Rundle in the Jungle! Why Do People Subscribe to Amazon Prime? Analyzing the Combination of Flat Rate and Bundle Pricing within a Loyalty Program

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Abstract

We analyze the flat rate and bundle pricing nature of the Amazon Prime subscription. Based on two customer surveys (n=2062, n=906) and using a best–worst scaling (BWS) discrete choice experiment, we determine how important the different Prime benefits are to the subscribers. We perform a correlation and cluster analysis. We find mostly very weak correlations between the importance scores of the different Prime benefits. This is beneficial for a bundle pricing model such as Amazon Prime. We also find that the importance scores of the individual benefits are only weakly correlated with the actual usage rates of the benefits. This is beneficial for a flat rate pricing model such as Amazon Prime. Furthermore, we see indications customers value having various benefits included in Prime, even if they do not use them. We also discuss how Amazon Prime fits into the business strategy of Amazon.

Keywords: Bundle pricing, Flat rate pricing, Subscription, Loyalty program, B2C e-commerce

1. Introduction

In today's competitive environment, it is important for retailers to know how, where and when to engage consumers as they journey through the complex online-driven retail jungle (The Economist, 2017). In this article, we focus on the world's top-selling online retailer (Amazon.com) and its powerful tool in the battle for customers and market share, Amazon Prime. Amazon offers an ever-growing portfolio of complementary products and services so that the consumption of one product/service encourages the use of other products/services from the portfolio.

Amazon Prime is the consumer's ticket into this business ecosystem. Prime members pay an annual subscription fee to access benefits such as free two-day shipping, video and music streaming, gaming, photo storage, special discounts, and many more. Thus, Amazon Prime is a paid subscription program that bundles a range of products and services. Scott Galloway coined the term “Rundle” for bundled recurring revenue subscription models such as Amazon Prime (Galloway, 2020). These models have become increasingly popular in recent times and appear to be very successful. But what makes a ‘Rundle’ desirable to companies and their customers? We contribute to answering this question by investigating the Amazon Prime subscription, which is probably the world's most successful fee-based premium loyalty program.

Looking at the related literature (Section 2), we note that while there is already research concerning the Prime subscription and similar programs, this research has not addressed the combination of bundle and flat rate pricing that can be found within Amazon Prime. These are two very important pricing strategies with distinctive economic features. Extant research, however, has often placed an emphasis on explaining customer behaviors from a psychological perspective and largely neglected an economic analysis and discussion. With this paper, we aim to contribute to closing this research gap.

In Section 3, we explain the theoretical background of bundle and flat rate pricing models and derive concrete research questions and hypotheses. To answer our research questions and hypotheses, we conducted two customer surveys, which we will describe in Section 4.1. In this section, we also explain the statistical methods that we used. Subsequently Section 4.2 contains the statistical results of our analyses. Finally, we discuss our results from a broader managerial viewpoint in Section 5 and close with Section 6.

2. Related literature and research gaps

Extensive research exists on loyalty programs (LPs), which have long been used in a broad range of industries to reward repeat customers. Chen et al. (2021) provides an extensive literature review. Many empirical studies show positive effects of LPs ranging from increased purchase quantities and frequencies (e.g., Wang et al., 2016; Iyengar et al., 2022) to increased lifetime values, wallet shares (e.g., Leenheer, 2007; Gopalakrishnan et al., 2021) and an increase in customer satisfaction (e.g., Mimouni-Chaabane & Volle, 2010; Zakaria et al., 2014).

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Much of the above research is about free LPs. Amazon Prime is a rather special LP because it is both a so-called fee-based LP and a subscription program. A fee-based LP requires an upfront payment to access the membership benefits. A membership fee can be viewed as an investment in future payoffs, and customers try to maximize their benefits so that the membership fee 'pays for itself'. In addition to rational considerations, many customers are also influenced by irrational biases. The subscription fee is held in a consumer's mental account and moves them to amortize the psychological burden of the cost (e.g., Thaler, 1980; Dick & Lord, 1998). This is widely known as the sunk cost effect and can lead to an increase in purchases to recoup the initial payment (Guo & Liu, 2023; Iyengar et al., 2022).

The most prominent benefit of the Amazon Prime subscription is Membership-based Free Shipping (MFS). A Prime subscriber pays the subscription fee and in return can order from Amazon without having to pay any further shipping fees. Guo & Liu, 2023 features a literature review about MFS. Sun et al. (2017, 2018) identified three effects associated with MFS: (i) a demand increase effect; (ii) a price increase effect, as higher prices can be realized for members; and adversely, (iii) a negative effect because nonmember demand decreases due to the higher prices.

Guo & Liu (2023) analyzed an B2C e-commerce retailer (e-tailer) with MFS and contingent free shipping (CFS). CFS means that nonmembers need to spend a minimum amount to be eligible for free shipping. The profitability of MFS is found to vary by customer segment. Some MFS customers are less profitable than CFS customers because they do not order more but merely order more often. However, MFS also increases the purchase and revenue contribution of many customers. Guo & Liu (2023) also found that the revenue increasing effect of MFS becomes stronger the longer customers have their subscription. The sunk cost effect, on the other hand, often weakens over time.

However, most research on MFS neglects the impact of program benefits other than free shipping. Literature on paid subscription programs that bundle multiple benefits, such as Amazon Prime, is very sparse.

Iyengar et al. (2022) studied a LP from a cosmetics retailer that bundled both MFS and special discounts. However, such a bundle is still very simple, and MFS was rather unimportant in their study context. Walsman & Dixon (2020) studied a LP from a hospitality firm with subscription fees ranging from $400 to $600. They drew a comparison with the Amazon Prime subscription and proposed that Prime subscribers predominantly use benefits that justify the subscription fee by providing clear savings. That is, free two-day shipping and Prime Video streaming. Free shipping provides a direct monetary saving and the monetary value of using Prime Video is quantifiable because the service can be easily compared with competing services such as Netflix.

Ashley et al. (2016), Krämer (2017) and Ramadan et al. (2021) explicitly studied the Amazon Prime subscription and are therefore closest to our research. The study by Ashley et al. (2016) found that customers who pay to be a member have more positive attitudes toward a loyalty program and value the benefits more favorably. Moreover, their results suggest that paid programs indeed increase net revenue (i.e., subscription fees + increased sales – waived shipping fees).

The study by Krämer (2017) confirmed stronger engagement and more intensive use when consumers subscribe to Amazon Prime. Krämer (2017) explained this behavior with the sunk cost effect and the taximeter effect. The taximeter effect is grounded in the theory of mental accounting (Thaler, 1985). Paying per use reduces the pleasure of consumption because consumers attribute the cost, and thus the pain, of paying for consumption at the time of use. In contrast, paying a flat rate decouples consumption from payment because the cost is mentally prepaid (Lambrecht & Skiera, 2006).

Ramadan et al. (2021) showed that programs such as Amazon Prime increase impulsive behavior and give shoppers a false sense of self-control. Amazon Prime members feel attached to the e-tailer both from a cognitive and emotional perspective, which reinforces their impulsive buying behavior.

In summary, research on fee-based LPs has mainly focused on explaining customer behavior based on psychological effects such as the sunk cost and the taximeter effect. An economic analysis both from the retailer's and customers' perspectives was often neglected. Moreover, almost no extant research on LPs addresses the combination of bundle and flat rate pricing. These are two very important pricing strategies. The economic theory behind bundle pricing is virtually absent from the existing literature. We aim to contribute to closing this research gap by examining the combination of bundle and flat rate pricing in the context of the Amazon Prime subscription and especially from an economical perspective.

3. Theoretical background, research questions and hypothesis development

In this section, we now take a closer look at the theoretical background of the central research topics of our paper (bundle pricing and flat rate pricing). This theoretical background guided us in the creation of the survey and its analysis.

The concept of bundle pricing is an important topic in both economics and marketing. Bundle pricing means that a company sells multiple products as a bundle with one price for the whole bundle. There are several biases

that make bundle pricing attractive. According to prospect theory, for example, bundles are perceived as less costly (Stremersch & Tellis, 2002). In addition, customers seem to automatically infer savings from a bundle offer (Heeler et al. 2007).

However, bundle pricing can also be profitable if every customer acts completely rational. In economic theory, every customer has a reservation price for each component of a bundle (the highest price for which the customer would be willing to buy the product/service). Setting aside confounding effects, the reservation price of a bundle would simply be the sum of the reservation prices for the individual components. It can be shown mathematically that offering a bundle instead of selling the components individually can be profitable for the seller (in our case Amazon). Bundling tends to be more profitable the lower the correlation between the reservation prices of the individual components (Schmalensee, 1984; Hanson & Martin, 1990). An example of a negative correlation would be if customer 1 is willing to pay *$15* for service A (e.g., a video streaming service) and *$10* for service B (e.g., MFS), and another customer 2 is willing to pay *$10* for service A and *$15* for service B. If the services are sold separately, both services would be sold at a price of *$10* to attract both customers, resulting in a maximum revenue of *$40*. In contrast, if services A and B are bundled and priced at *$25*, both customers would buy the bundle, and the total revenue would be *$50*, a *25%* increase compared to the unbundled case.

Amazon decided to bundle many different benefits within their Prime subscription and its strategy is almost pure bundling. Only the Prime Video streaming service is available as a standalone subscription. All other benefits are exclusive to the Prime subscription. From a purely rational perspective, the profitability of this pricing strategy is therefore mainly dependent on how correlated the reservation prices of the Prime benefits are. In our paper, we focus on this fundamental effect.

Since it is questionable to ask survey participants directly for their reservation prices, we opted to use the importance of a Prime benefit as a proxy for the reservation prices and estimated the importance scores based on a choice-based experiment (more about this in the following Section 4). Logically, the more important a benefit is to a customer, the higher the customer's reservation price should be for that benefit. We use this approach to answer the following research questions:

- **RQ1:** Because of what benefits do people subscribe to Amazon Prime?
- **RQ2:** How strong are the correlations between the importance scores of the individual Prime benefits?

Our digital appendix contains a table with all of the Prime benefits that we found. Note, that even a seemingly small service such as Amazon Music contains multiple smaller services, for example, music streaming and podcasts. One could argue that it is worthwhile to distinguish between these two because some customers might find podcast streaming very important but music streaming less important. For our survey, we had to decide on a subset of Prime benefits, and we had to combine some Prime benefits so that the survey did not become too long and tedious. From a pre-study, we knew that free (fast) shipping and Amazon Prime Video are very important to Prime subscribers. Therefore, we chose to prioritize these two benefits by aggregating them less than the other benefits. In total, we asked participants about 13 different benefits (listed in **Figure 1**), covering almost all Prime benefits. Detailed descriptions, as shown to the participants in our second survey, can be found in the digital appendix.

Most of the 13 benefits are self-explanatory and a natural choice considering our research goals. However, two subtleties in our selection merit a brief explanation. Note that we asked survey participants how important "Free shipping" and "Free fast shipping" are to them. At first glance, one might assume that customers always prefer free fast shipping over free shipping. However, environmentally conscious people may not want to use fast shipping, and even people who like fast shipping could do without fast shipping but not without free shipping. A similar difference exists between the "Free on-demand video streaming (in general)" and the "Free on-demand streaming of exclusive movies/tv series" benefits. By breaking down the benefits, we can analyze which individual components are more or less important and how important the benefits are overall. It is important to keep this design in mind when interpreting our correlation analysis, as some of the benefits will be highly correlated simply because we have provoked this through our selection of the (sub-)benefits.

While the profitability of bundle pricing is closely related to the variability of the reservation prices for the individual components of a bundle, the profitability of flat rate pricing is mainly determined by the variability of the actual usage of the services and its valuation by customers (Lambrecht & Skiera, 2006). Customers who use a service a lot but only pay a fixed price (flat rate) are unprofitable because the variable costs that they create are higher than the fixed price. Customers who use the service seldomly, on the other hand, are profitable. There are also several biases which make flat rate pricing more attractive to customers such as the taximeter effect, the insurance effect and the overestimation effect (Lambrecht & Skiera, 2006).

At the same time, however, customer satisfaction with the Prime subscription is a key metric for Amazon. If every customer had the same valuation scale, customers who rarely use the Prime benefits would be less satisfied with the Prime subscription than customers

who often use the benefits. For a successful application of flat rate pricing, it is therefore beneficial to Amazon if customers have different valuation scales. Usually, it would be ideal to have many customers who are satisfied with little usage. The Prime subscription, however, has the peculiarity that the frequent use of the free shipping benefit may be positive for Amazon if more gross profit is realized. Conversely, if customers merely ordered smaller quantities more frequently, Amazon's profit would decrease (Guo & Liu, 2023).

It stands to reason that, on average, customers who opt for a Prime subscription both order in smaller quantities and spend more money on Amazon. After all, free (fast) shipping is an important part of the value proposition of Amazon Prime. As outlined above, such behavior could have rational and irrational reasons. The only difference is that irrational biases would affect all Prime subscribers, while the rational behavior would be correlated with how important the free (fast) shipping service is to a Prime subscriber. Thus, we can formulate the following hypotheses:

- Customers with Prime order more frequently on Amazon (**H1.1**) and spend more on Amazon (**H1.2**).
- **H2:** Customers with Prime are more likely to order just a few items per order.
- **H3:** Both **H1** and **H2** are moderated by how important free (fast) shipping is to the respective Prime subscriber.
- **H4:** The relative effect of **H1.1** is stronger than the relative effect of **H1.2** (because Prime customer not only buy more on Amazon, but also in smaller order sizes).

To test these hypotheses, we asked in our first survey (which was answered by both customers with and without Prime) about the average online shopping frequency, on average, how much of the online shopping is done on Amazon and how much money the survey participants spend on Amazon, and how likely it is that they order 1, 2, 3, 4–5 and 6–10 items per order when shopping on Amazon.

However, such a comparison between customers with and without a Prime subscription is only possible for shopping on Amazon, as both types of customers can order from Amazon. Benefits such as music streaming are exclusive to Prime subscribers. We therefore asked in our second survey for a self-assessment (Likert scale) of the usage rates of the different Prime benefits. We also asked about the average Prime Video viewing hours per month. These additional questions allowed us to conduct several important analyses:

RQ3: How strong is the correlation between the self-assessed usage rate of Prime Video (Likert scale) and the actual estimated usage (viewing hours)?

A correlation that is not very strong would be beneficial for Amazon's flat rate pricing strategy. Furthermore, it is known that a flat rate creates an insurance effect that is often irrationally highly valued by customers (Lambrecht & Skiera, 2006). For this bias, it is not even necessary that the subscribers think that they (will) use a benefit often. Part of the value of Amazon Prime would come from simply having the opportunity to use the benefits without extra costs. This suggests the following hypothesis, which we can test with our survey:

- **H5:** Self-assessed importance scores are higher than self-assessed usage rates.

For example, if Prime subscribers answer that they use a benefit only "Sometimes" but at the same time answer that they find the benefit "Very important", then this would indicate that the above effect is indeed present among Prime subscribers. However, it is important to note that our Likert scale for the importance of a benefit ranged from "Very important" to "Very unimportant", and our scale for the usage rates ranged from "Very often" to "Very rarely or never". The word "Unimportant" with its 'un'- prefix could be perceived more 'negatively' than a word such as "Rarely" which has no negating prefix. This could potentially create a bias.

Finally, we also asked about how satisfied the participants were with their Prime subscription (measured on a Likert scale: "Very satisfied", …, "Very unsatisfied") This question enabled us to combine the economic theories behind bundle and flat rate pricing:

- **H6:** Customers who find many benefits important are more satisfied with their Prime subscription (because they have a high reservation price for the bundle, but pay the same price as everyone else, and therefore have a higher consumer surplus).
- **H7:** Customers who use many benefits are more satisfied with their Prime subscription (because they obtain much utility and thus have higher reservation prices but must only pay the fixed flat rate price and therefore have a higher consumer surplus).
- **H8:** Taking **H6** and **H7** together explains the satisfaction with the Prime subscription better than either relationship on its own (because if having merely the option to use a benefit is valuable to customers, then the importance scores should contain partially different information than the usage scores).

4. The customer survey

4.1. Data collection, survey design and methods

We conducted our survey in May and June 2023 using the Sawtooth survey tool. To generate our survey responses, we used the Prolific panel, which is widely used by companies and in academia for marketing research (Eyal et al., 2022). We used a two-tier approach for our survey. For our first survey, we merely restricted the Panel to consumers in the United States. Therefore,

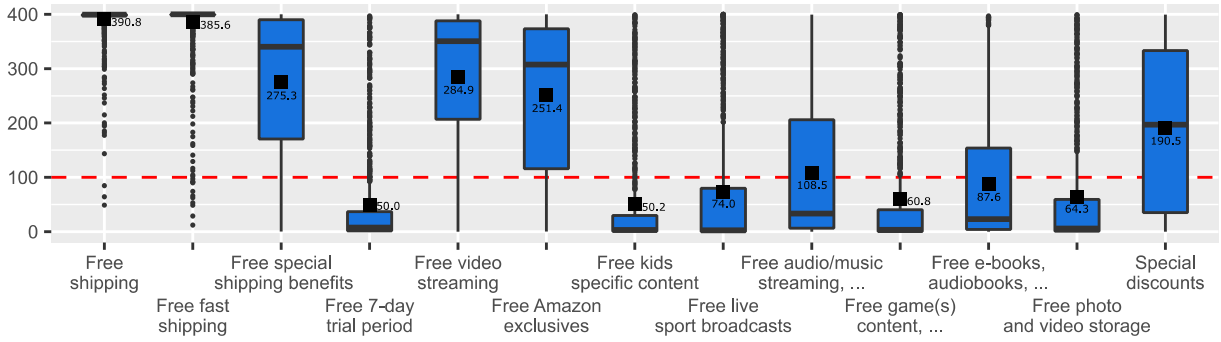
the first sample consists of people with and without a Prime subscription. For our second survey, we invited the participants from our first survey who answered that they have a paid Prime subscription. Our digital appendix contains demographic statistics about both the first and the second sample. Due to the Prolific panel, we were able to cover a large portion of society representatively. Our digital appendix also contains further useful information, such as the questions that we asked in both surveys and additional statistics.

We were able to survey *n=2200* people in our first survey and *n=1021* in our second survey (complete answers). Both surveys contained multiple quality controls, such as comprehension and attention checks (instructional manipulation) and nonsensical answers. We removed all answer sets with poor quality and all sets from participants who clicked through the survey exceptionally quickly. After our quality checks, *n=2062* and *n=906* full answer sets remained.

We used the Sawtooth survey tool because it is the most mature software package available for best–worst scaling questionnaires. As stated in Section 3, one of our primary goals is to determine how important the various Prime benefits are to Prime subscribers. For this purpose, we used a BWS discrete choice experiment. More precisely, we conducted a BWS case 1 experiment (the object case). The "objects" in our case are the different Prime benefits. This case of BWS can be used as an alternative to Likert scales and has become increasingly popular in recent years (Louviere et al. 2015, pp. 1–5 and p.14). That is, instead of asking "How important is the free shipping benefit to you?" and letting the participants answer on a Likert scale, the participants must click through several BWS questions. Note that in addition to our BWS experiment, we also asked Likert scale-type questions in our survey.

A BWS question consists of a set of items/objects. In our case, we showed 13 BWS questions, each with a set of four Prime benefits. Only looking at these four benefits (the benefits differed from question to question), the participants had to decide which one of the four they found most important and which one they found least important (our digital appendix contains an example). We generated many different randomized balanced incomplete block designs (BIBDs) with the R package "crossdes" and imported them into Sawtooth. Our BIBDs had the characteristic that over the 13 BWS questions, each benefit was shown in exactly four sets and co-occurred within these four sets exactly one time with every other benefit. Such a balanced design has the advantage that many known statistical methods can be used for estimating the importance scores and that these

The calculated importance of the different Prime benefits (ratio scale). Red line = anchor.
Every response below the anchor means that the respondent indicated that the benefit is not really important to him/her.



5 = "Very important" or "Very often"	Self-reported importance of the benefits:				Self-reported usage of the benefits:				Actually
Benefits	**95% CI-**	**Mean**	**95% CI+**	**Hist.**	**95% CI-**	**Mean**	**95% CI+**	**Hist.**	**important*:**
Free shipping	4.82	4.85	4.88		4.73	4.76	4.79		99.45%
Free fast shipping	4.73	4.77	4.80		4.43	4.48	4.54		96.58%
Free special shipping benefits	3.96	4.02	4.08		3.22	3.31	3.39		73.29%
Free 7-day trial period	2.62	2.69	2.76		1.50	1.56	1.62		19.65%
Free video streaming	4.00	4.06	4.11		3.36	3.44	3.52		79.36%
Free Amazon exclusives	3.84	3.90	3.96		3.17	3.25	3.33		69.87%
Free kids specific content	2.37	2.44	2.52		1.72	1.79	1.85		19.09%
Free live sport broadcasts	2.37	2.46	2.55		1.71	1.78	1.86		25.17%
Free audio/music streaming, ...	2.99	3.06	3.13		2.13	2.21	2.29		40.73%
Free game(s) content, ...	2.44	2.52	2.60		1.74	1.82	1.90		23.07%
Free e-books, audiobooks, ...	2.92	2.99	3.06		2.06	2.13	2.20		37.97%
Free photo and video storage	2.56	2.64	2.71		1.68	1.76	1.84		25.28%
Special discounts	3.56	3.62	3.69		2.70	2.78	2.85		60.71%

* Percentage of participants who selected that the respective Amazon Prime benefit is **actually** important to them.

Figure 1 The results of the BWS experiment and statistics about the Likert scale questions

scores are more robust. The exact composition of the different sets was randomized, as was the display sequence of the different sets and the display position of the different items within the sets. To achieve an absolute scaling, we additionally opted for a direct-anchoring approach (Lattery, 2011). After the 13 BWS questions we asked for each of the 13 benefits whether the person finds the benefit actually important or not. The answers to these anchoring questions can then be combined with the ranking from the BWS questions to improve the ranking and to find a threshold under which a benefit is considered not important.

The statistical results, which we will discuss in the following, were generated using Sawtooth's built-in analysis tool and double-checked with the R package "bwsTools". The importance scores of the Prime benefits were estimated using hierarchical Bayes. The cluster analysis used a latent class multinomial logit model. The fitting process was started multiple times with random seeds to build confidence in the robustness of the identified customer groups.

Depending on the concrete analysis, we report two different scales for the importance scores. We report an anchored ratio scale ranging from min = 0 to max = 400 and an anchored interval scale ranging from min = -100 to max = 100. A ratio scale allows for statements such as 'For the group of customers under consideration (e.g., the whole sample or only one person) the free shipping benefit is on average (avg. score of *~390*) about *3.6* times as important as the free audio/music streaming benefit (avg. score of *~108*)'. The interval scale is better suited for statements such as 'Group 2 finds free on-demand streaming (avg. score of *~54*) much more important than Group 1 (avg. score of *~13*)'. Thus, the interval scale is also better suited for comparisons between individuals, that is, for regression analyses.

In addition to the statistical methods described above for analyzing the BWS data, we primarily used (multiple) linear regression and mean comparisons (e.g., *u*-tests) for the rest of our analyses.

These scales are anchored →	Interval scale:		Ratio scale:	
Benefits	**Grp. 1**	**Grp. 2**	**Grp. 1**	**Grp. 2**
Free shipping	57	67	380	325
Free fast shipping	71	66	392	322
Free special shipping benefits	28	9	281	126
Free 7-day trial period	-15	-33	42	35
Free video streaming	13	54	183	289
Free Amazon exclusives	8	44	145	255
Free kids specific content	-24	-23	23	49
Free live sport broadcasts	-29	-6	16	84
Free audio/music streaming, ...	-8	1	62	103
Free game(s) content, ...	-23	-21	25	52
Free e-books, audiobooks, ...	-10	-11	55	71
Free photo and video storage	-17	-27	37	42
Special discounts	9	2	155	106

Interval: -100 to 100, Ratio: 0 to 400; Grp. 1 size: 62.9%, Grp. 2: 37.1%

The avg. max. membership probability is: 95.1%; McFadden's R^2: 0.374

Benefits	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**
1. Free shipping		0.66	0.33	0.01	0.12	0.12	0.18	0.29	0.32	0.12	0.27	0.22	0.14
2. Free fast shipping	***		0.46	0.2	-0.07	-0.05	0.2	0.22	0.17	0.25	0.16	0.21	0.19
3. Free special shipping benefits	***	***		0.29	-0.07	0.01	0.19	0.15	0.19	0.13	0.15	0.27	0.51
4. Free 7-day trial period		***	***		-0.02	0.04	0.04	0.04	0.18	0.05	0.2	0.21	0.33
5. Free video streaming	**					0.96	0.32	0.29	0.39	0.18	0.34	0.18	0.24
6. Free Amazon exclusives	**				***		0.31	0.31	0.43	0.2	0.34	0.21	0.26
7. Free kids specific content	***	***	***		***	***		0.15	0.35	0.2	0.22	0.18	0.14
8. Free live sport broadcasts	***	***	***		***	***	***		0.26	0.15	0.04	0.07	0.13
9. Free audio/music streaming, ...	***	***	***	***	***	***	***	***		0.2	0.45	0.41	0.19
10. Free game(s) content, ...	**	***	***		***	***	***	***	***		0.21	0.04	0.25
11. Free e-books, audiobooks, ...	***	***	***	***	***	***	***		***	***		0.29	0.33
12. Free photo and video storage	***	***	***	***	***	***	***		***		***		0.22
13. Special discounts	***	***	***	***	***	***	***	***	***	***	***	***	

Legend: *** = <0.001 significance level, ** = <0.01 significance level, * = <0.05 significance level

Figure 2 The correlation matrix and a cluster analysis based on the BWS scores

4.2. Results

As an answer to our **RQ1**, we present in **Figure 1** both the results of our BWS choice experiment and the answers to our Likert scale questions. For almost all respondents, free (fast) shipping is a very important Prime benefit. This suggests that the other benefits alone are not compelling enough to justify subscribing to Prime. However, they certainly make the Prime subscription as a whole more attractive. As expected, many survey participants also found free on-demand video streaming important, especially Amazon exclusive movies and tv series. On average, free live sport broadcasts, and kids specific content are less important. Free special shipping benefits, special discounts, free audio/music streaming and free e-books and audiobooks are also important to many customers. Free game(s) content, free photo storage and the free 7-day trial period are only important for a limited number of customers.

Nevertheless, although in the minority, there are special customer groups who found some of the less popular Prime benefits quite important. Young men, for

example, find free games more important ($p<0.001$, $R^2=0.101$). Men are also more likely to state that they find live sport broadcasts important ($p<0.001$, $R^2=0.076$). Customers who use their Prime subscription together with children in their household find kids specific streaming content more important ($p<0.001$, $R^2=0.114$). More correlations based on demographics characteristics exist (albeit often less strong). The crucial takeaway is that different customers find different benefits important.

As an answer to our **RQ2**, we report a correlation matrix based on the anchored BWS scores (interval scale) in **Figure 2**. Most of the correlations are very weak. Some are not significant. These nonsignificant correlations suggest that there is some potential for delineating customer groups. Ideal for Amazon's price bundling strategy would be a perfect negative correlation ($r=-1$). However, this is mathematically only possible in the case of two variables. We asked about 13 different benefits and therefore the lowest possible correlation, if all benefits were equally negatively correlated, is $-1/12=-0.083$. If two of the 13 benefits had a lower correlation, for example $r=-0.5$, this would mean that other benefits would have correlations higher than $r=-0.083$. Overall, many of the calculated correlations are significantly closer to $r=-0.083$ than to $r=1$. This means that it is likely that the economic conditions for bundle pricing to be profitable are good.

This can also be seen in our multinomial logit latent class cluster analysis. We report the results of the best fit on two clusters in **Figure 2**. It is easy to see that Group 2 finds free on-demand video streaming more important than Group 1. Group 1 is more shopping oriented. However, the fit and explanatory value (e.g., Akaike Info Criterion, McFadden's R^2) is only marginally different between fittings on one, two, three or more clusters. Thus, the customer groups are not clearly delineated.

Given that almost every participant in our survey indicated that free (fast) shipping is important to them, it is not surprising that all of our hypotheses, **H1**, **H2**, **H3** and **H4**, are (partially) supported by the survey data

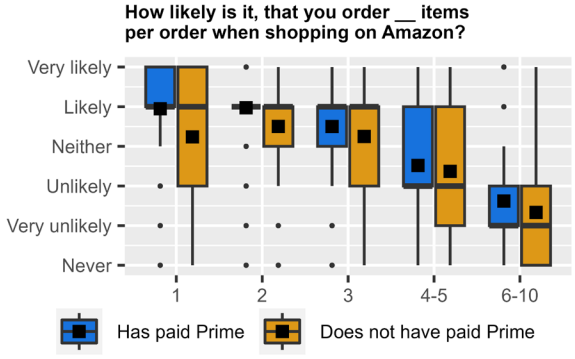


Figure 3 Prime customers shop differently

(see also our digital appendix). In accordance with **H1**, customers with Prime indicated that they order on average *3.45* times on Amazon per month (*95%* CI: *3.27–3.64*) vs. *1.27* times per month (*95%* CI: *1.16–1.39*) for customers without Prime. A similar difference exists for the money spent online shopping on Amazon per month (mean: *133, 95% CI: 126–141* vs. mean: *60.6, 95%* CI: *54.4–67*). In support of **H2** we see that respondents without a Prime subscription reported that they are most likely to order two items per order ($p<0.001$), compared to respondents with Prime, who are more or less equally likely to order one or two items order (see **Figure 3**). We are not able to check **H3** because almost every survey participant found free (fast) shipping very important. These variables therefore have too little variance for any sensible analysis. On the other hand, **H4** is again clearly supported. Respondents with Prime estimate that they order $3.45/1.27 = 2.72$ times as often on Amazon as respondents without Prime. However, they only estimate spending approximately $133/60.6 = 2.19$ times as much money on Amazon. This is a significant difference ($p<0.001$).

Turning to **RQ3**, we can report that the self-assessed usage of Prime Video has only a moderate correlation with the estimated average number of viewing hours ($p<0.001$, $R^2=0.161$, see **Figure 4**). This shows (at least for this benefit and our survey participants) that Prime customers are very heterogeneous in their assessments of what is frequent use. A person who answered that he or she uses free on-demand video streaming very often might mean an average of five or 15 hours per week. Such heterogeneity in customer perceptions is beneficial for a flat rate pricing strategy.

The Likert scale responses are fairly consistent with the calculated anchored BWS scores. However, our survey participants seem to have had a tendency to rate benefits as more important on the Likert scale compared to when asked indirectly using the BWS questions. This tendency to find benefits important also becomes evident when looking at the differences between the self-reported importance scores and the self-reported usage scores (see **Figure 1**). For every benefit, the mean importance score is higher than the mean usage score. This confirms **H5**. These scales cannot be compared 1:1; however, it is striking that, for example, only *~13%* of the survey participants indicated that they use free photo/video storage often or very often, but *~24%* of the participants indicated that they find the free photo/video storage benefit important or very important. Similar comparisons can be made for many of the benefits. In particular, the benefits that are reportedly not used very often exhibit a large difference between the two scales ($p<0.001$, $R^2=0.659$).

Regarding the satisfaction of survey participants

with their Prime subscription, we conducted multiple regression analyses. The importance scores explain *5.2%* of the reported satisfaction (confirming **H6**), and a multiple regression against the usage scores explains *9.9%* (confirming **H7**). The detailed results of the multiple regression analysis can be found in our digital appendix. A closer look reveals that the importance/usage of the free shipping benefit is the best predictor for satisfaction with the Prime subscription, followed by the free audio/music streaming benefit. All other importance/usage scores explain only little variance. A multiple regression analysis on both the importance and the usage scores explains *10.4%* of the reported satisfaction (slightly confirming **H8**). This is just a small increase, which means that both the importance and usage scores contain much similar information. This is logical since both are closely related to the reservation prices of the participants (utility theorem). That the perceived usage explains more variance than the perceived importance also supports the intuition that the usage of benefits is more directly related to the utility received from the benefits (Goodman & Irmak, 2013). However, both the fact that the combined regression explains more variance, and the finding that the survey participants considered many benefits important even though they do not use them often, support the theory that Prime subscribers value simply having the option to use a service without having to pay extra.

5. Discussion and implications

Overall, we were able to confirm many of our hypotheses. It was our goal to look at the Prime subscription from a point of view that is more grounded in economic theories than is usually the case in other research about the Prime subscription. Indeed, based on our results, it is likely that classic economic theories have relevance for explaining the Prime subscription both from Amazon's and customers' perspectives. Given the enormous complexity of the Prime subscription, an explained variance of *~10%*, for example, is more than significant. However, it is also clear that many other factors play a role in the perception and use of the Prime subscription.

Our correlation analysis revealed that the economic conditions for Amazon's bundle pricing strategy, while not perfect, are quite favorable overall. However, Amazon's strategy is not geared toward short-term profit. Primarily, Amazon wants to grow fast. A bundle pricing strategy has the advantage that the Prime subscription is very attractive for a wide range of heterogeneous customers (see also Stremersch & Tellis, 2002, p. 66). That the bundle pricing model also appears to be favorable from a short-term economic perspective creates a win–win situation for Amazon.

Membership-based Free Shipping also fits very well into the get big fast strategy. If, contrary to expectations, a customer who pays for MFS does not order much, then the flat rate revenue is higher than the variable costs, which is at least positive in the short-term. On the other hand, if a customer orders more due to MFS, this increases revenue long-term and therefore fulfills the primary goal of the strategy. Nevertheless, such a strategy can fail when customers do not spend more money overall, but instead, because of MFS, just order in smaller quantities. Then the e-tailer would not increase its revenue and even worse, would also have higher variable fulfillment costs. However, research has shown that MFS usually indeed leads to higher sales (see Sections 2 and 3), and we also found indications for this in our survey data.

Jeff Bezos put it succinctly: "When we win a Golden Globe, it helps us sell more shoes" (Klatt, 2022). The idea behind this is clear. Benefits such as Prime Video make the Prime subscription more attractive, and since the Prime bundle always contains MFS, many customers will eventually order more from Amazon.

In addition to the economic perspective, it is also prudent to consider the ecological perspective. Our data shows that Prime customers are more likely to order only one or two items per order compared to customers without Prime. This can never be good for the environment. The tricky part, however, is that Amazon

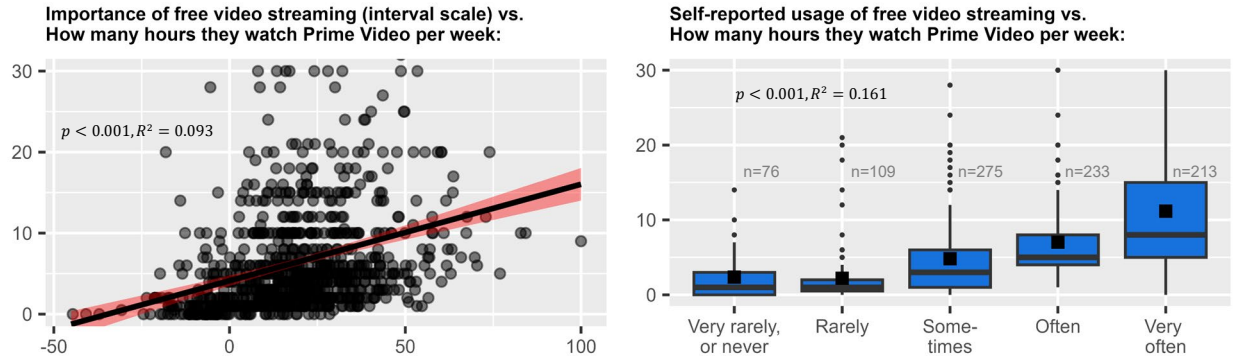


Figure 4 "Very often" can mean something very different depending on the person

or any other e-tailer has no choice. The delivery process is a very important part of the value chain of an e-tailer, and free shipping is probably the best leverage point for a premium loyalty program. The whole value proposition of MFS is that the convenience of small orders does not cost more. Rational subscribers therefore always use this advantage; otherwise, the whole value proposition of MFS would be void. Interestingly, the Amazon Prime subscription, with its bundle of predominantly nondelivery-related benefits, has the potential to alleviate the pressure on subscribers to take advantage of MFS, since the subscription fee can be justified by using other, less environmentally harmful benefits. However, we have not seen any indication of this in our data.

Our results support the theory that Prime subscribers value simply having the option to use a benefit without extra costs. Moreover, past research has shown that customers often overestimate their future usage rates (Lambrecht & Skiera, 2006) and prefer multifeature products, especially if they have a hard time estimating their future usage rates (Goodman & Irmak, 2013). Both biases are beneficial to Amazon's strategy. Every usage of a benefit creates variable costs for Amazon. For a flat rate pricing strategy, it is, therefore, usually advantageous if customers use benefits only occasionally and are satisfied nonetheless. Additionally, Amazon bundles many different benefits and therefore exploits the bias that customers prefer multifeature products. Moreover, Amazon is in a special situation because a high usage rate of the free shipping benefit and the special discounts benefit are not necessarily bad for Amazon. This distinguishes the Prime subscription from the usual flat rate pricing models. High usage of these benefits can be a win–win for both Amazon and the Prime subscribers.

We conclude that the ‘Rundle’ strategy has many advantages because it exploits many rational and irrational, economic and psychological effects. However, it is by no means easy to implement. Only very large companies such as Amazon can create a product such as the Prime subscription on their own. Nevertheless, the 'Rundle' strategy offers so many advantages that it may be worthwhile for smaller companies to consider joining forces and creating a cross-company subscription program. Even Walmart, for example, despite being a very large company, has decided not to develop its own streaming service and has instead partnered with Paramount for its fee-based Walmart+ loyalty program. However, this dilutes the identity of the loyalty program. In addition, such cooperation is complicated by the fact that it is not always clear how subscription revenues should be distributed among the participating companies. These are important topics for future research.

6. Summary, limitations, and outlook

To the best of our knowledge, our survey is the first large scientific study to investigate the importance of the different Prime benefits. Our survey design allowed us to study the combination of bundle pricing and flat rate pricing, especially from an economic perspective.

We used a BWS discrete choice experiment to elicit the importance of the different Prime benefits from our survey participants. A correlation analysis of the computed importance scores showed that most correlations are very weak. Assuming rational customers, bundle pricing tends to be more profitable the lower these correlations. Thus, Amazon's bundling strategy is likely to be quite profitable compared to selling the Prime benefits individually.

Regarding the flat rate pricing component of the Prime subscription, we found that customers have very different perceptions of whether they use a benefit often or not. This means that Prime customers who rarely use a benefit may still have a high reservation price for this benefit. This is favorable for the profitability of Amazon’s flat rate pricing strategy.

Usually, however, consumers do not behave in a fully rational manner. Fortunately for Amazon, many individuals are biased in favor of flat rates and bundle pricing. Regarding flat rate pricing, we found support for the theory that customers value simply having the option to use a service without paying extra. Creating value without increasing usage (i.e., variable costs) is very beneficial for the profitability of flat rate pricing.

In addition, not every company has the goal of maximizing profit in the short term. Amazon, for example, has a distinctly long-term strategy. In our discussion, we have argued that the Prime subscription with its combination of flat rate and bundle pricing fits very well into this long-term strategy.

Given our survey and the corresponding analyses, we are confident that we have made a significant contribution with this paper to the research about so-called 'Rundles', which are becoming increasingly important in business practice.

However, there are also limitations to our study. For example, the reported online shopping behavior and the reported viewing hours of Prime Video are based on estimates from the survey participants. These estimates are not perfect and can be biased. Nevertheless, most of our findings are so clear, that they remain valid, even if these estimates are moderately biased.

Due to the page limitations of this publication, we have also intentionally omitted some topics from our analysis. For example, potential interactions between hedonistic and utilitarian benefits. Furthermore, we combined individual Prime benefits such as e-books and audiobooks into category bundles. Amazon does the

same on their website. One could say that the Amazon Prime subscription is being marketed as a bundle of bundles. Is this better than promoting all benefits individually? Many related topics are certainly sufficiently important to warrant future research.

7. Link to our digital appendix

dx.doi.org/10.6084/m9.figshare.23516244

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