

Consumer satisfaction and the dual-self economic model: Why consumer education can be both informative and transformative

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Abstract

Consumer education has always had a recognized informational role in promoting consumer well-being. This paper proposes that emerging economic theory – in particular the dual-self economic model of consumer decision making – supports an additional, transformational role for consumer education. Evidence from experimental economics supporting the dual-self view of consumers – instead of the purely rational consumer of traditional neo-classical economics – is reviewed. By teaching not only about products, but also about effective self-management techniques within this emerging model, consumer educators may ultimately have a much larger impact on consumption decisions and life satisfaction.

Keywords: consumer education, satisfaction, consumer theory

Introduction

In the neo-classical economic model, consumer education provides information that rational, utility-maximizing individuals use to increase their own satisfaction. However, developments in emerging economic fields such as behavioral economics and neuroeconomics have called into question the basic supposition of the simple, utility-maximizing individual. New, more complex models address issues such as inconsistent time preferences, dual-self decision processes, and persistent, self-identified, negative addictions. In this expanded view of economic decision making, consumer education takes on a potentially larger role. Rather than simply *informing* utility-maximizing individuals, consumer education can be viewed

as *transforming* behavioral processes in ways that promote consumer satisfaction through choices that produce greater long-term utility.

The neo-classical model assumes that consumer decision-making processes do not change. The neo-classical consumer is, *a priori*, rational and utility maximizing. The consumer may be informed about product characteristics, but the decision-making processes themselves can never be transformed. Under this model, consumer education can make dramatic improvements in the life of the consumer by imparting information about product choices, but it cannot transform the decision-making process.

Some newer economic models of consumer behavior imply that consumer education can go further. Beyond simply providing product information, educators can help students discover, and transform, their own decision-making processes. Rather than pouring more product information into the same decision-making “machine,” the machine itself can be re-engineered to produce better outcomes. So, for example, educators can help students to align their consumption decisions with their long-term goals, rather than their impulsive whims, by introducing effective self-control mechanisms. Both theory and empirical evidence suggest that consumer education can be effectively employed in helping individuals to make such positive behavioral changes.

Consumer education in the traditional economic model of consumer choice

Neo-classical economics models consumers as rational, utility-maximizing actors. However, consumers may have limited information. Thus, rational consumer choices may be based upon misperceptions of product characteristics due to absence of information or, in some cases, misrepresentations by producers. Consumer educators can reduce this information gap by teaching consumers how to acquire, and analyze the accuracy of, information about consumption choices. Access to unbiased information results in consumers making better consumption choices, and leads to higher utility (satisfaction) levels. In this rational, utility-maximizing consumer model, the informational role of consumer education directly results in greater consumer satisfaction.

Lessons for consumer choice from experimental evidence

Recent advances in behavioral economics and neuroeconomics have expanded many economists’ views of the realities of consumer choice. Rather than employing time-consistent preferences with regard to delayed rewards, consumers often demonstrate a strong preference for immediate rewards. For example, the same person will prefer \$110 in 31 days over \$100 in 30 days, but will choose \$100 today over \$110 tomorrow. This inconsistency in time discounting has been explained by a “dual-self” model where decisions can be viewed as a type of game between a short-run impulsive self and a long-run patient self (Fudenberg and Levine 2006).

Mathematically, a two-system approach called a beta-delta model is commonly employed to represent this dynamic (Laibson 1997). The beta-delta model suggests a merging of two decision processes, one representing rational time-consistent discounting (*delta*), and the other showing a strong bias for immediate consumption (*beta*) (Frederick, Loewenstein, and O'Donoghue 2002). In this model, a person's valuation of any particular future benefit is a function of the combined effect of both decision processes.

Evidence from functional Magnetic Resonance Imaging (fMRI) studies indicates that this two-system approach is well-grounded in actual neurological functioning. When subjects were choosing between rewards to be given at different times, certain dopamine-based reward systems activated much more when at least one of the options involved the potential for immediate reward. Conversely, the higher cognitive areas (prefrontal cortex) activated to the same degree regardless of whether the potential rewards were immediate or delayed (McClure, Laibson, Loewenstein, and Cohen 2004). These results appear consistent with the presence of both a rational, higher-cognitive system and a short-term, immediate-consumption-focused system.

Additional evidence of a dual-self model with a short-run, impulsive self and a rational, higher-cognitive self comes from a particularly interesting behavioral experiment by Shiv and Fedorikhin (1999). Participants were divided into two groups, one charged with memorizing a two-digit number, the other with memorizing a seven-digit number. Individuals from both groups moved from one room to the next to recount their number and in transit were given the choice between a piece of chocolate cake (immediate gratification with high calories) or fruit salad (healthier, but with less immediate visceral reward). Individuals attempting to retain the seven-digit number were over 50 percent more likely to choose the chocolate cake. Presumably, while the higher cognitive control functions were otherwise pre-occupied, the immediate-gratification system was able to exert more influence on the choice.

This dual-self approach also helps to explain the existence of self-recognized non-maximizing choices in the form of negative addictions. Under a full-information, neo-classical model, increasing the products available to the consumer must always lead to either unchanged or greater utility. The addition of products with high utility relative to cost will improve the consumer's circumstances. The addition of products with low relative utility will make no impact on the consumer, as the consumer will simply not select these products. In such a neo-classical framework, individual consumers would derive weakly positive benefit from the constant availability of all consumption options including cocaine, liquor, heroin, tobacco, pornography, methamphetamines, and high-fat foods, so long as these were accompanied by full information disclosures. However, many individuals who have consumed such items, often to an excess, do not believe that their utility is increased in the presence of the constant availability of such options. Thus, addicts will check themselves into residential rehabilitation programs that guarantee the removal of drug or alcohol consumption options for an extended time. People

seeking to lose weight will avoid areas where high fat or high sugar foods are easily available. People desiring to save money will cut up their credit cards. In all such cases, these consumers are intentionally removing consumption options from their readily available market basket, in some cases paying substantial amounts of money to others who will assist in removing these options from ready availability.

This behavior cannot be adequately explained using the traditional neo-classical consumer model. Paying to have consumption options removed from one's choice set must necessarily diminish utility under the traditional model. Using this theory, removing a consumption option cannot improve a consumer's utility; spending money to get help in removing the consumption option reduces the budget available for other consumption options. Thus, the introduction of costly control mechanisms makes no sense for rational, utility-maximizing consumers. Whether it be driving out of one's way to avoid passing by a donut shop, or checking one's self into alcoholism treatment facility, spending resources to avoid the introduction of a consumption option does not comport with neo-classical assumptions. However, under a dual-self model, the introduction of such control mechanism may be critical to allowing the higher cognitive, rational self to manage the short-term, impulsive self, thus resulting in a superior utility experience over time.

The neo-classical approach assumes that utility maximization drives choice, and deviations are attributed to lack of information. Yet, negative addictions involve "a pathological divergence between choice and preference" (Barnheim and Rangel 2004, 1558). Indeed, clinical definitions of substance addiction describe it as "compulsive, repeated, and unwanted use despite clearly harmful consequences, and often despite a strong desire to quit" (Barnheim and Rangel 2004, 1561). The DSM-IV definition of dependency includes repeated efforts to cut back or stop the drug use (American Psychiatric Association 2000).

Such contradictions between initial intention and ultimate behavior are difficult to fit within the typical neo-classical model of rational, utility-maximizing consumers. However, the dual-self approach specifically predicts such contradictions. The short-run, impulsive self is not involved in setting intentions about future actions. These future plans are made entirely by the higher-cognitive, rational self. Nevertheless, the short-run, impulsive self is involved when immediate rewards are present.

The two-system, dual-self model of consumer choice may be important to understanding a wide range of consumer behaviors. Many choices related to addiction, food consumption, obesity, exercise, investment, education, or even risky sexual behavior might be viewed as an expression of one's time preference (reflecting the relative control of the two systems). This trade-off between immediate or future reward appears to be the determining factor in a variety of choices that can dramatically affect life satisfaction.

Why don't we exercise as much as we plan to? The higher-cognitive, rational self understands the long-term benefits and makes resolutions to exercise regularly. The short-run, impulsive self does not interfere with the making of these long-term plans, because it focuses only on immediate experiences. However, when the point of actual effort comes, the short-run self pushes against the unpleasantness of the work, and is unmotivated by the promise of future reward. Conversely, people rarely make long-term plans to engage in risky sexual behavior, because the long-term consequences can be so devastating. However, when placed in a situation offering immediate gratification, the impulsive self, which has little regard for long-term consequences, will push for these choices. Similarly, it is easy to give advice to others (and to ourselves) about appropriate diet choices when considering the issue rationally, but harder to resist when the dessert cart arrives at our table. These trade-offs between long-term and short-term benefit are ultimately matters of time preference, i.e., how much less does one value a reward or penalty if it occurs well into the future.

Consumer education in the dual-self economic model of consumer choice

Accepting a dual-self model of consumer choice fundamentally alters the potential role for consumer educators. The traditional consumer educator role of teaching product information acquisition and analysis remains important just as before. This is because the rational, utility-maximizing consumer of traditional neo-classical economics still exists as one of the dual-self actors. But, employing a dual-self model means that this informational level of consumer education, by itself, is not enough. Consumers also need strategies that recognize the potential impact of the short-run, impulsive self to frustrate rational goals. By understanding the power of the impulsive self, consumers can work to avoid proximity with viscerally attractive choices that generate long-term negative outcomes. Recognizing this, the best form of self-control becomes avoiding situations that require self-control. Such strategies may be complex or as simple as a time-honored consumer education proverb like "Don't shop for groceries when you are hungry." A dual-self economic model of consumers suggests that educators can make a tremendous impact through teaching self-management techniques that recognize the existence of the short-run, immediate-consumption-oriented self.

The dual-self approach in savings and consumption decisions provides justification for the use of external commitment strategies such as automated savings deductions and investment in illiquid assets (e.g., qualified plan payroll deductions, mortgage principal payments, and whole life products). Indeed, illiquidity may actually generate a benefit by minimizing the influence of the short-run, impulsive self due to the necessary time delay between decision and consumption. (And, what is a piggy bank if not a form of self-induced, non-interest-bearing illiquidity?) The popularity and success of David Bach's *The Automatic Millionaire* personal finance publications may stem largely from his adamancy about creating automatic, payroll-deduction type savings

plans. The creation of such plans in advance reduces the influence of the short-run, impulsive self in making choices between immediate consumption and savings.

Nobel Laureate Gary Becker and Casey Mulligan (1997) propose a model of time preference that allows consumers to make future pleasures less remote by spending resources on imagining them. Becker and Mulligan (1997, p. 734) explain, “While forming a mental picture of one’s future pleasures may not be incredibly difficult, the process of anticipation is not merely one of image formation but also one of scenario simulation. Even image formation may not be cheap because images of future pleasures have to be repeatedly refreshed in one’s mind in order to compete with current pleasures.”

In the context of financial goal setting, a dual-self model where cognitive attention is limited implies that a simple savings goal is more powerful than a complex one. Simple goals with easily imagined visual end states do not demand great cognitive resources. Complex goals are more difficult to maintain actively in the supervisory attention system of the cortex, and hence less likely to successfully control the more automatic consumption processes (Benhabib and Bisin 2005). Psychological studies consistently find that as the complexity of goals increases, the ability for self-regulation decreases (Gollwitzer and Bargh 1996). In fact, the ability to visualize the end state is probably crucial, as a large body of empirical psychological evidence indicates that images attached with emotional impressions strongly influence judgments and decisions (Finucane, Peters, and Slovic 2003). To the extent that the simple, visualized end states are also attached with positive emotion, and conversely provide potential for emotional regret following unplanned excess spending, the savings plan becomes even more powerful (Bakker, Buunk, and Manstead 1997; Richard, de Vries, and van der Plight 1998). Similarly, powerful visualization of negative end states resulting from high-risk consumption choices may help increase future orientation when faced with those choices.

Consumer educators may play a vital role in helping students to set goals through powerful visualizations of future states. This evocative goal setting can create a more future-oriented consumer who is less likely to fall prey to the “easy credit, buy now” messages of modern marketers. Dual-self management techniques, such as goal visualization and external commitment strategies, may have a greater impact on students’ ultimate behavior as consumers than simply knowing details about product attributes.

A variety of consumer education programs have already demonstrated the practical value of teaching such self-management techniques. A popular theoretical model underpinning of many financial education programs is the transtheoretical model of change (Gutter, Hayhoe, and Wang 2007; Shockey and Selling 2004; Xiao et al. 2004). As contrasted with the simple dual-self approach emerging in economic literature, the transtheoretical model of change is a more complex, psychotherapy-based approach employing five transformation stages and ten change

processes (Xiao et al. 2004). Yet, it is similar to the dual-self model in recognizing that change is a long-term process of controlling impulses and environments, and does not result simply from rational analysis of objective information. Indeed the dual-self model, with its relatively greater mathematical tractability as compared to psychotherapy-based models, may serve as a bridge between traditional economics and the more complex, qualitative approaches to human behavior such as the transtheoretical model common to consumer education studies. Aside from mathematical tractability, the relative simplicity of the dual-self model may also lend itself to easier communication within a consumer education context as compared with more complex, multi-dimensional qualitative approaches.

Additional evidence from Hilgert, Hogarth, and Beverly (2003) suggests that consumer education may indeed be transformative. Greater financial knowledge in such areas as savings, credit use, and investment was associated with greater long-term financial orientation (Hilgert, Hogarth, and Beverly 2003). Although the associations are clear, precisely defining the extent to which financial education changes behavior is more challenging. Statistical association does not prove the direction of causation, and data from many financial education programs suffer from selection bias, i.e., they only receive clients whose motivation is sufficient to cause them to volunteer for the educational program (Lyons et al. 2006).

Conclusion

As mainstream economics increasingly embraces the realities demonstrated by behavioral economics and neuroeconomics, the significance of consumer educators may become dramatically greater than that defined by traditional neo-classical economics. Consumer educators still provide an invaluable informational role by teaching about accurate sources of product information and appropriate methods of comparisons. But, perhaps even more importantly, consumer educators can help students transform themselves by teaching skills that increase future orientation and rational decision-making. By teaching students not only about products, but also about effective self-management techniques, consumer educators can ultimately have a much larger impact on consumption decisions. For example, educators can focus not only on providing nutritional information, but also on techniques to intentionally limit one's exposure to poor choices. Bringing home high-sugar, high-fat snacks almost ensures that they will be consumed in excess, because they will always be available during those times when the long-term, rational self becomes tired or occupied with other matters. Financial education programs can cover not only appropriate family budgeting and savings choices, but can also encourage practices that limit the influence of the impulsive self's desire to immediately spend and consume. Such suggestions could include using automatic savings transfers, encouraging investments that cannot be instantly converted to spendable cash, and limiting immediately available cash, perhaps by replacing a credit card with a debit card attached to an account with

limited funds. In the end, the most successful consumer educators may reach beyond *informing* students and ultimately succeed in *transforming* them.

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