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Sitting on a gold mine: Getting what's owed to pawnbroking customers

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Table of Contents

1. Executive Summary	3
2. Introduction	6
3. Context	8
Market context	8
Our behavioural design approach	9
User research	15
Data analysis	16
4. Hypotheses, intervention design and experimental method	20
Drivers of low surplus collection	20
Intervention Design	22
Method (Surplus Reminder Letter)	24
5. Results	26
Surplus Reminder Letter	26
Surplus Flag	27
6. Conclusions	28

1. Executive Summary

Abstract

In 2018 the Financial Conduct Authority identified that pawnbroking customers are not always collecting the 'surplus' money owed to them. Surplus money is generated when a customer defaults on their loan and their pawned item is sold at auction for more than what is owed by the customer. Although there is a process for notifying customers when a surplus is generated, collection rates are low. In the current paper we share the results of a first intervention designed to address this. We partnered with one of the UK's largest pawnbroking lenders to trial a novel behavioural design approach. A first intervention, a new reminder letter for customers, is reported in this paper and found to increase surplus collection rates significantly. A second experiment, focused more on interventions on pawnbroker store processes, is currently in the field.

Introduction

Pawnbroking is one of the oldest forms of lending in the world and is still used by around 350,000 people in the UK per year, many of whom are vulnerable and have low financial resilience (FCA, 2018). In 2018, we identified around £1 million per year that was owed to pawnbroking customers, but was not claimed. Using a novel behavioural design approach to inform a randomised controlled trial, we investigated the reasons why this occurred and tested interventions to increase collection rates. Our first intervention, a behaviourally informed letter, almost doubled collection rates within 30 days – one of the most successful letter-based interventions previously tested by us. This and a second experiment currently in the field, aim to inform regulatory policy in this area and help people collect money that is owed to them.

Problem

Pawnbroking customers can borrow money by pledging an item belonging to them at pawnbroking shops, and reclaim the item when the loan plus interest is repaid. However, when a customer does not pay back their loan within an agreed time, the pawnbroker is entitled to sell the item to recover their costs. A little-known fact is that if the item sells for more than the total that was owed to the pawnbroker, the excess revenue, or 'surplus' needs to be returned to the customer. In 2018 we reviewed the pawnbroking sector and found that surplus return rates were relatively low, with some firms reporting less than half of the outstanding surpluses were being collected by customers (FCA, 2018).

Because pawnbroking loans are a form of secured credit extensive credit checks are not required or widespread in the market, meaning customers can benefit from rapidly accessing credit when they need to. After initial registration, pawnbroking customers may change their address or contact details without these being updated on systems and still access credit quickly since the loans are secured. A downside of this is that it can be difficult

for firms to return surplus to customers when it is incurred. We investigated this problem with a view to increasing surplus collection rates and reducing the harm to consumers in this sector, currently estimated to be in the region of £1m per year. For the firm that we partnered with, the average uncollected surplus per customer was £70.

What we did

Using a novel behavioural design approach, we conducted user research, customer and staff interviews and data analysis to map out the customer journey and discover the factors that might be influencing low surplus collection rates in one large pawnbroking firm with stores distributed throughout England and Scotland¹. We utilised the 'double diamond' model from the design literature (Banathy, 2013). This starts with a bottom-up, divergent thinking exploration process (discovering what the problem is through user research, user experience and data analysis). It then leads to a detailed definition of the problem, and culminates in a convergent thinking approach to focus in on the development and delivery of solutions. While previous comprehensive studies of pawnbroking customers have taken a survey approach (Collard and Hayes, 2010), our approach differs in providing detailed insights on pawnbroking customers, their motivations and actions. This process helped us to design 2 interventions that were tested in randomised controlled trials – a reminder letter to address low surplus collection rates on the consumer side and a "surplus flag" on the software system of the stores that would alert staff that repeat consumers were owed a surplus on the supplier side.

Findings

We found that the behaviourally designed reminder letter, delivered to customers 2 weeks after incurring a surplus due to their item being sold, almost doubled surplus collection rates within 30 days. Moreover, the letter decreased the total amount of surplus money that remained uncollected from 79% in the control group to 66% in the treated group within 30 days. Due to challenges relating to Covid-19, it was necessary to delay the surplus flag trial. The latter is in the field currently and the results from this will be published in a future paper.

Implications

The characteristics of pawnbroking consumers, nature of the consumer journey and the surplus process meant that traditional methods of nudging customers to collect surplus (e.g. by contacting them via SMS) would likely have been ineffective. Our behavioural design thinking approach, combining user experience research, data analysis and behavioural insights, led us to consider alternative interventions to those that would have been considered in traditional top-down experimental designs.

¹ We do not identify the firm here due to ongoing trials. Readers can view the FCA pawnbroking sector (FCA, 2018) [review](#) for market collection rates and wider contextual information.

The insights developed through our design approach helped us design a reminder letter that had stronger effects than previously recorded for letter-based interventions, highlighting the importance of understanding user needs and experiences. Additionally, our surplus flag intervention takes into consideration pawnbroking processes on the firm-side and is currently in the field with results to be reported in a follow-up paper. Although not all firms in the sector will be able to implement a surplus flag system, redesigning reminder letters is an effective method of reducing harm to consumers at little extra cost to the firms themselves.

2. Introduction

Pawnbroking is one of the oldest forms of lending in the world (Caskey, 1994) and has been part of the regulated UK credit market for over a century. Pawnbrokers offer cash loans to customers after they leave something valuable (known as a pawn or a pledge) as security for the loan. Anything of value that can be re-sold can be used as a pledge, but jewellery is the most popular form of security used in the UK (Collard & Hayes, 2010).

Collard and Hayes (2010) give the most recent and complete overview of the UK pawnbroking market. In it they find pawnbroking customers are generally very satisfied with the service they receive, with satisfaction ratings of up to 95% (Collard & Hayes, 2010). The speed at which cash can be borrowed, the customer service and the convenient locations of pawnbrokers on the high street are features that UK customers rate highly. They also find that pawnbroking customers may have limited access to other forms of credit and are typically on low incomes (less than £300 per week in 2010). Levels of home ownership in the pawnbroking customer base is low and almost half of all customers rent their homes from a local authority or housing association. Agarwal and Bos (2019) also show that more than 70% of consumers don't have access to mainstream credit when taking out their pawn loan. The FCA's sector review (FCA, 2018) reiterated these positive features of the pawnbroking market, highlighting business models that focused heavily on good customer relationships and offered considerable flexibility and personalisation of credit to suit individual needs. However, one concern that did arise from the sector review was that some customers were not receiving money that was owed to them if a pledge was sold for more than the customer owed in the case of a default.

When customers default on their pawnbroking loans, the pawnbroker can sell the customer's pledge to recover their costs. If the pledge is of sufficient value, the pledge must be sold at a public auction and any money that is raised above the outstanding debt is known as a surplus. Legally, this surplus money from the sale of the pledge must be made available to the customer and a standardised letter is sent to them to notify them they can collect this money from the pawnbroker. Any unpaid surplus is held in a separate account and the pawnbroking firm has no incentive to keep this money (it is held as dormant funds and is not treated as firm profits), but our sector review found that surplus collection rates varied widely among firms in this market, and some firms had returned less than half of this surplus money to customers.

Although the surplus notification letters are standardised according to UK regulations, the ways in which surplus could be returned to customers is not, and the harm to consumers in non-collected surpluses is estimated to be in the region of £1m per year. There are a number of possible reasons for this, many of which could be seen as side-effects of the positive aspects of pawnbroking credit highlighted above. Because pawnbroking loans are secured against a valuable item, it is not necessary for firms to conduct extensive credit checks. Although customer identification is initially verified for anti-money laundering and prevention of crime purposes, pawnbroking customers are more likely to rent and move often, meaning contact information could be out of date. Although average surplus amounts are relatively low, they may represent significant sums to consumers on low

incomes. A key part of our mission is to protect consumers, especially if they are vulnerable, so any measures to increase the amount of surplus returned to consumers would be a positive step.

In order to try to increase surplus collection rates we employed a novel behavioural design approach to create and test behavioural interventions in this market. In partnership with one of the largest pawnbroking firms in the UK, we extensively mapped out the complex consumer journey for a typical customer, conducted interviews with staff and customers and combined these insights with analytical data work to holistically design an intervention which was subsequently tested in a randomised controlled trial (RCT). Specifically, the double diamond design approach (Discover, Design, Develop & Deliver) allowed us to generate hypotheses and co-design effective, feasible interventions that would not necessarily have been discovered using traditional insights from the behavioural science literature. Furthermore, this bottom-up collaborative approach meant that these interventions minimised costs and made sense from the perspective of customers and on-the-ground staff, as opposed to a more traditional top-down approach imposed by regulators or authorities that may be far-removed from the day-to-day processes and consumer journeys.

We identified 2 main causes of consumers not collecting surpluses. Staff and customer interviews highlighted that consumers had a poor understanding of the pawnbroking process, found it difficult to comprehend that they could be owed money after entering into a credit agreement, and were unlikely to pay attention to the standardised surplus notification letter. As such our first intervention attempted to address these comprehension and inattention issues by designing a new reminder letter that was sent to customers two weeks after their pledged item(s) were sold at auction. Following on from this, our data analysis demonstrated that a large number of people are repeat customers that use pawnbroking stores to access a number of different products (such as cheque-cashing, buy-back or foreign exchange services). A large number of consumers that were owed surplus (~38%) had visited stores since without collecting their money, indicating they were unaware of the outstanding surplus entitlement. To address this fact, we designed a second, supply-side intervention consisting of a 'surplus flag' - a notification on store IT systems to alert front line staff to pay any outstanding surplus to customers when they visit the store.

We organise this paper as follows. The third section provides a diagnosis of the problem, description of the behavioural design thinking approach, results of diagnostic data work, staff and consumer research, the consumer journey map and hypotheses. The fourth section details our intervention and trial design and the workshops where we generated these interventions. The fifth section details our results and conclusions from the trial.

3. Context

Market context

It is estimated that the pawnbroking market in the UK consists of approximately 290 firms that generate £125m of revenue per year, with pawnbrokers lending out approximately £300m to customers in 2018 (Figure 1; FCA, 2018). Although there is a large disparity between the smallest and the largest firms in the market, the average UK pawnbroking firm employs 23 members of staff 4 stores and enters into 5400 pawnbroking agreements per year. Across the whole market the average loan-to-value (LTV) is 50%, and the annual percentage rate (APR) interest on loans is 120%. Customer typically borrow around £300 per agreement with an average maximum loan of £2000. The average firm turns over £1.5m per year with a profit of £100,000.

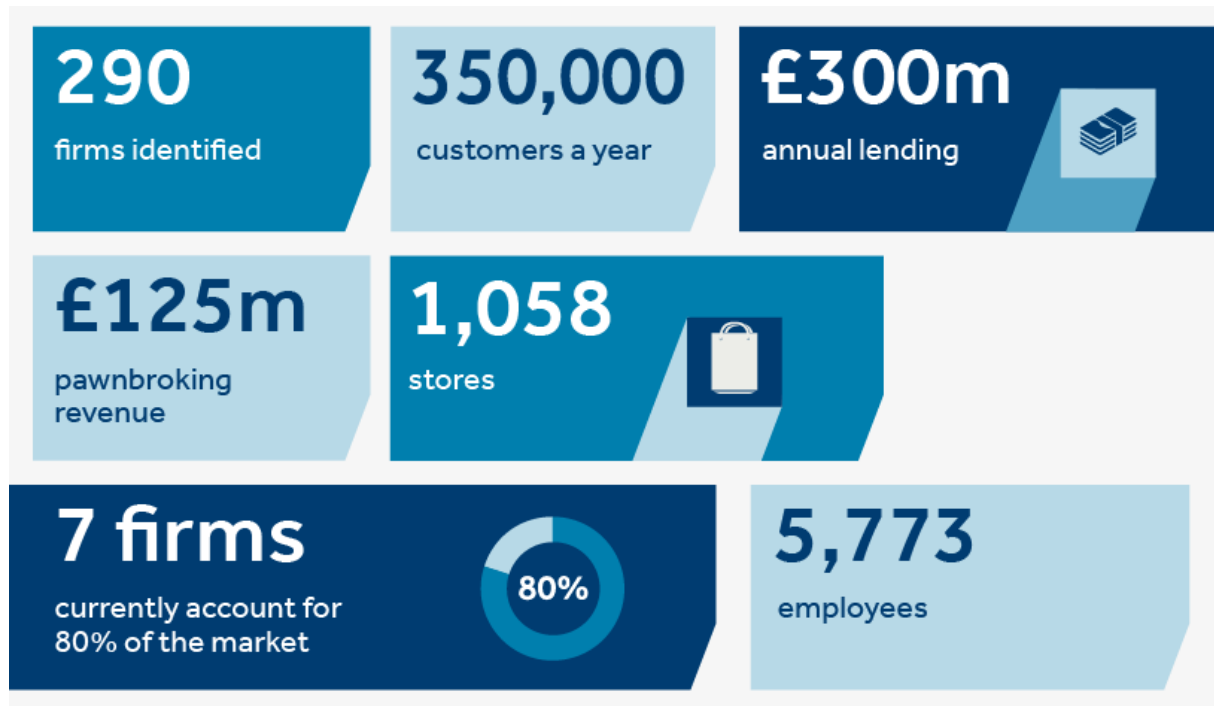


Figure 1. Overview of the UK pawnbroking market (Financial Conduct Authority, 2018).

While pawnbrokers are providers of high cost credit, the interest charged is significantly less than forms of high cost short term (HCST) credit such as payday loans, home collected credit and rent-to-own schemes. However, in recent years pawnbrokers have diversified into offering other financial services, including foreign exchange, cheque cashing, payday lending and rental purchase. This diversification is reflected in the fact that only 43% of the average pawnbroker's turnover in 2010 came from pawnbroking agreements (Collard and Kempson, 2003).

A 2010 review commissioned by the National Pawnbrokers Association took an in-depth look at the characteristics of the UK pawnbroking market (Collard and Heyes, 2010). They

found that pawnbroking customers tend to be women with families (64% female) and most are aged between 20-49, coinciding with the demographic that is most likely to use credit products due to the financial pressures of setting up a home and family (Kempson, 2002). The same review highlighted aspects that may suggest pawnbroking customers are more vulnerable than the average consumer: only 20% of surveyed customers owned their own home, with 48% living in accommodation rented from housing authorities or local authorities. In addition, 53% lived in households with nobody in employment and 70% reported household incomes of £300 per week or less.

The Collard and Heyes (2010) survey also highlighted several key insights on pawnbroking customer's access to other forms of credit, which could be a key driver in their use of pawnbroking services. They found that consumers were less likely to have a current account or basic bank account relative to the wider UK population. Of the customers that did have access to a bank account (basic or current), a third reported having an overdraft facility and 24% reported that they were currently overdrawn. 73% stated that they had borrowed money recently from other sources, with approximately a third borrowing from friends or family and a third borrowing from payday lenders or home collected credit firms. It should be noted that in general pawnbrokers make most money from returning customers who rollover their loans, explaining pawnbroker investment in maintaining consumer relationships. It is not in the pawnbroker's interests to see customers defaulting and losing their pledges.

Previous behavioural research on the pawnbroking industry is relatively sparse, reflecting the relatively low use (3% of the population) of pawnbroking loans in UK society. Despite its low take-up rate, 95% of users of this form of credit rate their experience positively and report high levels of trust, often resulting in repeated use of this service. Pawnbroking loans offer customers relative affordability, speed (customers can receive their cash within 10 minutes or less) and access to loans without credit checks. In the US pawnbroking market, it has been suggested that there are two main behavioural factors driving customers' decisions to take out pawnbroking loans (Carter & Skiba, 2012). Firstly, customers might be conscious of the fact that they suffer from self-control problems when it comes to paying back debts. This leads them to seek commitment mechanisms (i.e. the pledging of a sentimental asset, such as a wedding ring) to ensure repayment as the emotional cost of not retrieving such items outweighs the benefit of defaulting on the loan. This was evidenced by different repayment rates for loans that were collateralised with sentimental, rather than non-sentimental pledges of similar values. A study by Bos, Le Coq and van Santen (2017) also found that customers that are aware of their self-control limitations choose low loan-to-value arrangements to make it costly to default (Bos, Le Coq and van Santen, 2017). Secondly, it has been proposed that customers show different levels of loss aversion with respect to different items (e.g. the subjective feeling of losing a sentimental item may be greater than losing a non-sentimental item even if they have the same objective monetary value). As such, reclaiming an item subject to high loss aversion allows customers to avoid the extra subjective, emotional costs they would incur if they had defaulted on the loan.

Our behavioural design approach

We approached the problem of low surplus collection rates using an innovative 'behavioural design' approach, blending behavioural insights with data analysis and a design approach

that starts from an analysis of user needs. This approach consisted of four phases: Discover (exploration and analysis of user needs), Define (articulating the challenge from the user perspective), Develop (jointly creating and testing solutions with users) and Deliver (refining and upscaling solutions with users). Our behavioural design approach can be seen in Figure 2.

This 'double diamond' model was first developed by the British Design Council in 2005 (British Design Council, 2015, Van Essen et al., 2016). At its core this model proposes an exploration stage of divergent thinking to gain a wider and deeper understanding of a challenge and then taking focused action in a convergent thinking stage. This happens twice in the model process – firstly to define the challenge and problem and secondly to create focused solutions. Critically, the process is non-linear (as opposed to traditional design processes) and iterative, resulting in an agile approach that has been successfully used in a number of interventions, from reducing violence in hospital accident and emergency departments (British Design Council, 2011) to improving cyclists' safety in the Netherlands (Van Essen et al., 2016).

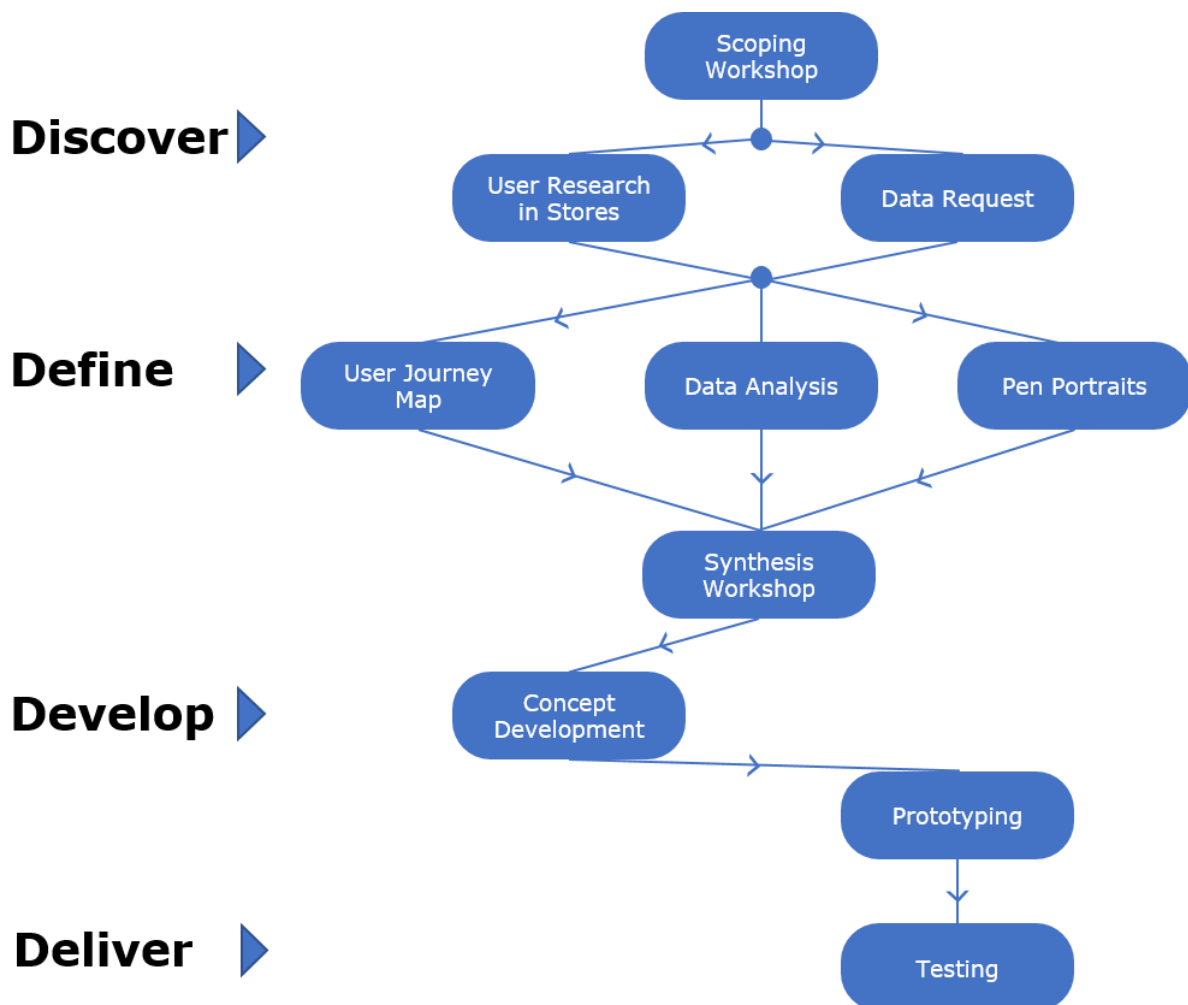


Fig 2. An illustration of our behavioural design approach

Our application of these principles differed from previous approaches to developing and trialling interventions based on intuition or behavioural theory. By looking at the problem of low surplus collection rates from the ground-up, a richer qualitative picture of the challenge and a better diagnosis of the problem can be obtained. Combining these insights

with quantitative data enhances this further – especially in helping to discount interventions which would assumedly work given previous research. For example, in previous field trials, using text/SMS messaging has proven to be an effective way of reminding people of an issue or nudging them into action (Adams et al., 2018). However, after we conducted staff interviews as part of the “Discover” part of the design process, we found that less than 20% of customers provided mobile phone numbers, and even then a large number of these were incorrect or out of date. We were then able to move onto other intervention ideas which were more likely to work. Our research investigated four main questions:

- 1) Why might customers not claim a surplus they are entitled to?
- 2) What are the current processes and customer journeys for identifying, notifying, claiming and receiving surplus?
- 3) What are customers’ needs?
- 4) What is driving the significant variation in levels of payout by store?

The initial phase of the “Discover” part of our research started with a scoping workshop to map the customer journey from our perspective and the firm’s, followed by 7 days of user research in stores across England where the actual experience of customers and store staff could be assessed. A cross-section of stores were sampled (Table 1) to include stores with higher/lower than average surplus collection rates, higher/lower incidences of surpluses, and other variables (London/non-London, urban/suburban and store size). For the randomised controlled trial all the stores from the firm were eligible (i.e. the RCT was not confined to the stores sampled at this stage).

Table 1. Store characteristics for user research

	>Average % surplus collected	<Average % surplus collected	Other variables
>Average number of surpluses	Store A (90 / 52%) Store B (77 / 44%)	Store D (234 / 9%) Store F (51 / 13%)	London / non-London Urban / suburban Store size
<Average number of surpluses	Store C (30 / 63%)	Store F (51 / 13%)	
Total staff and Customers	Staff: 19 Customers (not necessarily all in store): 12		

A typical customer journey proceeds as follows (a more detailed user journey map can be seen in figures 3A and 3B). In the loan application and repayment process (figure 3A), a customer arrives at a pawnbroking store and decides to pawn an item. The pawnbroker makes a valuation of the item and offers a loan to the customer (typically 50% of the value of the pledged item) for a short period (often 6 months) at an agreed interest rate (typically 120-160% APR). Pledged items are securely stored and the customer leaves the store with their loan. If the customer is a repeat customer and their details are already stored in the system, the whole process can be completed in just 10 minutes. Over the course of the loan term, customers can make repayments on an ad-hoc basis, according to a prearranged payment plan, or simply make the full repayment at the agreed date.

In the situation where the customer has not repaid the full amount (principal loaned amount plus interest) the pawnbroker can offer a discretionary grace period, or a renewal of the contract. If the full amount is not paid by the end of the grace period, the pawnbroker can recover their costs by selling the customer's item. At all stages of the process pawnbrokers will attempt to communicate with customers by letter or telephone to inform them of the process, giving customers an opportunity to redeem the item by repaying in full until quite late stages of the process.

If the customer's item was worth more than £75, it enters the auction process (figure 3B). If at auction the item sells at a price above the principal and interest owed by the customer, then the difference, or 'surplus' amount is owed to the customer. If any partial repayments have been made by the customer during the loan term, then these should also be returned, after the pawnbroker has recovered their costs. If a surplus is owed to a customer, the pawnbroker sends a standardised auction surplus notification letter to the customer alerting them to their surplus and that they can collect it in store.

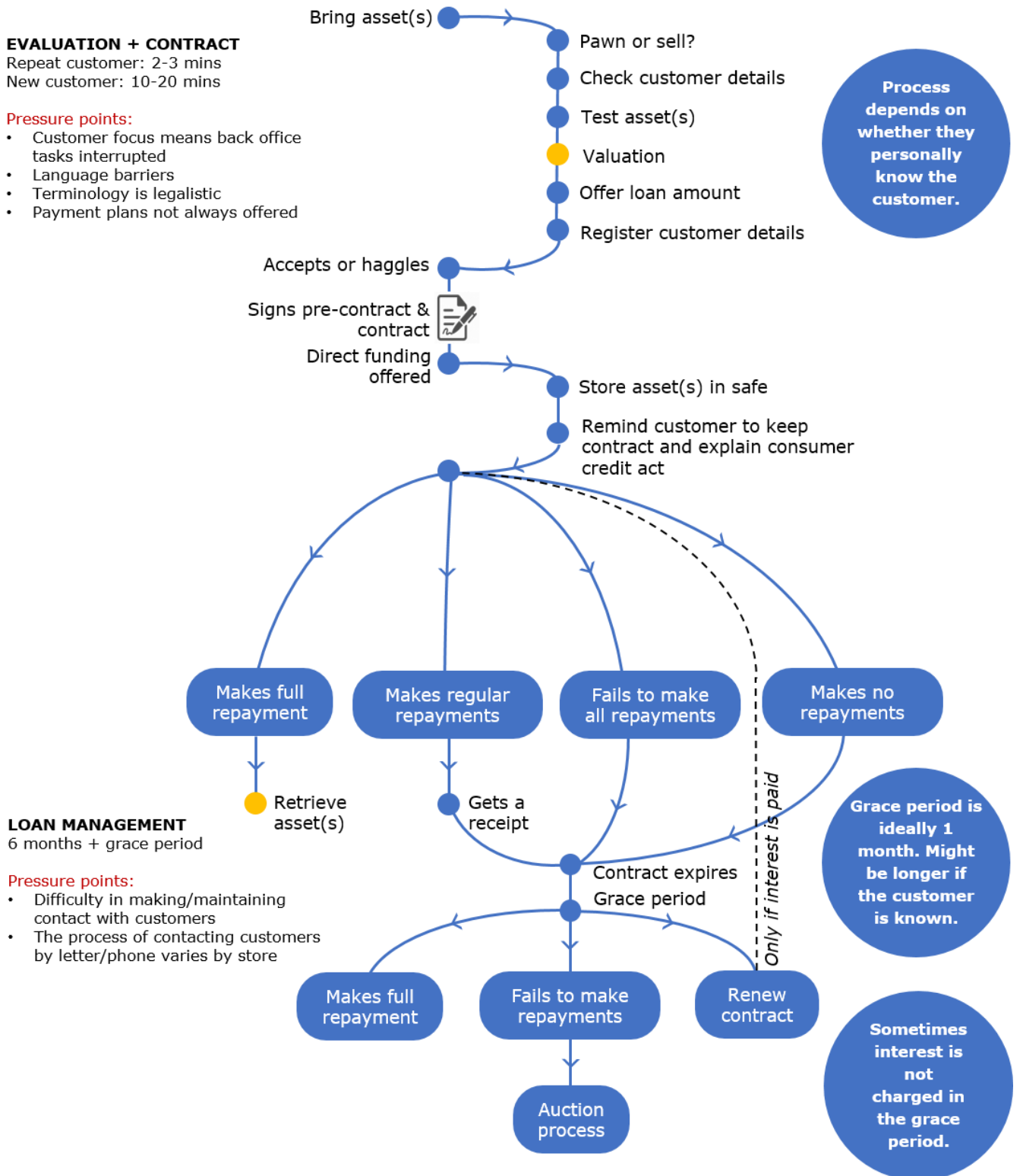


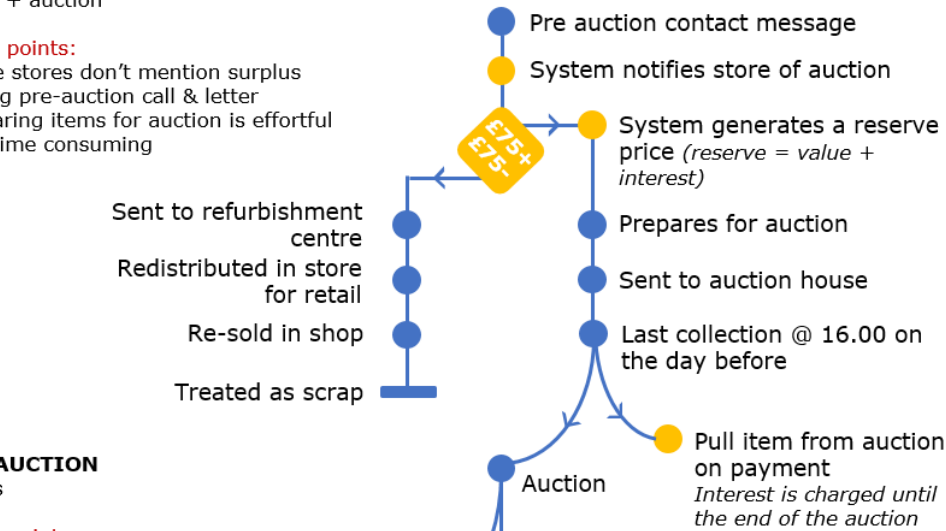
Figure 3A. Consumer journey from pawning an asset to auction process

BEFORE AUCTION

1 month + auction

Pressure points:

- Some stores don't mention surplus during pre-auction call & letter
- Preparing items for auction is effortful and time consuming

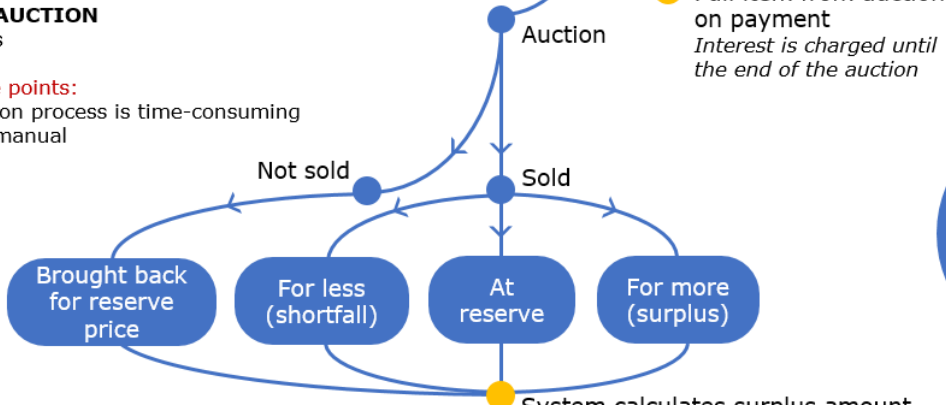


AFTER AUCTION

2-3 days

Pressure points:

- Auction process is time-consuming and manual



Pressure points:

- Customers wary that they owe more money if there is a shortfall
- Internal and external audit processes, and area manager store visit checklists do not include surplus
- Some staff don't understand the surplus process, including that money can be generated from part payments made as well as the surplus
- Customers not told about surplus until it actually happens
- Majority of staff are not aware that customers do not always collect surplus
- Letters not sent and/or calls not made to those not owed surplus

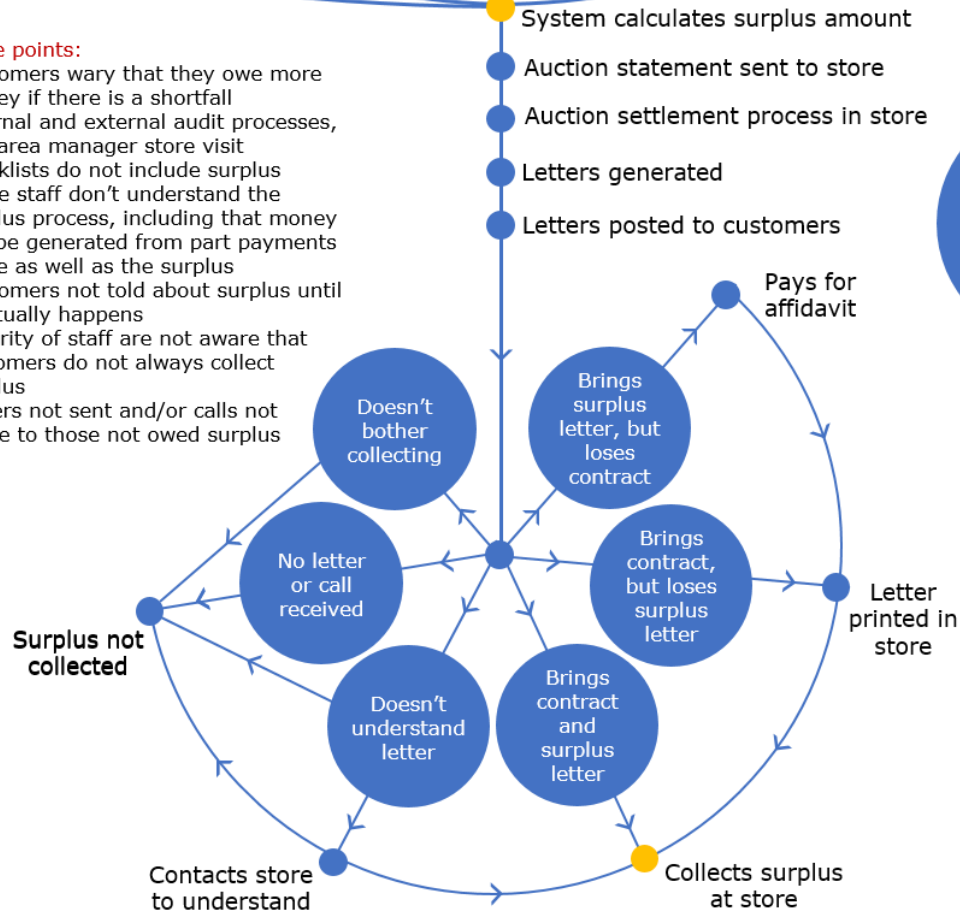


Figure 3B. Consumer journey after the auction process

User research

At the stores, we carried out interviews with staff and customers, observed transactions, read example letters and Management Information materials, explored the IT system and communications (e.g. posters, standard customer letters) and went through the user journey map with participants. We paid customers a small sum for their involvement in the research.

We conducted interviews with area managers (n=5), store managers (n=6), store employees (n=8) and customers in and out of store (n=12), observing consumer transactions and examining store-level data on surplus collections. Fieldnotes were drafted by one user researcher and supplemented and verified by the second user researcher. The fieldnotes were analysed by creating a master journey map illustrating the typical customer and staff journeys, highlighting differences between stores and practices. A series of pen portraits of typical and atypical customers were also developed. In parallel, we conducted analysis of store data on surplus pay-outs (see data analysis section).

Customer interviews showed that the main reason for using pawnbrokers was that it was a safe, convenient and fast form of short-term credit (to fill short-term cash needs) without any credit checks. Customers said they used pawnbroking because of its relative affordability (compared with payday loans and use of unauthorised overdraft facilities), speed - with the average time to take out a pawnbroking loan being 10 minutes - and access to loans without credit checks.

"It takes me 30 seconds to explain the [pawnbroking] process."

Store Assistant

The user research highlighted several drivers that could be driving low surplus collection rates. All the issues could be construed as side-effects of the positive and beneficial aspects of pawnbroking loans, namely the speed at which credit is available, the lack of credit checks and limited personal information required to deliver the credit (since the loan is collateralised). The personal nature of pawnbroker-consumer interactions was also reflected in a high number of repeat customers.

"I've been using the store for 5 years - I live really locally and have known the store manager for 13 years."

Customer interview

For example, a customer might know a particular member of staff and prefer to engage with them but that staff member may not be aware that the customer is owed a surplus (whereas a new or unknown staff member may follow a more formal process, such as accessing the customer's account and then become aware that the customer has incurred a surplus).

"If I'm doing the [surplus] letters I'll think I'll see them soon but you never do. Or you see them taking out more gold!"

Store manager

The behavioural design approach of combining a scoping workshop, user research and data analysis allowed us to recreate a detailed consumer journey map and identify the potential pressure points that are driving low surplus collection rates in the process.

Data analysis

In parallel to the user research, we submitted a data request to the firm we were working with that covered general demographic data of pawnbroking customers, their loan information, whether they had incurred a surplus and whether that surplus was collected in the period 2016-2018. This rich dataset enhanced our qualitative user research, allowing us to determine quantitative drivers of low surplus collection rates. We split the data analysis into three sections; General demographics of pawnbroking customers, general demographics of those customers incurring surplus, and factors associated with low rates of surplus collection. This latter part of the data analysis focused on understanding what (if any) variables were associated with non-collection of outstanding surpluses, the demographic variables of these customers and their behaviour when it comes to accessing pawnbroking services (i.e. repeat custom and store visit data). It should be noted that our data came from just one firm in the UK market, and may not be fully representative of the market overall.

General demographics of pawnbroking customers

Corroborating previous research (Collard & Hayes, 2010), there were more female pawnbroking customers than men in all age brackets apart from those under 25 years, who represented the smallest number of customers overall. The majority of customers were between 25 and 55 years old age (Figure 3).

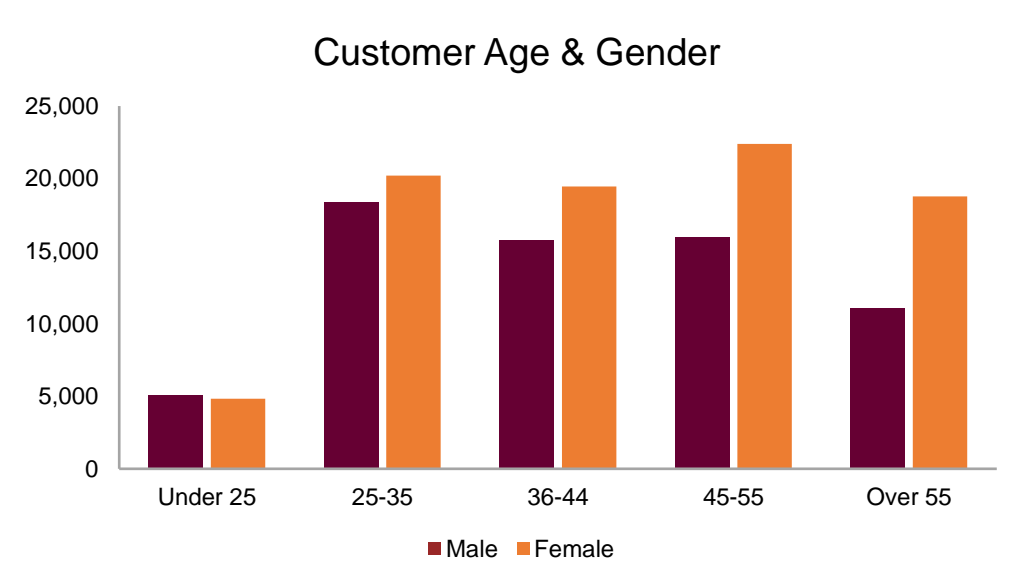


Figure 3. Customer breakdown by age and gender

52% of all pawnbroking customers were classed as repeat pawnbroking customers (defined as taking out at least one pawnbroking loan at the firm prior to 2016). Additionally, 16% of customers had used the firm's pawnbroking shops to access other non-pawnbroking services such as cheque cashing or buy back services. For all customers, the median loan amount was £110 (mean amount=£255). Between 2016 and 2018, 82% of all loans were

either paid in full or renewed, and approximately 10% of loans resulted in a customer's item being sold at auction (figure 3A). Overall, only 2% of loans resulted in a surplus being generated for the customer.

General demographics of pawnbroking customers that incur surplus

A more detailed look at the characteristics of consumers that incurred surplus between 2016 and 2018 (our population of interest for this study) revealed that only a minority of pawnbroking contracts result in surplus being owed. For those customers that incurred surplus, the median loan amount was £200 (mean loan amount = £397.82) and the distribution of loan amounts is positively skewed. Loan values varied widely at the regional level (Figure 4), with mean loan values ranging from £293 (Merseyside) to £531 (South West London). Part payments were made on 13% of all loans that incurred surplus over the time period, and the mean part payment was £153 (median part payment = £155).

The overall surplus collection rate across the period was 18.1%. Surplus collection rates differed by geographical region, from 10% in Scotland to 28% in Merseyside (figure 5). The mean surplus amount incurred per item was £94.05 (median surplus value = £9.26). Approximately 80% of customers that incurred surplus were repeat pawnbroking customers (compared to 52% of all customers). In addition, approximately 6% of customers that incurred a surplus had more than one loan (or had pawned multiple items at the same time), which may suggest that customers who incur surplus may be more frequent or experienced users of pawnbroking services. In addition, customers lived a mean distance of around 4 miles from the store where they took their loan out, with a minimum distance of 0 miles and a maximum distance of around 380 miles.



Figure 4. Mean loan amounts at the regional level. Map colours represent the geographical regions and not any quantitative information.

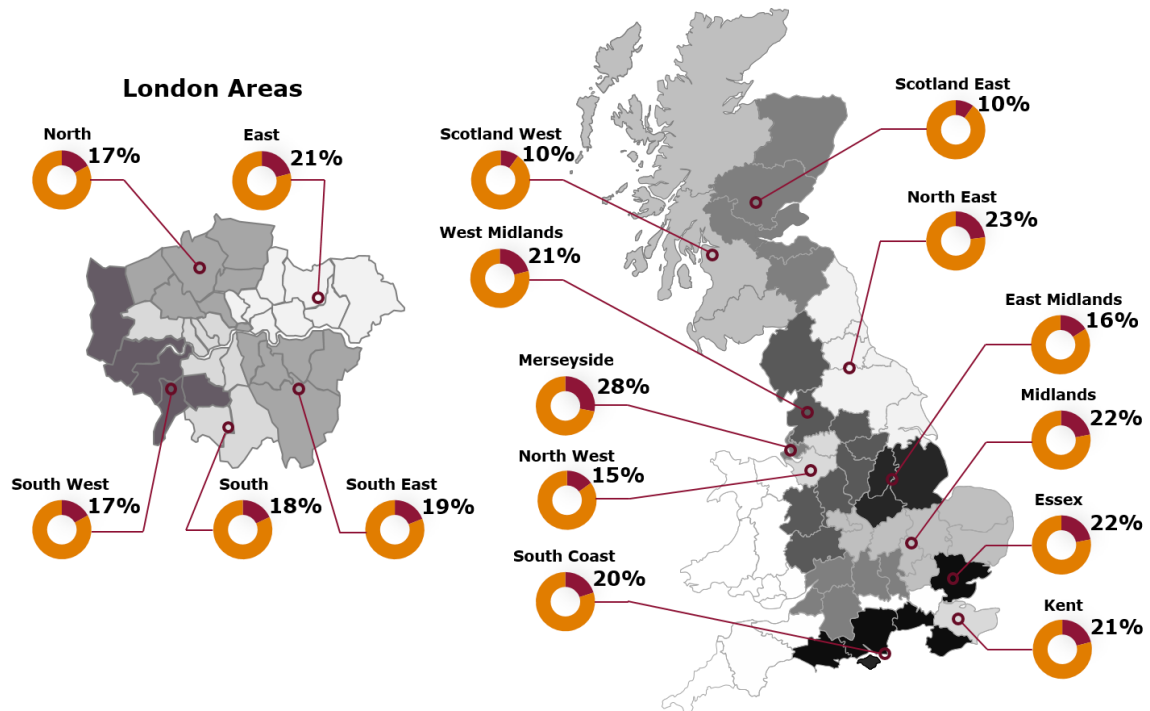


Figure 5. Surplus collection rates at the regional level. Map colours represent the geographical regions and not any quantitative information.

We next analysed the frequency of store visits for those customers that incurred surplus. In order to do this, we examined all customers who incurred a surplus (e.g. their forfeited item was sold at auction for more than the amount owed) over 2017 ($n=5,256$). Note that these customers had opened a pawnbroking loan agreement between January 2016 and April 2017, reflecting the lag between the eventual auction of their items after defaulting or any renewal or extension agreements between the store and customer. Of the 5,256 customers that incurred surplus over 2017, 1,066 collected their surplus within a year of their items selling at auction (representing a 20.2% collection rate over the analysis period, which is not dissimilar to the surplus collection rate across the whole data collection period of 18.1%). However, of the customers who did not collect their surplus ($n=4,190$), 1,582 customers (38% of those that incurred a surplus) had visited a store within 1 year of being notified that they were owed surplus, but did not collect it. In fact, 50% of these non-collecting customers visited a store within 50 days of incurring a surplus, increasing to 75% within 110 days.

Factors associated with low surplus collection

To inform us of the potential drivers of surplus (non) collection, we considered those customers who incurred surpluses over the dataset time period and investigated if there were statistically significant differences between customers who did and didn't collect the money that was owed to them. There were slight differences in the mean and median loan values for collected and uncollected surpluses (Table 2) and initial loan value was significantly predictive of surplus collection (logistic regression, $z=6.38$, $p<0.001$).

Table 2. Loan amounts associated with collected/ uncollected surpluses

<i>Surplus Status</i>	<i>Unique Customers</i>	<i>Mean Loan (£)</i>	<i>Median Loan (£)</i>	<i>Minimum Loan (£)</i>	<i>Maximum Loan (£)</i>
All	7811	397.81	200	75.04	9000
Uncollected	6474	379.59	200	75.04	9000
Collected	1337	480.04	250	76.00	8699

As expected, there were large differences in the average collected and uncollected surplus amounts (Table 3) and larger surpluses were significantly more likely to be collected than small surpluses (logistic regression, $z = 13.31$, $p < 0.001$).

Table 3. Surplus amounts associated with collected/ uncollected surpluses

<i>Surplus Status</i>	<i>Unique Surpluses</i>	<i>Mean Surplus (£)</i>	<i>Median Surplus (£)</i>	<i>Minimum Surplus (£)</i>	<i>Maximum Surplus (£)</i>
All	10036	94.05	9.26	0.02	11195.00
Uncollected	8215	70.02	3.84	0.02	9496.80
Collected	1821	202.45	100.00	0.09	11195.00

Further analysis on the differences between uncollected and collected surpluses revealed that the mean distance between individual customers and their local store was greater for those customers with uncollected surpluses (6.6km as opposed to 5.0km for collected surpluses). In addition, repeat customers are more likely to collect a surplus that is owed to them, with surplus collection rates at 20% for repeat customers compared to 13% for new customers (logistic regression, $z = 6.44$, $p < 0.001$). Similarly, customers that had made part payments throughout the loan period were four times more likely to collect a surplus that is owed to them than those customers who did not make any part payments (logistic regression, $z = 31.8$, $p < 0.001$). Those customers that had opted in to be contacted by SMS or telephone were not significantly more likely to collect surplus (logistic regression, $z = 1.54$, $p = 0.124$). In summary, the following factors were associated with low surplus collection were discerned from the data:

- low initial loan amounts
- low surplus amounts
- increased distance between the customer and their store
- new customers and customers that hadn't made any partial payments over the course of the loan term

4. Hypotheses, intervention design and experimental method

Our interventions were based on hypotheses generated from the combination of user research, data analysis and the synthesis workshop with the firm where key qualitative and quantitative insights from the research were reviewed. There were 13 participants in the synthesis workshop including 6 firm employees across functions including management, marketing, training and store/area managers. The workshop focused on 4 exercises: reviewing the user research and pen portraits, data analysis and detailed customer journey map; refining and validating the customer journey map and insights; developing and prioritising hypotheses; and generating and prioritising ideas for each hypothesis. These ideas and interventions were prioritised according to feasibility and estimated impact.

Drivers of low surplus collection

The drivers are divided into 2 sections: communications and processes. These were further distilled into five overarching themes (D1-D5) that our intervention was designed to address:

D.1 Frequency and quality of communication with customers

A customer may only receive one letter prior to their pledge being sent to auction. The appearance and language of the letter is legalistic and not easy to understand at first glance. One letter is sent to customers advising them they are owed money – this is also legalistic and dense (and its format is prescribed by legislation). Phone calls are time consuming for staff to make and the store may not have the customer's phone number. In addition, it is difficult to know whether the letters are reaching customers' addresses or indeed even being opened and read, and phone calls are often unanswered.

Very often customers do not provide (correct) contact details such as phone numbers and email addresses or they may change their address but not update the pawnbroker. Or they may not provide it at all – there is variation within and across stores on what details are collected and checked. This could result in letters being sent to a past address or not being able to make reminder calls, for example.

"Calls are not mandatory. We do it out of the goodness of our own hearts...If you're busy you can't do them... When we do get through, sometimes people say they haven't got our letter – they've moved and haven't updated their address with us. Regular customers always tell us if they've moved."

Staff member

"Today I made 20 'courtesy calls' to let people know their contracts are expiring and their items will be sold at auction. I only got through to 6 or 7 people."

Store Assistant

D2. Lack of customer understanding/ knowledge of both the surplus and the auction process

There is a great deal of information to take in when pledging an item of value. There may be limited understanding among customers of the circumstances under which a surplus (including part-payments) might be paid. More specifically, the word 'surplus' may also not be clear for people in this context. There may also be a lack of understanding or awareness of the entire process; being owed a surplus is entirely counter to peoples' mental models of borrowing money from a firm. The length of time of the whole process means that some people might simply forget about the good(s) or the money and adapt to life without it.

"I don't read the small print. I would read the main points. I usually sign without reading... [After explaining about the surplus] I wouldn't have thought that would be possible... I've always read it that you would just lose the items. I assumed that was how they make their money."
Customer interview

D3. Auction process is very manual and time-consuming for staff

The auction process requires manual cross-checking of multiple documents then inputting the relevant information into the computer system by the store manager or employees of a certain grade. Staff reported the process as the most effortful/onerous part of the whole customer journey. Staff were also frequently pulled away from back office tasks like this to serve customers. This could potentially lead to errors and letters not being sent or the incorrect amounts/information being sent.

"The hardest part is processing everything for auction. Got to make sure everything is correct – weight, hallmark, description. Only I do this. If I'm not disturbed to serve it takes me about one to two hours..."
Store Manager

D4. No staff reward or incentives for increasing collection rates.

Staff are highly motivated to achieve certain targets and KPIs through various rewards. Rewards are both financial – e.g. individual bonuses or team holidays – as well as social – e.g. praise, respect and status. Despite the surplus issue being an increasing challenge, there are no rewards or incentives for staff or stores with higher collection rates.

"We have KPIs for pawnbroking, cash loan conversion rates, retail, foreign currency exchange, buy-backs, and purchase....We have an internal audit system where 1 star is what you want and 5 stars is the lowest/worst."
Area Manager
of store with surplus collection rate below average

D5. Limited attention, salience and/or knowledge of the problem and, more generally, surplus rates, at store, regional and Head Office level.

There was limited or no awareness attributed to the scale of the challenge, particularly among store staff. Knowledge of the surplus process was generally lower compared to the rest of the customer journey – for example, many staff did not know part-payments can make up the surplus. There is a widely held (false) belief in stores that all customers collected their surplus. Surplus collection rates are not covered in the firm MI e.g. mystery shopping, audits, area manager checklists or KPIs. There is no way to quickly see at-a-

glance how many and which customers are owed surplus or who is owed surplus at an individual level.

"Everyone comes back to collect their money – why wouldn't you?" Store
Manager of store with surplus collection rate below average

Intervention Design

To capture emerging ideas, throughout each session, participants were encouraged to note down ideas and place them on the section of the journey map to which they corresponded. In addition, there was a structured ideas generation session following the hypotheses generated by the user research. The groups generated more than 50 ideas to address the various hypotheses. These were refined into a list of 37 distinct concepts and categorised according to higher or lower impact and higher or lower feasibility (Table A1)

After the synthesis workshop, user research and data analysis we focused on interventions that could be tested scientifically in randomised controlled trials (RCTs). Our intervention, designed to address surplus non-collection issues on the consumer side, consisted of a surplus reminder letter designed using behavioural science techniques. This letter was sent 14 days after a customer incurred a surplus after their item was sold at auction, in addition to the standard legal letter that is sent.

The second intervention, designed to address issues on the firm-side, consisted of a modification to the store software system that keeps track of customer's relationships with the pawnbroker, including outstanding loans and whether the customer has incurred a surplus when their pledged item has been sold. If a customer visits a store for any purpose that requires their account to be accessed (not limited to pawnbroking services), a surplus flag pop-up appears to alert the staff member if the customer has an uncollected surplus.

Intervention 1: Surplus Reminder Letter to Customers

As part of the "Develop" phase of the design process, we designed 4 different variants of a surplus reminder letter that took into account all of the insights generated in the Define and Discover phases. We focused on conveying the message that a customer was owed surplus using: 1) A (basic) concise letter 2) A visually direct letter 3) A letter with a visual portrayal of why the customer was owed money, and 4) A letter that portrayed why the customer was owed money in a non-visual way. On the reverse side of the four letters was a table specifying the items that the customer had incurred surplus on, and a map to locate their nearest store. In addition, we tested a number of different envelopes for the letters.

We visited a store and received feedback from 5 customers and 5 staff members to decide which letter would be most effective to utilise in the larger scale field trial. This in-store testing followed the same format for every customer and staff member. We first explained the objective of the testing and described a hypothetical situation for the customer (that they had pawned an item but haven't been able to repay their loan so they have lost the item. A couple of weeks later, they collect their post). We then presented the customer or staff member with a selection of 3 envelopes and asked which one they were inclined to open and why. Next, the customer or staff member was shown one letter and asked to read it (with letters presented in random order for each customer and staff member). We

asked if they understand the contents, the pros and cons of the letter, and how it could be improved. The test subject was then shown all of the letters and asked to repeat the previous step.

We found that the most effective combination was a blue envelope, which attracted the attention of the customers, and a visually direct letter. Notably, none of the participants looked at the reverse side of the letter so this intervention was removed from the final version that was used in the trial. An example of the letter used in the field trial can be seen in Figure 6.

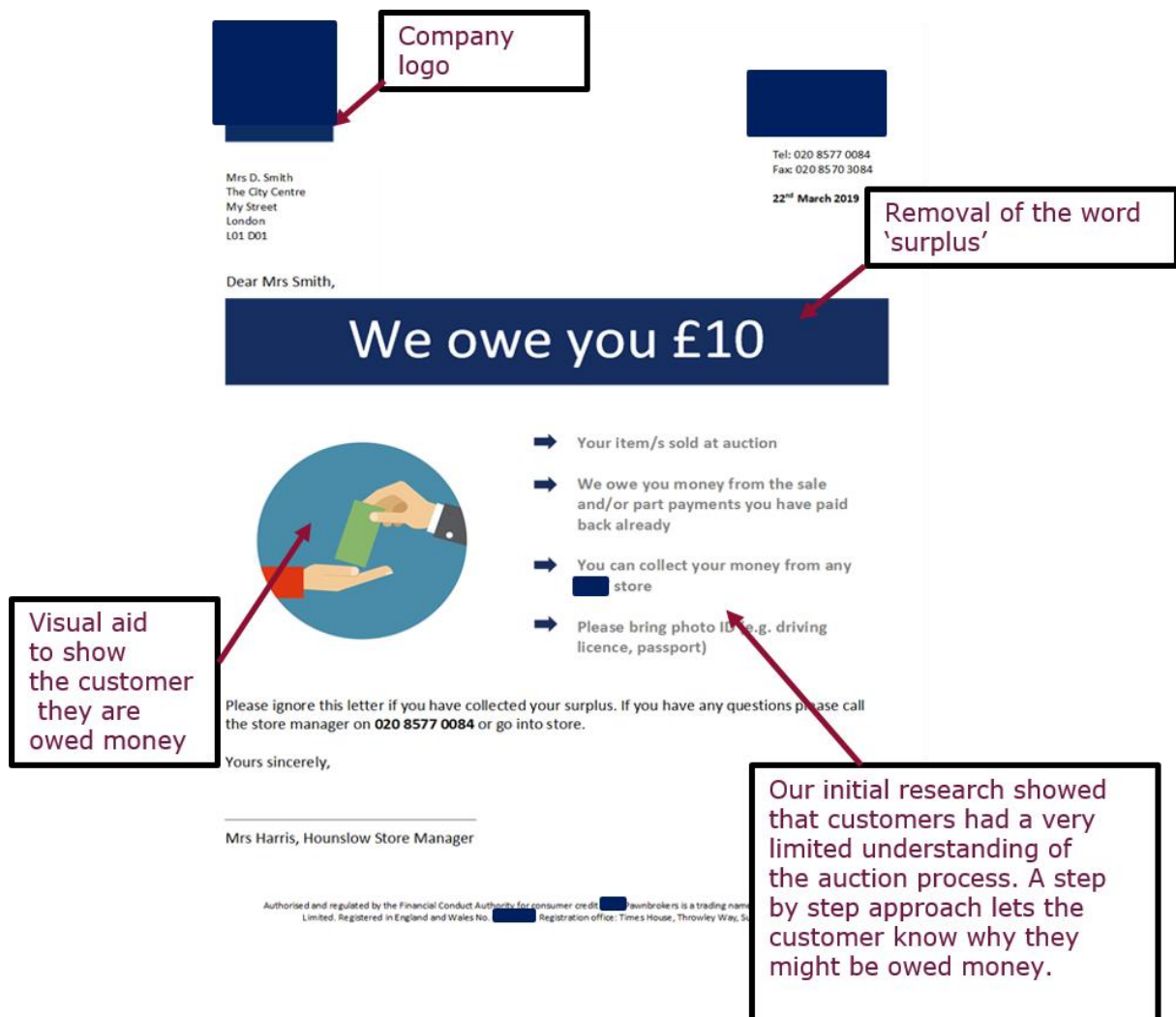


Figure 6. Final letter design for testing in the randomised controlled trial.

Intervention 2: Surplus Flag to Alert Staff Members

Our analysis of store visit data as part of the design process suggested that many customers who have outstanding surplus amounts on their accounts subsequently visit the store without collecting them. Customers also visited stores to access a variety of other services (such as cheque cashing or foreign exchange) and sometimes these services require a staff member to consult the customer's account on the system.

The analysis showed that a majority of pawnbroking customers were repeat users of this form of credit. Indeed, 80.1% of items that incurred surplus were pawned by repeat customers, and 52% of all the customers in our dataset were repeat customers, a finding

that is supported in the literature documenting pawnbroking loan use (Collard & Hayes, 2010). Our analysis of customers' visit data to pawnbroking stores suggested that 37.8% of customers who are owed a surplus visit a store within a year of receiving a surplus notification letter, but do not collect it. The median delay from surplus notification to next visit is 50 days, suggesting that most customers would have received a surplus notification letter prior to their next store visit.

We therefore proposed that an automatic surplus flag to alert staff members that a customer has an uncollected surplus could increase collection rates from 20.2% to 50.4% (assuming that the surplus flag is 100% effective in facilitating staff members to process the surplus collection). Although it is technically possible to see if a surplus is owed to a returning customer in the customer database, staff would previously be required to click into the database to look for it manually. Because this trial is still in the field due to the impact of Covid-19, we will publish these results in a follow-on research paper.

Method (Surplus Reminder Letter)

To test the effectiveness of the new reminder letter, we conducted a randomised controlled trial with randomization occurring at the customer level. One day post-auction, we received an anonymised list of all unique customers IDs that had incurred a surplus every 14 days. We then randomly allocated unique customer IDs to the treatment group (receive the reminder letter 14 days post-auction) or control group (no change from normal process). As such, the sample population for the trial was those customers who incurred surplus in an auction, as determined by the store computer database centrally. Prior to allocation, the customer IDs were checked against previous treatment/control group allocations to ensure that customers who repeatedly incurred surplus over the trial period were assigned to the same group.

A central hypothesis of the research was that the initial surplus notification letter was ineffective in encouraging most customers to collect surplus (relating to driver D1. as identified in the user research). Of those customers that do collect, the majority do so within a short time-frame (see data analysis section above). We therefore sent a reminder letter to customers within 14 days of it being incurred.

Because the items placed in auctions each month are selected on a random basis (i.e. not determined by geographic location or value) we did not assign customers to treatment or control groups based on any stratification variables.

There was one categorical outcome variable: whether or not the surplus has been paid out to the customer within one month of receiving the letter and one continuous outcome variable: monetary amount collected. Our primary hypotheses were that the reminder letter would: 1) Increase the number of surpluses being collected by customers within one month of receiving the letter, and 2) Increase the monetary amount collected by customers within one month of receiving the letter. In addition, our secondary hypotheses were that the reminder letter 3) Have an interacting effect with the amount owed to consumers (aggregated) on increasing collection, and 4) Have a larger impact on collection rates for repeat customers. Multiple logistic/ linear regressions were used to assess the impact of the intervention on the outcome variables.

For a parallel arm design, approximately 210 participants were required per group to detect an effect size of 10%, from the low baseline of ~10% surplus collection within 30 days. To detect an effect size of 15%, approximately 100 participants were required per group. These sample size calculations were based on $\alpha=0.05$ and $\beta=0.2$). These samples are estimated based on an increase in the rate of surpluses paid out, irrespective of the fact that some customers incur multiple surpluses in the same auction.

5. Results

Surplus Reminder Letter

Over the course of 2 months 569 customers who incurred a surplus entered into the trial. Customers were randomly allocated to control and treatment groups. 277 customers received a behaviourally designed reminder letter informing them of the outstanding surplus (treated group). 292 customers were assigned to the control group. We estimated effect sizes to be in the 5-15% range based on the firms previous in-house research and the results of our previous disclosure-based RCTs. Treatment and control groups were balanced, with no significant differences in the previously identified drivers of surplus collection such as loan value, surplus value, distance to the store and the number of new and repeat customers in each arm (Table 4).

Table 4. Drivers of surplus collection rates were not significantly different between control and treatment groups.

<i>Group</i>	<i>Mean loan value (£)</i>	<i>95% Loan value confidence intervals (£)</i>	<i>Mean auction surplus value (£)</i>	<i>95% Auction surplus confidence intervals (£)</i>	<i>Mean store-customer distance (km)</i>	<i>95 % Distance confidence intervals</i>	<i>Repeat/new customer</i>
Control	383.65	326.58, 440.71	83.42	39.83, 127.01	4.8	3.5, 6.1	236/56
Treatment	408.63	339.95, 477.31	96.90	66.20, 127.60	7.6	4.3, 10.8	217/60

The behaviourally-designed reminder letter had a significant impact, with 22% of people collecting their surplus in the treatment group compared to 11% in the control group, within 30 days of incurring a surplus (Figure 7). This result supported our first hypothesis that the reminder letter would increase surplus collection, even when controlling for surplus amount, loan amount and distance to the store, all of which were determined to affect surplus collection rates from our initial data analysis exercise (multiple logistic regression, $z=3.403$, $p<0.001$, table A2). A linear probability model confirmed this result ($t=3.465$, $p<0.001$). In both models, only auction surplus amount came close to significance in explaining collection rates ($p=0.09$ and $p=0.06$ respectively). A regression controlling for geographic region confirmed that the sample was evenly distributed across geographic region ($z=0.003$ $p=0.99$). Our regression analysis showed that a customer is almost twice as likely to collect their surplus having received our letter than not. For context, a previous FCA RCT showed that a letter trial looking at increasing redress rates had a much smaller effect size of maximum 4 percentage points, when the letters were simplified with salient messaging (Adams & Hunt, 2013).

Moreover, the percentage total value of surpluses 'left on the table' was reduced from 79% in the control group to 66% within 30 days in the group that received the reminder letter,

supporting our second hypothesis that more money would be returned to customers compared to the control group (Figure 8). In testing our secondary hypotheses (that the reminder letter would have a greater impact on repeat customers and for higher surplus amounts) we found there was no effect (multiple logistic regressions, $z=-0.176$ $p=0.86$ and $z=0.749$ $p=0.45$ respectively).

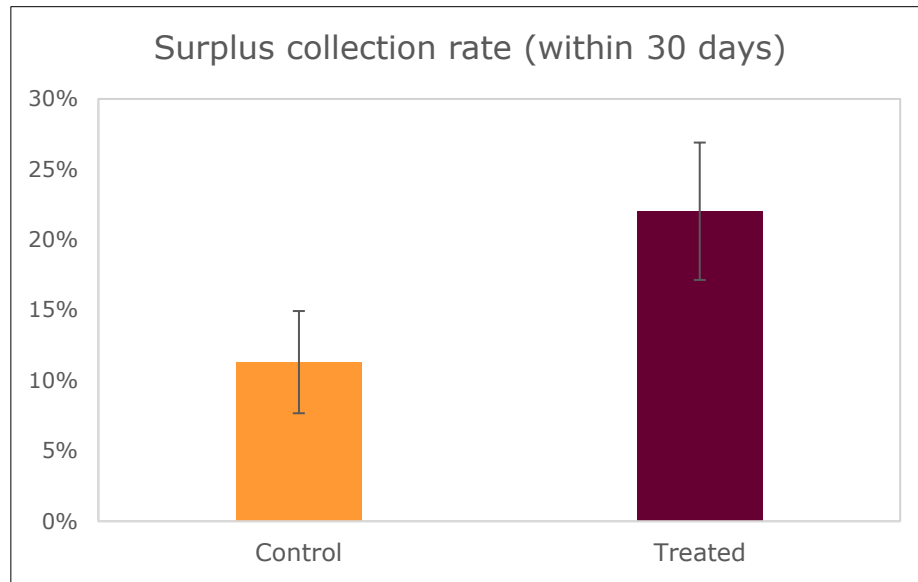


Figure 7. Surplus collection rates for the control group and the treatment group (error bars denote 95% confidence intervals)

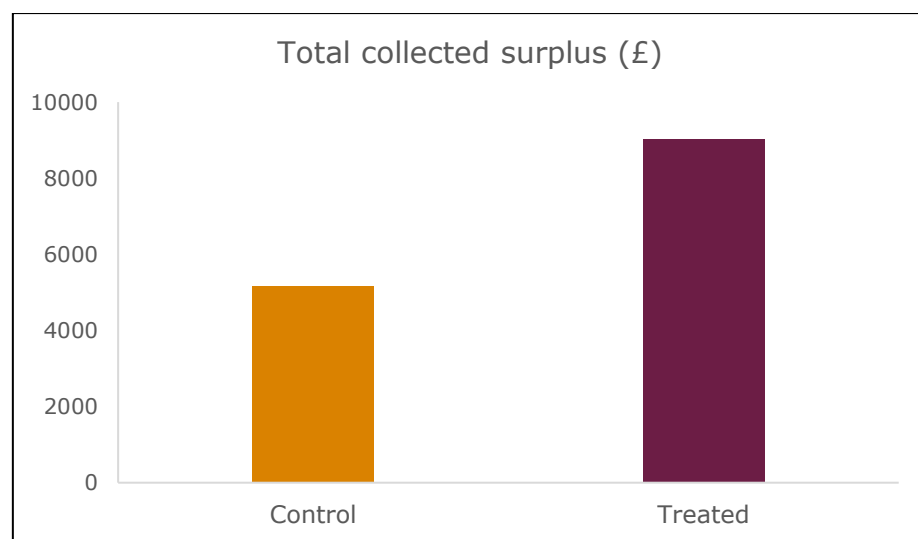


Figure 8. Surplus amount returned to customers for the control group and the treatment group

Surplus Flag

Due to Covid-19, the surplus flag trial had to be halted. We will provide the results of this trial in a further report once the trial is concluded.

6. Conclusions

When pawnbroking customers default on their loan, the item that they pledged as collateral can be sold to recover the loss to the pawnbroker. However, if the item sells for more than what the customer owed, this surplus money should be returned to them. However, our analysis in 2018 found that many customers had not collected this surplus money and the harm to consumers may be in the region of £1m a year. Academic reviews suggest that many pawnbroking customers may be classed as vulnerable, so we are working with a large pawnbroking company, looked at designing a remedy to drive up collection rates for these people.

Using a novel design approach combined with extensive data analysis and user research, we mapped the full consumer pathway and discovered that a key problem that was driving non-collection was a lack of understanding of the surplus process on the consumer side. Although statutory letters are sent out to consumers when they are owed a surplus, these letters might be difficult to understand or could be ignored by consumers.

The behavioural design approach helped us to create several reminder letters, combining new messaging and visual techniques to explain to consumers that they were owed money and could come to the store to collect it. User testing allowed us to narrow these letters down to one that would be sent out 14 days after a customer's item was sold at auction and a surplus was generated. We tested the effectiveness of this letter in a randomised controlled trial (RCT), where half of the customers received the statutory letter and the new reminder letter, and the other half just received the statutory letter.

Our results indicate that the reminder letter caused a statistically significant increase in collection rates within 30 days and reduced the amount of surplus money being held by the pawnbroker. Encouragingly, this effect was independent of the surplus amount and whether the customer was a new or repeat customer, 2 drivers that were previously identified to affect collection rates. This simple intervention may reduce harm to vulnerable consumers in this market and could be implemented cheaply by firms of any size.

As mentioned previously, we also designed and are testing an intervention on the firm side: the introduction of a flag that alerts staff to a customer's surplus. The introduction of public health interventions during the Covid-19 pandemic affected the timelines for the surplus flag field trial, since the intervention relied on random return visits to stores that were closed for a period in the Spring and early Summer of 2020. We commit to publishing the findings of this trial in a future research note.

Annex 1.

Table A1. Ideas, hypotheses and feasibility/impact assessment

Idea	Hypotheses	Impact/ Feasibility
Text message reminders	Comms (D1, D2)	High impact, low feasibility
Automatic flags on Neo when customer comes in	Comms (D1, D2, D5)	High impact, high feasibility
Take bank details and automatically refund surplus into account	Comms (D1, D2)	High impact, low feasibility
Phone customers outside of work hours	Comms (D1, D2)	High impact, low feasibility
Send letters in customers' own languages	Comms (D1, D2)	High impact, low feasibility
Origin of surplus within training (e-learning, classroom, monthly doc)	Limited firm attention / salience (D5)	Low impact, high feasibility
Phone calls after auction when surplus owed	Comms (D1, D2)	High impact, high feasibility
Rename surplus: "refund", "cashback"	Comms (D1, D2)	High impact, high feasibility
Mandatory fields for comms preferences (languages and or channels)	Volume and quality of customer data (D3)	Low impact, high feasibility
Store/area manager driving culture and behaviour e.g. including surplus in their store checklists / making it a focus	Limited firm attention / salience (D5)	Low impact, high feasibility
Store certificates/award for best improvement in collection rates	Incentives and limited firm attention / salience (D4, D5)	High impact, high feasibility
Simplify auction settlement/central settlement (e.g. creating one sheet showing all sold items)	Incentives (D4)	Low impact, low feasibility
Include surplus in audit process	Incentives and limited firm attention / salience (D4, D5)	Low impact, high feasibility
Engaging message on surplus letter envelope: "You are owed money"	Comms (D1, D2)	High impact, high feasibility
Make surplus collection a KPI	Incentives and limited firm attention / salience (D4, D5)	High impact, high feasibility
Store surplus collection rate ranking/competition	Incentives and limited, H&T attention / salience (D4, D5)	Low impact, high feasibility
Compliance focus - make this issue part of compliance strategy which gets C-suite attention	Limited firm attention / salience (D5)	High impact, high feasibility

Head office marketing - website stats, Power BI, posters (MI)	Limited firm attention / salience (D5)	Low impact, high feasibility
Note unsuccessful contact with customers on system	Volume and quality of customer data (D3)	Low impact, high feasibility
Automatic auction settlement	Incentives (D4)	Low impact, low feasibility
Centralise letter production	Incentives (D4)	High impact, low feasibility
Letter envelopes to include details of sender	Comms (D1)	Low impact, high feasibility
Put info about surplus on website	Comms (D1, D2)	Low impact, high feasibility
Provide map of consumer journey incl. surplus	Comms (D1, D2)	Low impact, high feasibility
Tell customers about surplus when they take out the loan	Comms (D1, D2)	Low impact, high feasibility
Re-print surplus letters for non-collectors until surplus collected (make it the default)	Comms (D1, D2)	Low impact, high feasibility
Check customer's history every visit	Comms (D1, D2)	Low impact, high feasibility
Tell customers about surplus in auction letter	Comms (D1, D2)	Low impact, high feasibility
Emphasise best practice of keeping letters that are returned to sender	Comms (D1, D2)	Low impact, high feasibility
Put info about surplus on till receipts	Comms (D1, D2)	High impact, high feasibility
Signs in store about process and surplus	Comms (D1, D2)	High impact, high feasibility
Combine multiple surpluses on letters	Comms (D1, D2)	High impact, high feasibility
Allow customers to get refunds of part payments during loan	Comms (D1, D2)	High impact, low feasibility
Word of mouth education/community groups as messengers	Comms (D1, D2)	Low impact, low feasibility
Send process survey to customer	Comms (D1, D2)	Low impact, low feasibility
Focus on customers who intended to sell but pawned instead	Comms (D1, D2)	Low impact, low feasibility
Have an online account to check progress and collect surplus	Comms (D1, D2)	Low impact, low feasibility

Annex 2.

Table A2. Regression table

	<i>Dependent variable:</i>	
	Collected	
	<i>logistic</i>	<i>OLS</i>
	(1)	(2)
Treatment	0.808*** (0.237)	0.110*** (0.032)
Auction surplus value	0.0005* (0.0003)	0.0001* (0.00005)
Distance between customer and store	-0.026 (0.019)	-0.001 (0.001)
Constant	-1.959*** (0.202)	0.116*** (0.023)
Observations	550	550
R ²		0.031
Adjusted R ²		0.025
Log Likelihood	-242.536	
Akaike Inf. Crit.	493.072	
Residual Std. Error		0.372 (df = 546)
F Statistic		5.767*** (df = 3; 546)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

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