

The Usefulness of the Consumer Survey Method in Defining Relevant Markets

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restaurant owners as well as customers. The survey helped in clarifying how closely the merging parties competed for both restaurants and customers and the extent to which other competitors exert constraints.²⁰

Despite their usefulness, consumer surveys have almost always been classified as “other evidence”.²¹ And while survey evidence is generally accepted by the courts, the variability in their acceptance as evidence by judges and lawyers means that survey evidence can be challenged vigorously in cases where they are key.²² This is because of a number of technical complexities in the execution and interpretation of surveys. For one, it can be argued that consumer behavior in practice can be different from what is stated, a phenomenon referred to as the “privacy paradox”.²³ A case in point is the *Lufthansa/Airholding*²⁴ merger case where Lufthansa critiqued the “switching question” for a lack of quantification of the minimum percentage of customers that should switch for the SSNIP to recognize that the Brussels and Antwerp airports were substitutes. The CMA, however, could defend its position by demonstrating that it evaluated the survey results for the switching question in tandem with responses to other questions that related to *actual* past behavior, which was acknowledged as a much more credible source by Lufthansa. This highlights the importance of including questions on past behavior and preferences alongside hypothetical future choices in the survey.

Another key issue is response bias (e.g. self-interest) and there is a risk that responses can systematically over or understate actual behavior depending on how the question is

designed.²⁵ For example, if asked whether a product is too expensive, it is in the interest of the consumer to answer affirmatively even if that might not be the case. In this regard, a carefully designed survey which is worded neutrally and refrains from asking agree/disagree questions when possible can be helpful.²⁶

III. Background

We next turn to the application of consumer surveys in the Indian context. First, the Competition Act considers factors such as interchangeability or substitutability and consumer preferences while defining the relevant market.²⁷ Thus, consumer surveys can be an effective tool in identifying products and services as weak or strong substitutes, especially in the case of digital markets where zero prices make price correlation analysis virtually impossible. Second, there is often a lack of consensus regarding the apposite market definition, with the plaintiff, the defendant, and possibly the CCI having different notions of the relevant market (See for e.g. *Fast Track v. OLA* case²⁸ and *RKG v. OYO*²⁹). Consumer surveys can come in handy at this point, evaluating whether products or services claimed as substitutes by various parties may indeed be deemed as such.

To examine the usefulness of consumer surveys in understanding the relevant market in India, we consider the recent abuse of dominance (“AoD”) case against Google filed with CCI.³⁰ While the investigation spans across three distinct sections, this paper specifically addresses the market definition for

²⁰ Moon, N. & McHugh, S. (2017). *HUNGRYHOUSE/JUST EAT MERGER INQUIRY*. GfK UK Social Research.

²¹ Reynolds, *supra* note 7 at 1.

²² NERA Economic Consulting. (2010). *The Use of Surveys in Litigation: Recent Trends*.

²³ Glasgow, G., Butler, S., & Iyengar, S. (2020). Survey response bias and the ‘privacy paradox’: evidence from a discrete choice experiment. *Applied Economics Letters*, 1-5.

²⁴ Case No COMP/M. 5335-Lufthansa/SN Airholding.

²⁵ Meyer, *supra* note 8 at 1.

²⁶ Organization for Economic Co-operation and Development. (2017). *Methodologies for Market Studies*. Retrieved from

<https://www.oecd.org/daf/competition/market-studies-and-competition.htm>.

²⁷ Section 2(t) & 19(7) of the Competition Act.

²⁸ CCI. *M/s Fast Track Call Cab Private Ltd. v. M/s ANI Technologies Pvt. Ltd.* (2015).

²⁹ CCI. *RKG Hospitalities Pvt. Ltd. v. Oravel Stays Pvt. Ltd.* (2019).

³⁰ CCI. *XYZ v. Alphabet Inc., Google LLC & Ors.* (2020).

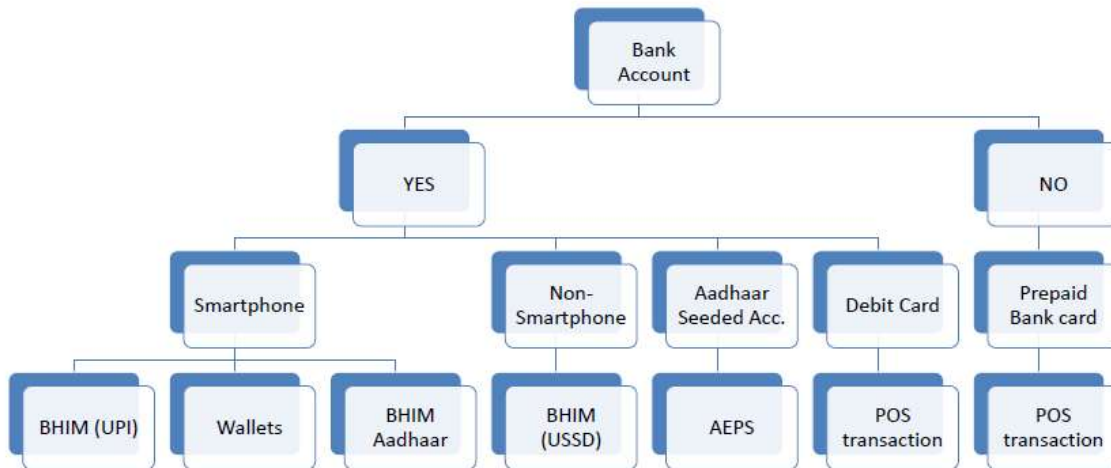
eventually made. Matters of attitude usually address counterfactual scenarios of a hypothetical price increase, typically referred to as price diversion. Our survey questions follow these guidelines. Further, questions that profile the average user to understand whether a certain population segment has been over or under represented are included, such as respondent's age, gender, internet usage, family income etc.

1. Choice of Alternatives

We identified an exhaustive list of digital and non-digital alternatives to UPI available to users. Cash and cheques were the most common non-digital alternatives, while digital

alternatives included mobile wallets, BHIM Aadhar, Unstructured Supplementary Service Data ("USSD"), Point of Sale ("PoS"), Bank prepaid cards, internet banking, mobile banking, credit and debit cards, micro ATMs, and the Aadhar-Enabled Payment System ("AEPS").³⁸ Since most digital modes and UPI in particular require the use of a smartphone, some of the options listed above do not make for credible substitutes.³⁹ Digital alternatives for smartphone users are depicted in Figure 1 and our final list of possible substitutes thus comes down to cash, cheque, internet banking, mobile banking, mobile wallets, Aadhar payments, bank prepaid cards, and credit and debit cards.

Figure 1: Summary



Another important consideration was categorizing different types of expenditures into multiple segments and examining the use of various digital and non-digital modes of payment for that segment. This was done because consumers often employ varied modes of payment for different types of purchases. The idea behind questions 4a - 4g is thus to identify the areas where UPI apps are more likely to be used and then to further zero in on close and weak substitutes for those

areas. This is facilitated by understanding the frequency of usage of various digital payment modes for each of these areas – which pans out in the form of a qualitative scale ranging from “Always” to “Never.” While calculating the average score for each question, we use a linear scale from zero to four where zero corresponds to “Never” and “Always” corresponds to a score of four.

³⁸ Government of India. (n.d.). *Digital Payments Methods*. Retrieved from http://cashlessindia.gov.in/digital_payment_methods.html.

³⁹ Niti Aayog, Government of India. (2016). *Digital Payments: Step by Step Instructions for Various Modes of Payment-Cards, USSD, AEPS, UPI, Wallets*. Retrieved from https://niti.gov.in/writereaddata/files/Step-by-step_presentation_on_digital_payments-English.pdf.

2. Addressing Bias

Based on the guidelines in OECD (2017)³⁷ and Meyer (2007)³⁸, we incorporate a number of factors in our survey design in order to minimize response bias. For one, we do not include any question which requires respondents to agree or disagree with a statement which can elicit confirmation bias.

Second, we have not included any questions which ask respondents for their opinion on the quality of the service or their satisfaction with the applications in their current state. This minimizes the possibility of respondents' self-interest influencing their answers. A third key issue is the bias from differences in respondents' behavior in real life and in their stated choices.³⁹ Since we include a question on forced diversion, we cannot rule out the existence of such a bias. However, we corroborate the findings from the diversion question with results from questions on usage based on past behavior. Fourth, to minimize confusion, we ensured that survey questions are worded simply and neutrally.

Another important aspect that can influence responses is the length of the questionnaire and the ordering of the questions. For both these parameters, we refer to the Hungry House and Just Eat merger survey.⁴⁰ The consumer survey consists of 24 questions which address consumers' food ordering behavior, diversion scenarios, and information to profile the users followed by questions on historical usage and frequency. Our survey includes 17 questions and takes about 10 minutes to answer, which is the ideal length for a web survey.⁴¹ The survey was designed using Google Forms which ensured that the same ordering of questions and responses were recorded between November 13-20, 2020, with surveys shared through social

media including LinkedIn and WhatsApp.

C. Limitations

There are a number of limitations to our survey design, as discussed below.

The first limitation is the inability to measure the response rate and thus to control for non-response bias. Since the survey was shared using social networking sites, it was not possible to identify potential respondents who saw the post with the survey but did not fill it up. The second limitation is the absence of sophisticated stratified sampling techniques that can be applied on various sub-groups, especially if such sub-groups cannot be deemed to constitute a single population.⁴² The third limitation is the relatively small sample size in this study. This is solely due to time and resource constraints in the context of this study and can easily be scaled up to make it commensurate with the total UPI users in India.

V. Results

The survey recorded 113 responses and after accounting for duplicates and the screening question, the final sample comprised 98 responses.

A. Respondent Characteristics

We collected basic information in the form of respondents' age, gender, internet usage and household income to profile the average user. Our sample is 43 percent female and 57 percent male. In terms of age distribution, nearly half (46 percent) of respondents are between 25 and 34 years old followed by 24 percent of respondents between 35 and 44 years old, 17 percent between 18 and 24 years, and another 10 percent between 45 and 54 years of age. The median monthly annual

³⁷ OECD, *supra* note 26 at 4.

³⁸ Meyer, *supra* note 8 at 1.

³⁹ Glasgow, *supra* note 23 at 4.

⁴⁰ CMA, *supra* note 19 at 3.

⁴¹ Revilla, M., & Ochoa, C. (2017). Ideal and maximum length for a web survey. *International Journal of Market Research*, 59(5), 557-565.

⁴² OECD, *supra* note 26 at 4.

income among respondents is between INR 1,50,000 and 2,00,000. Median internet usage for personal use is about 10 hours a week.

To ascertain whether respondents can differentiate between digital payments such as Aadhar-based payments, UPI transactions, and mobile wallets, we introduced a short write-up at the beginning of the survey. Respondents had to choose all the correct options based on the text from a set of four alternatives. Only 35 percent of the respondents managed to answer the question correctly, indicating that consumers are not necessarily aware of the advantages and disadvantages of the payment applications they are using.

B. Respondent Preferences

Respondents used three payment applications on average, providing strong support for multihoming. The most popular UPI app was Google Pay with 77 percent of respondents using it, followed by Paytm with 72 percent of users and PhonePe with 29 percent. Amazon and UPI Bank Apps have a share of 22 percent each. In terms of the most preferred payment apps, Google Pay again stood first with 61 percent of users listing it among the top two digital apps, used followed by Paytm with 50 percent of users, PhonePe with 17 percent and BHIM with 7 percent. Further, an overwhelming majority of respondents could list two or more such UPI apps, which again strengthens the presence of multihoming and thus lower multihoming costs.

Further, swiftness (72 percent) and instant (55 percent) nature of transfers, as well as wider acceptance by merchants, friends, and online sites (54 percent) emerged as the main factors

for usage of UPI apps. Other factors include no transaction charges (46 percent), ease of becoming a user (40 percent) and long-term usage of the app due to fewer options earlier (34 percent). Pre-installation of the app does not appear to be an important reason driving the usage of payment apps as only 10 percent of respondents chose that as the reason for their current choice of apps.

About 74 percent of respondents used an Android phone and the remaining 26 percent used an iOS device. 88 percent of Android users did not report any pre-installed payment application on their phone. Of the 12 percent (9 respondents) that answered affirmatively, six respondents (6 percent of the total sample) reported that Google Pay was pre-installed on their phone, whereas one respondent each reported that Samsung Pay, Paytm, PhonePe and MI Pay were pre-installed on their phone.

C. Historical Behavior

We use Questions 3 and 4 to understand historical usage patterns and substitutability between various modes of payment for different payment categories. Table 2 depicts the average scores for different payment modes for questions 3 and 4. Notably, the overall ranking for questions 3 and 4 is quite similar. In terms of the most used payment modes in question 3, Credit and Debit cards emerged as the first choice with an average score of 2.9, followed by UPI with a score of 2.7 and cash, which scored 2.6. Based on the linear scale where 2 denotes “Sometimes” and 3 denotes “Often,” these scores indicate frequent usage.

Table 1: Overall ranking for Questions 3 & 4

Rank	Q3		Q4 (a-g)	
	Payment Mode	Average Score	Payment Mode	Average Score
1	Credit/DebitCards	2.9	Credit/DebitCards	2.6
2	UPI	2.7	UPI	2.2
3	Cash	2.6	Cash	2.0
4	Netbanking	2.5	Netbanking	1.9
5	Mobile Wallets	2.2	Mobile Wallets	1.6
6	Mobile Banking	2.0	Mobile Banking	1.4
7	Cheque	1.5	Cheque	1.3
8	Bank Prepaid	1.3	Aadhar based	1.1
9	Aadhar based	1.0	Bank Prepaid	0.8

Tables 3 and 4 represent the top three payment modes for each category of payment listed in questions 4a to 4g. Our analysis indicates that UPI payments register a score greater than 2 and feature in the top three payment modes for five payments categories. More specifically, UPI emerged as the first choice for 4a) Transferring money to friends and family 4b) Paying for utilities including mobile bills, grocery bills, etc. It was the second choice for 4e) Paying for travel bookings including flights, hotels, etc. 4g) Paying for online shopping. And it ranks third in the case of 4c) Paying for services including restaurants, salon, movies, etc.

Based on the rankings, we evaluate substitutes for UPI apps by narrowing our focus to these five payment categories. Credit and debit cards, cash, internet banking, and mobile wallets thus emerge as close substitutes for UPI. For the five payment categories under consideration, modes of payment such as cheques, Aadhar based payments, and bank prepaid cards always score below 1.5 which indicates rare usage amongst respondents. Mobile banking scores 1.7 and 1.6 for 4a, and 4b respectively, while scoring below 1.5 for 4c, 4g, and 4e. However, it fails to feature in the top three payment modes for any of the payment categories and never scores above 2 which indicates less than frequent usage.

Table 2: Top payment modes

Ranking	Q4a	Q4b	Q4c	Q4d
1	UPI	UPI	Credit & Debit Cards	Credit & Debit Cards
2	Netbanking	Credit & Debit Cards	Cash	Cash
3	Cash	Mobile Wallets	UPI	Netbanking

Table 3: Top payment modes

Ranking	Q4e	Q4f	Q4g
1	Credit & Debit Cards	Netbanking	Credit & Debit Cards
2	UPI	Credit & Debit Cards	UPI
3	Netbanking	Cheque	Mobile Wallets

D. Diversion

When asked about the mode of payment that respondents would switch to due to unavailability of their most used UPI application, 34 percent of respondents said they would switch to another UPI application. This result is consistent with the finding that our respondents make use of three payment applications on average, which makes it easier to switch to other UPI applications. Further, 31 percent of respondents would switch to a different mode of payment i.e. credit or debit cards. Given that credit and debit card

transactions have emerged as the most used payment method for various transactions, this result also comes as no surprise. Internet banking stood third, as a choice in the absence of UPI for 13 percent of the respondents, followed by mobile wallets and cash. These choices are consistent with the results from questions on usage patterns and choice of payment modes across a variety of transactions where credit and debit card payments, internet banking, mobile wallets, and cash rank in the top five together with UPI apps.

Table 4: Switching behavior

Switch to:	Frequency	Percentage
Another UPI app	33	34%
Credit/ debit cards	30	31%
Internet-banking	13	13%
Mobile wallets	8	8%
Cash	7	7%
Mobile banking	4	4%
Aadhar based	3	3%
Total	98	100%

VI. Discussion

A. Market Definition

UPI apps are digital markets characterized by the interaction between transacting parties, thus, a single market definition that includes both sides of the platform becomes necessary.⁴³ The consumer survey employed in this study seeks to clarify market boundaries on the consumer side of the platform, which together with a survey on the merchant side of the platform can be used to identify the relevant market for UPI apps.

Our analysis of the consumer side indicates that UPI apps may not constitute a market by themselves. This assertion is supported by three different results from the consumer survey. First, UPI apps along with credit and debit cards, cash, internet banking, and mobile wallets are the most frequently used modes of transaction and together they constitute the market for “payments.” Second, credit and debit cards, cash, internet banking, and mobile

wallets are equally and sometimes even more popular payment modes for transaction categories where UPI apps are one of the most preferred choices. This indicates clear substitutability between UPI apps and the aforementioned modes based on historical consumer behavior. And third, an overwhelming majority (66 percent) of UPI app users would switch to alternative modes of payment in case their most preferred UPI app becomes unavailable as against using another UPI app. This further consolidates the argument for not considering the market for UPI payments in isolation.

In terms of substitutability between UPI and other modes, credit and debit cards emerge as the strongest alternative, consistently ranking high on frequency of usage in the past year as well as for different categories of payments, often outperforming all other modes. Further, about 31 percent of users indicated that they would switch to credit and debit card payments in case their favored UPI app becomes

⁴³ Filistrucchi, L., Geradin, D., Van Damme, E., & Affeldt, P. (2014). Market definition in two-sided markets: Theory and practice. *Journal of Competition Law & Economics*, 10(2), 293-339.

unavailable, which comes a close second to a switch to other UPI apps (34 percent). Cash, internet banking, and mobile wallets consistently rank in the top three modes of payment that compete with UPI for the same payment categories. This supports the notion of a moderate substitution with UPI apps. In the case of Mobile banking, the evidence for substitutability is weak at best. Other evidence such as the size of SMS banking *vis-a-vis* UPI and recent trends in usage among smartphone users along with its substitutability on the other side of the platform i.e. for merchants should be considered before excluding it from the definition.

Our survey thus points to a product market definition that is inclusive of credit and debit card payments, cash, internet banking, and mobile wallets when considering the market for UPI apps.

B. Within UPI payments

Qualitative evidence from the survey presents a strong evidence for multihoming within the UPI universe. For one, when asked about the number of payment apps installed on their phone, users indicated that they use an average of three apps. Second, when asked to choose from a list of UPI apps that respondents used, an average user was again found to select three apps. Thus, there appear to be no or little switching costs as users tend to use more than one payment app simultaneously. Third, in our sample, while Google Pay and Paytm were used by over 70 percent of respondents, PhonePe, UPI bank apps and Amazon Pay were used by over 20 percent of respondents. This additionally supports the notion of multihoming by users. The offering of over a 100 UPI apps together with multihoming by users is indicative of strong competition amongst providers of UPI apps and lower switching costs.

Our analysis indicates that Google Pay is the most used and most preferred app among respondents, closely followed by Paytm and PhonePe which is a distant third. Data on UPI transactions however, indicates that Google Pay and PhonePe are the most popular UPI apps followed by Paytm and other UPI apps⁴⁴ and thus stratified sampling may be employed in a bigger survey in order to sample UPI users commensurate with each app's market share.

1. Pre-installation and the *Status-quo* Bias

In the referenced Google AoD case, the informant has alleged that “*by pre-installing and prominently placing Google Pay on Android smartphones at the time of initial set-up resulting in a “status-quo bias” to the detriment of other apps facilitating payments through UPI*” Our survey results provide mixed evidence for the existence of such a bias. Only 10 percent of the respondents stated “pre-installed payment app” as one of the reasons for currently using it, which provides weak evidence in support of this bias. However, out of the six Android users that listed Google Pay as an app that was pre-installed on their phone, 83 percent or five respondents frequently use Google Pay and state it to be one of the most preferred apps. This lends support to the existence of a *status quo* bias. Since the sample size used to draw this inference is very small in this case (10 and 6 respondents respectively), a larger sample is required to conclusively confirm the existence of such a bias.

C. The SSNDQ dilemma

In digital markets with zero prices, SSNDQ tests may be considered instead of SSNIP tests which cannot be applied in this case.⁴⁵ However, a number of challenges in implementing the SSNDQ test can render it unworkable.⁴⁶ A major challenge is identification of the highly ranked vertical

⁴⁴ S&P Global. (2020). *2020 India Mobile Payments Market Report*. Retrieved from https://www.spglobal.com/marketintelligence/en/documents/indiamobilepayments_2020finalreport.pdf.

⁴⁵ Organization for Economic Co-operation and Development. (2020). *Abuse of dominance in digital markets*. Retrieved from www.oecd.org/competition/globalforum/abuse-of-dominance-in-digital-markets.htm.

⁴⁶ Organization for Economic Co-operation and Development. (2013). *The Role and Measurement of Quality in Competition Analysis*. Retrieved from <http://www.oecd.org/competition/Quality-in-competition-analysis-2013.pdf>.

dimensions of quality.⁴⁷ Further, Hartman et al proposed 25 percent decrease in a major performance quality for the SSNDQ test.⁴⁸ However, differences in the nature of price and quality can make implementing the author's proposal quite challenging.⁴⁹ In the case of UPI, factors attracting consumers the most towards UPI were not clear a priori which made identifying key qualities that could be hypothetically downgraded considerably difficult.

VII. Conclusion

Digital markets characterized by network effects, switching costs and multiple sides have posed challenges to traditional market definition tools such as SSNIP tests. Consumer surveys are a popular research tool amongst

antitrust authorities for defining the relevant market and have been particularly useful in the complex digital market cases. This paper takes a qualitative approach to market definition in the form of a consumer survey that evaluates the substitutability between UPI apps and other modes of payment. The survey has certain limitations due to time and resource constraints, and hence the results cannot be used conclusively for delineating the relevant market in this case, but it is indicative of a strong substitutability between UPI and other modes of payment suggesting that the relevant market in the referenced case is contestable. The survey method can, however, be easily challenged as stated preferences may be different to actual preferences, thus, requiring caution when designing and sampling.

⁴⁷Ezrachi, A., & Stucke, M. E. (2015). The curious case of competition and quality. *Journal of Antitrust Enforcement*, 3(2), 227-257.

⁴⁸Hartman, R., Teece, D., Mitchell, W., & Jorde, T. (1993). Assessing market power in regimes of rapid technological change. *Industrial and Corporate Change*, 2(3), 317-350.

⁴⁹OECD, *supra* note 48 at 16.