Currency of Search: Time Versus Money

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This research suggests that search behavior varies depending on whether the currency of search is monetary or temporal. In two experiments, search costs are manipulated to be either high or low, and are expressed in terms of either money or time. Both experiments demonstrate that consumers are more sensitive to search costs expressed in terms of money rather than time. A third experiment shows that this difference between time and money is not limited to search costs, but extends to search payoffs as well.

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EXTENDED ABSTRACT

Search is integral to consumption. Consumers search for the best products, the lowest prices, the most convenient locations and, in general, any information that can improve their consumption experience. Sometimes the currency of search is money (e.g., paying an agent to search for the best price) and sometimes it is time (e.g., spending time on websites to search for a specific product). In this research, we try to understand how search behavior varies depending on whether the currency of search is monetary or temporal.

In Stigler’s (1961) seminal paper, search is analyzed as an “optimization under constraints” problem in which greater search leads to a higher likelihood of success, but involves greater costs as well. Following from this, the standard experimental paradigm is that of an individual performing a sequential search for a homogeneous good, the prices of which are assumed to be dispersed in the market with a known distribution function. Although each search has an associated cost, it can potentially lead to a better (lower) price. The overall finding from the experimental literature is that people rationally increase their search intensity when incentives to perform search are high (e.g., search costs are low). And if this were to translate to the real marketplace, one would expect to see the following: Price dispersion should be lower (reflecting high search behavior) when product prices are high (reflecting higher incentive to search). However, empirical data from naturalistic settings does not agree with this. Increase in the incentive to search does not reduce price dispersion (Carlson and Pescatrice 1980, Pratt, Wise, and Zeckhauser 1979). Furthermore, even though search costs are believed to be lower in the Internet era of “friction-free capitalism” (The Economist, 1997), the price dispersion in online markets is found to be comparable to that in offline markets (Brynjolfsson and Smith 2000, Schloten and Smith 2002).

Although there could be numerous reasons for this discrepancy between the experimental and the real-world results, the current research focuses on one plausible explanation—the currency of search. Search experiments have traditionally employed a monetized value per unit search as a measure of search costs. In real-world settings, however, consumers rarely pay the costs of search in terms of money. More frequently than not, they spend time, rather than money, on activities such as searching within stores for the lowest price and scouring websites for product information. Could it be that people are less sensitive to search costs that are in terms of time (as in real-life settings) rather than money (as in experimental settings)? If it is so, that could explain why the relationship between search costs and search behavior emerges in experimental but not in real-world settings.

Relative to money, time is not as fungible or substitutable (Leclerc, Schmitt, and Dube 1995), is more ambiguous and, therefore, more prone to accommodation and rationalization (Okada and Hoch 2004), and is harder to account for, because accounting for time is not a routine activity for most people (Soman 2001). If time is indeed less concrete relative to money, consumers may be relatively less sensitive to changes in time versus money. Prior research seems to support this idea of differential sensitivity in that people have been found to be more sensitive to past investments of money than of time. This has been found in research related to sunk costs (Soman 2001) as well as in research related to satisfaction from an experience acquired by spending either time or money (Okada and Hoch 2004).

We propose that this general tendency of consumers to be less sensitive to time than to money ought to translate to search costs in the following manner. The extent of search done by a consumer is based on a tradeoff between the payoffs and the costs of increased search. Therefore, given fixed payoffs, search behavior ought to increase as the costs of search decrease. However, if the costs of search are in terms of time rather than money, people should be less sensitive to the costs. Consequently, a change in search costs should change search behavior less if those costs are that of time rather than money.

We test the above prediction in three experiments. In the first two experiments, we manipulate the currency (i.e., time vs. money) as well as the magnitude (i.e., high vs. low) of search costs and ask participants to indicate the extent to which they would like to search. The first experiment employs a moving company situation in which participants incur search costs in order to minimize their expenses on a moving company, and the second experiment employs a sequential-search experiment using a modified Bingo game in which participants incur search costs in order to maximize their payoffs. Both experiments support our prediction. Search behavior is more strongly influenced by changes in search costs that are in terms of money rather than time. A third experiment shows that this difference between time and money is not limited to search costs, but extends to search payoffs as well. Specifically, changes in the magnitude of search payoff have a greater impact when the currency of search is monetary rather than temporal.

REFERENCES


