Valuing New Currencies: A Framework for Future Research

A Book Chapter

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Abstract

Prices are typically expressed in terms of legal tender (e.g., US $). Research in the last two decades has examined how payment modes, such as cash, credit cards, debit cards, and gift certificates affect consequences such as the likelihood of purchase, amount spent, and the variety of items purchased. The purpose of this chapter is to suggest that these conclusions may be contingent on the price of the item/ service being expressed in legal tender. When prices are expressed in alternative currencies (e.g., airline miles), then there could be a variety of follow-up consequences that would lead to limiting boundary conditions on previous findings in the domains of behavioral pricing research. The new currency that I focus on is airline miles. This new currency is becoming ubiquitous with the growth of airline loyalty programs. It is unclear how consumers who are endowed with them value them, and how they relate them to legal tender. It is equally unclear how managers of loyalty programs should price products/ services in these currencies, and what array of products they should make available, so as to encourage/ discourage consumers to use their unspent balances or let them lapse. The chapter starts off with examples from popular airline loyalty programs that demonstrate their heterogeneity across time, across offerings and across programs. From this discussion, I summarize some of the dimensions of money and ways in which the new currency of airline miles differs from the traditional legal tender (e.g., US$). I then build on a series of testable propositions regarding how miles are valued, with implications for how they will be spent depending on different types of communication appeals. I end with implications for managers as to how to design loyalty programs with a specific focus on how to price products using miles. Theoretical implications for behavioral pricing are discussed as are managerial implications for loyalty programs.

The purpose of this chapter is to introduce how our understanding of pricing as developed in the domain of legal tender may need to be modified when applied to new modes of payment and currencies. One example of a new currency that is ubiquitous is airline miles. Broadly applied, loyalty currency, such as "miles," exist in all loyalty programs – credit cards, hotels, retail, travel sites and others. While developing ideas in the domain of miles as an exemplar, the hope and expectation is that the ideas in this chapter as applied to miles will be transferable to other domains where a loyalty program is in existence or is being planned. From a theoretical perspective, the purpose of this chapter is to encourage original empirical research into the domain of loyalty programs (including airline miles and credit card points) to better understand how customers value them, what will make them likely to save or spend them, and how doing so will translate into customer satisfaction, loyalty, and long term customer lifetime value.

I start off with illustrative examples of mileage programs and two hypothetical customers who belong to these loyalty programs that lead to a number of unanswered questions as to why the two loyalty programs that I focus on are structured in the manner that they are. This leads to questions surrounding how customers value their miles. That is, how do miles function as an alternate currency? Are they treated the same as payments in cash or credit cards or gift cards, or do consumers feel, think about and act differently when they pay with loyalty currencies, such as airline miles? Examining this question is the primary purpose of this chapter.

To summarize, how newer currencies, such as loyalty points are priced and how consumers respond to those pricing decisions, are both understudied in the domain of

behavioral pricing. This chapter proposes testable propositions to guide future research and assist in the design and implementation of loyalty programs, in general, and airline loyalty programs in particular.

The Case of Renny and Suzanne: United and Delta

Renny has 363,000 miles in her United MileagePlus frequent flyer account,[1] and Suzanne has 142,000 in her Delta Skymiles account. They use them to buy flights and upgrade, and, occasionally, for a special hotel room, but rarely for anything else. If you ask them, they will tell you that it is difficult to get an upgrade with their miles, and most of the times they need to travel, the cost of the price of a ticket using miles is prohibitive, so they don't end up using their miles. In fact, Hlavinka and Sullivan (2011), report how mileage memberships and mileage balances have been growing exponentially over the last many years, with US consumers earning approximately $50 billion in loyalty currencies per year. The stockpiling of loyalty points is an issue more recently examined by Stourm, Bradlow and Fader (2015).

For example, this winter, Renny paid almost $1000 to rent a car for a week on the Big Island in Hawaii, rather than use her frequent flyer miles to rent the car. Suzanne could buy magazines with her miles using their Mags for Miles program (see Figure 1), and she reads magazines, but ends up buying them at the local store.

Suzanne could buy gift cards for her nieces and nephews, especially for their Christmas Gift Exchange, using her miles (see Figure 2). A $25 gift cards would cost her 6,350 miles, an exchange rate of 1 mile = .3937¢ (2500¢/ 6350 miles), whereas she would get a volume

[1] All examples are based on true stories. Names have been disguised to preserve anonymity.

discount if she purchased a $100 gift card as it would cost her only 24,350 miles, an exchange rate of 1 mile = .4107¢. If she plumped for a $500 gift card, she would pay 120,350 miles or 1 mile = .4155¢. At this exchange rate ($500 Amazon gift card), her balance of 142,000 is approximately equal to $590. Said differently, if Suzanne purchased a single $500 gift card she would have 21,650 miles left in her account (142,000 miles – 120,350 miles), but if she bought twenty $25 Amazon gift cards worth a total of $500, she would only have 15,000 miles (142,000 miles – 127,000 miles [20 x 6350]). This is a difference of 6,650 miles and could purchase a backpack, wine glasses, coffee maker, toaster or a bathrobe with miles to spare (see Figure 4)!

Why are Amazon and Delta pricing the different denominations of Amazon gift cards differently? Could this be due to processing costs, i.e., shipping and handling costs of the physical gift cards? Or could they be an incentive to get customers to spend more, or let their miles lapse? If they are designed to get customers to spend down their balances, how many of their customers would do the math and, even if they did, would find the difference worth it? Said differently, is the volume discount for buying a $500 gift card versus 25 x 20 gift cards a noticeable and substantial difference in the customer's eyes?

Supposing Suzanne did not want to make a purchase at Amazon, but at Best Buy instead, how could she monetize her Delta Skymiles? The price of Best Buy gift cards is cheaper than those of Amazon gift cards: 6250 miles for a $25 gift card (instead of 6350 miles), and there is a further discount of 150 miles if the delivery of the gift card is digital, to make the price 6100 miles or an exchange rate of 1 mile = .4098¢ (see Figure 3). The exchange rate is even more favorable for a digital gift card of $500 at 118,200 miles or .4230¢, making her 142,000 miles balance equivalent to approximately $600. Why is Delta pricing Amazon and Best Buy gift

cards differently? Could this be due to the differential fungibility of the gift cards of these two retailers with Amazon offering a wider array of products than Best Buy?

-- Insert Figures 1-4 here. --

Now, let's move to Renny and the United MileagePlus frequent flyer program to examine their pricing of gift cards. United does not offer Amazon or Best Buy gift cards. However, both United and Delta offer Starbucks gift cards. A $10 gift card is priced on United for 1562 miles (1 mile = .64¢), whereas on Delta SkyMiles, the same $10 gift card costs 2550 miles (1 mile = .39¢), a difference of 988 miles or 63% more (see Figure 5). Why this price disparity? Clearly, United miles are worth more than Delta's, but why? Are they more difficult or expensive to earn? Do Delta customers value Starbucks coffee more than United's customers? Or, are these idiosyncratic differences that have not been carefully thought through because managers ae unaware of how consumers think of miles as currencies.

The programs also differ in terms of the range of denominations available. On United the three denominations available for Starbucks gift cards are $10, $25 and $50, whereas on Delta, the gift card values can go up to $500. Why this difference in range?

The same higher pricing for Delta miles is evidenced with a $100 Bath and Body Works gift card. On United, the cost of the gift card is 10x the cost of the $10 Starbucks card (15,625 miles), whereas on Delta it is 8.9x the cost of a $10 Starbucks gift card (22,700 miles). Why this differential pricing across denominations in one program and not the other?

-- Insert Figure 5 around here. –

Both programs differ in terms of whether the value of each mile depends on what gift card you will purchase. For example, in United's MileagePlus program, the gift cards are now priced at a standard $100 = 15,625 miles (or 1 mile = .64¢) for all 270 gift cards that they offer. This was not the case in 2016, three years ago, as they priced different gift cards at different mile prices (see Figure 6, Panel A). At Delta, on the other hand, a $100 TGIF gift card costs 22,500 miles, a $100 Nordstrom gift card costs 23,600 miles and an Amex $100 gift card costs 25,350 miles, with a Red Door Spa $100 gift card only 21, 850 miles, and a big bargain for a Delta $100 gift certificate at 11,100 miles (or 1 mile = .90¢; see Figure 6, Panel B).

-- Insert Figure 6 around here. –

These examples give rise to a host of research questions surrounding how managers design their mileage programs. To answer these questions, it is important to understand how consumers feel, think and behave with miles. We turn to the little literature that has addressed this topic in the next section.

How do consumers feel about, think about and act with their miles?

The question of how consumers feel about, think about and act with their miles can be looked at from two distinct angles. One from the point of view of treating miles as a currency. The other from the point of view of a marketing mechanism to maintain loyalty. Of course, the two are connected.

Loyalty Program Research

Most research on loyalty programs has focused on the latter question (e.g., the effectiveness of loyalty programs at creating loyalty, Kim, Shi and Srinivasan, 2001, Sharp and Sharp 1997, Tammo et al., 2011, Verhoef, 2003, Yi and Jeon,, 2003). For example, a review of loyalty programs identified that status, habit, and relationship with the service provider were the three key underpinning of the effectiveness of loyalty programs at generating repeat purchase behavior (Henderson, Peck, and Palmatier, 2011).

The popular press reports that loyalty programs are hugely profitable for airlines, For example, an examination of the frustration consumers feel when they attempt to use their miles reported, "*When United Airlines filed for bankruptcy in 2002, it was forced to disclose that its mileage program at the time posted profit margins as high as 45%. Since the airline emerged from bankruptcy, United has stopped reporting such financial details*."[2] Liu and Yang (2009), underlined this conclusion when they proposed and tested a model that demonstrated that large firms benefit more from their loyalty programs than small firms. Voorhees et al. (2015) found that loyalty programs did not have a direct effect on the share of wallet of their loyal customer base. They say "*The industry should consider their customers' permanent characteristics (i.e., their level of loyalty or willingness to switch brands) and revise these programs to ensure that they continue to deliver value to a firm's best customers rather than just attracting brand switching customers*."

Thus, while some academic research has investigated the effect of loyalty programs on company's profitability, few have examined the effect of how the pricing of loyalty programs affects customers' well-being as well as their trust in the company. The only key results from a

[2] https://www.latimes.com/business/la-fi-frequent-flier-programs-20170914-story.html

pricing point-of-view is that combined pricing (miles and cash), reduces consumers' perceived price (Drèze and Nunes, 2004), even though the airline pricing policy can erode customers' trust (Nunes and Drèze, 2006).

Attesting to this loss of trust, Wallet Hub, that tracks consumers' price-spending decisions, reported that "six of 10 U.S. airlines' reward programs lost value for members in 2017 compared with the year before" and this was due to unexpected and unannounced devaluation of miles. We turn to this question next.

Miles as a Currency

While prior research has examined the effectiveness of loyalty programs at generating loyal customer for the firm, no one has examined how customers value their miles. That is, no one has yet examined the former question: how miles function as an alternate currency. To suggest that miles are a currency that consumers feel, think about and act with differently as compared to alternate forms of payment (such as cash and credit cards), is the primary purpose of this chapter.

Previous research has shown that payment modes, such as cash, credit cards, debit cards, and gift certificates are more likely to be spent, and lead to greater spending than payments in cash (Feinberg 1986; Gourville and Soman 1998; Hirschman 1979; Prelec and Simester 2001; Raghubir and Srivastava 2008; Shah, Eisenkraft, Bettman, and Chartrand 2016; Soman 2001). This phenomena been termed the "monopoly money" phenomena (cf. Raghubir and Srivastava 2008), and refers to all forms of payment that do not involve legal tender.

Based on this research, we would expect that airline miles, that are not expressed in the form of legal tender (e.g., US$), but in terms of loyalty points (miles), should be more likely to be spent than cash, and be associated with greater spending. However, it is unclear whether this is, in fact, the case. Twenty-five years after the introduction of the Mileage Plus and SkyMiles programs, in 2005, it was estimated that 14 trillion frequent-flyer points had been accumulated by customer, corresponding to a total value of 700 billion US dollars.[3] Why is it that consumers are willing to pay using a credit card with a lower pain of payment, but less willing to liquidate their mileage balances and monetize them? The question is, do consumers even think of their mileage balances as cash balances that they could use for a variety of purchases? The anecdotes at the start of this chapter suggest otherwise.

To summarize, the pricing of miles and how that affects customer use of mileage balances is an understudied domain. This chapter suggests some testable propositions that can help guide future research in this domain.

The Role of Uncertainty in Value

When consumers value a product, service, or even a currency or form of payment, they do so in term of the utility is provides them. The greater the uncertainty associated with value (in the case of products and services this could be in terms of confidence in the claims, or in the expected variation in quality levels), the lower the mean value associated with the product or the service. What about in the domain of forms of payment or different currencies? Past research has shown that people assess value of money, for example, a salary raise, based on its

[3] *"Frequent-flyer miles"*. *The Economist*. 2005-01-06 as quoted in https://en.wikipedia.org/wiki/Frequent-flyer_program

nominal rather than real value (Shafir, Diamond, and Tversky, 1997), an idea that has been applied to how people assess the value of foreign currencies (Raghubir and Srivastava, 2002). This leads to predictable biases: prices that are equivalent are perceived as cheaper when they are presented in a currency where the nominal value of the price is lower (because the foreign exchange rate is a fraction of the "home" currency). This is despite the fact that foreign exchange rates are known and are present in the context where judgments are made.

Now imagine a scenario where the exchange rate was not only unknown, but also changing over time, and over products. This introduced a further level of uncertainty into the computation of value. If the value of airline miles is contingent on a) the program they are associated with (e.g., United or Delta), b) the product they are used to buy and the retailer where it is available (e.g., TGIF meal or Red Door Spa treatment), c) the denomination of a gift card ($25 vs. $100), as the examples in the previous section demonstrate, then there will be uncertainty associated with the value of a mileage balance. Further, if these exchange rates themselves change over time, then all of these factors will increase the uncertainty associated with how a consumer assesses the value of their mileage balance (or other loyalty currency that is not expressed in legal tender terms).

We propose that the reason that consumers do not use their miles is due to the uncertainty in their value. Note, given the frequent devaluation of miles, it would be rational for consumers to use miles sooner rather than later (as they would be worth less after devaluation), but we propose that consumers are unaware of this and only react to the sticker shock of how many miles it costs to make a purchase, comparing this with what is advertised by the airlines. For example, United will advertise that you can purchase a round trip domestic

airline ticket for 25,000 miles. If a customer sees a mileage price that is higher than this, they are less likely to use their miles, instead hoard them, and frequently wasting them. This would lead to a disappointing redemption experience and undercut customer loyalty as well as brand image and attitudes.

In fact, it is estimated that in 2012, 24% of the mileage balance held by United expired, a phenomena referred to as "breakage" which cost the airline nothing.[4] This is an estimate that enters airline's calculation for their liability carried for miles for flying. This is a large number. For American Airlines alone, in 2015, it was estimated at $657 million. Given that customers with a positive redemption experience have a higher customer lifetime value, it is in the long-term interests of airlines to respect customers' airline mile balances. The example provided at the start of this chapter suggest this is not always the case.

We now turn to theoretical and managerial questions surrounding the understanding of miles.

Theoretical and Managerial Research Questions surrounding the understanding of miles

There are a number of open questions that we need to answer to help managers better design the pricing of their offerings for their loyalty customer who purchase in the currency of miles. These begin with the most basic understanding of currency, and move to the more logistical concerns that face every manager in terms of the decisions that they must make. Some of these questions are below and range from a simple question of how consumers evaluate miles to why loyalty programs differ across providers.

[4] https://medium.com/@dfcatch/loyalty-myths-is-breakage-good-873950da26dc

1. **How do customers evaluate the currency of miles**? For a customer, is a mileage balance perceived to be a currency at all, or is it perceived to be as a free gift for making a purchase? Do customers think of miles as a partially fungible instrument that can be monetized and exchanged for another product – i.e., a medium of exchange which is the underlying definition of money. Said differently, to what extent are miles like money? Given that they are virtual (never touched or felt), less fungible and less widely accepted (available for only a limited number of items, albeit that set of items is increasing every day), expressed in different units (miles versus legal tender), not guaranteed by a Central Government (just an airline, who may be private or public), cannot be easily exchanged on a marketplace with another buyer/ seller (although there are website where one can monetize miles, such as cashformiles.com and themilesbroker.com); and less familiar to most than legal tender due to the relatively lower frequency with which they are acquired and used, it is likely that miles are perceived to be much less like "money" than legal tender.

   There is at least one well researched dimension in the domain of the subjective value of money and prices: that of monopoly money (Raghubir and Srivastava 2008). Monopoly money captures the idea that a form of money does not feel like "real money" and so is more easily spent. It has been applied to understand why people spend more using gift certificates and credit cards as compared to cash. We now propose that on the continuum of monopoly money,

   I. Miles are more like "Monopoly Money" than legal tender.

From this it follows that consumers are likely to display greater price elasticity for an item whose prices are expressed in miles than for a product whose prices are expressed in legal currency.

2. **What are the dimensions that makes miles similar to or different from other forms of money**? Some of the dimensions on which miles differ from legal tender include: a) fungibility; b) how widely the form is accepted; c) how easy it is to exchange; d) how easy it is to monetize into another form of legal tender; d) familiarity; e) virtual versus physical form; f) number of years in existence; g) the extent to which it is reward for work or a reward for spending; h) the extent to which is it guaranteed by a legal institution, i) the extent to which the price in legal tender is salient at the time of payment; j) the extent to which products and services are expressed in prices using miles versus legal tender; and k) the certainty and uncertainty in the value of the balance (due to changes in pricing systems and devaluations).

On all these dimensions, miles are less like money than legal tender. Given this, one would predict (Prelec and Loewenstein 1998) that the pain of payment associated with paying with miles would be lower than the pain of payment associated with paying with legal tender.

II. Miles are associated with lower "pain of payment" than legal tender.

3. **Where in a perceptual map of monetary payment forms, do miles lie**? As new forms of payment and pricing methods evolve, there is a bewildering array of ways in which products can be priced and manners in which customers can pay for them. Prices can be in local and foreign currencies, as well as crypto currencies, like bitcoin; and methods of payment now include cash (notes and coins), credit cards, debit cards, mobile phone pay apps (e.g., Apple Pay in the US, PayTM in India), gift cards and gift certificates, credit card points (e.g., Citi Thank you points), retail loyalty points (e.g., Macy's cash), with new forms coming up on a regular basis. Airline miles are a method of payment, and products and services are also priced in terms of miles, making them comparable to other forms of pricing, such as local, foreign, and crypto currencies. What are the dimensions that make prices expressed in these forms different?

   One is certainly the familiarity of use. People are more familiar with local currencies than they are with foreign or crypto currencies, or airline miles. Local currencies also have many of the other dimensions that differentiate "real" money from "monopoly" forms of payment, such as fungibility, how widely they are accepted, how easily they can be exchanged, how easy they are to monetize into another form of legal tender, with local and foreign currencies being less virtual, around for more years, and guaranteed by government institutions more so than crypto currencies and miles. For all of them, however, prices are likely to be salient at the time of payment, albeit in different currencies. Therefore, it is possible that if one of the dimensions that differentiates these currencies is the extent to which they are "real" or "monopoly," another dimension could be the salience of the price in legal tender, or the virtual/

physical aspect of the money, how trusted they are due to their backing by governments, and/ or their mere familiarity. As such:

III. Miles will be in a different quadrant as compared to legal tender in a perceptual mapping of pricing forms and monetary forms.

4. **Mileage Wealth Assessment:** How do customers assess the value of mileage balances? Do they? How accurate are customers in assessing the value of their mileage wealth? Given the virtual nature of mileage wealth and transactions, it is unlikely that consumers will have a well-accepted, easily accessible exchange-rate for miles to legal tender. Given that prior research has shown that even with foreign currencies, where the exchange rates are provided, consumers make systematic errors in price judgments (the "face value effect," cf. Raghubir and Srivastava, 2002), it is plausible that these errors would be compounded in the domain of miles to money – leading to customers not accounting for their mileage balances as a source of wealth.

Note that airlines can translate the value of miles into their monetary equivalent which should lead to consumers appreciating the "cash back" reward of their business; which, in turn, should lead to greater loyalty. That is, instead of being told how many miles a particular trip accrued, an airline could inform customers of the cash value of the miles accrued and this would serve as the perfect "silver lining" for customers making a big ticket airline ticket purchase (Thaler, 1985). However, as the current accrual is

typically in a currency distinct from the currency spent (miles versus USD, for example), it is unlikely that they are thought of as part of a single transaction.

However, in the absence of such policies at the current moment, we predict:

IV. Mileage balances will not be incorporated into consumers' wealth assessments.

5. Mental Accounts and Purchase Patterns. Do consumers treat mileage balances as part of a separate mental account as compared to other forms of wealth that they possess (cf. Thaler, 1985, 1990, 1999)? If so, why? The innate differences in legal tender and mileage accounts (due to fungibility etc.), is one reason to expect that miles belong to a different "mental account" as compared to legal tender. Items that are in different mental accounts (e.g., mortgage versus vacation account) are treated and spent differently (Thaler 1999). In fact, prior research has demonstrated that payment modes, such as cash and credit cards affect the variety of items purchased, with credit cards associated with more hedonic purchases than cash (Thomas, Desai, and Seenivasan 2011), and similar effects found for gift cards (Reinholtz, Bartels, and Parker, 2015), we predict:

V. ***Miles will be more likely to be used for hedonic and experiential purchases than cash of the same value.***

6. **Source of the Miles.** Do consumers treat miles accrued through work differently from miles accrued through personal travel? It is possible that they do, as the miles accrued from work travel could be considered to be a "perk" for work. This would imply they go into a different "mileage mental account." On the other hand, given the difficulty of tracking what percentage of one's balance is due to personal (versus work) travel, it is more likely that they do not. Note, that if the differential component was easy to track, then it is plausible that miles earned through work would be valued as lower than those earned through personal travel as the consumer had not spent any of their own money to earn those miles. This should not be difficult for airlines/ hotels/ travel sites (such as Expedia) to implement and could lead to a drawdown of mileage balances, thereby indirectly increasing customer loyalty. We propose:

    VI. ***Miles will be treated no differently if they are accrued through business or personal travel.***

7. **Mileage Goals.** The way in which customer have goals in terms of reaching a particular (mileage) goal during a specified time period, do they also have goals for their total mileage wealth? The structure of mileage programs suggests that they might. For example, Mileage Plus has tiers for Silver (25,000 miles), Gold (50, 000 miles), Platinum (75,000 miles) and 1K (100,000 miles) per year to which they recently added minimum spend requirements (it is unclear what criteria they use for their "Global Services" category). Over a customer's lifetime they have the Million Miler program (and then

Two Million and Three Million), and with every tier a customer gets additional benefits (e.g., early intimation of potential upgrades, checked bags, priority board etc.). Based on the work by Kivetz and Simonson (2000, 2002, 2003; see also Kivetz, Urminsky and Zheng 2006), it is plausible that mileage goals work in a manner similar to any other goal with consumers speeding up consumption as they approach a goal.

VII. ***The progress to mileage goals will follow the U-shaped curve of a goal gradient with faster progress as the goal is imminent.***

In fact, Hsee et al. (2013) suggest that accumulating wealth may become an end in and of itself, leading to inoptimal spending behaviors. If people want to "overearn" miles the way they do money, then this would be an impediment to their using their miles.

8. **Motivations for Spending and Saving Miles.** What are consumers' motivations for spending their miles and what are motivations for saving them? Are there particular types of customers who are more likely to spend their miles as compared to saving them? Are these types related to socio-demographic, psychographic, geographic or other differences? These are empirical questions that are worthy of research to gain a more nuanced understanding of why and when consumers want to spend their miles, and what is their resistance to spending them. Is the construct of likelihood of saving and spending related to the constructs of tightwad and spendthrift as shown in the

domain of money (Rick, Cryder and Loewenstein, 2008)? Given the proposition that miles are not thought of as money, we propose that the two constructs are orthogonal:

VIII. Spendthrifts and Tightwads in the monetary domain will be equally likely to spend or save their miles.

9. **Awareness**: To what extent are consumers aware of the range of products and services that they can purchase with their miles? It is unclear that consumers have a clear idea of the exchange rates that govern the miles-price exchange for different products and services. It is also unclear that airlines are working to increase that awareness in more than a token manner. If loyalty program managers wished to have their customer take advantage of their loyalty program benefits, the awareness of the range of options that miles could buy should be increased and the value of the miles should be made explicit. For example, providing prices for items in duty-free catalogs in both currencies; or allowing customers to purchase snacks, meals, drinks, and other in-flight services (like Wi-Fi), or baggage charges in miles is likely to increase their usage. Some European airlines (e.g., Lufthansa, Austrian Air) do price their duty-free catalogs in miles and allow in-flight purchases using miles. US airlines are lagging behind in that. However, United has started a push towards pricing a larger range of items in miles. For example, in Newark, a set of new service establishments allow a traveler to purchase food and drinks using their miles. As such, we predict that:

IX. **The *a priori* awareness of consumers' awareness of what they can purchase with their miles, and the value of their miles, is low**. **Offering prices in miles for a wider range of products and services will increase purchase likelihoods of these products and services.**

10. **Choice of Payment Mode**: How do customers decide whether to pay in legal tender or miles when they have the option to do either? This is a big question that would involve not only the actual price (in miles or money) that would affect perceptions of affordability, but also the exchange rate which would affect perceptions of fairness, and context effects which would determine which form of payment was most salient. Further, if customers were interested in accumulating mileage balances to reach a particular goal, or achieve a certain spend amount to achieve a loyalty tier, they would be less likely to use their miles to make a purchase and more likely to use money. Prior research has demonstrated that combined prices (miles and money) are perceived to be cheaper – as the face value of both elements is lower than the face value of any one element (Drèze and Nunes, 2004). Accordingly, we predict:

X. **Allowing customers to customize their payment mode with any fraction of miles and money will increase their likelihood of redemption of their miles**.

While some loyalty programs (e.g., Swiss Air's Miles and More Program), do allow this using a sliding scale that goes from 100% money to 100% miles, many others (e.g., United) do not.

11. **Choice of Products:** Are there particular types of products or services that customers are more likely to purchase with miles than with legal tender? Are mileage balances more likely to be used for self- or gift-purchases? For hedonic or utilitarian purchases? For experiential or non-experiential purchase? For special or routine purchases? If so, why? Given prior research has demonstrated that payment modes, such as cash and credit cards affect the variety of items purchased, with credit cards associated with more hedonic purchases than cash (Thomas, Desai, and Seenivasan 2011), we predict:

    XI. ***Miles will be more likely to be used for hedonic and experiential purchases than cash of the same value.***

12. **Diversity across Programs**: Why do some loyalty program managers use fixed mileage pricing rates across all program offerings, and others use variable prices? Why do some devalue customer mileage balances? Why do some offer a wider range of options to use miles? The answer to these questions may lie on the goal of the loyalty program. If the goal is to increase customer satisfaction, then having customers continue to build and use their miles would appear to be the way to go. If, on the other hand, the goal is to

have a short term gain by having customers miles expire, then the goal would be to prevent customers from using their miles. I propose:

XII. The greater the transparency, stability, and fungibility of miles, the greater customer satisfaction with the loyalty program.

Theoretical Implications for Behavioral Pricing

People have already been shown to display money illusion in the domain of local and foreign currencies: the face value effect (Raghubir and Srivastava 2002, Raghubir, Morwitz and Santana, 2012). Cognitive complications with multiplication and division are likely to be compounded in the domain of miles where one currency is a 100^{th} of a fraction of the other in terms of exchange rates. Thus, examining the currency of miles can make a contribution to the domain of numerical cognition and behavioral pricing.

The mere numerosity of miles as a function of legal tender may add to the effect of "sticker shock" given the large number of miles required to make a purchase, though the same numerosity is also likely to make people feel wealthier (Pelham, Sumarta, and Myaskovsky, 1994; Wertenbroch, Soman, and Chattopadhyay, 2007).

People are less likely to track the amounts they have in their mileage accounts and be aware of their worth, as also the monetized value of their mileage wealth. Therefore, they do not have readily available reference points for what something should cost, making it difficult for them to assess the value of a deal. If mileage programs were to be designed where the amount paid in miles was not a multiple of a reference number (e.g., "25,000 miles"), but in

increments tied to the monetary price of the product (e.g., $325 airfare = 24,500 miles; $650 airfare = 49,000 miles), then customers would be more likely to use their mileage balances as the transparency of the prices would be apparent. Overall likelihood of purchase should also increase as the pain of payment with miles should be lower than the pain of payment associated with other legal tender monetary forms. Finally, as these payments would be of different amounts, they would resemble charges adding up to a credit card (even though they are a drawdown of a balance more akin to a gift card), and, accordingly, each instance should be difficult to recall, leading to continued future drawdowns of mileage balances (Srivastava and Raghubir, 2002).

The fact that miles are different from money suggests the possibility that customers may be less price sensitive with miles than they are with money as they value miles less than money. Examining the price elasticity of different products and services as a function of mode of payment is offered as an interesting future area of research.

Managerial Implications for Loyalty Program Managers

From the above discussion, there are a few prescriptive recommendations for loyalty program managers:

1. Recognize that award balances are hard earned wealth of your customers that you are managing, much like a bank is entrusted with managing the bank balances of its customers.

2. Consistent pricing across merchandise and time. It is the uncertainty associated with what a mileage balance is worth that may be a deterrent in its use.
3. Do not devalue mileage wealth without informing the customers. Be transparent.
4. If you are doing a devaluation, explain why to your loyalty program members along with a clear rationale.
5. Learn from what credit card companies are doing with their points: Translate the value of a customer's mile wealth to them in terms of US $, if you wish the customer to draw it down.
6. Appeals that are likely to work are "merchandise and services are a reward for time spent in the sky."
7. Customize appeals by membership tier. For example, customers who have flown 25,000 miles in the last year as compared to those who have flown 100,000 and those who are sporadic members should get different appeals as they are likely to have not only differential mileage wealth, but also differential mileage (and business) potential.
8. Translate the mileage earned into the time and effort the customer has invested in traveling (using averages and estimates), and ask them what they could be worth to them in terms of hedonic and/ or experiential gifts for themselves or gift cards for others.
9. Recognize the reality that award flights are rarely available, and customers are increasingly becoming aware of this reality, so advertising award flights as a reason to fly with you or buy more miles is not going to be particularly effective. Instead, consider advertising how they can reach their next desired merchandise/ service/ experience

reward. For example, “You are 2 trans-continental flights away from a free 7-day Mediterranean Cruise.”

10. Recognize that as the “perks” associated with higher status become increasingly difficult to attain as the number of customers with “high status” grown exponentially, the mere status and the benefits it accords (priority boarding, free meal) may not be an adequate method to maintain customer loyalty, especially once a customer has reached a particular goal status level (e.g., United 1K).
11. “Gifts” they can get by using their mileage plus accounts become an effective way to maintain their loyalty willingly, rather than holding them “hostage.” As such, a push at typical seasonal gifting times (Valentine’s Day, Mother’s Day, Father’s Day, Graduation, and December), using theme-appropriate products may be effective at getting customers to draw down their balances.
12. Advertise that miles can be monetized. Advertise the range of gift cards available by converting miles into gift cards and redeeming their cash value.
13. Take a leaf out of Amazon’s book and create “wish-lists” for merchandise, service and experience awards and then periodically tell customers how much closer they are to their goal.
14. Set up redemption sites so that customers may choose (if they wish) to only look at items for which they have adequate mileage balances.
15. At redemption sites, include prices in both miles as well as legal tender and allow customers to customize what fraction of the price they will pay with miles.

16. When there is inadequate mileage balance for an item, state the difference in the amount that the customer would need to pay in terms of legal tender. This would frame the purchase as almost “free” with a small token payment (as is done when gift cards are redeemed, and, on occasion, miles are redeemed for hotel stays).

Conclusion

The purpose of this chapter was to introduce the idea of a new currency that is ubiquitous: miles. Broadly applied, “miles” exist in all loyalty programs – credit cards, hotels, retail, travel sites and others, so the ideas in this chapter as applied to miles should be transferable to other domains where a loyalty program is in existence or is being planned.

From a theoretical perspective, the purpose of this chapter was to encourage original empirical research into the domain of loyalty programs and miles to better understand how customers value them and what will make them likely to save or spend them.

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Figure 1: Delta's MagsforMiles Screenshot (retrieved Feb 3, 2019)

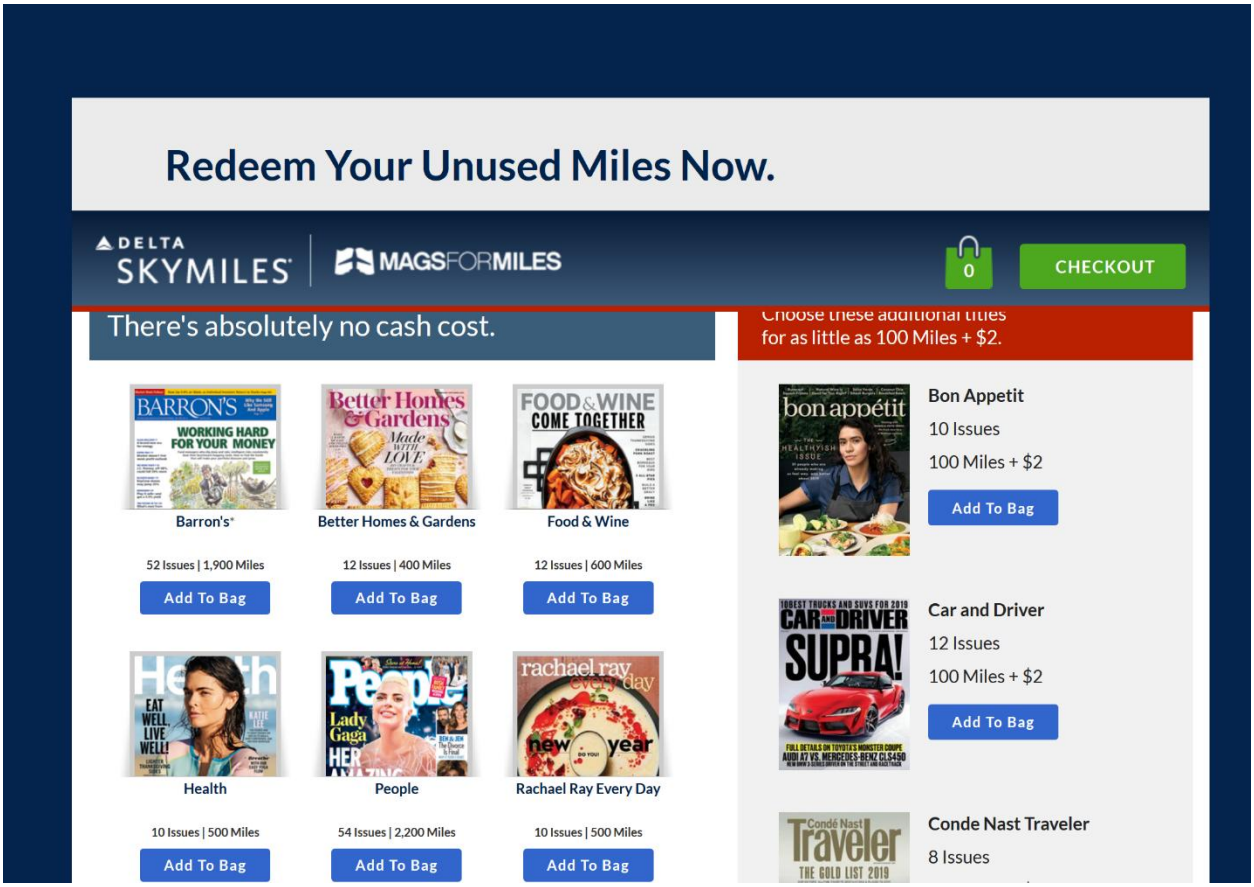


Figure 2: Delta's pricing for Amazon Gift Cards

Click on image to zoom

Amazon

6,350 ***miles***

Gift Card Amount: $25

$25 $50 $75 $100 $150 $200

$250 $500

Delivery Type: Physical

Physical

Click on image to zoom

Amazon

24,350 ***miles***

Gift Card Amount: $100

$25 $50 $75 $100 $150 $200

$250 $500

Delivery Type: Physical

Physical

Click on image to zoom

Amazon

120,350 ***miles***

Gift Card Amount: $500

$25 $50 $75 $100 $150 $200

$250 $500

Delivery Type: Physical

Physical

Figure 3: Delta's pricing for Best Buy Gift Cards

Click on image to zoom

Best Buy®

6,100 ***miles***

Gift Card Amount: $25

$25 $50 $75 $100 $150 $200 $250 $500

Delivery Type: Digital

Digital Physical

Click on image to zoom

Best Buy®

6,250 ***miles***

Gift Card Amount: $25

$25 $50 $75 $100 $150 $200 $250 $500

Delivery Type: Physical

Digital Physical

Click on image to zoom

Best Buy®

118,200 ***miles***

Gift Card Amount: $500

$25 $50 $75 $100 $150 $200 $250 $500

Delivery Type: Digital

Digital Physical

Figure 4: Additional items that can be purchased with saved miles by buying a $500 Amazon gift card versus twenty $25 Amazon gift cards on Delta

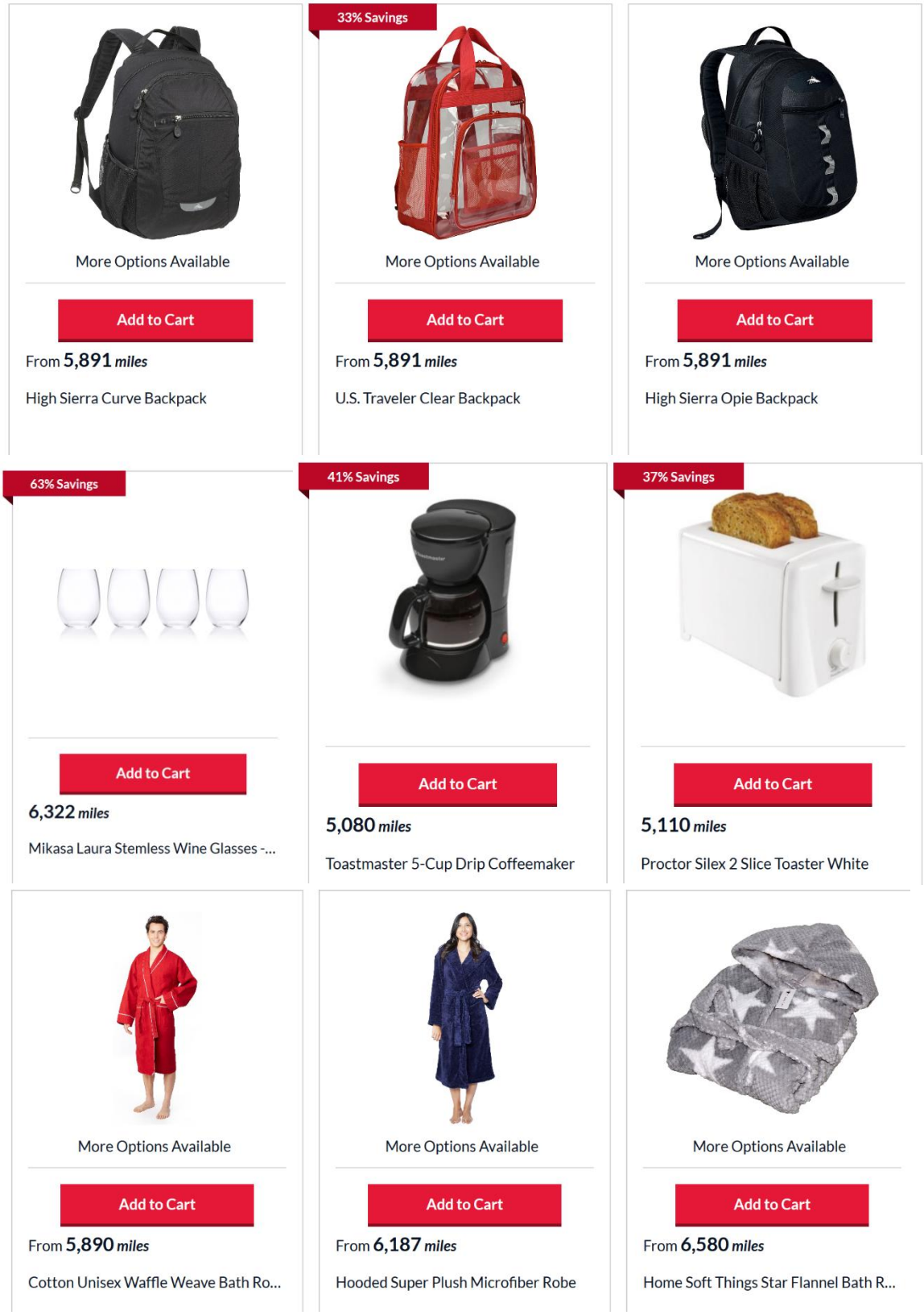


Figure 5a: Price of a $10 Starbucks gift card using i) Delta SkyMiles and ii) United MileagePlus Miles

Click on image to zoom

Starbucks®

2,550 *miles*

Gift Card Amount: $10

$10 $25 $50 $75 $100 $150

$200 $250 $500

Delivery Type: Digital

Digital Physical

Starbucks Card

Select gift card value

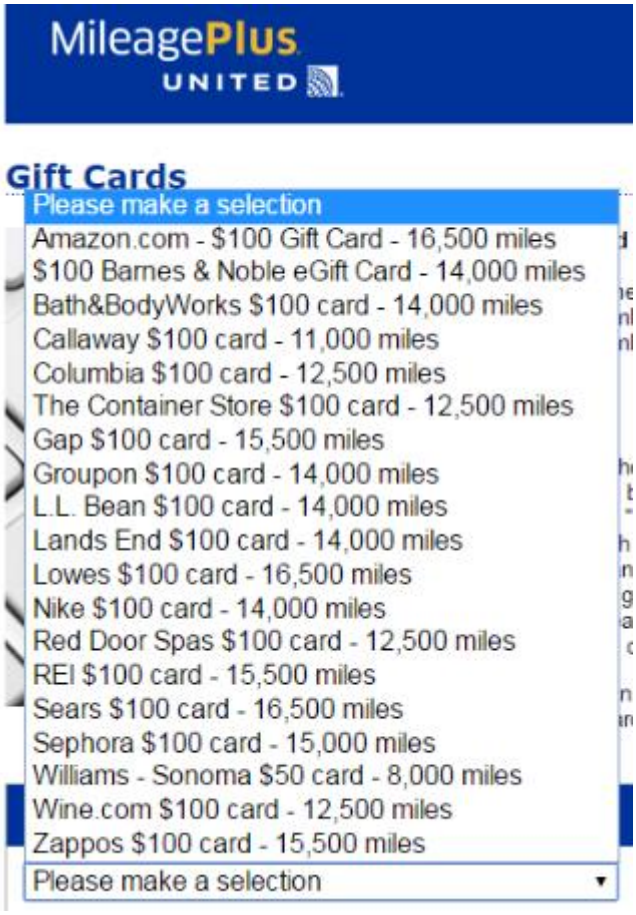
$10 $25 $50

You will spend 1,562 miles

Figure 5b: Price of a $100 Bath and Bodyworks gift card using i) Delta SkyMiles and ii) United MileagePlus Miles

Figure 6: Differential Prices for a $100 gift card: Panel A – United in 2016, and Panel B – Delta 2019.

Panel A: United 2016



Panel B: Delta 2019

Click on image to zoom

TGI Fridays™

22,550 ***miles***

Gift Card Amount: $100

$10 | $25 | $50 | $75 | **$100** | $150 | $200 | ~~$250~~ | ~~$500~~

Delivery Type: Digital

Digital | Physical

Click on image to zoom

Nordstrom

23,600 ***miles***

Gift Card Amount: $100

$25 | $50 | $75 | **$100** | $150 | $200 | $250 | $500

Delivery Type: Digital

Digital | Physical

Click on image to zoom

American Express® Gift Card

25,350 ***miles***

Gift Card Amount: $100

$25 | $50 | $75 | **$100** | $150 | $200 | $250 | $500

Delivery Type: Physical

Physical

Click on image to zoom

Red Door Spa

21,850 ***miles***

Gift Card Amount: $100

$50 | $100

Delivery Type: Physical

Physical

Click on image to zoom

Delta Air Lines

11,100 ***miles***

Gift Card Amount: $100

$50 | $100 | $250 | $500 | $1000

Delivery Type: Digital

Digital

https://www.thepointcalculator.com/Airline/United/united-miles-value#cashvalue

United Miles Redemption Chart

60000 Miles

United Flights 1.4 cents on average	$840
Hotels 0.68 cents on average	$408
Hertz [Standard and Lower] 0.1 cent on average	$600
Hertz [Interm SUV and Higher] 0.07 cents on average	$420
Thrifty 0.078 cents on average	$468
Cruises 0.78 cent on average	$468
All Gift Cards 0.64 cents	$385