

Customer behaviour

The realities of spending

It is obvious that customers often behave irrationally, but the psychological factors that affect spending behaviour are many and complex. Greg Davies discusses some of the latest thinking in this area from Cambridge and Warwick, and shows how marketers might use these insights to improve product design and presentation.



It has been known for some time that the specific payment mechanism used by consumers when making purchases has a significant effect on spending behaviour. This seems to be particularly true of credit cards: customers using credit cards spend more than those paying by cash or cheques in spending situations that are otherwise identical in every other respect.¹ That this should be the case is also evidenced² by the willingness of retailers to pay credit card companies some 3% of their revenues on credit card purchases. This customer behaviour is at odds with standard economic theory, which argues that the method of payment should have no effect on spending, so consumers seem to be indulging in "irrational" behaviour. But recent research discussed in this paper indicates that differences in the method of payment have psychological side-effects that influence consumer behaviour in predictable ways.

Understanding these psychological side-effects has a number of important implications for financial services companies. Firstly, there is the benefit of increased understanding of customer behaviour, which should allow greater accuracy in modelling and prediction of spending

patterns across different customer groups. This knowledge would assist in planning, pricing and the targeting of product offerings.

More significantly, however, knowledge of consumer psychology gives financial institutions a direct means of influencing customer behaviour through the manipulation of individual features of payment mechanisms. This could be achieved by either changing product designs or using marketing to change the perception of product features in ways that would stimulate changes in behaviour. The obvious benefits of such understanding are increased revenues through higher customer spending, and increased market share through judicious targeting of psychological aspects of spending behaviour.

A further benefit, however, lies in risk management: an understanding of the psychology may assist in designing product features that reduce overspending, and thus limit both adverse selection and the risk inherent in offering credit to those with low levels of financial self-control. Credit card users are particularly prone to such failures of self-control, and may well be prepared to pay a premium for credit structures that help them to stay in charge. Such products may also benefit banks and insurers in terms of increased brand loyalty³.

A comprehensive understanding of spending psychology should thus allow financial services companies to improve planning and pricing accuracy, and to encourage spending whilst simultaneously limiting the likelihood of default.

Irrational spending

The first factor that helps to explain why credit cards boost spending is to do with the *psychophysics* of how the brain subjectively perceives external stimuli. In this case the stimulus of concern is money, and the psychophysics of value suggests that an expense is perceived as being far larger on its own than when it is part of a much bigger payment. So adding a £30 expense to a £637 credit card bill will make the £30 appear smaller than it would seem on its own. Grouping transactions in credit card bills therefore reduces the perceived size of individual expenditures, resulting in increased spending.⁴

A second issue is that, according to the standard

economic model of decision making, a rational consumer *should* purchase goods or services if the utility from consumption is greater than the present value of the payments associated with that consumption. So the longer that payments are delayed, the better the consumption experience for the consumer, as the cost of consumption is cheaper. The means of payment should have no effect on the likelihood of purchase.

However, recent studies⁵ provide numerous counter-examples:

A holiday costing £1200 is arranged six months in advance. There are two payment options:

1. Six monthly instalments of £200 during the six months before the vacation.
2. Six monthly payments of £200 in the six months after the holiday.

According to the standard model, everyone should opt rationally for option 2, as it carries an implicit interest bonus of about £20. However, when Prelec and Loewenstein posed this question to ninety-one individuals, six in ten opted for the earlier payments. The academic literature of choice behaviour is full of similar examples, indicating that people do not, in general, act in line with the theory. More important than this realization, though, is an understanding of *why* it should be the case.

Mental accounting

Possibly the most important concept to come out of recent research into the cognitive psychology of financial behaviour is the recognition that people intuitively organize their finances into "mental accounts". Mental accounting may be seen as analogous to the accounting and budgeting systems used by companies – a "set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities", as Thaler⁶ put it. This helps to reduce the complexity of everyday financial decisions and assist in making trade-offs between different types of spending. Although the theory of mental accounting covers a very rich set of human behaviour, this paper focuses on how people combine the costs and benefits of individual transactions when making spending decisions.

At the transaction level, consumers tend to "open" an account mentally for each transaction as it occurs, and to base decisions about whether to purchase or not on an evaluation of the perceived benefits of consumption and the costs of payment in this account. The advantage of this approach is that it enables decisions to be evaluated in isolation from other transactions, reducing the cognitive load on the decision maker, and making the assessment easier.

However, this simplicity comes at a cost: the decision becomes mentally disassociated from other decisions which might more appropriately be evaluated together. These accounts are mental constructs, which means that the perceived costs and benefits are evaluated in

the context of the mental account, and are themselves open to psychological biases.

To make the concept more tangible, consider the following pair of questions⁷:

1. Imagine that you have decided to see a play and have paid the admission price of £10 per ticket. As you enter the theatre, you discover that you have lost the ticket. The seat was not marked, and the ticket cannot be recovered.
Would you pay £10 for another ticket?
2. Imagine that you have decided to see a play where admission is £10 per ticket. As you enter the theatre, you discover that you have lost a £10 note.
Would you still pay £10 for a ticket for the play?

When this question was administered to two groups of subjects⁸, less than half answered yes to the first question, whereas nearly 90% answered yes to the second. These responses are problematic for the standard model of behaviour: in both cases total wealth and the future costs and benefits of the decision are identical. However, there is clearly a significant *psychological* difference between the two choices. Viewed from a mental accounting perspective, the choices make a great deal more sense. In the first question, the price of the second ticket is added to the open "theatre account", in which the first ticket has already been booked. For many people, this is evidently an unacceptably high cost for the play. In the second case, the money lost is not perceived as being related to the play, and the "theatre account" is evaluated in isolation of this amount – it will not influence the decision to see the play, except insofar as it makes the person feel slightly less wealthy.

The psychological evaluation of the transaction can be broken down into the perceived benefits of consumption and the perceived costs of paying.

Prelec and Loewenstein⁹ use mental accounting to provide both a theory of the effect of payment mechanisms on spending and evidence supporting it, by introducing the concepts of **prospective accounting** and **coupling**. Within each "transaction account", the psychological evaluation of the transaction can be broken down into the perceived benefits of consumption and the perceived costs of paying. Unlike the standard economic theory, these two components are affected both by each other and by the timing of the consumption acts and payments. Specifically, within each transaction account, thinking about the cost of a purchase at the time of consumption can undermine the pleasure derived from it; thinking about the benefits of a purchase can blunt the pain of making payments.

Prospective accounting

This framework can explain the holiday example given above. People tend to evaluate both payment and consumption *prospectively* – that is, at any given point they are far more concerned with future outcomes than past occurrences. Thus, they prefer to prepay for the holiday because:

- At the moment of payment, the “pain of payment” is *buffered* by the thought of the future holiday to come.
- During the holiday itself, the payments have already been made so, the holiday can be enjoyed fully without thinking about the costs to come – it seems “free”.

Paying for the holiday after the event, on the other hand, means that during the holiday the pleasure will be reduced by the thought of the unpaid bills that will be waiting afterwards. In addition, when actually making the payments there is no future benefit to buffer the pain – it feels as if the payment is for “nothing”.

Given this framework, people would in general prefer to prepay for consumption items than pay after the event, and consumption spending should thus be higher when payments precede consumption. This will not always be the case, however, because the effect is offset by the financial benefits of delaying payment and receiving interest on the outstanding amount. In some cases, the impact of time discounting will be strong enough to override the benefits of prepayment. This has the interesting implication that the net desire for prepayment may be weaker during periods of high interest rates.

The strength of the prospective accounting effect also differs according to the nature of the purchase. In particular, the effect is stronger for consumption that is intense and short-lived rather than longer term. Consumer durables, for example, provide long-term consumption benefits so, even if the payments are spread out over an extended period, the pain of these payments may always be offset by the benefits of use that will continue well into the future¹⁰.

Coupling

Consumers thus have a psychological preference for prepayment, which is offset to some degree by time discounting. Bringing forward payment schedules tends to raise customers’ evaluations of the net benefits of a transaction, and hence causes an increase in overall expenditure. However, it is not yet clear why this should result in the observed effect of credit cards increasing expenditure. Credit cards, after all, are about post-payment. The explanation lies in another psychological effect – *coupling*.

Coupling refers to the degree to which consumption and payment are bound together psychologically. For any purchase, the thought of future payments will attenuate the pleasure of consumption. However, the degree of attenuation will depend on how readily these

future payments can be brought to mind (or come to mind unbidden!). The more the payments can be psychologically “decoupled” from the consumption, the less they will reduce enjoyment and the better the overall assessment of the value of the transaction.

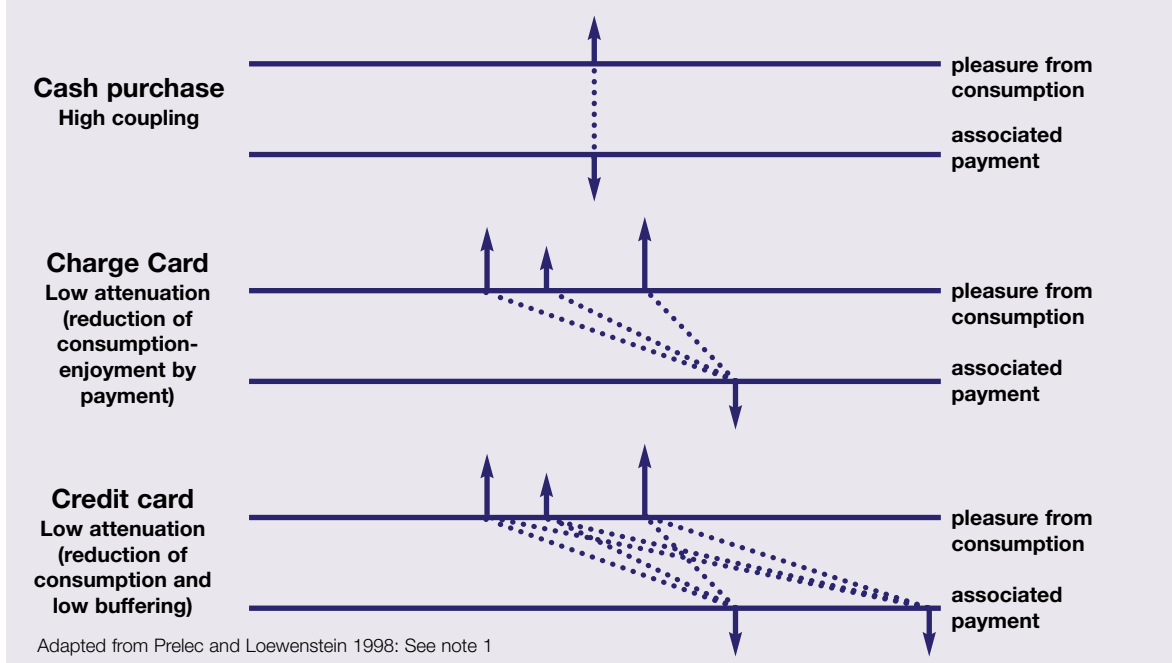
This decoupling may be achieved in a number of ways, and credit cards come into their own here as a means of reducing the “pain of payment”:

- An increased time period between purchase and payment will tend to reduce coupling. If the payment is viewed as being far in the distance at the time of consumption, it will have less impact on perceived consumption benefits.
- Combining many purchases into a single payment will also reduce coupling. When settling a credit card bill, several individual purchases are combined into a single payment. At the point of consumption, then, there is no single clear payment that is attributable specifically to that consumption act. An immediate payment for a specific purchase, on the other hand, creates very tight coupling, and the payment event is more readily brought to mind, reducing the pleasure to be had from consumption.
- The greater the diversity of consumption types associated with any payment, the greater the decoupling. If a payment covers a wide range of different goods and services, it becomes even more difficult psychologically to partition the payment between them.
- Lower *saliency* and *vividness* of the payment lead to lower coupling. Cash payments have high psychological saliency, as they involve handing over a visible amount of cash, driving home the fact that the benefits are being paid for. Other means of payment have lower saliency – cheques do not have quite the vividness of cash payments, but do require the consumer to write out the amount physically, which serves to imprint this psychologically. Credit cards produce lower coupling, as they merely require a signature on a slip of paper – the imprinting of the payment amount as a memory trace is thus much weaker¹¹.

All of these factors reduce the degree to which the thought of the payment attenuates the benefits of consumption, leading to a higher evaluation of the transaction, and thus increased propensity to spend. There is, however, a countervailing factor: most of these elements that reduce coupling will also reduce the degree to which the thought of consumption buffers the pain of paying.

So, whilst the enjoyment of consumption is not reduced much by the payments, the pain of payment is not reduced much by the thought of consumption either. This reduces the overall evaluation of the transaction and thus lowers the likelihood of purchase. An example can

FIGURE 1: TEMPORAL RELATIONSHIP BETWEEN PAYMENTS AND PLEASURE FROM CONSUMPTION



be seen in Figure 1. The upper diagram shows the temporal coupling relationship for a cash purchase. Both the simultaneous timing and the one-to-one relationship cause high coupling.

The middle diagram demonstrates that paying by charge card reduces the degree to which the payment attenuates the pleasure of consumption: the payment is separated from the associated consumption events by both timing and the fact that many items are bundled into a single bill, making it difficult to attribute the payment to any one of them.

The lower section shows the situation for a credit card that is not paid off automatically each month¹². The payment and consumption are now decoupled in both directions. The benefits are not reduced much by the thought of the payments, but neither are the payments buffered by the thought of associated consumption. When making the payment, it is difficult to associate it with any one remembered benefit. In addition, because the consumption events precede payment, the buffering effect on the payments is lower than the effect of the payments in attenuating consumption – the relationship between the two is asymmetrical.

Thus, the ideal payment mechanism to encourage spending is one that has high decoupling between consumption and payment (so that the benefits of consumption are not greatly mitigated by the pain of paying), and low decoupling in the direction from payments to consumption (so that the pain of paying is buffered to a large extent by the associated consumption).

To discourage spending, or perhaps encourage only responsible spending, requires a product that does the

opposite. Credit cards cause extensive decoupling in both directions, but a greater understanding of the sources of coupling should allow for product designs to emphasize coupling in one direction over the other.

Coupling provides an answer to why credit card debt is considered so aversive by many people¹³. In this framework, payments are particularly painful if:

- The associated consumption has already happened at the time of payment.
- The payment cannot easily be associated with any consumption benefits (decoupling).

Credit cards display both of these features, magnifying the regret of overspending – and yet the decoupling of payments from consumption encourages spending and consumption at the time of purchase, which is when the decision is made.

Retrospective evaluations

Dilip Soman offers an alternative theory¹³ for the way in which payment mechanisms affect spending behaviour. This theory also involves mental accounting, but at the higher level of spending budgets rather than transaction level accounting. To assist in the complicated process of keeping track of daily, monthly or annual expenditure, people group transactions together into higher-level accounts.

Most people probably have a rough idea of what they spend monthly on, say, eating out, and also of whether their current spending is above or below this regular budget. Some individuals use this reference as a simple guideline to control spending, whereas others might

maintain explicit limits against certain categories of spending, or even total spending.

In general, though, most people use their memories of recent spending, and some sort of reference value (analogous to a budget limit), to guide their current expenditure, cutting back when they feel they are overspending relative to this amount, and treating themselves when they feel they have been spending less than usual.

This comparison is not made using an exact running total of expenditure, but one based on the *memory* of recent spending. Research indicates that consumers' recall of past expenses is imperfect, at best: individuals may be unaware of the exact price paid; they may find that maintaining an accurate total of all spending is cognitively difficult; they may allow small expenses to slip through as they are not thought worth tracking; and they might fail to deduct mentally many expenses from the consumer's actual wealth at the time of purchase (instead waiting until these are charged to their current account balance at the end of the month).

Soman suggests that the assessment of these personal budget limits is made by a *retrospective evaluation* at the time of a purchase opportunity. Payment mechanisms that result in low *recall* and low *aversive impact* of past expenditures cause consumers to *underestimate* their recent spending and, as a result, to increase current spending. Aspects of the payment mechanism have a direct influence on memory and aversive impact in much the same way as coupling:

- The greater the *salience* and *vividness* of the past payment, the stronger the memory trace it leaves. Credit card payments are low in both salience and vividness, thus causing an underestimate of past spending, and an increased propensity to current spending.
- The disassociation of payments from benefits results in a weaker aversive impact.

Note that these effects, unlike those of decoupling, work only in one direction – in leading individuals to make lower estimates of their past spending, payment mechanisms like credit cards will tend to increase the likelihood of further expenditure. Although the two theories are not mutually exclusive and may operate simultaneously, Soman offers the suggestion that coupling will have more of an impact on larger one-off purchases, whilst retrospective evaluation will be more important for smaller regular purchases.

Product design

Applying these theories to data on customers' spending behaviour, demographic characteristics and purchasing environment will allow financial services companies to predict and manage consumer behaviour as never before. Few financial institutions currently have such a close understanding of how consumers use their products or

how these products fit into their customers' lifestyles. Yet, it is precisely this understanding that is required to guide the development of existing products and the innovation of entirely new customer propositions and product categories. Employing the ideas covered in this article should enable providers to develop attractive products that work *with* customers rather than *against* them, by assisting them to maintain adequate control over their spending and reduce, where appropriate, the pain of paying¹⁵. In addition this knowledge will allow institutions to reach better pricing decisions and make better predictions of customer responses to marketing and product design changes.

The psychological levers that might be used to influence customer behaviour include:

- **Presentation at moment of purchase:**
 - o Designing credit card slips to increase salience by requiring the amount to be written on the slip by the customer as confirmation.
 - o Emphasizing the remaining credit limit at each transaction, to enhance payment coupling with current consumption and self-control.
 - o Presenting the customer with the outstanding credit balance to enhance self-control.
- **Statement design:**
 - o Emphasizing consumption benefits to increase coupling (ie, pointing out what customers got for the bill they are about to pay).
 - o Grouping of similar items to increase coupling and buffer the pain of payment.
 - o Sending customized alerts through e-mail or text when pre-set spending limits are reached.
 - o Allowing customers to place sub-limits on particular expenditure categories, to complement their natural system of mental accounting.
- **Moment of payment:**
 - o Offering shorter periods between the presentation of credit card bills, to increase coupling and recall, and to assist self-control.
 - o Allowing automatic transfers of credit card payments to the reduce the pain of paying.

Rethinking the future

The financial services industry has become accustomed to constant transformation through technological innovation. However, with increasingly detailed knowledge of consumer psychology emerging from such fields as the cognitive, neuro- and behavioural sciences, companies will need to focus increasingly on product designs that complement the way in which consumers think about their finances, rather than just increasingly sophisticated delivery of standard products. To position themselves to benefit from these advances, institutions need to undertake research programmes into existing patterns of customer behaviour and explore how financial services might be adapted to those patterns.

Ultimately, this should lead to the development of an

FIGURE 2: SUMMARY OF PSYCHOLOGICAL INFLUENCES ON SPENDING BEHAVIOUR

Cause	Example	Effect on spending propensity
Psychophysics	Bundling transactions	Increase
Time discounting	Prepayment	Decrease
Prospective accounting	Prepayment	Increase
Decoupling	Decoupling payments from consumption	Decrease
Decoupling	Decoupling consumption from payments	Decrease
Retrospective evaluation	Low recall of spending	Increase
	Low aversive impact of spending	Increase

entirely new approach to financial services provision. The current reality is that most retail finance propositions are guided by historical accident rather than the needs of customers. Ideally this means a clean slate redesign of the entire customer proposition with three objectives in mind. Firstly, simplifying and clarifying financial decisions in a way that complements natural psychological processes. Secondly, reducing the amount of time required by customers to manage their finances. Yet, thirdly, achieving this whilst simultaneously improving consumers' control over their financial position. The ideas in this article give examples of what is possible in only one of many currently active areas of research. Institutions need to recognize the work that is required before the psychological understanding of financial behaviour can be readily transformed into market share and economic value. Recent research means that many of the processes governing financial behaviour are understood far better now than ever before, and this knowledge has been translated into powerful behavioural models. Understanding what really drives consumers is the holy grail of retail finance, and the fields of behavioural finance and cognitive psychology are starting to put it within our grasp. □

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¹ See, for example, Feinberg, RA (1986): "Credit cards as spending facilitating stimuli: a conditioning interpretation". *Journal of Consumer Research* **13** 348–356; Prelec, D and Loewenstein GF (1998): "The red and the black: mental accounting of savings and debt." *Marketing Science* **17**(1) 4–28; Soman, D (2001) "Effects of payment mechanism on spending behavior: the role of rehearsal and immediacy of payments." *Journal of Consumer Research* **27** 460–474.

² In part, at least. Many would surely still argue that the merchant fees are tolerated because trade would otherwise be lost to rivals who accept cards. Ed

³ And also in terms of their relationships with the government and the regulators, and in general public relations. The current investigation of the credit card market by the Treasury

Sub-Committee is a case in point. Ed

⁴ Psychophysics is used to good effect in this context by car manufacturers. The added extras do not seem expensive when combined with the cost of the car, but would cause you to think twice were you to have to pay for them separately. [But this can be taken too far, as BMW found in the 1980s, when customers eventually balked at the realization that even the radio was an "optional extra" on a £25k car. Ed.]

⁵ This example is adapted from Prelec and Loewenstein, *op cit*.

⁶ Thaler, RH (1999). "Mental accounting matters." *Journal of Behavioral Decision Making* **12** 183–206.

⁷ Taken from Kahneman, D and Tversky, A (Eds) *Choices, values, and frames* Cambridge CUP 2000. Daniel Kahneman and Amos Tversky were pioneers in the field of behavioural finance, in recognition of which Kahneman was last year awarded the Nobel Prize for Economics. [Tversky had died in 1996. Ed]

⁸ That is, one group was asked the first question and the second (matched) group was asked the second.

⁹ *op cit*.

¹⁰ Prospective accounting also helps to explain the popularity of "fixed-fee pricing", of which prominent examples are flat-rate Internet and telephone charges, *prix fixe* dinners, "all-inclusive" package holidays, and fixed rather than per-use health club fees. This flat-rate bias cannot be accommodated within standard consumption theories.

¹¹ The coupling effect with credit cards is thus stronger in those restaurants that require the purchaser to add the tip to the credit card slip and write in the combined total.

¹² If the full amount is settled each month, the situation is the same as that for the charge card.

¹³ Apart, that is, from the high interest rates! A survey by Prelec and Loewenstein *op cit* finds that people feel a refund from credit card bills to be more satisfying than even an equivalent cancellation of parking tickets!

¹⁴ Soman, D (2001) "Effects of payment mechanism on spending behavior: the role of rehearsal and immediacy of payments." *Journal of Consumer Research* **27** 460–474.

¹⁵ It should be pointed out that the pain of paying does have an important role to play, in that it helps people to exert control over their spending. "The ideal payment arrangements, for rich and poor alike, will be those that facilitate rational spending while mitigating the pain of paying; that create the illusion of free benefits without sacrificing accountability." (Prelec and Loewenstein *op cit*).