

# ***The Application and Inspiration of Mental Accounting: Spending of Different Income Source, Consumption During Valentine's Day***

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**Abstract:** It is always being a common phenomenon of seeing people act differently in consumption of a same amount of money. In the practice of mental accounting, people place different sources of income in different account and spend with different attitude and belief. Studies are developing more explanations of the theory, but still there is a lack of awareness of how mental accounting would impact a person's life. This article provides a holistic review of mental accounting by presenting two practical applications through comparative analysis method which result in discussions and analyze about the theory, existed problems and workable solutions that can be applied. In the application part, the focus is on the difference between two sources of income in concern with mental accounting and their traces of laws to follow and the different performance and changes are made in sales of rose under different environment and scenarios. There are clear findings of how people treat their money in separate ways based on how they get it under different situations, such as wasteful spending of lottery payoff and carefully spending of salary. Thus, raising awareness of this effect could bring educational benefits that prevent irrational behavioral and unpleasant results.

**Keywords:** annual income, lottery payoff, Valentine's Day, rose, consumption pattern

## **1. Introduction**

In the assumption of traditional economic model, consumers are considered as making decisions with perfect information and are rational actors. However, in the psychological reality, these assumptions are impossible at the time of the event, instead, heuristics are more effective and common in our daily lives and decision-making process. Although people are mostly rational and thinking while making predictions on what they will act, the effect of how emotions and psychological effects influence every choice they make is always be not aware [1]. In the society, there are clear system of mental accounting in organizations and individuals that break the basic economic laws by doing irrational behavior [2]. Since the discovery of mental accounting by Richard Thaler in 1980, it has become a hot topic to be studied and discussed. As a common phenomenon or even problem from behavioral economics and psychology we are facing, it is vital for us to recognize and understand the existence and importance of it in our life. Majority of researches of mental accounting are keen at introducing

models to develop the theory deeper. In this research, there will be some practical applications of the concept in different field of study, which will help to raising the awareness of mental accounting and reduce the probability of irrational behavior in future with some recommendation and solutions for the existed problems. The following section will introduce the methodology of this article about how the study will progress, and two modified applications on mental accounting will therefore be talked about. For each application, detailed description and comparison will be involved, with problems and recommendations resulted at last.

## **2. Methodology**

### **2.1. Ideology**

This is the research using sources of information to develop analysis of the bias and is aiming to contribute to the theory of mental accounting. As the purpose of the research is to develop the concept, some detailed discussion about the theory will be involved related to the evidence. Within the research, objective things will be compared in order to understand the nature and rules of the thing, with finding of problems and evaluations eventually.

### **2.2. Approach**

This research used comparative analysis method. There are two evidences from two different areas, each one will have two comparable descriptions with quantitative indicators for comparison and analysis. The characters of research are exploratory, descriptive, and explanatory. Explanatory is about to find new insights, descriptive is presenting a precise profile of the event and explanatory focus on explanation of the relationship between the variables [3] This research is descriptive and explanatory because it is the analysis from accurate profile of the evidences with quantitative information comparison.

### **2.3. Data**

The two major category of collection of data source are primary and secondary. Primary data is also refereed to 'first-hand' data that is originally obtained through researches and other methods rather than found through other media [4]. In the contrast, data that is reused for other purposes are secondary data [5]. Secondary data source collection was used in this research as the data is collected and reused from channels of information.

## **3. Consumption in Different 'Mental Account'**

### **3.1. Background Information**

The purpose of these evidences and data below is to support and provoke contrast and reflection. In this evidence, we are focusing on the comparison between the two different income sources and their comparable spending pattern. First source is average annual income of affluent American household that share many similarities to these non-affluent in terms of worries about money, shop around and wait for sales<sup>1</sup>. There is also raising awareness that most average affluent do not see them as affluent, despite the fact that affluent spends a greater proportion of their money on health and education, many of them spend their income economically and their concern on financial situations leading to similar decision-making with the majority. For instance, there are half of participants with an annual income of \$100,000 said that they worry about their financial situations in a survey of US internet users worry

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<sup>1</sup> Note: ages 18+. Source: Simmons Research, "Summer 2017 National Consumer Study", Jan 2, 2018

about financial situation by income<sup>2</sup>. Thus, this data is capable to be used for reference to average consumer's annual income spending pattern, a slight error will not affect the overall analysis.

The second income source is lottery payoff, because it is a small probability with limited data source, a survey to 1000 investors about what they would do if they won a multi-million-dollar lottery conducted by TD Ameritrade is used for the reference and analysis.

### 3.2. Spending Pattern

According to the survey specific for the share of consumer spending, as the figure one shown below, there's founding of that transportation, housing and insurance took most of the spending in total of 53%. In addition, spending of electronic products for home entertainment, purchase of electronic gadgets and the spending on leisure activities are the second group of the largest expenditure by 15%. Other spending like luxury goods only took a small percentage of the total annual share of spending, despite the spending of (luxury)travel take a great percentage in transportation and in total take 9% of the spending. It seems like, the affluent are hesitant in consumption of luxury goods too often while using their annual income. In the degree of financial security, many affluent have higher spending on education with an increase in annual income. As the data proved, households that in \$200,000+ annual income group have an educational expense that double of the \$150,000+ group and triple the \$100,000 group.<sup>3</sup> If we spite these components of annual share of spending into two groups of 'Have to spend' and 'Want to spend', we can see that spending on have to spend is more than spending on want to spend in percentage. As a result of that, we have Have to spend<sup>4</sup> sum to 55% and want to spend<sup>5</sup> sum to 42%.

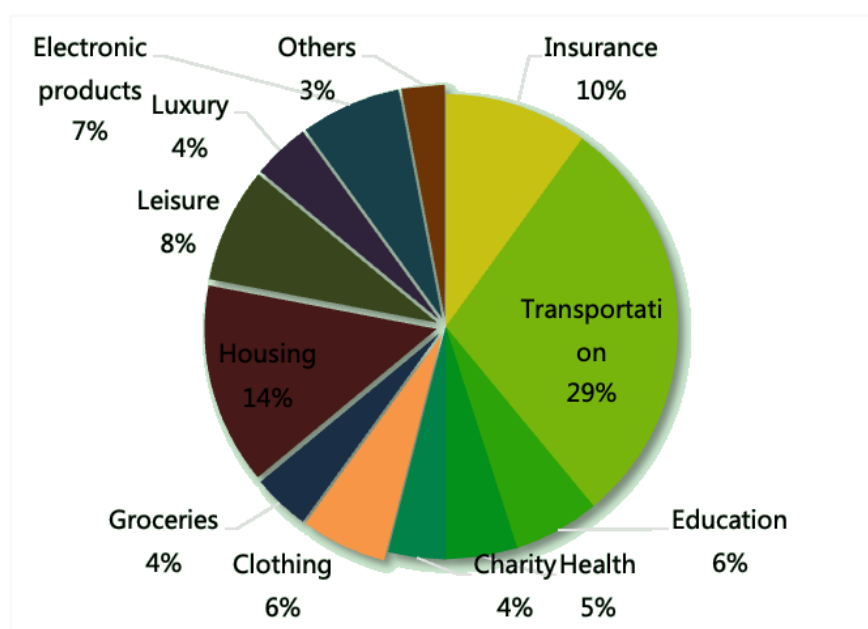


Figure 1: US affluent household spending share by products category, June 2017(Internet Users).

In the next survey of lottery winners spending, there is a list of questions that have two options for investors to choose, reflecting their spending pattern and attitude toward lottery payoffs. As the figure

<sup>2</sup> Source: The Harris Poll, June 15, 2017.

<sup>3</sup> Source: Affluent Consumers in 2018: Demographics and Spending Habits, April 4, 2018

<sup>4</sup> Note: transportation(without travel)+education+health+clothing+groceries+housing

<sup>5</sup> Note: other spending with exception to 'others' spending from figure 1

2 shown in below, 41% of investors choose to use the payoff for their own enjoyment rather than donations.<sup>6</sup> Their spending is contributing to what they want apart from any necessary expenses. Due to individual differences resulted from different personal experience and situation, it is difficult to collect accurate data of what these investors will spend by using the payoff. Furthermore, 48% of the investors choose to quit their job instead of remain in the current working situation. This means, they will spend the payoffs on all sorts of spending they normally have and at the same time in the survey, 80% of investors choose to consult advisors for helps that lead to fewer changes towards the current spending share.

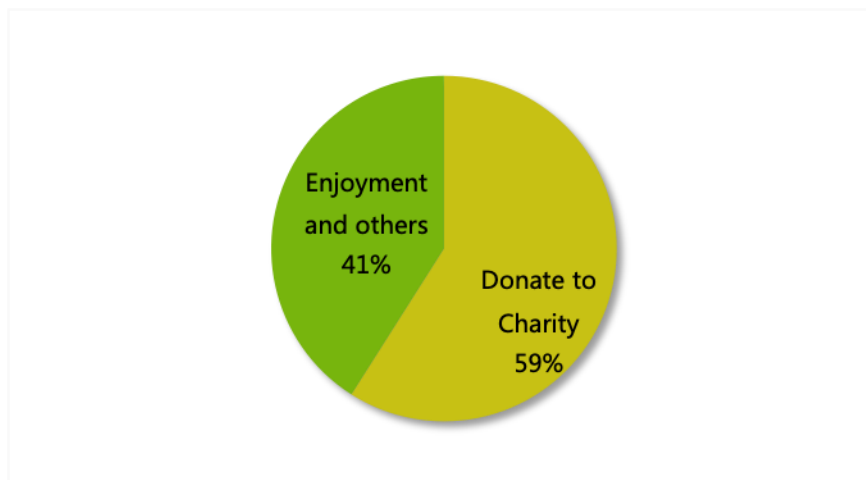


Figure2: 1000 investors decision on lottery payoff spending.

### 3.3. Comparison

In terms of the comparison of these two income sources' spending patterns. Majority of people place their annual income from work in the mental account of carefully spending. As the figure 1 shown above, spending proportion on what they have to spend-55% take a greater proportion than what they want to spend-42% on such as luxury products<sup>7</sup>. Consider these are affluent consumers spending, in the average of total, the proportion of have to spend would be much higher. It is different compare to the spending pattern using lottery payoffs. In the case of people who won lottery payoff, this will lead to a dominating higher proportion of spending on what they want to spend. As, these people will place these monies in the mental account of freedom to spend, they will spend with a more relaxed attitude. Since, the money come without their real efforts that lead to not much feeling of treasure to be carefully and worry about. In the spending category of annual income, various categories are balanced with minor difference, such as the data from figure 1, spending on health, education and luxury that are remarkably similar. However, in the situation of receiving lottery payoffs. A huge different between some of the category will be resulted. In many cases of lottery winners, most of the people who never donate any money in before decided to donate a great amount of money to charity, and this is a quite common phenomenon caused by mental accounting.<sup>8</sup> According to figure 2, 59% of investors choose to donate money instead of enjoy all by themselves.

<sup>6</sup> Note: 18+ with household income of \$125k+; the data is reorganized into this figure one. Source: Ipsos Affluent Intelligence group, "Fall 2017 Ipsos Affluent Survey USA", Oct 24, 2017

<sup>7</sup> Source: We asked 1,000 investors what they'd do if they won the lottery, August 1, 2018

<sup>8</sup> Source: Here's What 15 Lottery Winners Actually Did With Their Millions, Oct 29, 2018

### 3.4. Problems and Recommendations

As we develop the evidence further, some problems also came out. Firstly, what cause us to place different source of incomes into different mental accounts and spend in separate ways. Secondly, a lot of people who won lottery ended up with bankrupt due to mental account effect, what are the solutions we must recognize and used to avoid this kind of outcome. To the first problem, one explanation is that we involuntarily take sunk cost of the event into the account of it's value for us, this makes our monthly salary and annual income weight more than other sources of income that may come easily or come as a prize or gift. Apart from that, consumers take the period and time to obtain the income source into the decision-making process of consumption, monthly cash salary they get is more likely to be consumed for short-term needs and wants [10]. In addition, income is more like a reward of our effort in the past, we will put more feelings and considerations upon it, the opportunity cost existed within it make us value it more. In the contrast, lottery in this evidence is a gamble of little chance of sudden rich with low cost. The people who earned it would not value it as much as the same amount of money they get from real hard work. Therefore, wasteful spending may sometimes be caused. For the second problem, lottery winning is a result of small chance, it will be spent up in some days, a lot of people choose to quit their jobs since they thought the money is enough for rest of their lives. This make them loss the ability to be rational actor in future decision-making. To avoid this, one recommendation is to plan out a reasonable cost plan and withdrawing the payoffs regularly. In addition, reinvest the money and save it to prevent wasteful use.

## 4. The Consumption of Flowers

### 4.1. Background Information

Why do people buy flowers both on non-calendar events and Valentine's Day? Buying flowers can increase the quality of life and bring happiness. And some people argue that flowers are luxurious, as they have a short shelf life.

For different purposes, people's willingness to buy flowers tend to vary, and this comes to the theory of mental accounting. Fixed expenditure and discretionary expenditure are automatically separated into two mental budgets within people's minds. Buying roses is categorized as a discretionary expenditure, and it has a lower price sensitivity compared to other expenses; people are more willing to afford a higher price of roses sold on Valentine. The contrast between the actual value and the value of roses that people set is marked. By giving different conditions, psychologically, people behave very differently. Therefore, selling the idea of "present" to consumers boosts the business's revenue during Valentine, as businesses capture the feature of mental accounting.

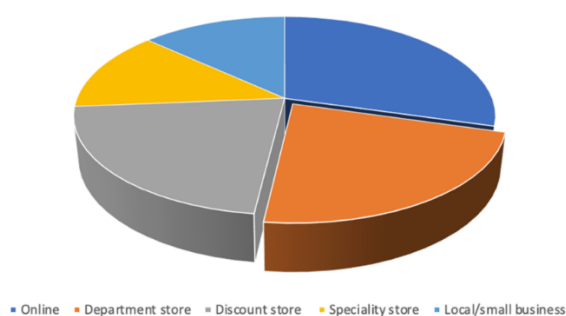


Figure 3: The top 5 ways of consumption during Valentine's Day<sup>9</sup>.

<sup>9</sup> Note: data collected form the National Retail Federation

During the Valentine's Day, sales have increased continuously<sup>10</sup>. In Figure 1, the table illustrates the proportion of spending in different locations. Online and offline stores both provide roses during Valentines. E-commerce was the largest in 2021, accounting for 38%.

Moreover, it is worth mentioning that the statistic of the overall rose sales increased by twenty times at the largest scale. Specifically, the sales of the flower industry in China during the Valentine increased at least fivefold.

By buying flowers, such as roses, it meets every day wants of people. There are two main reasons behind this. Firstly, buying roses increases the total utility from goods and services people consume. Secondly, Valentine's Day should begin with a sense of ritual, and a lot of people would send roses to the beloved ones. Also, sending roses has persisted as a tradition, as it symbolized love. The sales volume of roses not only counted through offline store; e-commerce is another convenient way of consuming goods. Businesses in the flower industry in the America prepare at least 1 billion flowers before Valentine's Day, and 250 million roses on average<sup>11</sup>.

## 4.2. Comparison

The sales of roses differentiate during normal days and Valentine's Day. The first index of two samples is the price of a single rose. To begin, a dozen of roses usually costs \$12. In comparison, the price of a dozen of roses rises more than fourfold annually during Valentine. For index 2, from the results, the sales and prices of rose increased dramatically during Valentine's Day, as more consumers are willing to pay for it. Approximately 225 million were sold in 2019, and its corresponding expenditure was 1.9 billion<sup>12</sup>. Normally, the expenditure of roses reaches around 50% of 1.9 billion. The theory of mental accounting suggests that people tend to categorize money into different budgets, based on its purpose and origin. Different budgets have distinct levels of sensitivity. In practice, some people would divide their money according to their purposes, such as buying necessities, and entertaining, and others; people would place money neatly in envelopes. Buying roses is categorized in gift giving, and it has a lower sensitivity to price compared to some budgets. And this comes to the result of people spent a higher proportion of their budget on Valentine.

## 4.3. Problems and Recommendations

In economics, it suggests people are being ration when making decisions. However, being completely rational in decision makings is arduous, as there are inner and external factors that influence people. Human behavior continuously evolves throughout time, and emotion is an important aspect of behavioral economics. People alter their decision makings when they are influenced by multiple factors at the same time. For example, when people are being in a passive state, they leaned toward the next best option. In other words, people will choose the alternative option with higher risk, and normally, they would hesitate in doing so. And some people make "piecemeal decisions", as they do not comprehensively analyze their choice [7]. In addition, people should notice that even though money is categorized into different mental budgets based on its origin and purpose, the monetary of money should not be overlooked. The same proportions of money should be valued equally in people's minds.

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<sup>10</sup> <https://nrf.com/media-center/press-releases/valentines-day-spending-total-218-billion>

<sup>11</sup> <https://edition.cnn.com/2019/02/13/business/roses-flowers-valentines-day/index.html>

<sup>12</sup> <https://www.statista.com/statistics/619288/flower-expenditure-for-valentine-s-day-in-the-us/>



## 5. Limitations and Future Outlooks

The theory of mental accounting has several drawbacks. Attitudes and actual behaviors can be slightly different, depending on the circumstance. In mental accounting, money is being categorized based on the purpose or the origin of money. There are internal and external factors that may affect people when making decisions, in which they may overlook the attitude they had toward the budget. For example, people tend to spend the money from winning the lottery on entertainment. However, if any of the relatives suggest you to save the money for future uses, decision makers will hesitate. The theory of mental accounting can be applied on the majority of people, but results that did not meet the principles of mental accounting should be considered and analyzed. People who demonstrate more self-control tend to be more rational when managing money [8]. From the general awareness, people tend to distribute money freely if it is effortlessly. However, results did not meet the expectation of the distribution of money and even the money spent on entertainment did not reach 50%. Mental accounting suggests, people make assumptions of the range of mental budgets, but it is a prediction based upon 4 main factors— “foresight, self-control, habits, and expectation of life” [9]. The assumption of the limit of budget affect people’s spending pattern, as consumer has the tendency of consuming things within the range of the budget. Nevertheless, assumptions of the mental budget should be used as a reference [6].

## 6. Conclusion

In mental accounting, it revalues money through two aspects—— purpose and origin. Given the same amount of money, people tend to behave irrationally when the price varies, thus affecting decision-making. In other words, the larger the amount of money, the less sensitive consumer is. Furthermore, two equal proportions of money have the same value, but when one is more expensive, people overlook its real value; people are more willing to spend the money compared to a smaller amount of money. The behavior is clearly irrational, as the monetary value remained the same. However, people respond differently given different conditions, such as people with different background information, age and other factors tend to influence decisions makings. All expenditure is painful, but with the theory of mental accounting, it indicates people change their attitudes when the origin or purpose of budgets vary [1]. In addition, the theories of mental accounting state there are different levels of importance and limits in each account. People have different sensitivities to different amounts of money. Referring back to study 1 and study 2, the bias that mental accounting brought to consumers is significant and should be carefully analyzed, as people unconsciously make decisions. Increase awareness of how people value money helps them become more rational.

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