Volume 7(1): 59–74
Copyright © 2007 SAGE
www.sagepublications.com
DOI: 10.1177/1470593107073845

articles

Time and the marketplace

Daniel Read
Durham Business School, UK

Abstract. *Consumers often face choices between options that vary in their short- and long-term benefit. This article describes the marketing implications of what we know about how consumers make these choices. The focus is on how consumers put disproportionate weight on short-term benefits, thereby overconsuming goods offering small early benefits at a larger, later cost (vices), and underconsuming those offering large delayed benefits at a smaller, sooner cost (virtues). I examine the strategic issues surrounding the marketing of vices and virtues to consumers whose preferences change as a function of time to consumption. Special attention is paid to the 'market for willpower', which is the market for goods that enable sophisticated consumers to overcome their difficult-to-control drive for short-term gratification. I conclude by asking what consumers 'really' want, and how marketers can and should respond to these desires.* ***Key Words*** ● *consumer sovereignty* ● *intertemporal choice* ● *willpower*

In February 1995 Taco Bell launched Border Lights, a reduced-fat, reduced-calorie alternative to its traditional menu. The new menu was a response to the bad publicity that Mexican food was then receiving, as well as an apparently growing level of demand for healthier food. Despite a $75 million marketing campaign, however, Border Lights, were an unmitigated failure, and sales dropped four per cent in the year they were introduced (Paperniuk, 1995). Primarily because of this debacle, John Martin, the CEO who masterminded Border Lights, was fired (Martin, 1996). That very year, Taco Bell's two partners in the PepsiCo stable – KFC and Pizza Hut – gained major increases in profits and market share by introducing high-fat, high-calorie items, such as stuffed crust pizza. By 1999, Taco Bell had got the message, and put its faith in the Chalupa, a deep fried taco, and the Enchirito, which they described as a 'ton of seasoned beef wrapped in a warm flour tortilla covered in zesty red sauce and topped with lots of rich gooey cheese.'

Taco Bell's experience was far from unique. Most fast-food chains experimented with healthier options, and these usually disappeared from the menus after a pro-

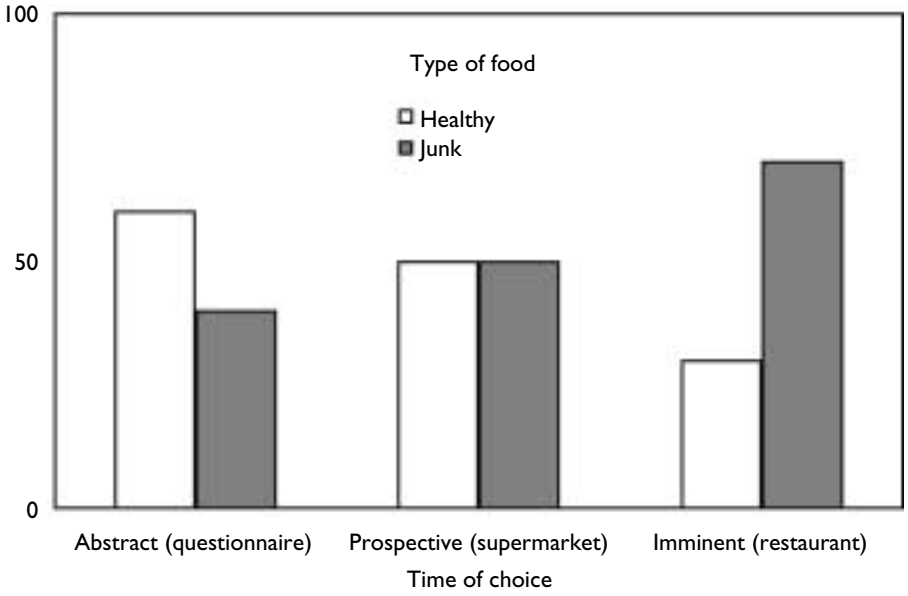

Figure 1

Typical pattern of preferences for health food and junk food during hypothetical (abstract), prospective and imminent choice

tracted period of struggling sales. Long gone, for instance, is McDonald's never popular McLean Deluxe. Introduced in 1991 with an excited introductory campaign, it never caught on and lingered on the menu until its mercy killing in 1996 (Hume, 1993; Pollack and Gleason, 1996). Other attempts at producing healthy fast food suffered similar fates (Sykes, 1996).

The discovery by fast-food restaurants that 'healthy' doesn't pay occurred at the same time that consumers were talking big about eating healthily (e.g. Dryer, 1996; Matuszewski, 1996). In focus groups and surveys, people expressed a desire for low fat fare, and healthy food was on every front page. Moreover, supermarkets found it essential to stock a variety of healthy alternatives, such as pretzels and 'lean cuisine'. These healthy foods sold respectably, although they never took off in the way that was expected (e.g., Frazao and Allshouse, 1995; Riell, 2000; Thompson, 1998).[1]

The experience of restaurateurs and food retailers is summarized in Figure 1, which depicts choices between healthy and junk food – or *virtues* and *vices*, to introduce terms that will soon be clarified. When people make abstract statements about their preferences, such as in focus groups, they want their food to have less fat and less calories. When making advance choices, meaning real choices like those in the supermarket that will not come into effect for some time, the desire for healthy food wanes somewhat. Thus, they buy fewer healthy choices than they

said they would. When choosing for immediate consumption, however, such as when they are in a restaurant, junk food is overwhelmingly preferred.

Food is only one of many domains where there is a discrepancy between good intentions and subsequent choice (Christensen-Szalanski, 1984; Read, Loewenstein and Kalyanaraman, 1999; Read and Van Leeuwen, 1998; Wertenbroch, 1998). We see it in the moviegoer who intends to see a difficult foreign film but changes his mind when the time comes and goes to see an action movie instead; in the student who sets her alarm for 6:00 and then savagely switches it off when it rings and rolls over for a few more blissful hours; in the aspiring athlete who promises to spend one hour on the treadmill but peters out after 15 minutes; in the taxpayer who promises that this year he will complete his return in plenty of time, but again leaves it to the last minute; and in the would-be saver who always spends a little more each month than planned. In all these cases people face a choice between that which would be best for them in the long run, and that which is immediately appealing. In this article I discuss the psychological principles that underlie these choices, and show their relevance to a wide range of marketing issues. Whenever consumers have to make intertemporal trade-offs – meaning they must choose between options that differ in how their costs and benefits are distributed over time – these principles can help us understand what decision they will make.

What kinds of choices are there?

The consequences of all choices can be described, in their most abstract form, as a stream of pleasure or pain. A hot dog bought from a street vendor, for instance, may involve a minute or two of pleasure from eating, a period of satiety, another period of mild digestive complaint, and a final period during which one's weight is marginally greater than it would have been without the hot dog. From the moment we eat the hot dog to the moment we die, our experience will be partly attributable to the hot dog, and partly attributable to 'everything else'. Naturally, the hot dog's contribution will quickly become negligible, but even a single choice can have momentous and lasting consequences, such as the decision to commit a 'crime of passion'.

All choices give rise to a utility stream, which is the temporal distribution of its consequences, such as the ongoing contribution of yesterday's hot dog to our happiness. To use terminology first introduced by Kahneman (e.g. Kahneman et al., 1997), the utility we experience at any given moment is *instant utility*, and the *total utility* is obtained by integrating instant utility over the lifetime. In a choice between two options, decision makers will have happier lives if they choose the option yielding the greater total utility. Two other terms will play an important role in the subsequent discussion: *immediate utility*, which occurs immediately after a choice is made, and *delayed utility*, which comes later.

Options can be classified in terms of the relationship between instant and total utility. Consider the following five example utility streams, each defined over four

periods, which might correspond to the everyday experiences listed in parentheses (the bold numbers denote immediate utility):

A)	{**4**, 2, 2, 2}	(Total = 10, eating a banana or winning the lottery)
B)	{**4**, –2, –2, –2}	(Total = –2, eating pecan pie or telling off your boss)
C)	{**–4**, 2, 2, 2}	(Total = 2, eating spinach or writing a paper)
D)	{**–4**, –2, –2, –2}	(Total = –10, eating lard or spending a year in prison)
N)	{**0**, 0, 0, 0}	(Total = 0, N for neutral, or doing nothing)

Positive and negative utility is defined against the neutral reference stream N. A negative number means that the person is worse off (relative to the status quo) during that period because of the option chosen, while a positive number means he is better off. Eating a banana, for example, is pleasurable to eat and is also good for you in the long run. Telling off your boss, on the other hand, might be fun to do, but has unpleasant and lasting consequences.

There are two important classes of binary choice. In *unconflicted* choices, one option dominates the other, meaning that both the immediate and total utility of that option exceeds or at least matches its rival. These are the choices between [A, B], [A, C], [A, D], [A, N], [B, D], [C, D] and [N, D], or choices between *goods* and *bads*, with the option on the left being the good and the one on the right being the bad. Eating a banana is better than eating lard in both the short and the long run. It is likely that most choices are between goods and bads, so we are never tempted to take the bad.

The choices that really trouble us, however, are those requiring a trade-off between immediate and delayed utility. When an option yields more immediate utility, but less total utility, than its alternative, we can call it a *vice*, and its alternative a *virtue* (e.g. Wertenbroch, 1998). These are the choices between [C, B], [N, B] and [C, N], with the leftmost option being the virtue. When the alarm rings, getting up versus going back to sleep constitutes two such alternatives. In the short term it is better to sleep in, but in the long term it is better to get up. Chocolates are, for many, vices relative to apples. They prefer the short-term rewards of good taste and rapid hunger appeasement offered by chocolate, but they would prefer the apple for its long-term effects on weight and health.

This pattern of preference – of an early choice for virtue followed by a choice of vice immediately before consumption (which usually happens to be when the choice is binding) – has long been recognized as a fundamental human trait. When deciding, we put too much weight on immediate utility. When choosing whether to smoke a cigarette now, for instance, the immediate pleasure (or desire cessation) that we expect is given more weight than any delayed and still-abstract health consequences. When the cigarette will be smoked tomorrow, however, the early utility has the same status as the delayed utility, and we might have different preferences. In the remainder of this article I investigate the consequences of this characteristic preference pattern for marketing decisions.

Timing and marketing

Marketing is about discovering (or creating) and then meeting consumer desires. If those desires change over time, we can customise the marketing environment based on the form the desires take when they are acted on. I will focus on the prototypical case of the restaurant, although the principles discussed are relevant to all marketing of options that can be described as a utility stream – that is, everything.

The success of a restaurant depends on the ability to satisfy diverse preferences, some of which is due to time perspective. Even if we restrict our attention to the simple choice between virtuous healthy and vicious unhealthy foods, there will be several kinds of customer. There are those who plan to eat healthy food and do so (call them HH), there are those who plan to eat unhealthy food and do so (UU); and there are those who change their minds (UH and HU). The data from a study by Read and Van Leeuwen (1998), given in Table 1, can be used as an illustrative estimate of the size of each group in the population. In that study people made two choices between *unhealthy* (beer nuts and chocolate bars) or *healthy* (apples and bananas) snacks. An *advance* choice was made one week before consumption, and an *immediate* choice moments before consumption (that is, they could change their mind). The largest single group of participants was the consistent UU group. The next largest group – 35 per cent of the sample – was the HU group whose virtuous plans were changed at the last minute. It is probably not surprising that the UH group was virtually empty – few people who planned to eat junk food changed their mind.

Table 1

Distribution of choice patterns for healthy and unhealthy snacks reported by Read and Van Leeuwen (1998)

		Immediate choice		
		Healthy	Unhealthy	Total
Advance choice	Healthy	14%	35%	49%
	Unhealthy	3%	48%	51%
	Total	17%	83%	

Most restaurateurs will only see the immediate choices of their customers, as depicted on the bottom of the table. Based on these alone, it will appear that the best marketing strategy is to cater to the 83 per cent who want unhealthy food, and to ignore or give little weight to the preferences of the remaining 17 per cent because they constitute such a small proportion of the customer base. With such a small market, the cost of offering healthy items could easily exceed the revenue it brings. This reasoning, however, is flawed because people do not choose a restaurant based on what they will eat, but on what they *think* they will eat. Those who plan to eat healthily, even if they ultimately change their mind, will not go to a

restaurant that offers a poor selection of healthy items. If a restaurant wishes to attract HU diners, therefore, it must ensure that they can credibly *plan* to eat healthy food, and this means having healthy items on the menu.[2]

This does not, however, exhaust the strategic considerations. Members of the HU group will differ in their level of *sophistication* (O'Donoghue and Rabin, 1999; Strotz, 1956), or their awareness of how their preferences will change when it comes time to order. *Naïve* HU diners believe (incorrectly) that they will choose healthy food. In principal, their needs can be met by advertising healthy food that is never available in the restaurant. *Sophisticated* HU diners, however, know they will succumb and therefore will know that the mere presence of healthy items on the menu does not mean they will choose them, and might want the restaurant to help them achieve the goals they set while they were in their 'right mind'. Such diners can be catered for by allowing them to order meals in advance, by providing separate 'healthy' menus that will reduce temptation,[3] or by offering a restaurant that provides only healthy food.

These issues apply to all markets for goods or services that are likely to be used repeatedly, and for which choices can involve trade-offs between immediate and delayed utility. This includes food and addictive goods (like drugs or gambling), and also entertainment, including museums, books and movies. We can illustrate this with movies, a domain in which there has been relevant research. 'Vice' movies are those which people want to see because of the immediate pleasure of the experience, but which are forgettable and maybe even a bit embarrassing to admit having seen; while 'virtue' movies are those which people want to *have seen* but are maybe less enthusiastic about actually seeing. In a study of choices between such movies, Read, Loewenstein and Kalyanaraman (1999) found that when people anticipated watching the movie in the very near future, they tended to choose vice movies (e.g. *The Mask*), but if they thought the experience was some time away, they chose virtue movies (*Schindler's List*).

The variety of consumers, as defined on the virtue/vice dimension, suggests that the *menu,* defined as the choice set offered to consumers, is an important marketing tool. Moreover, the contribution of each menu item cannot be determined only from the sales of that item. Offering a healthy option in a restaurant may bring in those who would not otherwise come, even if they eat something unhealthy. Likewise, a multiplex might get a lot of revenue from offering a wide variety of films, even if most of their audience ultimately see only one or two of them. The great variety acts as a kind of lure to the consumer, in which their various remote tastes are catered for and draw them to the cinema (Bown et al., 2003), but when they arrive their immediate preference for the blockbuster overwhelms them and they buy a ticket to a lowbrow movie (Read, Loewenstein and Kalyanaraman, 1999). This is a principle with wide application. People will come to a retail establishment because of their perception of the range and quality of what is available, but once there they will buy what they want.

Promoting virtues at the point of sale in an attempt to get those with HU tastes to take virtue can have a hidden cost. The promotion of virtues can remind those who wanted to take vice of the consequences of their choice. For example, imagine

advertising healthy food using svelte models in an attempt to emphasize its long-term benefits. This may help some to stick with their healthy plans, but it might also offend customers who remain in the 'HU' cell of the table – they will be very aware of what they are missing – and they might vote with their feet. Indeed, one curious fact about Taco Bell's introduction of Border Lights is that it led to a four per cent *reduction* in overall sales. This occurred even though the size of the menu had been virtually doubled – Border Lights were *added* to the old menu. We can speculate that the presence of healthy items (and people eating them) may have made Taco Bell's traditional customers uncomfortable, driving them to restaurants offering unalloyed enjoyment (see Samuelson and Swinkels, 2002).

The market for willpower

We have shown how a choice between virtue and vice leads to temptation. We are drawn to exchange immediate benefits for an overall loss. Not all temptations are alike. They differ especially in the intensity of the drive to choose vice (determined largely by the difference in immediate utility), and in the kinds of interventions that can be expected to facilitate a choice of virtue. Figure 2 depicts the continuum of temptation along with labels for methods that might influence choice at each point on the continuum. At one end decision makers are fully 'in control', meaning that they are *capable* of choosing virtue, but might need some information to help them recognize which options are virtuous. At the other end they are completely 'out of control' and will choose vice unless they are *physically constrained*. As we move to the right of the continuum, the interventions become stronger. Consider two typical temptations, one from each end of the continuum. First, a student chooses between two bank accounts. The vice account offers a mobile phone as a reward for opening an account, while the virtue account offers a higher interest rate and a larger overdraft. The student might be tempted to take the phone, but once *informed* that she will be financially better off with the other account, it takes little strength of will to resist vice and choose virtue. Now take a chain smoker, deprive him of cigarettes for 24 hours and then offer him a choice of a cigarette or a stick of gum. Even if the smoker knows the gum will be best in the long run, he will be *unable* to choose it. The smoker will only resist if he is denied the choice altogether – he gets the gum or nothing. In both temptations (bank account and cigarette) the underlying mechanism is qualitatively the same – the pull toward the greater immediate gratification – but the strength of that pull varies greatly, as does the kind of intervention needed to resist it.

The methods depicted in Figure 2 fall into two general categories: changing what options are available, and changing their costs or benefits. Changing the options means to either remove vices or add goods (i.e. options that are better than vices in both the short and long term). If there are no vices available, the consumer cannot choose them; if goods are added to the choice set, the vices, by definition, become bads and will therefore be rejected. Changing the costs or benefits of options means making virtues more attractive, or making vices less attractive.

Give information	Nudges or reminders	Make consequences salient	Threats or promises	Offer alternatives	Denial
'Cigarettes increase the risk of cancer.'	'I wouldn't smoke that if I were you.'	'If you don't smoke you'll feel much better.'	'Smoking will increase your insurance premiums.'	'Have a nicotine patch instead.'	'You can't have a cigarette.'

In control Out of control

Figure 2

Effective methods for managing the behavior of oneself or others for different levels of act controllability

The most effective changes will be to immediate utility, because of the disproportionate weight it receives in choice.

The two categories do not have clear boundaries. At their most effective, changing the costs or benefits of options will transform vices into bads and virtues into goods, effectively changing the choice set. A special kind of intervention is to bring forward the time at which irrevocable choices are made. This reduces the weight put on immediate utility, and thus increases the value of virtue relative to vice. If the choice is made early enough, the consumer will want to restrict their future options to those they know will be best for them in the long run.

If sophisticated consumers know they will face choices between virtue and vice, they will seek mechanisms to help them choose virtue. There are many means available to facilitate this. Some are commercially available, and others are provided through public institutions like the medical or criminal justice system (see Elster, 2000; Wertenbroch, 2003). All can be described in terms of the basic strategies just described. Consider weight control programs or commercial diets (e.g., Weight Watchers, Atkins) which all make use of the following methods:

Restricting the choice set by classifying foods as 'illegal';
Adding to the choice set by offering relatively desirable alternatives to fattening food;
Decreasing the immediate utility of vice through counting calories[4] and social monitoring;
Increasing the immediate utility of virtue by providing social support;
Shifting decision making to an earlier point by encouraging prior menu planning.

All sorts of consumption and behavioural problems are dealt with using similar methods. Addicts can remove vices from their choice set by checking into rehab centers, and drugs can be used to turn vices into bad (e.g. antabuse), or as not-so-bad alternatives to vice (methadone). Social support makes staying clean more

attractive, and imposes costs on relapse. Even jail can be seen as a government imposed form of control, in which the vice of crime is removed from the choice set of the offender.

The market also offers many aids to self-control that may not be designed as such (Thaler and Shefrin, 1981, Wertenbroch, 2003). These are particularly evident in the market for intertemporal income distribution, which gives earners ways to ameliorate their tendency to spend as they earn. For instance, many US taxpayers overpay on their income tax, so that they get a refund at the end of the tax year – at the cost of the interest they could have earned if they had invested the money instead (Ayers et al., 1999). This ensures they will save at least some money over the year. The desire for enforced saving has also been used to explain why the salaries for most professions increases with seniority, even when productivity does not (Frank and Hutchens, 1993). People want their expenditure to increase over their lifetime, but know that they will not achieve this unless their income increases as well. Studies of people's stated reasons for their preferences over income distributions show that many explicitly base their decision making on a desire for a distribution that forces them to save. Read and Powell (2002), for instance, found that people liked to have a fixed yearly income distributed in equal increments for 11 months, followed by a double-sized paycheque, just as it would be if they overpaid income taxes and received a refund. Many explained that the bonus provided them with 'savings' that they would not otherwise be able to achieve (see also Loewenstein and Sicherman, 1991). Further evidence of 'self-binding' to achieve a preferred consumption distribution is found in the choices frequently made by US academics, who can receive their salary spread evenly over 12 or ten months (with two summer months during which they are technically not employed). In principle, the ten month distribution should be better, because it can earn more interest and increases their financial flexibility. Someone with a tendency to live from paycheque to paycheque, however, might like to get the smaller more regular cheques – otherwise they could have some impoverished summers – and indeed a large proportion of academics do prefer the 12 month distribution (Archibald, 1994). All these ways of achieving self-control work because they enable people to eliminate the vice of overspending from their future choice sets.

These financial self-control strategies have another characteristic – they represent a conscious decision on the part of consumers to limit their access to available goods or resources, for fear of overusing them. This is not an unrealistic fear, since research shows that the rate at which resources are consumed is in proportion to the quantity available (Wansink, 1996). Wertenbroch (1998, 2003) argues that self-control can be seen as a kind of resource management, with consumers restricting their own access to products to reduce consumption rate. One form this takes is *purchase-quantity rationing*, in which consumers buy vices in small quantities (Hemenway, 1977; Wertenbroch, 1998). There are several ways that purchase quantity rationing can reduce total consumption of vices, all of them being variations on the tactics discussed earlier. First, there is the conventional cause: because buying in small quantities costs more per unit in both time and

money, it will increase the monetary and transaction cost of vice. Second, the cost of vice is made more salient by having to make frequent trips to the store. Finally, it provides an easy way to draw a line between acceptable and unacceptable levels of consumption. In the case of cigarettes, if there is more than one trip per day to the corner store, you are smoking too much.[5] This is an area where the market has apparently responded by decreasing the costs of vice in order to induce greater consumption. As Wertenbroch (1998) argues, if people like buying vices in small quantities, marketers will have to offer exceptionally large quantity discounts to induce people to buy in bulk. He compared quantity discounts for matched pairs of products that differed in their 'viciousness', and found that the quantity discount was greater for the relative vice in the pair. For example, quantity discounts are greater for regular beer than for non-alcoholic beer; greater for ice cream than for frozen yoghurt; and greater for pornographic than for news magazines.

While consumers can rarely make irrevocable commitments to virtue over vice, they can do things that will make it easier to choose virtue when the time comes. One way is to pay for it in advance. A theatregoer can subscribe to a season of high-brow plays, and those who wish to stay fit can pay in advance to use the gym. Prepayment increases the likelihood of choosing virtue in several ways. First, it reduces the immediate cost of virtue. If you have already bought a ticket for *King Lear* you do not have to factor the price into the decision of whether to go. Second, failing to attend will be accompanied by a feeling that the money is being 'wasted' (Prelec and Loewenstein, 1998). Moreover, merely by making an advance commitment to choose virtue the consumer is more likely to follow through (Read and Van Leeuwen, 1998). Membership fees which are not linked to specific times of attendance are probably less effective – although not going to the gym may make one feel guilty, the guilt cannot be clearly linked with a specific act of non-attendance. An athletic club could overcome this problem by charging an exhorbitant membership fee, and then pay people a fixed amount for working out.

Despite the number of self-control mechanisms already available, it is likely that the market for virtuous choice aids is far from saturated. First, many existing mechanisms have not been designed for this purpose, and are therefore relatively blunt instruments for achieving it. For instance, the possibility of having too much tax withheld for savings purposes was not part of the IRS's plan; nor are small cigarette packs designed to help smokers control consumption – rather, these are options that were designed for one purpose, but can be used for another. There are opportunities to develop optimal versions of these strategies. If the IRS offered interest on withheld earnings, for example, it could make withholding potentially even more attractive and thereby increase the savings rate (and if the interest rate was still below the T-bill rate, still profitable).

But there are domains in which marketers have never trod, yet where their intervention would be welcomed. One that is of particular interest is procrastination, a vice which has received much recent academic attention (e.g. Akerlof, 1991; Ariely and Wertenbroch, 2002; Sabini and Silver, 1982; O'Donoghue and Rabin, 1999; Read, 2001; Read, Lowenstein and Rabin, 1999; Schelling, 1984; Tice and Baumeister, 1997). Procrastination is a vice relative to 'getting down to it' because

not doing something is more pleasant, right now, than doing it, but in the long run it is better to do it now.

There are two cures for procrastination. The first is to eliminate alternative actions. Procrastination occurs because there is something else to do. Schelling (1992) cited an anecdote illustrating this. When George Steiner first visited Hungarian dissident Georg Lukacs, he was amazed by how much work Lukacs had completed. Lukacs attributed his productivity to (literal) 'house arrest'. As someone who frequently longs for house arrest, I can testify that the market currently has no mechanism for providing short-term periods of house arrest to procrastinators. I would pay £100 a day to someone who will lock me in a clean room with a desk, a chair, a computer (*not* connected to the internet) and a few journal articles (only those necessary for the work I am doing).

A second (and second-best) way to decrease procrastination is to make it costly. Traditionally, this is done with deadline penalties. This is how professors get students to hand in work that would otherwise never get done, and how newspaper editors force recalcitrant hacks to complete their columns. Recent research has shown that people are aware of the importance of deadline-penalties for getting things done, and are therefore willing to impose them on themselves. Trope and Fishbach (2000) gave their subjects a chance to impose a non-completion penalty on themselves for either an unpleasant or pleasant task. Their subjects wanted to impose harsher penalties for the unpleasant task, showing that they recognized the potential effectiveness of the penalty. Ariely and Wertenbroch (2002) allowed students to self-impose deadlines for completing three assignments. Rather than choosing the most 'forgiving' of deadline schedules (i.e. making each deadline for the last day), they typically spread the deadlines out, thereby preventing themselves from procrastinating so much that they couldn't get the work done. Unfortunately, there are few ways for procrastinators to impose credible deadlines on themselves. I suspect that there is a market for a kind of reverse insurance in which an actor places a sum of money in escrow, which is returned if a deadline is met, but otherwise retained by the organization holding the money. To ensure that no cheating occurs, the actor could make a commitment to produce work of a publicly verifiable standard. Personally, I would use such a service, and I predict many others would do so as well.

Conclusion: on consumer sovereignty

The choice pattern discussed in this article raises a challenge to the principle of consumer sovereignty, according to which consumers are the best judges of what is in their interests, and will take it if given a free choice. If preferences depend on when they are sampled, then we cannot unambiguously infer preferences from choice. Rather, we need to separately establish what counts as a real preference. To illustrate, consider again the troubled consumer who plans to eat healthy food, but changes his mind when faced with temptation. This raises two difficult questions. The first is whether the consumer made the best choice. Or, to put it another way,

is this what she *really* wants? The second question depends, in part, on the answer to the first. If there are circumstances under which consumers do not choose what they really want, then should marketers do something to prevent them from making this choice?

It is difficult to answer the first question. There are many arguments suggesting that the consumer's 'true' wants are reflected in their virtuous pre-reversal preference. One argument is that the preference for virtue lasts longer than the preference for vice (e.g. Nozick, 1993). This may not seem obviously true. Consider a smoker who 'wants' to quit. He may spend most of his life smoking, and so we certainly cannot say that most of his time is spent in a state of not desiring cigarettes. For any *given* cigarette, however, it is true. Although he will want *a* cigarette right now, he will prefer not to have the *next* cigarette (call this cigarette X). Later he will want cigarette X, and he will smoke it, but afterwards he will have preferred that he had not smoked it – even though he will then want cigarette Y. For each individual cigarette, we can divide a smoker's life into a time when he preferred to have that cigarette – this may be only a few minutes – and a time when he preferred not to – this might be 50 years. The argument goes, therefore, that the 'majority' should rule, and that consumers most want what they want most of the time.

A second argument is that virtuous preferences are based on more rational choice processes than are non-virtuous ones. Many authors have suggested that dynamic inconsistency arises from the operation of two motivational systems (Hoch and Loewenstein, 1991; Loewenstein, 1996; Metcalfe and Mischel, 1999: Thaler and Shefrin, 1981).[6] One is a 'hot' system that is emotional, impulsive and reflexive, while the other is a 'cool' system that is, in the words of Metcalfe and Mischel (1999) 'cognitive, emotionally neutral, and contemplative'. The hot system is a vital evolutionary adaptation, because it facilitates (and may even underlie) the fight or flight responses. Yet in situations where fast responses are unnecessary, the cooler system enables the decision maker to make reasoned judgments. That is, it is better to run even if there is only a small possibility that you are being chased by a tiger (the hot system), but if there is time to reflect it is better to run only if there really is a tiger (the cool system). The rapid increase in the desire for vice when it is very close is thought to reflect the operation of the hot system, which chooses based only on primitive 'visceral' desires and immediate consequences. The cool system, on the other hand, which takes a more dispassionate, long-term and reasoned view of matters, takes into account all (or at least more of) the consequences of one's decisions. Therefore, its decisions are 'better' than the others, and are indeed what the person taken as whole really wants.

A third argument is that the person is *better off* if they choose virtue over vice. This argument is based on the utilitarian view that the best decisions are those that maximize total lifetime utility. Since vices (by definition) offer less total utility than virtues, people are objectively better off choosing virtue, and so their preferences for vice are misguided.

These arguments suggest that the unquestioning assumption of consumer sovereignty may not be appropriate – ethical marketers will not wish to profit

from weakness of will at the expense of the consumer's long-term interests. Yet simply knowing weakness of will occurs does not enable us to identify when it is occurring. As emphasized above, the concept of virtue and vice does not refer to specific options, but rather to the experience of those options by the individual consumer. Merely because a consumer demands what seems (to you or me) to be a vice does not mean that her choices are actually based on a momentary weakness of will. Consider again the data of Table 1. The majority (59%) of those who ended up choosing the unhealthy snacks were consistent in their preferences. For these participants, the unhealthy snacks were goods relative to bananas and apples.

Moreover, there are no unambiguous behavioural measures of whether options are relative virtues and vices. Even preference reversals – either before choice, after choice (in the form of regret), or both – are not an unequivocal demonstration. There are many other reasons for a consumer to change their preference shortly before consumption, and even to do so consistently. A dieter who always states she will 'skip dessert' may consistently change her mind when the dessert tray comes around not because she is weak-willed, but because she is chronically unable to anticipate how good dessert is. The sight of the dessert does not overcome her better judgment but provides her with more information. Even regret (whether or not it follows a preference reversal) is also no demonstration that the decision maker has made a bad judgment. Regret is unreliable because it occurs *after* many of the benefits of a choice are enjoyed, and when the costs are being borne. A dieter may increase her total happiness by enjoying a marvellous dessert, even if she later wishes she had not burdened herself with the extra calories.

In this article I have shown that an understanding of dynamic inconsistency is a crucial part of our understanding of how to meet the needs of consumers. Taco Bell, it was suggested, failed to recognize that the same consumers who want healthy food when they don't have to eat it, might want unhealthy food when they do have to eat it. How this understanding can be used is up to us. Should we put temptation in the way of consumers, or should we try to keep them out of temptation's way? This is, of course, an individual decision and the previous discussion can only tell us what decisions there are to make.

Notes

1 What the industry calls 'health food' is often far from what a nutritionist would call health food. High fat soya milk, granola bars, and organic cereals sweetened with brown sugar are no more 'healthy' than whole milk, Snickers bars and Captain Crunch. Low fat, high soluble-fibre, and (especially) low calorie foods have never caught on in a big way.
2 This issue is the subject of formal analysis in a recent article by Samuelson and Swinkels (2002).
3 While many restaurants offer different menus for children and adults, I have never seen one that offers a different 'light' and 'indulgent' menu. There are good reasons for this. While sophisticated HU diners might appreciate a menu choice, socially sensitive UU diners might be embarrassed to choose the indulgent menu when their fellow diners are doing otherwise, and might even feel obliged to choose the light menu.

It is unlikely that such self-sorting on the basis of different levels of a socially desirable characteristic will be conducive to a good dining experience.

4 Note that counting calories against a target also reduces any uncertainty about what is legitimate and illegitimate behavior. Schelling (1984) emphasized the importance of having such clear demarcations in attempts to increase self-control.

5 An additional benefit, perhaps not in the same spirit as the other ones discussed herein, is that it can allow the consumer to 'run out' occasionally and thus reduce total consumption. This may be particularly true for less addictive vices like cookies.

6 The idea that there is an internal conflict between an 'impulsive' and 'contemplative' side of the person, with the impulsive side having to be held in check by the more rational one, is one of the oldest. It was already a standard notion by the time of Socrates (Price, 1996).

References

Akerlof, G.A. (1991) 'Procrastination and Obedience', *American Economic Review* 81(2): 1–19.

Ariely, D. and Wertenbroch, K. (2002) 'Procrastination, Deadlines, and Performance: Self-Control by Precommitment', *Psychological Science* 13: 219–24.

Archibald, R.B. (1994) 'How many Paycheques? An Example of a Self-Imposed Constraint', *Economic Inquiry* 32: 696–702.

Ayers, B.C., Kachelmeier, S.J. and Robinson, J.R. (1999) 'Why do People Give Interest-free Loans to the Government? An Experimental Study of Interim Tax Payments', *Journal of the American Taxation Association* 21: 55–74.

Bown, N., Read, D. and Summers, B. (2003) 'The Lure of Choice', *Journal of Behavioral Decision Making* 16(4): 297–308.

Christensen-Szalanski, J.J.J. (1984) 'Discount Functions and the Measurement of Patients' Values – Women's Decisions during Childbirth', *Medical Decision Making* 4: 47–58.

Dryer, J. (1996) 'Lite Dining Ahead of its Time?', *Dairy Foods* June: 29.

Elster, J. (2000) *Ulysses Unbound.* Cambridge: Cambridge University Press.

Frank, R. and Hutchens, R. (1993) 'Wages, Seniority, and the Demand for Rising Consumption Profiles', *Journal of Economic Behavior and Organization* 21: 251–76.

Frazao, E. and Allshouse, J.E. (1995) 'Sales of Nutritionally Improved Foods Outpace Traditional Counterparts', *Food Review* 18: 2–6.

Hemenway, D. (1977) *Prices and Choices: Microeconomic Vignettes.* Cambridge, MA: Ballinger.

Hoch, S.J. and Loewenstein, G.F. (1991) 'Time-Inconsistent Preferences and Consumer Self-Control', *Journal of Consumer Research* 17(4): 492–507.

Hume, S. (1993) 'When it Comes to Burgers, We Crave Beef, Not McLean', *Advertising Age* 64: 3–4.

Kahneman, D., Wakker, P. and Sarin, R. (1997) 'Back to Bentham? Explorations of Experienced Utility', *Quarterly Journal of Economics* 112: 375–405.

Loewenstein, G. (1996) 'Out of Control: Visceral Influences on Behavior', *Organizational Behavior and Human Decision Processes* 65: 272–92.

Loewenstein, G. and Sicherman, N. (1991) 'Do Workers Prefer Increasing Wage Profiles?', *Journal of Labour Economics* 9: 67–84.

Martin, R. (1996) 'Martin Ousted as Taco Bell CEO', *Nations Restaurant News* 30: 1114.

Matuszewski, B.B. (1996) 'The Low-fat Lowdown', *Restaurants and Institutions* 106: 86–9.
Metcalfe, J. and Mischel, W. (1999) 'A Hot/Cool System Analysis of Delay of Gratification: Dynamics of Willpower', *Psychological Review* 106: 3–19.
Nozick, R. (1993) *The Nature of Rationality*. Princeton, NJ: Princeton University Press.
O'Donoghue, T. and Rabin, M. (1999) 'Doing it Now or Later', *The American Economic Review* 89: 103–24.
Paperniuk, R.L. (1995) 'Taco Bells Border Lights Fail to Fatten Sales', *Nations Restaurant News* 29: 1.
Pollack, J. and Gleason, M. (1996) 'Wendys, McDonalds Seek New Menu Sizzle', *Advertising Age* 67: 12.
Prelec, D. and Loewenstein, G. (1998) 'The Red and the Black: Mental Accounting of Savings and Debt', *Marketing Science* 17: 4–28.
Read, D. (2001) 'Intrapersonal Dilemmas', *Human Relations* 54: 1093–117.
Read, D., Loewenstein, G. and Kalyanaraman, S. (1999) 'Mixing Virtue and Vice: Combining the Immediacy Effect and the Desire for Diversity', *Journal of Behavioral Decision Making* 12: 257–73.
Read, D., Loewenstein, G. and Rabin, M. (1999) 'Choice Bracketing', *Journal of Risk and Uncertainty* 19: 171–97.
Read, D. and Powell, M. (2002) 'Reasons for Sequence Preferences', *Journal of Behavioral Decision Making* 15: 433–60.
Read, D. and Van Leeuwen, B. (1998) 'Predicting Hunger: The Effects of Appetite and Delay on Choice', *Organizational Behavior and Human Decision Processes* 76: 189–205.
Riell, H. (2000) 'The Triumph of Taste', *Frozen Food Age* September: 28–32.
Sabini, J. and Silver, M. (1982) *Moralities of Everyday Life*. Oxford: Oxford University Press.
Samuelson, L. and Swinkels, J.M. (2002) *Information and the Evolution of the Utility Function.* Working paper, University of Wisconsin.
Schelling, T.C. (1984) 'Self-command in Practice, in Policy, and in a Theory of Rational Choice', *American Economic Review* 74: 1–11.
Schelling, T.C. (1992) 'Self-Command: A New Discipline', in G. Loewenstein and J. Elster (eds) *Choice over Time*, pp. 167–76. New York: Russell Sage Foundation.
Strotz, R.H. (1956) 'Myopia and Inconsistency in Dynamic Utility Maximization', *Review of Economic Studies* 23: 165–80.
Sykes, D. (1996) 'Low-fat Market Proves Elusive for Fast-food Chains', *Stores* 78: 50–3.
Thaler, R. and Shefrin, H.M. (1981) 'An Economic Theory of Self-control', *Journal of Political Economy* 89: 392–406.
Thompson, S. (1998) 'Beatrice Adds Fat and Flavor to Cheeses', *Brandweek* Feb 9: 4.
Tice, D.M. and Baumeister, R.F. (1997) 'Longitudinal Study of Procrastination, Performance, Stress, and Health: The Costs and Benefits of Dawdling', *Psychological Science* 8: 454–8.
Trope, Y. and Fishbach, A. (2000) 'Counteractive Self-control in Overcoming Temptation', *Journal of Personality and Social Psychology* 79: 493–506.
Wansink, B. (1996) 'Can Package Size Accelerate Usage Volume?', *Journal of Marketing* 60: 1–14.
Wertenbroch, K. (1998) 'Consumption Self-Control via Purchase Quantity Rationing of Virtue and Vice', *Marketing Science* 17: 317–37.
Wertenbroch, K. (2003) 'Self-rationing: Self-control in Consumer Choice', in G. Loewenstein, D. Read and G. Baumeister (eds) *Time and Decision: Economic and*

Psychological Perspectives on Intertemporal Choice, pp. 491–516. New York: Russell Sage Foundation.

Daniel Read is a professor of Behavioural Economics at Durham Business School. He received his PhD from University of Toronto, and has held positions at Carnegie Mellon University, University of Illinois, Urbana Champaign, University of Leeds and London School of Economics. His research interests are in the area of choice over time, and consumer decision making. Address: School of Behavioural Economics, Durham Business School, Durham University, 522 Mill Hill Lane, Durham DH1 3LB, UK. [email: daniel.read2@durham.ac.uk]