

Card-acquiring services market review

Technical report

PSR

September 2020

Introduction

1.1 As part of the PSR's market review¹, IFF Research were commissioned to conduct qualitative scoping interviews and a quantitative telephone survey with small and medium sized merchants that use card-acquiring services.² This paper outlines the methodological approach³ taken to the quantitative survey; covering sampling, fieldwork and weighting.

Methodology

Sampling

1.2 Different sample sources were used at different stages of fieldwork. For the qualitative phase and cognitive interviews, the sample was obtained from Market Location's Business Database. For pilot fieldwork and mainstage fieldwork, the sample was obtained via the PSR from the customer lists of 10 providers of card-acquiring services (including both acquirers and payment facilitators): PayPal; iZettle; Square; SumUp; Worldpay; Barclays; Lloyds Bank Cardnet; Global Payments; Elavon; and First Data.

1.3 IFF Research drew a sample of merchants from anonymised customer lists supplied by providers to the PSR in two stages. The first stage took place on July 30th and July 31st, 2019 and the second stage took place on November 6th, 2019.⁴ For both stages, the preparation of the sample involved:

- Excluding merchants that would not be eligible to participate in the survey (i.e. those with more than £10 million card turnover and those that had taken fewer than two card payments in the last 12 months);
- Extrapolating card turnover for merchants that were signed up after December 2017 and before December 2018 to reflect the number of months the merchant was active - merchants signed up in December 2018 were excluded because extrapolation of card turnover was not possible for these merchants.
- Identifying merchants that were part of a franchise and consolidating them into one entity;
- Cleaning the data to ensure consistency in formatting across the multiple files; and

¹ The final terms of reference for the market review can be accessed here: www.psr.org.uk/sites/default/files/media/PDF/PSR_MR18_1.2_card_acquiring_market_review_Final_terms_of_reference_January_2019_0.pdf

² Small and medium sized merchants are defined as those that took less than £10 million in turnover from card payments in CY 2018.

³ Responses to the PSR's consultation on the proposed approach to the merchant survey can be found here: <https://www.psr.org.uk/psr-publications/market-reviews/mr1814-responses-to-proposed-merchant-survey>

⁴ A second stage of sampling was undertaken because of a higher than expected rate of unusable telephone numbers in the starting sample.

- Creating new variables to assist with drawing the sample and data analysis (i.e. total number of transactions, total value of transactions and transaction types including card present only, card not present only and mixed).

1.4 Once the data was cleaned, 837,898 merchants remained in the sampling frame. Specifically, the sampling frame contained small and medium sized merchants that use card-acquiring services from 10 of the largest providers of card-acquiring services in the UK, measured by transaction volume and value. Table 1.1 presents the profile of these merchants in terms of card turnover and transaction types.⁵

Table 1.1 Sampling frame

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	85,441	391,162	288,743	765,346
£380,001 - £1,000,000	4,244	5,181	40,087	49,512
£1,000,000 - £10,000,000	3,078	990	18,972	23,040
Total	92,763	397,333	347,802	837,898

1.5 The agreed overall target number of interviews for the mainstage research was 1,200, with 400 interviews in each turnover band and in each transaction type group. Drawing targets for the first stage of sample were therefore set by card turnover and transaction type group (see Table 1.2). Merchants were selected from the sampling frame on a random basis.

⁵ Transaction types were used as a proxy to help identify face-to-face only, online only and mixed operating environment merchants.

Table 1.2 First sample draw by transaction type and card turnover

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	1,624	1,624	1,949	5,197
£380,001 - £1,000,000	1,624	1,624	1,949	5,197
£1,000,000 - £10,000,000	1,624	990	1,949	4,563
Total	4,872	4,238	5,847	14,957

1.6 Once the starting sample for the pilot and mainstage quantitative surveys had been drawn, files were sent back to their respective providers for business names and contact details to be appended. With this information included, the sample was cleaned: removing duplicate merchants and records without a usable telephone number.⁶ Table 1.3 presents the number of usable records from the first stage of sampling that remained.

Table 1.3 Usable records from the first sample draw by transaction type and card turnover

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	1,464	1,481	1,842	4,787
£380,001 - £1,000,000	1,443	1,459	1,804	4,706
£1,000,000 - £10,000,000	1,365	809	1,776	3,950
Total	4,272	3,749	5,422	13,443

⁶ A two-stage telephone matching exercise was undertaken. Automated telephone matching via UK Changes followed by manual desk research.

1.7 Drawing targets for the second stage of sampling, conducted in November 2019, were informed by the volume of usable sample still available at that time (see Table 1.4). The same process of preparing the sample (detailed at paragraph 1.3 to 1.6) was repeated for the second stage. Following the delivery of business names and contact information from providers and the exclusion of records that did not have a usable telephone number or were duplicates, 8,419 records remained (see Table 1.5).

Table 1.4 Second sample draw by transaction type and card turnover

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	588	1,232	2,377	4,197
£380,001 - £1,000,000	338	1,301	1,514	3,153
£1,000,000 - £10,000,000	1,020	16	721	1,757
Total	1,946	2,549	4,612	9,107

Table 1.5 Usable records from the second sample draw by transaction type and card turnover

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	532	1,172	2,301	4,005
£380,001 - £1,000,000	303	1,134	1,442	2,879
£1,000,000 - £10,000,000	843	13	679	1,535
Total	1,678	2,319	4,422	8,419

Fieldwork

Qualitative phase: scoping interviews

1.8 Between April 22nd and May 10th, 2019 qualitative interviews were conducted with 28 merchants. These semi-structured interviews were carried out to test the feasibility of conducting a large-scale quantitative survey, specifically to test the ability of merchants to discuss the topics the PSR wished to explore and to test what terminology would be best understood by merchants.

- 1.9 Scoping interviews indicated that a large-scale quantitative survey with merchants about card-acquiring services was feasible. Findings from interviews were used to inform the design of the questionnaire.

Quantitative phase: cognitive interviews

- 1.10 Once an initial questionnaire for the quantitative survey had been drafted it was published on the PSR website for consultation.⁷ The responses to this consultation were taken into consideration and a revised version of the questionnaire was drafted for cognitive testing.⁸
- 1.11 Cognitive interviews were carried out with 11 merchants between September 17th and September 25th, 2019. The purpose of these interviews was to check that respondents understood and were able to answer questions, that the questionnaire flowed smoothly and to ensure that the questionnaire would provide the information to meet PSR's requirements.
- 1.12 Cognitive interviews involved running through the quantitative survey as it would be delivered during the mainstage of the research, with follow-up discussions at the end of the interview to check the respondent's understanding of terminology and the extent to which it was easy or difficult to answer questions. Following the completion of these interviews, amendments were made to the questionnaire ahead of pilot quantitative fieldwork.

Quantitative phase: pilot fieldwork

- 1.13 Between October 7th and October 16th, 2019 a pilot survey was conducted with 34 merchants. This stage involved administering the questionnaire exactly as it would be in mainstage fieldwork. As well as allowing for further checks on comprehension of questions and survey flow, the pilot also provided an opportunity to monitor response patterns and the overall interview length.
- 1.14 Following the completion of pilot fieldwork, minor changes were made to the questionnaire ahead of mainstage fieldwork. These changes mainly focused on reducing the average interview duration. The final questionnaire used for the main survey can be found on the PSR's website.⁹

⁷ The draft of the questionnaire can be found at www.psr.org.uk/psr-publications/market-reviews/mr181.5/consultation-merchant-survey-questionnaire

⁸ Responses to the consultation on the draft survey questionnaire can be found here: <https://www.psr.org.uk/psr-publications/market-reviews/mr181.5/responses-to-consultation-merchant-survey-questionnaire>

⁹ The final questionnaire can be found at: <https://www.psr.org.uk/psr-publications/market-reviews/mr1814-merchant-survey-questionnaire>

Quantitative phase: mainstage fieldwork

1.15 The main survey was carried out between October 24th and December 6th, 2019. A total of 1,037 merchants were interviewed.¹⁰ Table 1.6 presents the number of interviews completed, broken down by card turnover and transaction type group, using information included in the customer lists supplied by providers.

Table 1.6 Mainstage completed interviews by card turnover and transaction types

	Card not present only	Card present only	Mixed	Total
£0 - £380,000	123	114	153	390
£380,001 - £1,000,000	121	109	128	358
£1,000,000 - 10,000,000	108	53	128	289
Total	352	276	409	1,037

1.16 Checks were conducted on the final 1,037 interviews to ensure the data was robust before the commencement of analysis. This involved conducting data validation checks (i.e. testing the logic of responses and the proportion of merchant responses that were valid) and comparing the information collected in the survey against comparable information obtained from providers. No interviews were excluded from the data as a result of these checks.

1.17 The tables below present a comparison between information collected in the survey and information obtained from providers in terms of transaction types and sales environments (Table 1.7) and card turnover (Table 1.8).

¹⁰ The total number of interviews achieved (1,037) was slightly lower than the initial target (1,200). However, with between 276 and 409 interviews in each card turnover group and transaction type group, a sufficient number of interviews were achieved to allow for robust statistical analysis between sub-groups.

Table 1.7 Comparison between transaction type data from providers and sales channels through which merchants reported they accept card payments

	Card-acquiring service provider data	Merchant reported data
Card not present only/ online, MOTO	34%	23%
Card present only/ face-to-face	27%	12%
Mixed	39%	65%
Don't know / refused	N/A	0%
Total	100%	100%

Table 1.8 Comparison between card turnover data from providers and merchant reported information

	Card-acquiring service provider data	Merchant reported data
£0 - £380,000	38%	28%
£380,001 - £1,000,000	35%	20%
£1,000,000 - 10,000,000	28%	17%
More than £10,000,000	0%	2%
Don't know / refused	N/A	34%
Total	100%	100%

Weighting

1.18 Weighting the data was necessary because of the deliberate decision to stratify interviews to ensure a sufficient number were achieved in each card turnover and transaction type group. Some groups were over or under-represented in our achieved sample.

1.19 In line with standard market research industry practice, the survey data was weighted to make it representative of the underlying population of small and medium sized merchants that use card-acquiring services.

1.20 The weighting targets used were informed by the profile of merchants in the sampling frame in terms of card turnover and transaction types (see Table 1.1). Table 1.9 presents the achieved number of interviews, the population and the weighted population by card turnover and transaction type.

Table 1.9 Weighting approach

	Card not present only		
	Completed interviews	Population	Weighted completes
£0 - £380,000	123	85,441	115
£380,001 - £1,000,000	121	4,244	6
£1,000,000 - 10,000,000	108	3,078	4
Total	352	92,763	125
	Card present only		
	Completed interviews	Population	Weighted completes
£0 - £380,000	114	391,162	485
£380,001 - £1,000,000	109	5,181	6
£1,000,000 - 10,000,000	53	990	1
Total	276	397,333	492
	Mixed		
	Completed interviews	Population	Weighted completes
£0 - £380,000	153	288,743	348
£380,001 - £1,000,000	128	40,087	49
£1,000,000 - 10,000,000	128	18,972	23
Total	409	347,802	419
	Total		
	Completed interviews	Population	Weighted completes
£0 - £380,000	390	765,346	948
£380,001 - £1,000,000	358	49,512	61
£1,000,000 - 10,000,000	289	23,040	28
Total	1,037	837,898	1,037

- 1.21 As a result of adjusting a dataset to make it representative of the target population, weighting produces a design effect. In this instance, the design effect reduces the effective sample size of the overall total from 1,037 to 360.¹¹
- 1.22 An effective sample base size of 360 means that, as a worst-case scenario, findings are accurate to within +/- 5.2 percentage points at the 95% confidence level (see Table 1.10). By this, we mean that if 50% of the effective sample of 360 agreed with a statement in the questionnaire, we can be 95% confident that the response from all merchants would lie between 44.8% and 55.2%. To put this into context, a maximum confidence interval of +/- 5 percentage points is considered a good level of precision for social research.
- 1.23 Measuring a margin of error at 50% is referred to as a 'worst-case scenario', as the margin of error decreases the closer results approach 0% or 100%. Table 1.10 shows the margin of error for the un-weighted sample of merchants and the effective sample of merchants, to demonstrate how it changes by survey responses.

Table 1.10 Margins of error at the 95% confidence level

	Number of interviews	Margin of error at 50%	Margin of error at 70%/30%	Margin of error at 90%/10%
Total interviews	1,037	+/- 3.0 pp	+/- 2.8 pp	+/- 1.8 pp
Effective total sample	360	+/- 5.2 pp	+/- 4.7 pp	+/- 3.1 pp

¹¹ An effective sample size is an estimate of the sample size that a survey conducted using simple random sampling would have required to achieve the same sampling error.

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