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APPLICATION OF MENTAL ACCOUNTING TO SELECTED ASPECTS OF CONSUMER BEHAVIOR

APLIKÁCIA MENTÁLNEHO ÚČTOVNÍCTVA NA VYBRANÉ ASPEKTY SPOTREBITEĽSKÉHO SPRÁVANIA

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Abstract: *This study explores mental accounting by integrating behavioral economics and accounting principles to understand consumer decision-making. It introduces a novel framework based on double-entry accounting principles, drawing from accounting standards, to visualize mental accounting processes and mitigate heuristic-driven biases. Theoretical insights synthesize classical and modern literature, highlighting heuristics as both enablers and sources of cognitive bias. Empirical analysis demonstrates how these biases influence decision-making and validates the framework's utility in identifying and mitigating irrationalities. By adopting an accounting perspective, consumers can rationalize financial decisions more effectively. The findings advance behavioral economics, offering practical tools to enhance decision-making under uncertainty and suggesting paths for future research.*
Key words: *mental accounting, consumer behavior, accounting standards*
JEL classification: D81, G41, M41

INTRODUCTION

The focus of this study may initially appear to be a mere synthesis of knowledge about mental accounting as a convergence of two disciplines—accounting and psychology. However, closer examination reveals an innovative detail and purpose: the introduction of a novel framework for understanding decision-making scenarios. Uncertainty and doubt are ubiquitous in daily life, yet there is a scarcity of well-established and widely applicable methods for addressing decision-making under uncertainty. Existing approaches often prove insufficient for practical application or are too complex to implement. Consequently, as consumers, we often rely on available information without verifying its completeness, accuracy, or relevance to the entire context.

This paper addresses this gap in human decision-making by applying theoretical insights from classical behavioral economics and psychology. The primary aim is to visualize the

concept of consumer mental accounting through a standardized individual accounting framework, capturing specific mental accounting operations. This process seeks to replicate heuristic consumer decision-making procedures and identify potential cognitive biases.

Drawing upon both academic and popular literature, this paper endeavors to encompass all aspects of the decision-making process systematically and logically. Theoretical foundations are derived from pioneering works on mental accounting, decision-making, heuristics, and cognitive studies, supplemented with contemporary research. This integrative approach bridges foundational theoretical postulates and their application in modern practices, both domestically and internationally. To enhance this framework, a consensual synthesis of insights from early and recent scholarship is constructed.

The second phase involves empirical validation of the theoretical propositions outlined in the first section of the study. By testing hypothetical questions and assumptions, the research transitions into developing conclusions and actionable outputs, which are subsequently applied to practical examples. This leads to the third and final section, focusing on the visualization of mental accounting. Earlier sections provide the theoretical and practical basis necessary for creating an application-oriented framework. Combining theoretical and practical insights allows mental accounting processes to be represented tangibly, fulfilling the study's objectives.

The primary contribution of this study lies in its applied character. Mental accounting, initially explored from the late 1990s to the early 2000s, has since been addressed sporadically. This paper recognizes a continued need and opportunity to expand this topic with new theoretical and practical perspectives. While adhering to the original concept of mental accounting, the study aims to capture consumer behavior in financial transactions and enhance decision-making processes. Furthermore, it identifies mental accounting as a domain with significant untapped potential for interdisciplinary exploration and future development.

1. THEORETICAL FRAMEWORK OF CONSUMER BEHAVIOR, ACCOUNTING, AND DECISION-MAKING

Understanding consumer behavior is central to grasping how individuals make choices, especially in financial contexts. Traditional economic theory posits that consumers act rationally, selecting options that maximize their utility. However, real-world decisions are often influenced by cognitive biases, social factors, and emotional responses, which deviate from purely rational decision-making models. One influential theory within this domain is the concept of mental accounting, which explains how consumers compartmentalize their financial decisions into separate mental "accounts" that are treated differently depending on the source and use of money. This process, while helpful in simplifying decision-making, can also lead to suboptimal choices and systematic biases.

1.1 Mental Accounting and Heuristics in Consumer Behavior

Mental accounting, as proposed by Thaler (1985), refers to the cognitive process by which individuals categorize and evaluate economic outcomes based on arbitrary mental budgets or accounts. For example, consumers might treat money received as a gift differently from money earned through work, even though both represent equivalent monetary value. This compartmentalization can influence spending and saving behaviors, with consumers sometimes willing to spend more freely from a "windfall" account than from their regular income account. This behavior can be understood through the lens of heuristics—mental shortcuts that simplify decision-making but often lead to biases. In the context of consumer finance, heuristics such as

the availability heuristic (where people rely on easily recalled examples to make decisions) or the anchoring effect (where decisions are influenced by irrelevant starting points) can significantly impact how consumers approach budgeting, saving, and spending. For instance, the anchoring effect might cause a consumer to base their savings goals on an arbitrary reference point, such as their past spending, rather than a more accurate assessment of their financial situation.

Heuristics are typically employed when individuals face complex decisions or when they have limited cognitive resources. In financial contexts, these shortcuts are used to simplify the evaluation of risk, the selection of investments, and the comparison of prices. However, the reliance on such cognitive shortcuts can result in decisions that are inconsistent with long-term financial well-being. This raises important questions about how to help consumers make better, more rational financial decisions and avoid pitfalls such as over-spending or under-saving.

1.2 Accounting as a Tool for Improving Decision-Making

A potential solution to the biases inherent in mental accounting and heuristics lies in the structured use of accounting systems. Accounting, at its core, serves to bring order and transparency to financial information, which is essential for informed decision-making. As Juhászová et al. (2022) emphasize, accounting's fundamental role is to quantify economic phenomena in monetary terms, facilitating the collection, recording, evaluation, and communication of information about past events. This process of organizing and presenting data in a clear, structured way is especially important in the context of businesses and individuals who need accurate information to guide their decisions.

Accounting systems help by providing reliable data that can counteract the cognitive biases associated with mental accounting. For instance, by maintaining a clear record of expenses and incomes, individuals can move beyond the mental accounts that might lead to irrational spending. Accounting allows for the objective evaluation of financial decisions, turning complex, emotionally driven choices into rational, data-supported actions. Through accurate record-keeping and financial reports, accounting offers consumers a clearer view of their financial position, reducing the influence of irrelevant factors, such as the perceived value of "windfall" money.

One of the key features of accounting is its reliance on standardized systems, such as the framework accounting plan, which ensures consistency and comparability in financial reporting. By using internationally recognized standards, such as IFRS (International Financial Reporting Standards) or US GAAP (Generally Accepted Accounting Principles), consumers and businesses alike can rely on a common framework that enhances transparency and decision-making. These standards, governed by principles that seek to harmonize accounting practices across different jurisdictions, help to provide clarity on how financial information should be collected, categorized, and reported. This not only simplifies the process of decision-making but also ensures that financial outcomes are assessed using consistent and reliable methods.

For example, using the domestic framework accounting plan can aid individuals in structuring their financial information in a way that minimizes the impact of cognitive biases. Moreover, international standards like IFRS and GAAP serve as a tool for the harmonization of accounting practices, ensuring that financial information is not only accurate but comparable across borders. This standardization allows individuals and businesses to make decisions based

on consistent, reliable data, reducing the likelihood of poor financial choices caused by biases or heuristic-driven errors.

1.3 Integrating Accounting with Consumer Decision-Making

The integration of structured accounting with consumer decision-making presents an opportunity to refine how individuals approach their finances. Accounting, when used effectively, can counteract many of the distortions created by mental accounting and heuristics. By providing clear, organized, and standardized financial information, accounting reduces the cognitive load required for decision-making. It allows individuals to move beyond arbitrary mental categories – such as spending from a "bonus" account – and to assess their financial position in a more holistic, rational manner.

Furthermore, this approach emphasizes the potential for accounting systems to inform both personal and business decision-making. By relying on objective data provided through well-structured accounting systems, individuals can make decisions that are more aligned with their long-term financial goals. This would help eliminate irrational decisions driven by emotional impulses or mental shortcuts, such as spending more freely when receiving a gift or failing to save adequately due to biased mental accounting.

By developing a better understanding of accounting systems and using them effectively, individuals can improve their financial decision-making, leading to more rational choices and better financial outcomes. This aligns with broader goals of improving consumer financial literacy and empowering individuals to manage their money effectively. Moreover, the clear structure offered by accounting systems can be particularly beneficial in guiding ex ante decision-making, where individuals base their choices on past financial behaviors and outcomes. Over time, this could lead to more informed, consistent, and rational decision-making processes that are less susceptible to the cognitive biases typically associated with mental accounting and heuristics.

2. CONSUMER IRRATIONALITY IN THE FORM OF HEURISTICS: RESEARCH METHODOLOGY

This study investigates consumer irrationality, focusing on how heuristics influence decision-making processes. The research methodology builds on empirical insights from Polat and Polat (2019), whose work examined mental accounting and risk perception using scenarios that highlight key cognitive biases. Their study, conducted at Marama University in Istanbul with 114 finance academics, provided a foundation for analyzing how behavioral tendencies shape consumer decisions. Detailed results of this survey, including statistical analyses and specific insights into consumer preferences, are provided in the appendix of this paper.

The Polat and Polat questionnaire serves as a pivotal tool in this study, presenting respondents with hypothetical decision-making scenarios. The questionnaire focused on aspects such as relative savings perception, sunk costs, timing of payments, and risk preferences. These dimensions were explored using predefined questions analyzed through exploratory factor analysis. This method enabled the identification of latent factors influencing consumer behavior, reflected in factor saturations that captured the correlation between responses and underlying behavioral patterns.

Seven scenarios were central to the study, each addressing a specific behavioral tendency:

1. **Travel for Savings**: Respondents considered whether they would travel to save $5 on a purchase, revealing that relative savings significantly influence willingness to travel.
2. **Sunk Costs**: Participants decided whether to attend a basketball game during adverse weather, depending on whether they had purchased tickets. The results showcased the sunk cost fallacy, where prior expenses unduly influenced decisions.
3. **Payment Timing**: Preferences for paying for goods (e.g., appliances) and services (e.g., vacations) highlighted a consistent preference for post-consumption payment, emphasizing a desire to defer financial commitments.
4. **Risk Aversion**: Scenarios involving investment choices revealed risk-averse behavior for potential losses but greater risk-taking for potential gains, aligning with prospect theory.

Detailed statistical analyses of these scenarios confirmed several cognitive biases influencing consumer decisions, such as the relative importance of sunk costs, the framing of financial decisions, and the timing of payments. These results provide a nuanced understanding of how consumers use mental shortcuts, often leading to suboptimal outcomes.

Building on these findings, this study adopts a focused approach to address selected problems from the Polat and Polat questionnaire. For instance, the tendency to prefer payment after consumption is used to construct a visualization of mental accounting for durable goods and services. Similarly, the sunk cost fallacy informs scenarios exploring how prior investments shape future decisions. These selected issues serve as a basis for practical applications of mental accounting concepts.

The subsequent section illustrates these applications through the visualization of mental accounts, linking behavioral tendencies to structured decision-making processes. This transition from theoretical insights to practical visualization aims to demonstrate how mental accounting can be used to address common cognitive biases, providing consumers with tools to make more rational decisions.

3. DEVELOPING A MENTAL CHART OF ACCOUNTS: BRIDGING BEHAVIORAL AND CORPORATE ACCOUNTING

This study introduces a novel conceptual framework—a mental chart of accounts—designed to align the principles of mental accounting with the systematic rigor of corporate accounting practices. By adapting double-entry bookkeeping to individual financial decisions, the framework seeks to mitigate the impact of cognitive biases on decision-making. Drawing on behavioral finance and mental accounting theory, this approach bridges the gap between corporate accounting standards (such as IFRS and US GAAP) and the informal financial heuristics individuals often rely on.

3.1 Conceptual Basis for the Mental Chart of Accounts

Mental accounting reflects individuals' psychological tendencies to organize and evaluate financial transactions, often in ways that deviate from rationality. Unlike the structured categorization found in corporate accounting, mental accounting can lead to fragmented or inconsistent financial decision-making. To address these discrepancies, the proposed framework structures personal financial activities within a system that mirrors corporate accounting principles, promoting both clarity and rationality.

This mental chart of accounts categorizes financial transactions into seven major account classes, providing a comprehensive framework to capture the complexity of individual decision-making. These classes include assets, inventories, cash accounts, liabilities, expenses, revenues, and gains/losses. Each class is adapted to reflect personal financial realities, while retaining the logical and systematic nature of traditional accounting practices.

3.2 Structure and Components of the Mental Chart of Accounts

1. **Assets** represent resources owned by individuals that provide future economic benefits. These are subdivided into:
    - **Non-current assets** (e.g., real estate, vehicles) with significant value and long useful lives.
    - **Medium-term assets** (e.g., appliances, consumer electronics) of moderate longevity and value.
    - **Current assets** (e.g., low-value goods, consumables) with short useful lives. Depreciation applies to non-current assets, while current assets are expensed directly. Transactions follow standard accounting conventions, with increases recorded as debits and corresponding credits reflecting outflows or liabilities.
2. **Inventories.** This category encompasses goods and services intended for immediate consumption or reclassification, including food, fuel, or prepaid services. Inventories may be reclassified as assets if their value appreciates or written off upon consumption or obsolescence.
3. **Cash and Cash Equivalents** accounts capture liquid assets available for immediate transactions or investments, such as physical cash, bank balances, and short-term financial instruments.
4. **Liabilities** represent financial obligations, divided into:
    - **Short-term liabilities** (e.g., credit card debt, small loans).
    - **Long-term liabilities** (e.g., mortgages, lease agreements).
5. **Expenses** include all outflows associated with consumption or operational costs, such as food, repairs, or utilities.
6. **Revenues** capture income streams, including salaries, investment returns, or proceeds from asset sales.
7. **Gains and Losses.** This category accounts for unexpected financial outcomes, such as gains from asset sales above book value or losses from theft or damage.

3.3 Practical Application of the Framework

To demonstrate the utility of this framework, survey data from consumer decision-making scenarios were used to populate these accounts. For instance:

- **Assets** reflect durable goods acquired during financial planning.
- **Expenses** capture outflows related to routine consumption, such as groceries or fuel.
- **Gains and losses** are used to record non-operational financial events, such as selling an old appliance for more than its book value.

This structured approach provides a clearer perspective on financial behaviors, enabling individuals to identify and address cognitive biases like the sunk cost fallacy or misallocation

of resources. By systematically recording transactions, individuals can reconcile their mental accounts with objective financial realities, fostering improved decision-making.

By integrating principles of mental accounting with corporate accounting methodologies, this framework offers a practical tool to enhance financial transparency and rationalize individual decision-making. It provides a structured approach to managing personal finances while illustrating the practical application of behavioral finance principles.

The mental chart of accounts represents a significant step toward addressing consumer irrationality, offering individuals a systematic method to align their financial decisions with objective accounting principles, thereby reducing the influence of cognitive biases.

4. PRAXEOLOGICAL AND APPLICATION FRAMEWORK FOR MENTAL ACCOUNTING VISUALIZATION

This section focuses on summarizing the attitudes, findings, and conclusions regarding the application of the mental accounting concept through visualization techniques. The primary objective is to rationalize decision-making processes by systematically organizing mental accounts. By incorporating all relevant accounts, applying double-entry accounting principles, and properly closing them, the resulting visualization provides clear insights into financial situations and the underlying causes of decision-making needs.

The discussion highlights the empirical challenges of decision-making, such as incomplete data, inadequate solutions, and cognitive distortions like heuristics. Visualization is recommended in situations where consumers:

- Sense their decisions are suboptimal or incomplete,
- Struggle to choose between limited alternatives,
- Face long-term strategic decisions,
- Have too many ideas without clear steps forward,
- Suspect they've overlooked critical elements,
- Must decide between repairing current assets or acquiring new ones,
- Need to separate emotions from their decision-making processes.

The proposed model, though practical, has limitations, including requiring basic accounting knowledge, incomplete or non-monetizable data, and time constraints in urgent scenarios. Despite these challenges, the approach supports more rational decisions by minimizing biases, heuristics, and emotional influences.

The aim of this study was to visualize the concept of consumer mental accounting to capture and rationalize decision-making processes. Having fulfilled the theoretical groundwork, we now proceed to apply and visualize this concept in practice. This involves modeling specific transactions a consumer might encounter, requiring mental accounting to guide decision-making. Here, the visualization builds upon fundamental consumer budgeting principles, extending them into a framework that models the informational value of mental transactions.

To ensure clarity and mitigate decisions against logic, this paper identified heuristics—mental shortcuts that deviate from rational principles. However, mental accounting is best applied to transactions expressed in monetary terms or equivalents. Non-monetary measures like probabilities are not entirely suited for this framework. Below, we illustrate selected

heuristics and their relation to mental accounting, focusing on irrational decision-making patterns as discussed in Polat & Polat (2019).

Example 1: Saving $5 on a Calculator vs. Jacket

In the first scenario, respondents were asked whether they would save $5 on a calculator (or jacket) in exchange for a 20-minute drive. An initial accounting entry for the transaction is as follows:

Account	Debit	Credit
2 Inventory: Calculator	$15	
3 Cash		$10
7 Gains and Losses		$5

This entry shows that a calculator worth $15 was acquired by sacrificing $10 in cash, yielding a profit of $5. However, a deeper analysis includes the "anchoring heuristic," where the consumer evaluates the item's mental value based on its original price ($15). In other words, when opportunity costs and time value are considered, the decision becomes more complex.
In a rationalized accounting model, an additional cost—the 20 minutes of driving—enters the ledger as a non-monetary loss:

Account	Debit	Credit
2 Inventory: Calculator	$10	
3 Cash		$10
7 Gains and Losses	$6.66	$5
Net Loss		$1.66

The additional cost of time is approximated using an hourly opportunity cost of $20 (equivalent to $6.66 for 20 minutes). Based on this visualization, the recommendation would be to forego the drive and invest the time elsewhere, yielding better economic outcomes.

This example highlights how failing to account for opportunity costs in mental accounting can lead to suboptimal decision-making. Consumers must weigh the trade-offs of time and money carefully to make rational choices.

Example 2: Purchasing Event Tickets

This example explores the consumer experience of purchasing and using event tickets priced at $40. The mental accounting framework incorporates concepts such as the pain of payment and the effects of amortization over time. Two scenarios are compared:

Scenario A: Tickets Purchased One Year in Advance

Initial mental accounting view – when the tickets are purchased a year in advance, the consumer incurs the cost immediately, but the perceived enjoyment of the event is deferred. The accounting visualization for this scenario is as follows:

Account	Debit	Credit
2 Inventory: Tickets	$40	$40
3 Cash		$40
5 Ticket Consumption	$40	

At the time of purchase, the consumer records a mental loss of $40. However, this loss fades over the year due to psychological amortization, reducing the pain of payment by the time the event occurs.

Adjusted accounting with amortization - let's amortize the $40 cost over the one-year period, assuming a linear depreciation of $10/year. By the event date, the remaining cost is $30, while $10 has been amortized.

Account	Debit	Credit
2 Inventory: Tickets	$40	$10 $30
7 Amortization (1 year)	$10	
5 Remaining ticket cost (consumption)	$30	
3 Cash		$40

Amortization shifts the perception of the ticket cost, reducing the psychological weight of the expense and increasing the perceived value of the experience.

Scenario B: Tickets Purchased One Day in Advance

Mental Accounting without Amortization - if the tickets are purchased one day before the event, there is little time for psychological amortization. The entire $40 cost is felt at once and the accounting entry equals to initial mental accounting view in scenario A. Here, the consumer experiences the full pain of payment without the benefit of time to reduce its intensity.

Economic theory often uses the ratio of marginal utility (MU) to price (P) to evaluate consumer satisfaction. In Scenario A, the amortization effect reduces the perceived cost, effectively increasing the MU/P ratio. By contrast, Scenario B's higher perceived cost results in a lower MU/P ratio, reducing overall satisfaction.

This comparison highlights the impact of timing on consumer decision-making:

- Consumers who amortize costs over time are likely to experience greater satisfaction, as their expectations align more closely with the reduced psychological burden.
- Immediate purchases concentrate the pain of payment, potentially lowering satisfaction from the experience.

The implications suggest that consumers can enhance decision quality and satisfaction by structuring payments to allow for psychological amortization.

Example 3: Buying Household Appliances

The third case examines the mental accounting of purchasing a washing machine and dryer, comparing two payment options – payment in advance or payment after installation. Under the first option, the consumer pays $200 monthly for six months before the washer and dryer are

delivered and installed. The payment occurs before any utility (benefit) is received, creating a negative psychological impact due to an open loss account in their mental accounting. Within the initial accounting entry (advance payments) each payment is recorded as a debit to cash and a credit to an advance payment account. The cumulative payments over six months are $1,200.

Account	Debit	Credit
3 Advance payments	$1,200	$1,200
3 Cash (spent)		$1,200
1 Asset	$1,200	

At the end of the six months, the advance payments are reclassified into a durable goods asset account upon installation.

However, this payment schedule introduces an opportunity cost: the funds used for advance payments could have earned interest or been invested elsewhere. That´s why we need to adjust the value of the asset with amortization. Assuming a 3% annual interest rate, the opportunity cost of these prepayments reduces the perceived value of the washer and dryer in the consumer's mental accounting:

Account	Debit	Credit
3 Advance payments	$1,200	$1,182
3 Cash (spent, adjusted)		$1,200
1 Asset	$1,182	$1,200
7 Amortization	$18	

The adjusted utility-to-price ratio (MU/P) is lower, as the economic loss (opportunity cost) diminishes the perceived value of the goods. This creates discomfort for the consumer, who perceives that they are paying more for less utility.

Under the option Payments after Installation, the consumer makes six monthly payments of $200 only after the washer and dryer are installed and in use. This aligns payment timing with utility, allowing the consumer to benefit from the appliances while paying off the cost. Within the initial accounting entry, the washer and dryer are recorded in the asset account at their full nominal value ($1,200). Payments are made monthly to settle the liability account.

Account	Debit	Credit
1 Asset	$1,200	
4 Accounts payable	$1,200	$1,200
3 Cash		$1,200

Since the payment is made after the appliances are already in use, there is no opportunity cost tied to withheld funds. The utility-to-price ratio (MU/P) remains intact, as the goods are perceived to provide full value during their use.

The mental accounting visualization highlights why most respondents preferred postpayment:

- **Alignment of Payment and Utility**: Paying after use feels more rational, as the perceived cost aligns with the benefits received.
- **Avoiding Opportunity Costs**: Advance payments are psychologically framed as a **loss of potential earnings**, which reduces satisfaction.
- **Open Loss Account**: Prepayments create an open mental loss account, which is uncomfortable for consumers and discourages this payment method.

In summary, consumers using mental accounting tend to devalue durable goods when advance payments are required. Postpayments, by contrast, eliminate the opportunity cost and align perceived value with usage, making them the preferred option.

Through these visualizations, the mental accounting framework helps consumers rationalize decisions, address heuristics, and manage expectations. These case studies reveal that incorporating opportunity costs and amortization into accounting records significantly impacts consumer satisfaction and decision outcomes. Thus, mental accounting serves as an effective tool for financial decision-making when applied with precision.

CONCLUSIONS

This study advances the understanding of consumer behavior through the lens of mental accounting, proposing a novel framework that merges behavioral economics and accounting principles. By integrating standardized double-entry accounting with cognitive biases, this research offers a structured approach to consumer decision-making. The visualization of mental accounting, derived from corporate accounting practices, helps individuals overcome cognitive biases such as the sunk cost fallacy, the anchoring effect, and other heuristic-driven distortions that often lead to suboptimal financial choices. Through empirical analysis and practical examples, this study demonstrates how these biases can be mitigated, thereby promoting more rational decision-making in personal finance.

The key contribution of this research lies in its ability to bridge the gap between academic theory and practical application. By developing a mental chart of accounts, individuals can systematically evaluate their financial decisions and identify irrational tendencies. This framework, which adapts principles from IFRS and US GAAP, helps consumers organize their financial data in a way that aligns with objective accounting standards, ultimately fostering transparency and enhancing financial decision-making. Moreover, the study's empirical findings emphasize the role of heuristics in shaping consumer choices, highlighting the need for interventions that can counteract these cognitive shortcuts.

While this study successfully applies the mental accounting concept to consumer behavior, it also identifies areas for future research. One key area is the further refinement of the individualized accounting framework, which could be expanded to address more complex financial decisions that go beyond simple monetary transactions. Additionally, future studies should explore how these frameworks can be tailored to different cultural contexts and financial systems, as the application of mental accounting may vary across regions and economic environments.

In conclusion, this research underscores the practical value of combining behavioral economics with accounting principles to improve consumer decision-making. By visualizing mental accounting processes, consumers can gain a deeper understanding of their financial

behaviors, leading to better-informed choices and enhanced financial well-being. Future research should build upon these findings, integrating more sophisticated tools and exploring new avenues for enhancing consumer financial literacy and decision-making in an increasingly complex economic landscape.

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APPENDIX: RESULTS OF THE QUESTIONNAIRE

The respondents were presented with questions that included predefined response options, which were then analyzed by the authors using exploratory factor analysis. This method assumes that the input variables result from common causes that are not directly observable or measurable. The goal of factor analysis is to identify these underlying causes by creating new variables—factors.
The outcome of this method is factor saturations in the form of weights, ranging from -1 to 1. Factor saturations represent the correlation between a given factor and a variable, in this case, the question posed. Positive values indicate a favorable attitude toward the question, while negative values indicate an opposing stance. The results of the study demonstrated statistically significant findings, confirming the appropriateness of the methodology for exploring consumer behavior in relation to mental accounting and heuristics.

First Question: Focus on the Current Account
Scenario: Imagine you are about to buy a jacket for $125 and a calculator for $15. However, you find out that the calculator is on sale for $10 at another store, 20 minutes away by car, and the jacket is also cheaper at another store, priced at $120, with a 20-minute drive. Would you drive to the second store?
Options:

a) I will go to save $5 on the calculator (0.896)
b) I won't go and buy the calculator at the current price (-0.921)
c) I will go to save $5 on the jacket (0.903)
d) I won't go and buy the jacket at the current price (-0.900)
Summary: Most respondents were inclined to travel to save money, particularly when purchasing the more expensive jacket, showing a stronger preference for saving on higher-cost items. Negative weights were observed when respondents opted not to make the trip, especially in the case of the calculator.

Second Question: Sunk Costs
Scenario: A family has paid $40 for tickets to a basketball game 60 miles away. On the day of the game, a snowstorm occurs, but they decide to go. However, they mention that if the tickets were free, they would have stayed home.
Options:
a) The family has already paid $40 (0.845)
b) The tickets were given for free (0.549)
c) The tickets were bought a year ago ($40) (0.585)
d) The tickets were bought the day before the event ($40) (0.799)
Summary: Respondents showed a stronger attachment to money already spent or spent recently. The further the purchase was made, the less significant the payment appeared. The lowest weight was for free tickets, indicating that when money is not spent, it is less valued.

Third Question: Utility and Cost of Durable Goods
Scenario: In six months, you plan to buy a washer and dryer for $1200. You have two financing options:
Options:
a) Six monthly installments of $200, paid in advance (-0.945)
b) Six monthly installments of $200 after purchase and installation (0.933)
Summary: Respondents preferred paying after receiving the utility from the devices, showing a strong negative preference for paying in advance before use.

Fourth Question: Services and Payment Timing
Scenario: Imagine you are planning a one-week vacation to the Caribbean in six months for $1200. You have two financing options:
Options:
a) Six monthly installments of $200, paid in advance (-0.899)
b) Six monthly installments of $200, paid after the vacation (0.911)
Summary: As with the previous question, respondents were more inclined to pay after the service was provided, preferring payment to follow the enjoyment of the vacation.

Fifth Question: Payment for Weekend Work
Scenario: How would you like to be paid for a few hours of weekend work over the next six months?
Options:
a) Prepayment (advance) (-0.958)
b) Payment after work is completed (0.954)
Summary: Despite seemingly illogical, respondents preferred being paid after completing the work, like preferences for services where payment follows the benefit.

Sixth Question: Loan for Home Renovation
Scenario: You are offered two loan options to finance $7000 for home renovation.
Options:
a) A 3-year loan at 12% interest (0.802)

b) A 15-year loan at 11% interest (-0.798)
Summary: Respondents preferred a shorter-term loan, even though it meant higher monthly payments. This preference indicated a tendency to reduce debt more quickly, even at the cost of increased short-term financial burden.

Seventh Question: Risk Perception and Aversion
Scenario 1: Gain Decision:
Options:
a) A guaranteed gain of $240 (-0.919)
b) A 25% chance of gaining $1000 and a 75% chance of gaining nothing (0.932)
Scenario 2: Loss Decision
Options:
a) A guaranteed loss of $750 (0.953)
b) A 75% chance of losing $1000 and a 25% chance of losing nothing (-0.933)
Summary: Respondents displayed risk-seeking behavior when it came to potential gains, preferring a chance for a higher reward. However, they exhibited risk aversion when faced with potential losses, preferring to avoid guaranteed losses even at the cost of a chance for a higher loss.