer program from the competition.

With the partnership of 3rd party services, the airline would want to collect data from the stock market, public web sites, financial and trade journals or websites, and social media data on those services. This might include each partners financial health, market share, market penetration, and customer satisfaction of those services. This would allow the airline to negotiate competitive offers with the service. When combined with POS data, they could decide which services to use and which to avoid. It would also allow the airlines to decide how to value the service rewards for their frequent flyer customers.

Equally important as other data is customer satisfaction with the airline’s frequent flyer program. This could be found on social media, internal and external surveys, as well as blogs and various websites focusing on evaluating customer loyalty programs. This might include sentiment analysis as well information on market segmentation to understand how satisfaction may be affected by various factors.

Finally, while not directly involved in the purchase but equally important would be data on global weather and calendar events. This is easily obtained via many public sources, and may include both future, current, and historic data. This could help an airline predict some passenger traffic in order to offer promotions. It could also be used to predict disruptions so airlines could proactively work to ease dissatisfaction experienced by customers.

# **Data Application for Marketing Frequent Flyer Programs**

The primary application of marketing data is to segment customers. This allows the airline to market to each segment with offers, promotions, and rewards that the specific segment is likely to value. With the dynamic nature of the airline business and the multiple frequent flyer programs, customer segmentation has become increasingly complex. It is no longer adequate to base customer segments on the different frequent flyer program levels. Instead, airlines need to include data on geographic, demographic, behavioral factors, and psychographic information (Avram, B.). Geographic data includes where the customer lives to identify their market, as well as where the customer works for business travelers. Demographic data may include a customer’s age, gender, education, income level, and family or marital status. Behavioral factors include when the customer books a flight, where the customer flies, how frequently, what level of frequent flyer program they are enrolled in, what type of seat they book, and how they interact with the airline. Finally, psychographic information covers a customer’s lifestyle and values. (Avram, B.) These can be ascertained by what type of purchases the customer makes, where the customer travels to, and how they travel, what services they use, and what rewards they select from loyalty programs.

One approach to segmenting customers is to answer five main questions. Demographic data answers “Who is the customer?”. Geographic data answers “Where is the customer?”. Purchase history and patterns answers the question “What has the customer done, is the customer doing, and will the customer do?”. Purchase history also can answer “When do customers typically buy things.” Psychographic data can answer “Why does the customer buy things?”. In addition to these five factors, data on various customer interfaces can further segment by answering the question “How does the customer buy things”. (Avram, B.).

# **Conclusion**

Successful application of frequent flyer program market segmentation may require between 500 to 1000 different data points (Ross-Smith, M.). With this volume of data across tens of thousands of customers, powerful machine learning algorithms are needed to find successful segmentation criteria. In addition to this volume, however, is the factor of how dynamic the airline industry is, as well as the aspects of the programs that customers value. With the factors in constant flux, a successful program will need to be continually updating its data and the models built off of that data (Ross-Smith, M.). A program will need both powerful algorithms and heavy automation to stay current with market analysis for frequent flyer programs.

# **References**

Chen, S. Y. and de Boer, E. (2021, Apr. 2) How Loyalty Programs are Saving Airlines. From *Harvard Business Review* website, <https://hbr.org/2021/04/how-loyalty-programs-are-saving-airlines>

Avram, B., (2019). Airlines Customer Segmentation in the Hyper-Competition Era. *Expert Journal of Marketing*, 7(2), pp.137-143.

Gao, Y. (2020). A Conceptual Framework for Valuating Airline Frequent Flyer Program Miles. *International Journal of Aviation, Aeronautics, and Aerospace*, 7(1). <https://doi.org/10.15394/ijaaa.2020.1447>

Ross-Smith, M (n.d.) Segmenting Frequent Flyer Loyalty Member Databases. Retrieved July 10, 2021 from *TravelDataDaily.com* website. <https://www.traveldatadaily.com/segmenting-frequent-flyer-loyalty-member-databases/>

Rosen, E (2021, May 20) 40 years of miles: The history of frequent flyer programs. From *ThePointsGuy.com* website. <https://thepointsguy.com/guide/evolution-frequent-flyer-programs/>