Mental Account Barriers and Transaction Purpose: a Romanian Point of View

Mihai Dirinea\textsuperscript{a,}\textsuperscript{*}, Eugen Iordănescu\textsuperscript{a}

\textsuperscript{aLucian Blaga University of Sibiu, Victoriei blvd., no. 40, Sibiu 550024, Romania}

Abstract

The present study encompasses the behavioral model of decision making. Using the models provided by scientific literature, the relationship between the basic structure of mental accounts, transaction utility and consumer decision, together with perceived comfortability. The procedure was carried out using undergraduate students of Lucian Blaga University of Sibiu, with similar proportions of sexes and with resembling ages. Results have shown that influence of mental accounting structuring and transaction utility on decision and perceived comfortability is insignificant, taken into account the differences between sexes. The presented results bring knowledge into the economic behavior of the individuals involved.

Keywords: mental accounting; transaction utility; consumer decision; behavioral economics.

1. Introduction

The problem of decision has been puzzling scientists ever since the beginning of modern science. From Pascal and Bernoulli, forefathers of the domain, the main contributions to decision science are coming from H. A. Simon (1938), who introduced the behavioral model of decision making, and from the mathematician-psychologist duo A. Tversky and D. Kahneman (1979) and their studies in decision under risk and uncertainty. These studies have carved the road towards a psychological model of decision making. As Kahneman and Tversky (1979) indicated, decision can be influenced not by the overall wealth, but according to an a priori reference point. Thus, experience and certain personality traits influence the way individuals make decisions. Thaler (1985) stated that mental accounting, a cognitive process that explains the way individuals manage values such as money, influences, in accordance to Kahneman’s (1991) framing of decisions, the way people spend

* Corresponding author. Tel.: +40-76-1624162.
E-mail address: mihai.dirinea@ulbsibiu.ro
money and decide to save it. According to the author, if you spend your lunch budget, you will be more reluctant to buy another one.

Mental accounting answers a lot of questions regarding why individuals group and classify resources, and whether that grouping and classification system satisfies them (Camerer, 1999).

Research in mental accounting theory covers four main areas: framing and editing, budgeting and fungibility (Thaler & Mullainathan, 2000), transaction utility theory, and choice dynamics and grouping (Thaler, 1999; Hastings, Shapiro, 2011; Heath, Soll, 1996; Wilkinson, 2008).

Framing and editing, according to Kahneman and Tversky (1979), and Rabin (1996), follows the main principles of hedonic framing: segregation of gains, integration of losses, integration of small losses in big gains, segregation of small gains in big losses.

Jha-Dang and Banerjee (2005) use the basic principles of framing and editing to explain efficiency of promotions (extra price promotions, low-price promotions, and premium promotions). Also, a Tversky and Kahneman study (1981) uses hedonic framing to explain the typology of minimal topical and comprehensive accounts.

Transaction utility theory takes into account the value of the transaction depending on the focus of attention (Thaler, 1985; Kahneman & Tversky, 1984). Thus there are two types of utility: acquisition utility, which represents the value of the obtained good, relative to its price (the equivalent of the consumer surplus concept) and Transaction utility, which corresponds to the perceived value of the exchange. In other words, transaction utility represents the difference between the reference price and the paid price.

The two utility types influence the acquisition utility, which represents the purpose and grade (value) of importance that the individual attributes to the respective transaction.

Budgeting and fungibility. Heath and Soll (2004) say that how consumption habits become inconsistent with time, so an a priori organized budget will not be able to handle future money opportunities and unpredicted events. Thus Thaler (1999) identifies that allocation of spending in different categories corresponds to two purposes: first, budgeting eases rational decision making between competitive uses for funds, and secondly, the system may function as a self-control mechanism (Karlsson, 1998; Karlsson, Garling, and Selart, 1997).

Sheffrin, Thaler (1988), and O’Curry (1997) identify three main mental accounts: consumption budgets, income budgets, and wealth budgets.

As for the barrier between these accounts, the easy crossing of it suggests the breaking of mental accounts (Shefrin & Thaler, 1988).

Thus, the present study focuses on the influence of transaction purpose and structure of mental accounts (thus encompassing the basic barrier between accounts) on consumption decision and, as a measure of reliability, on the perceived level of comfort regarding the decision. Further observations will be noted on differences between sexes.

2. Method

2.1. Participants

Caucasian male and female students (N=87) from the Lucian Blaga University of Sibiu, in Sibiu, Romania, were volunteers at the study. At the time of the study, they were enrolled in courses from all component colleges of the university, except the College of Theology. The male-female proportion of the selected sample was 32.18% (N=28) males, and 67.82% (N=59) females.

2.2. Instruments
Taking the hypothesis into account, the chosen design is an experimental factorial design, on a 2x2 plot. The experiment was implemented in single-blind scenario, the participants did not know what the purpose of the research was. The measure instruments used varies across variables.

2.3. Variables

The variables used in the present study were: account structure, transaction purpose, consumption decision, and perceived comfort regarding decision.

The first independent variable, account structure, referred to the actual size of the mental accounts. For reasons regarding characteristics of the sample, we included only consumption and income budgets. The variable had two levels: when consumption budget (here, pocket money) was bigger than the price of the transaction, and when consumption budget was smaller than the price of the transaction. The overall size of the budget was equal across all groups, as to exclude possible financial confounds.

The second independent variable, transaction purpose, referred to the actual purpose of the transaction. It had two levels: a frivolous transaction, meaning that the respective transaction could be avoided without any future consequences, and a serious transaction, meaning the respective transaction could be avoided, but with future consequences.

The first dependent variable, consumption decision, was measured on a binary yes/no scale, regarding whether the individual would make the transaction or not (see Fig. 1b).

The second dependent variable, perceived comfort regarding the decision, was measured on a scale from 1 to 100, 1 meaning totally uncomfortable about my decision, and 100 meaning totally comfortable (see Fig. 1a).

2.4. Procedure

After being given the preliminary instructions for the participation, the student gave their agreement by signing the informed consensus. After that, they were randomized, being given equal chances to fall in each one of the four experimental scenarios. Then they were presented with an imaginary scenario regarding the two independent variables and, after reading, they were asked to rate yes/no if they wanted to make the transaction, and specify the level of comfort.

2.5. Confounds

Possible confounds regarding the procedure may involve the number discrepancy between sex and age distributions.

3. Results

There were no missing values, meaning all the participants successfully finished the task provided. The summary statistics and histograms are presented in the following figures (see Table 1).

Multiple inferential statistics testing show the following results: there are no significant differences between the account structure and consumption decision (p = 0.05; $\chi^2 = 0.575$; $\varphi^2 = 0.081$), showing that the subjects were not significantly influenced, in their decisions, by mental account barriers; there are no significant differences between account structure and perceived comfort (p = 0.05; medium ranks of 42.74, and 45.29; $\chi^2 = 0.237$), meaning that the overall comfort was not significantly influenced by mental account barriers; there are no significant differences between transaction purpose and perceived comfort (p = 0.05; medium ranks of 43.60, and 44.39; $\chi^2 = 0.022$), meaning that the purpose of transaction had a statistically insignificant influence on the perceived comfort; there are no significant differences between sexes in consumption decision (p = 0.05; $\chi^2 =$
0.074; $\varphi^c = 0.029$), meaning that the distribution of decisions vary regardless of sex; there are no significant differences between sexes in perceived comfort ($p = 0.05$; medium ranks of 44.28, and 43.82, and sum of ranks 1242.5, and 2585.5; $U = 815.5$; $W = 2585.5$), meaning that the overall level of comfort varies regardless of sex.

Table 1. Descriptive statistics

|                | N   | Range | Minimum | Maximum | Mean  | Std. Deviation | Variance | Skewness | Kurtosis |
|----------------|-----|-------|---------|---------|-------|----------------|----------|----------|----------|
| Decision       | 87  | 1     | 1       | 2       | .043  | .399           | .159     | 1.563    | .258     |
| Perceived comfort | 87  | 99    | 1       | 100     | 2.961 | 27.614         | 762.548  | -1.013   | .258     |
| Valid N (listwise) | 87  |       |         |         |       |                |          |          |          |
status of the subjects in the studied sample, who are solely students and recently have gained and started owning bank accounts and credit cards, in which they manage small amounts of money.

References

Camerer, C. (1999). Behavioral Economics: reunifying psychology and economics. Proceedings of the National Academy of Sciences, 96, 10575–10577.

Hastings, J., & Shapiro, J. M. (2011). Mental Accounting and Consumer Choice: Evidence from Commodity Price Shocks. National Bureau of Economic Research, 1–49.

Heath, C., & Soll, J.B. (1996). Mental budgeting and consumer decision. The Journal of Consumer Research, 23(1), 40–52.

Jha-Dang, P., & Banerjee, A. (1999). A theory based explanation of differential consumer response to different promotions. Advances in Consumer Research, 32, 235–252.

Kahneman, D., & Tversky (1979). Prospect theory: an analysis of decision under risk. Econometrica, 47(2), 263–292.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. The American Psychologist, 39, 341–350.

Kahneman, D., Knetsch, J.L., & Thaler, R.H. (1991). Anomalies: the endowment effect, loss aversion, and status quo bias. Journal of Economic Perspectives, 5(1), 193–206.

Karlsson, N. (1998). Mental accounting and self-control. Goteborg Psychological Review, 28(2), 1–15.

Karlsson, N., Garling, T., & Selart, M. (1997). Effects of mental accounting on intertemporal choice. Goteborg Psychological Review, 27(5), 1–17.

National Bank of Romania (2011). Annual report 2011.

O’Curry, S. (1997). Income source effects. Working paper, Department of Marketing, DePaul University, Chicago.

Rabin, M. (1996). Psychology and economics. Department of Economics, University of California Berkeley.

Shefrin, H. M., & Thaler, R. H. (1988) The behavioral life-cycle hypothesis. Economic Inquiry, 26(4), 609–43.

Simon, H. A. (1955). A behavioral model of rational choice. Quarterly Journal of Economics, 69, 99–118.

Thaler, R.H. (1985). Mental accounting and consumer choice. Marketing Science, 27(1), 15–25.

Thaler, R.H. (1999). Mental accounting matters. Journal of Behavioral Decision Making, 12, 183–206.

Thaler, R.H., & Mullainathan, S. (2000). Behavioral Economics. International Encyclopedia of the Social and Behavioral Sciences, 1–12.

Wilkinson, N. (2008). An introduction to behavioral economics. United Kingdom: Palgrave MacMillan.

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