

Providing a behavioral model of mental accounting decision-making based on psychological components through data theory and meta-composition

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Abstract

Mental accounting is a description of the ways in which they do these things. Based on the concept of mental accounting, people in their financial decisions to evaluate each decision, open a separate account in mind and try to examine the consequences of each decision (positive or negative) alone. This research seeks modeling through grounded theory method. Because we are looking to provide a model. This research is based on the systematic method of grounded theory. In this method, after identifying the research problem and reviewing the previous literature, sampling is done. Data were collected through interviews with 15 experts in the field of research. The method of selecting experts was through the method of snowball. Studies show that people's decisions are not always logically consistent with the decision models introduced in the financial texts. Investors should consider their vision as an account for a specific purpose and have a long-term vision. Because short-term goals usually outweigh long-term goals and lead to the use of mental accounts. Having an empty mind means doing something empty-handed and having mental accounting means having enough information about a subject or a subject. Therefore, planning is not possible without mental accounting.

Keywords: Behavioral pattern of decision making, mental accounting, psychological components
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1 Introduction

Thaler [28] defined mental accounting as follows: "Understanding the wins, losses, and bets that are affected by a particular mental editing". Thaler [29] considers mental accounting as a set of conscious operations used by individuals and households to organize, evaluate, and track financial activities. Mental accounting is inherently a practical and useful method that consumers use strategically to simplify cognitive calculations [26] and automate cost adjustment.

The phenomenon of subjective accounting refers to the subjective process of evaluating transactions and financial transactions. Mental accounting means that people tend to make decisions about different financial issues in separate mental accounts without considering the logical assumption that it is better to make all these decisions in one portfolio,

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which is practically an interaction between Ignores Different Decisions [7]. According to Heath and Soll [13], mental accounting is a metaphor for spending decisions because of its usefulness in subjecting the empirical perspective.

Evaluating the pay of decision makers their decisions are only part of the larger mental duty representative where they are involved. This study analyzes how decision-makers build these larger mental representations when managers set budget goals. For example, regardless of whether they are trying to maximize fixed monetary payments, regular monetary payments, or a combination of monetary and non-monetary payments, how do they mentally do the budgeting task? What are the variables and the limit of their way of thinking? Do they fully consider other related decisions? For example, are the principles of incentive contract design fully thought out through decisions that are likely to be made by agents? Are they trying to make an impact? The literature on mental structures of accounting-related decisions is examined in this study. Therefore, to achieve this goal, important and relevant behavioral patterns will be used in accounting mental decision making.

2 Theoretical Foundations and Research Background

2.1 Mental Accounting

Mental accounting is a concept first named by Richard Thaler, Professor of Behavioral Economics at the University of Chicago in 1985. The announcement of Richard Thaler as the winner of the Nobel Prize in Economics in 1985 was a thrilling one. Many believed that Thaler was one of the main Nobel laureates in the concept of trying to explain the mechanism by which people codify, group, and evaluate economic income. The context of behavioral economics is known. One of Richard Thaler's scientific achievements was the understanding and connection between economics and psychology. He stated that mental accounting seeks to describe the process by which individuals codify, classify, and evaluate economic consequences. Humans tend to keep certain events in their minds in the form of images, and these mental images will sometimes have more effects on our behavior than the events themselves. If we define accounting as a system for recording, classifying and summarizing financial and business events, then mental accounting is defined as how individuals and households implement such a system. Households do this for reasons similar to the motivations that organizations have for using management accounting: that is, their goal is to control spending to keep track of what their money is being spent. Mental accounting is a description of the ways in which they do these things. According to the concept of mental accounting, people in their financial decisions to evaluate each decision, open a separate account in mind and try to examine the consequences of each decision (positive or negative) alone. Thaler studies show that people not only examine them separately in evaluating decisions, but also changing the type of decision and the time spent and benefiting affect the outcome of the decision [19]. Concepts of mental accounting according to Thaler, mental accounting has three main elements: the first element: how to receive the results and test them, how to make decisions based on the tested results and finally the decisions made. The second element: requires the allocation of activities to certain accounts. Third: deals with the evaluation of accounts.

2.2 Psychological Theories

Professional behavior represents a set of ethical rules and virtues, and these ethical rules are essential for the existence and continuity of the profession. Therefore, due to the importance of ethics and professional behavior, and to enable professionals to do their job completely honestly, flawlessly and correctly, the organizers of the accounting profession laid down the rules, regulations and principles of professional behavior. These laws usually include honesty, truthfulness, loyalty, respect, sense of responsibility and concern for the interests of others, caution, justice and adherence to laws and regulations [25]. Although the principles of ethics are often emphasized in accounting standards and professional conduct as professional principles and ethics, less attention is paid to the ethical consequences and goals that an accountant believes in the profession and career path. has taken. Studies such as Arnold et al. [2]; Shafer et al. [27]; Chow et al. [6]; Barlaup et al. [4]; Jackling et al. [14]; Barati et al. [3]; Royae et al. [24]; Davoodi and Hooshmandi [9] and Daryaei and Azizi [8] have dealt with similar issues in the fields of moral philosophy, ethics, moral validity, and so on. According to above, the subject of the ethical goals of the accountant is a pervasive subject and can encompass a wide range of concepts related to the individual philosophies and professions of accountants. Therefore, in this section, a corner of the models related to the subject of ethical goals is presented and based on that, the model of ethical goals is analyzed from the concepts and content of similar researches.

2.3 Modeling the Consequences of Aligning Behavior with Psychological Tendencies

This study was conducted by Ugrin et al. [30] with the aim of identifying fraud in financial statements due to the alignment of accountant behavior with psychological tendencies. In this section, the dimensions of the behavioral

alignment model and psychological tendencies are examined. Using meta-analysis, Agrin et al. First reviewed more than 66 similar articles and tried different methods to identify the criteria that are most effective. This researcher presented the following model 1 in this regard:

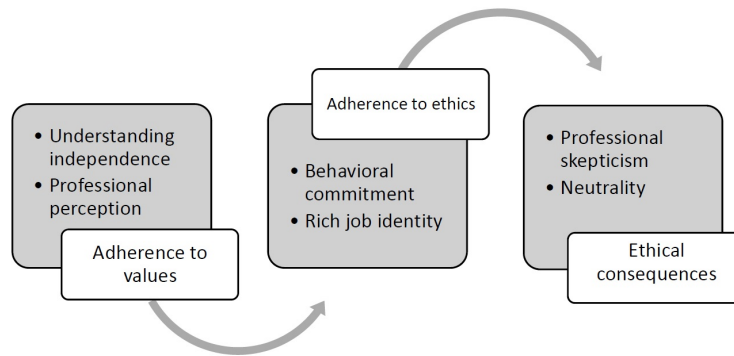


Figure 1: Alignment of behavior with psychological tendencies

This model is based on two factors of value orientation and ethics, which makes the accountant in the course of his career, experience a better philosophy of his job content such as independence, professional perception in line with his commitment and job identity, and finally in line with accounting standards. Approach skepticism and neutrality as specialized ethical criteria.

2.4 External Research Background

Grinblatt and Han [12] in a study entitled Inventory Control Systems Model for Strategic Capacities studied theories of inventory control with a subjective approach. The results indicate that the use of derivative, integrated and relative behavioral controls in capacity control models not only modulates the levels of accumulation of goods in the warehouse but also reduces the time and period of sales and improves the level of revenue. They also stated that the adjustment of mental aspects in behavioral models can be easily used by managers.

Delsil and et al. [10] in a study entitled "Outlook theory, subjective accounting, and option pricing" stated that outlook theory argues that the human decision-making process tends to combine reference points and incorrectly weigh low-probability events. The results of their study showed that market traders prevent prices from rising and create a weighting function of probabilities that is similar to the function provided by perspective theory. When firms have relatively high or low volatility fluctuations, biases lead to inefficient prices for option trading.

Chen et al. [5] in a study examined the effect of multiple tax returns on the behavioral compliance of tax laws. They examined the behavior of taxpayers using theory of mind and mental accounting. The scope of the investigation included elements of multiple taxpayer returns (multiple tax returns versus a single net return). The research findings indicate that taxpayers pay more arrears by paying off arrears (loss framework) than taxpayers by deferring repayment (profit framework). In other words, the audacious behavior of taxpayers increases when the repayment represents a multiple return against the net single return. Also, the audacious behavior of taxpayers in the debt payment situation is reduced, which indicates multiple declarations against the net single declaration.

Locke and Mann [17] in a study entitled Separation Accounting Based on the Signage and Size of Financial Statement Items, concluded that managers' preferences for segregation reflect subjective accounting. In addition, the effects of subjective accounting are adjusted only when managers feel a great deal of pressure for reporting transparency. In addition, and most importantly, managers' preferential presentations lead to the highest valuation by investors.

Kivetz [15] examined investors' willingness to hold loss-making stocks in terms of expectations theory and subjective accounting. Based on these two theories, the two researchers stated that there is a difference between the underlying value and the equilibrium price of stocks, and also that the stock price reacts less to information than it actually does. The difference is covered by random evaluation of core values and updating of reference prices. In this research, an equilibrium model of asset prices is based on two theories of expectations and subjective accounting has been exploited.

2.5 Internal Research Background

Koohkan et al. [16] in a study examined the effect of investors' mental accounting on financing policies and economic growth from a financial reporting perspective. The results showed that the surveyed investment companies in 69.34%

of the cases showed the behavioral bias of mental accounting. Also, the mental accounting of investors had an adverse effect on financial leverage, homogeneous cash stock earnings and a direct effect on debt ratio. And long-term debt to equity. Findings can contain valuable concepts for managers in achieving the optimal level of financing and play an important role in economic growth.

Ahmadi and Matoufi [1] in a study to study the rationality of behavioral economics in mental accounting by studying laboratory economics. The results showed that more people choose to buy cash and receive rewards (gifts) and also the results indicate that there is a significant relationship between the rationality of economic behavior and mental accounting. This study states that only by assuming rationality and without considering other factors, especially the behavioral limitations of decision makers, a realistic analysis of individuals' financial behaviors cannot be provided.

Mohammadi Nafchi [18] in a study examined mental accounting. Findings indicate that mental accounting examines the financial decision-making conditions of individuals in the face of different financial events and makes decisions based on those conditions. Mental accounting has been introduced in the field of financial-behavioral and today it has attracted more and more attention of researchers. Although the theory of mental accounting was developed to explain customer and household decisions, its ideas are applicable to the producers and users of financial statements and disclosures.

Najaffi et al. [20] in a study investigated the relationship between innovative methods and the impact of psychological factors and the level of risk tolerance with mental accounting in Iran. The results show that there is a positive and significant relationship between innovative accounting methods and the level of risk tolerance with psychological factors and mental accounting in Iran. Mental accounting seems to involve initiative and high risk.

Parsai and Mollanazari [22] in a study examined the role of subjective accounting in capital budgeting decisions. The results show that managers are less inclined to discard assets financed through borrowing than similar assets financed through capital. The reason for this less inclination, in part, goes back to people's perceptions of the benefits derived from assets. This research suggests that a psychological factor may prevent managers from investing in projects that should be accepted according to capital budgeting techniques; therefore, it can provide valuable additional information to capital budgeting research.

Dianti Deilami et al. [11] in a study examined value-based online shopping: the perspective of mental accounting theory (Case study: Digi Kala). The findings of this study show that perceived price and risk have a negative effect on value parameters and the intention of online buyers to buy. But the convenience of shopping has a positive effect on perceived value and also on the intention of online shoppers to buy. Perceived value also has a positive effect only on the intention of online shoppers to buy. Shopping pleasure has no effect on the perceived value of online shoppers but has a positive relationship with the intention to buy. On the other hand, the convenience of online shoppers through the perceived value mediator variable has a positive effect on the purchase intention. But perceived price and perceived risk of purchase have a negative effect on the intention to buy through the mediated variable of perceived value. But the effect of buying pleasure through the mediated variable of perceived value on buying intention is not statistically significant.

Oli et al. [21] in a study examined the mathematical extraction of capital asset pricing model in the framework of subjective accounting. In this model, the return expected by the investor for each purpose presented in the form of subjective accounts is a function of risk-free asset return, beta and subjective account risk, and this subjective account risk is equivalent to the difference between the return of each account and the return on assets. It is risk free. The expected rate of return on assets in the model is affected by MA-CAPM.

3 Research Method

This research seeks modeling through grounded theory method. Because we are looking to provide a model. This research is based on the systematic method of grounded theory. In this method, after identifying the research problem and reviewing the previous literature, sampling is done. After reviewing various qualitative sampling methods in similar studies, theoretical sampling method was selected for the current study. In this method, sampling is non-random and the selection of samples is in the direction of the research goal. During the formation of the theory, the data analyst decides on the choice of the next sample until the theory is presented in its final form.

In grounded theory method, the number of samples is not known in advance and the sampling process continues during data analysis until the theory reaches the theoretical saturation stage. Data collection and analysis are two interrelated processes according to Due to the nature of the subject and based on the strategy of the basic theory method as well as the study population, various methods and tools of qualitative research including interviews,

observation and collection of documents have been used and preliminary data have been provided. We use theoretical sampling research method to collect information, that is, we use all tools and equipment to collect information. Based on the theoretical sampling method, two methods of interview and meta-combination have been used in this research. The first method of data collection was in-depth and open interviews with experts. Experts were interviewed. Their relevant work experience was very important for the interview and the number of interviews ended after reaching the data saturation stage.

Data were collected through interviews with 15 experts in the field of research. The method of selecting experts was through the method of snowball. The interviews were conducted individually and their average time was 45 minutes. Theoretical sampling continued until the categories reached theoretical saturation; the meaning of theoretical saturation is the stage in which new data related to the category does not appear and the relationships between the categories are established and confirmed. The interview questions are open-ended and based on the dimensions of the underlying theory, items such as the main categories (dimensions) have causal conditions (causal conditions are categories related to the conditions that affect the central category. Causal conditions are events that create situations, issues, and issues related to the phenomenon, and to some extent explain why and how individuals and groups respond to the phenomenon. In fact, causal conditions refer to events and happenings that affect this phenomenon and lead to its occurrence. Intermediate conditions (the central category is a mental form of the phenomenon that is the basis of the process; a mental form of the phenomenon that is the basis of the research process), contextual conditions (contextual conditions are the conditions under which strategies and actions manage the phenomenon). Intervention conditions (intervention conditions are broad and general conditions such as culture, space, etc. that act as facilitators or limiters of strategies. These conditions facilitate and accelerate the implementation of strategies and, as an obstacle, delay them. And explored the consequences (the consequences include tangible and intangible outcomes that are created by the design of the place brand model based on the sense of belonging to the brand in society and are the outcomes of employing strategies) to clarify the phenomenon from the interviewees. Interviews were recorded and then transcribed. Data were analyzed through a coding process based on a systematic design of the foundation data theory. During coding, transcripts of interviews were conducted using live codes to mark known duplicate promises. Concepts included words and phrases that reflected the interviewees' experiences and ideas about the research topic. Coding and reviewing the concepts was repeated until saturation, when no new topics could be found in the raw data. In selective coding, research theory is narrated about the research subject approach. Selective coding expresses the research process and the course of the research story. During the analysis, the transcripts of the interviews were reviewed several times to find a new model or to modify the previous model. Also, according to the criteria provided by Creswell, the following measures were taken to ensure the validity of the research. Their suggestions were applied in open and centralized coding.

4 Research Findings

4.1 Meta-steps

Meta-composition requires the researcher to conduct a thorough and in-depth review of the document under study and to combine previous research. M. Pelster and A. Hofmann [23] have presented a seven-step model for this purpose:

The first step is to set up research questions

The first step is to set up research questions. The first question to start transcending is what. Table 1 questions the grouping and analysis of the dimensions of mental accounting from a psychological perspective in the data theory of the foundation.

Step 2: Systematic review of texts:

In this stage, the researcher systematically searches for articles published in various and reputable domestic and foreign scientific journals, as well as public sources and websites of reputable foreign and domestic organizations with the aim of determining valid, credible and relevant documents in a timely manner. First, the relevant keywords were examined individually or in combination in Persian and English according to Table 2 between 1390 and 1399, and for Latin articles from 1980 to 2021, and finally 52 articles were found.

Step 3: Search and review related articles

In the search process, the researcher considers various parameters such as title, abstract, content, details of the article (author name, year), etc., and removes articles that are not appropriate to the research question and purpose.

Table 1: Research questions from the perspective of the meta-combined approach

Parameter	The central category of data foundation theory	Research question
what	Casual conditions	What are the psychological factors that lead to mental accounting in a person?
	Underlying conditions	What are the major factors causing this phenomenon?
	The main phenomenon	What are the characteristics that make up mental accounting?
	Interfering conditions	What are the characteristics that exacerbate or limit the phenomenon in question?
	Strategies	What strategies control the phenomenon?
who	consequences	What are the consequences of controlling the phenomenon in question?
	—	What are the dimensions of each of the central categories included?

Table 2: Words searched in articles

Keywords
Preliminary search term
MENTAL ACCOUNTING
cognitive Biases
Sequential & combination search term
Behavioral finance biases
Mental biases
Behavioral Biases
Behavioral pattern
demographic characteristics
Prospect Theory
Cultural components
Bounded Rationality
Representativeness heuristic
Rule of thumb

Table 3: Steps of refining the resources used based on the critical evaluation method

levels	Searched resources	Number
first stage, second stage	Number of resources found	52
	Number of sources rejected due to title	(3)
third level	Sources screened by title	49
	Number of sources rejected in terms of abstract	(10)
levels first stage	Screened sources based on abstract	39
	Number of rejected sources in terms of content	(5)
second stage	Number of final resources	34

Table 3 summarizes the process. Also, the criteria for accepting and rejecting studies include language studies, study period, study conditions, study community, and type of study.

As can be seen, 34 articles were selected to identify the components of subjective accounting and cognitive bias. Based on the critical evaluation method, this research enters the fourth stage, i.e. extracting textual information. This method of evaluation is considered as a critical criterion, which analyzes the research in terms of ten characteristics (purpose of research, logic of research method, research design, sampling, data collection, and reflectivity, ethical considerations, accuracy of analysis and Analyzes, theoretical and clear expression of findings, research value). In this method, the researcher evaluates the methodological quality of the studies performed and, based on a score, assigns points to each study in line with the subject by determining the above 10 criteria. In other words, at this stage, the researcher gives a small score to each of the questions and then creates a form [31]. In other words, in this method, through the 10 criteria mentioned above and with the help of 5 panel members in the qualitative section,

the components related to the improvement of research variables are determined. This method is a 50-point scale in which the researcher, based on the scoring system, removes any article that is lower than 30 points.

Step 4: Presentation and Content Analysis:

In this step of the meta-combination, the findings from the previous steps are presented. From Shannon entropy method, the level of support of previous researches from the findings of this research is shown statistically. In Shannon entropy method, the frequency of each of the identified categories should be determined based on content analysis. The frequency matrix should be the norm. For this purpose, the linear normalization method is used:

$$n_{ij} = \frac{x_{ij}}{\sum_1^m x_{ij}}$$

The information load of each category must be calculated. The following equation is used for this purpose:

$$k = \frac{1}{Ln(a)}; a = \text{Number of options}$$

$$E_j = -k \sum [n_{ij} LN(n_{ij})]$$

The significance coefficient of each category must be calculated. Each category that has a higher information load is more important. For this purpose, the relation $W_j = E_j / (\sum E_j)$ is used.

Table 4: Determining the importance and emphasis of previous researches on the dimensions of data foundation theory

Dimensions	Indicators	Abundance	Normalization	$LN(n_{ij})$	Entropy calculation (E_j)	Significance factor (W_j)	Rank
Casual conditions	Conservatism	19	0.1508	-0.2853	0.2058	0.1123	1
	The law of tools	5	0.0397	-0.1280	0.0924	0.0504	9
	The illusion of repetition	6	0.0476	-0.1450	0.1046	0.0571	8
	Bump bias	10	0.0794	-0.2011	0.1451	0.0792	5
	Selection bias	8	0.0635	-0.1750	0.1263	0.0689	7
	Fit bias	12	0.0952	-0.2239	0.1615	0.0882	2
	Observer waiting bias	9	0.0714	-0.1885	0.1360	0.0742	6
	The illusion of credibility	10	0.0794	-0.2011	0.1451	0.0792	5
	Dunning-Krueger effect	6	0.0476	-0.1450	0.1046	0.0571	8
	The effect of false truth	10	0.0794	-0.2011	0.1451	0.0792	4
	Mental validation	15	0.1190	-0.2534	0.1828	0.0998	2
	Disintegration	5	0.0397	-0.1280	0.0924	0.0504	9
	Information gathering bias	8	0.0635	-0.1750	0.1263	0.0689	7
The effect of Galata	3	0.0238	-0.0890	0.0642	0.0350	10	
The main category	Coding	15	0.3659	-0.3679	0.2654	0.3356	1
	Classification	13	0.3171	-0.3642	0.2627	0.3322	2
	assessment	13	0.3171	-0.3642	0.2627	0.3322	2
Underlying conditions	Demographic variables	11	0.2683	-0.3530	0.2546	0.2552	1
	Limited rationality	9	0.2195	-0.3329	0.2401	0.2407	3
	Social affiliations	10	0.2439	-0.3441	0.2482	0.2488	2
	The effect of ambiguity	11	0.2683	-0.3530	0.2546	0.2552	1
Intermediate factors	Disposal effect	10	0.1639	-0.2964	0.2138	0.1893	3
	Risk aversion	17	0.2787	-0.3561	0.2568	0.2273	1
	Loss avoidance	16	0.2623	-0.3510	0.2532	0.2241	2
	Bias of the current situation	8	0.1311	-0.2664	0.1922	0.1701	4
	Pseudo-assurance effect	10	0.1639	-0.2964	0.2138	0.1893	3

As can be seen in Table 4, due to the low coefficient of significance of the Galata effect in the dimension of causal conditions (less than 5%), the index was excluded from the study due to its insignificance in previous studies.

Step 5: Reliability and validity of the model:

In this study, to evaluate the reliability, the results have been provided to one of the experts. To check the reliability of the extracted codes by kappa index. Table 5 represents the agreement table between the coding of one of the experts and the author regarding one of the texts.

Table 5: Calculation of kappa agreement coefficient for coding categories

Level of importance	Tb test statistics	The standard deviation	the amount of	
0.000	4.369	0.153	0.693	Kappa agreement coefficient Number

Due to the significance level of less than 5% and the value of kappa coefficient (0.693), the reliability of the extracted codes is accepted. It should be noted that researchers believe that if the kappa agreement coefficient is higher than 0.6, it has a good value. Also, a significance coefficient of less than 0.05 indicates the existence of a coding relationship between the two documents.

4.2 Gather Information through Interviews

In the second stage, according to the research method (data theory of the foundation) in order to complete the information about the components and indicators of the field under study, academic experts are interviewed. According to Table 6, the number of selected samples is equal to 15 people. 9 of them are faculty members of universities and 6 are graduate students.

Table 6: Characteristics of the selected sample of the present study

Description	Shahrekord Branch of Azad University	Azad University, South Tehran Branch	Islamic Azad University, Science and Research	Azad University, Masjed Soleiman Branch	Kish Azad University	Chamran University of Ahvaz	Addition row
PhD student	1	0	1	0	3	1	6
Faculty member	0	3	2	3	0	1	9
Column	1	3	3	3	3	2	15

By conducting this number of interviews, the researcher recognized that the information collected had reached saturation point and that no further interviews were required. In selecting this number of samples, issues such as time, availability of interviewees and their level of cooperation have been considered.

Data analysis in this study was done in the form of coding in three levels of open coding, axial coding and selective coding. In the first step (open coding), data was described and classified; In the axial coding stage, the categories and concepts identified in the open coding stage were linked together in a new analysis and synthesis, and finally, in the selective coding, an analytical model for subjective accounting was extracted from the heart of the data.

In foundation data theory, data analysis is done through coding. In the open coding stage, which includes two key activities of conceptualization and categorization, the questions were asked as described in Table 7.

Table 7: Questions raised in the interview

Axial category	question
The main category	What do you think are the steps in the mental accounting process?
All conditions	From a psychological point of view, what factors affect the phenomenon in question?
Interfering conditions	What factors exacerbate or weaken the phenomenon?
Background conditions	In general, what are the factors that expand or limit the approach of the phenomenon in question?
Strategies	What are the solutions to control the phenomenon?
consequences	What are the achievements if we control the desired phenomenon?

Level 1 coding: In this step, tag all the key points of the interviews.

An appropriate concept (open coding) was given. Then, they were placed in a table. An example of the most important open coding of interviews is given in Table 8.

Table 8: Questions raised in the interview

Axial category	Important Notes	Abstract concept
The main category	"Mental accounting based on vision theory is based on three key ideas: coding, classification, and evaluation."	Classification of the mental accounting process
	People have different values for the same currency	Money value difference
	Formatting is a tool for using mental accounting.	Formatting
	In this approach, people open their minds to evaluate each decision separately in their financial decisions and try to examine the consequences of each decision (positive or negative) alone.	Decision making individually
	"According to the logic of mental accounting, how people combine results is based on the following principles: On the other hand, people are not only inclined to codify transactions and events in the form of money, but also to codify whether they are considered a good or bad transaction, whether something is good or not depends on the source accepted by it. It also has decision makers."	Classification of hearty results Label Accumulate bad results
casual conditions	Usually the first information obtained on a particular subject becomes the basis for a person's mental calculation.	Centralism bias
	One thinks of one's control or influence over events more than it really is. It should be noted that many things are not under our control, but people generally do not realize this.	The illusion of control
	A tendency to focus on certain stimuli, cues, and criteria while ignoring other things at the same time. This bias not only affects our perception of the world and our surroundings, but also our mental evaluation.	Attention bias
	A person's mental perception of the correctness of his judgments or abilities is far greater than what he really is. Overconfidence can be considered the most important error or bias of mental accounting.	Overconfidence
	Beliefism causes a person to evaluate and accept arguments only to the extent that the results of each argument are consistent with his or her personal beliefs. These beliefs seem to be involved in the mental accounting of the individual.	Belief bias
	One does not have a long-term view when making decisions, and in fact sees only the tip of one's nose	Short-sightedness
	Humans are also influenced by the way information and evidence are presented. In fact, it is important to know what format or decorative information is provided.	Formatting
	Humans always insist on their belief. Even after being confronted with new evidence to the contrary.	The effect of rejection
	It is generally believed that the clearest and most obvious decision is the right one	Obvious decision bias
	Humans tend to seek and interpret information in a way that confirms their beliefs or hypotheses.	Certification bias
Interfering conditions	Ambiguity in decision making may exacerbate this phenomenon	Conditions of ambiguity
	Cognitive biases have intensified as decision-making has become more complex.	Decision complexity
	One of the factors influencing mental accounting is the use of finger rules.	Finger Rules
Background conditions	Demographic characteristics such as age, education, work experience can influence this bias.	Demographic profile
	Increasing and expanding the volume of information is a factor to influence this bias.	Volume of information
	Not having enough information to make a decision increases bias	Lack of sufficient information
Strategies	Constant questioning of our beliefs, choices, and judgments is the best tool for bringing the mind's narrative closer to the reality of the outside world.	Critical Thinking
	Awareness of more cognitive biases can lead many previously unconscious decisions, reactions, and judgments toward conscious guidance. In other words, the mind will be our captive, not us.	Understanding biases
	In the financial field, diversify the daily shopping cart. Before making any major economic decisions, including investing or buying and selling our assets, let's look at different strategies. Try to get a variety of information about market conditions and seek the opinion of experts around us.	Use experts
	Hand-held solution bias is a mental shortcut that relies on what is quickly recalled in evaluating concepts or decisions. This bias can be avoided by avoiding haste	Avoid rushing
Consequences	Cognitive biases and how they act in any situation are tools for better self-knowledge.	Self Knowledge
	Prejudice is an obstacle to free thinking. The more we know about it, the less we are caught up in cognitive biases. Liberation from the biases of the mind leads to open thinking and the strengthening of free thinking	Strengthen free thinking
	The more we know about the errors of the mind, the less we are caught up in its errors and the more logical the decision-making process. In addition, every decision and choice examines angles that the mind may not have seen before.	Optimize the decision process

Behavioral biases, such as subjective accounting, cause many shareholders to refrain from constantly reviewing market news and their capital status when the capital market is in a bad position (ostrich effect). This cognitive error causes a person to lose a lot of essential information because he prefers not to deal with that information. As a result, both the individual makes a fundamental mistake in his or her judgments and gradually loses the trust of others because he or she is either absent or unresponsive where necessary.	Avoid losing important information
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The table below 9 shows the results of the open coding of the interviews along with the frequency of each code. The number 1 indicates that the interviewee is referring to it and the number zero indicates that the interviewee is not referring to it.

Validity and reliability in the qualitative part of research

Narrative

The concept of narrative answers the question of the extent to which the measurement tool measures the desired characteristic. Without knowing the validity of the measurement, the accuracy of the resulting data cannot be guaranteed. Measuring tools are possible. Have validity for measuring one attribute while having no validity for measuring the same attribute in another society. In this study, determining the validity of measuring instruments using the expert judgment approach to face and content validity has been done based on the opinions of 5 academic experts (scoring range has been from at least 1 to a maximum of 5). Table 9 is presented.

Table 9: Formal validity and content of the interview protocol

	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5
Essay questions and items	4	5	4	4	5
Adaptation of items to the introductory model	5	4	4	4	4
Adaptation of items to research axes	4	3	5	3	4
Adequacy of questions or items to cover research objectives	4	5	5	4	4
Average scores	4.25	4.25	4.50	3.60	4.20
mean	4.15				
Parameter	0.82				

The face validity coefficient and the content of data collection tools in the interview section were equal to 82%. Hence the validity of the tool is supported.

4.3 Reliability of the interview

Reliability refers to the consistency of research findings. Interview reliability is discussed in stages such as interview location, copying, and analysis. This study has evaluated the reliability of collection tools in the qualitative section with a quantitative approach. The main idea of this evaluation is that if different people (who are close to each other in terms of information) encode the data collected by these tools, will they achieve the same results or not? A positive answer to this question indicates the reliability of the data collection tool. Therefore, to evaluate the reliability of the interview protocol, the "percentage of agreement between the two coders" method has been used. A research colleague with experience in coding qualitative data and innovation was first asked to participate in the research; From the results of the interview, the first four interviews were selected as the fifth, fifth, thirteenth and fifteenth and were coded separately by two coders (researcher and research colleague). In each interview, codes that two people think are similar are identified as "agreement" and dissimilar codes are identified as "disagreement." The researcher then coded four interviews with this research colleague and the percentage of agreement within the topic that is used as an indicator of the reliability of the analysis. It was calculated using the following formula:

$$\text{Subject matter within percentage agreement} = (2 * \text{number agreements}) / (\text{total number codes}) * 100$$

The results of this study are presented in Table 10

Based on this study, the value of reliability coefficient for data collection tools in the qualitative section (interview protocol) in this study is equal to 0.75. Which is considered by researchers as the desired percentage of reliability. Generally, a reliability coefficient above 60% is considered a desirable value to evaluate this technical feature of data collection tools.

Table 10: Assessing the reliability of the interview protocol

Selected interview	Reliability coefficient
The first interview selected	0.81
Fifth interview selected	0.72
Thirteenth interview selected	0.73
Fifteenth interview selected	0.75
Total	0.75

4.4 Axial and selective coding step

At this stage, according to the information obtained from the first stage of data collection (meta-combined approach) and the first part of the second stage of data collection (semi-structured interview open codes), to modify or delete and classify the open codes obtained in these two it was staged. Table 10 shows the results of the construction operation of the main classes of the theory after identifying the first and second level categories.

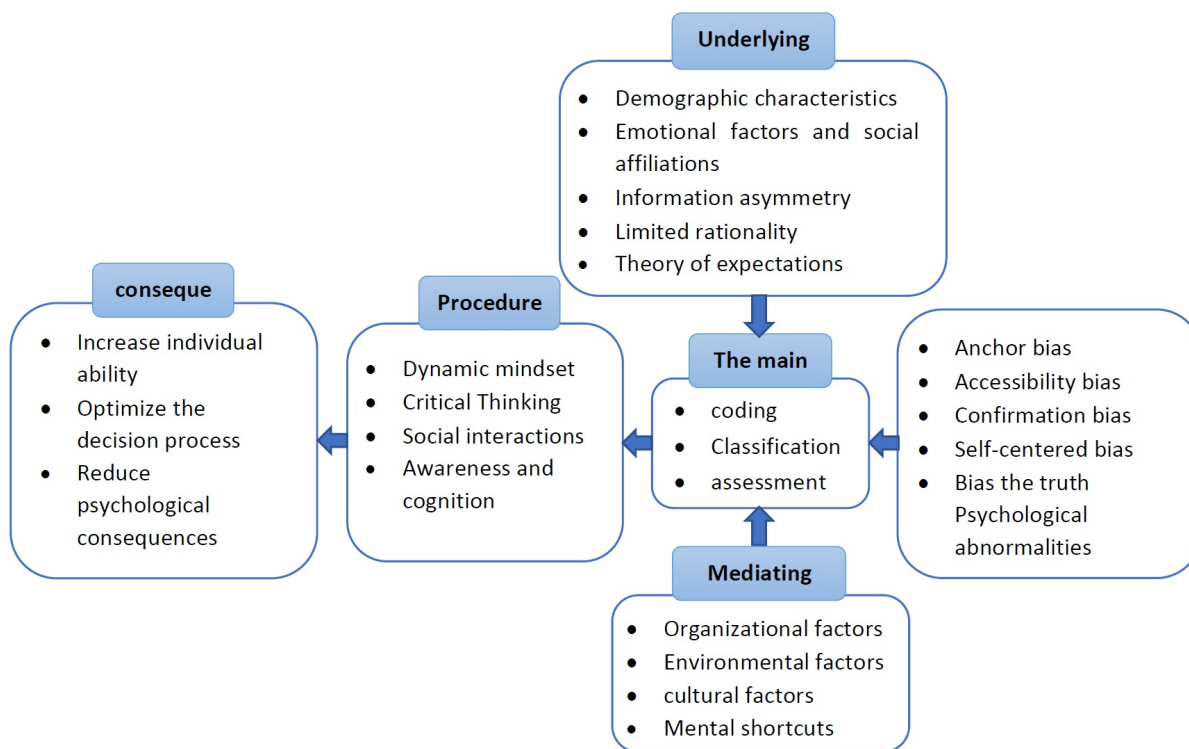


Table 11:

	Second level category	First level category
Casual conditions	Anchor bias	Centralism bias
		Conservative bias
		Tool law bias
	Accessibility bias	Attention bias
		The illusion of repetition or the Bader-Minhof phenomenon
		Akam bias or obvious decision
		Bump bias
		Selection bias
	Confirmation bias	The effect of rejection
		Certification bias
		Fit bias
		Observer waiting bias
	Self-centered bias	The illusion of control
		The illusion of credit validity
		Dunning-Krueger effect
		The effect of overconfidence
	Bias the truth	Belief bias
		The effect of false truth
		Formatting effect
		Mental validation
Psychological abnormalities	Disintegration	
	Myopia bias or myopia	
	Information gathering bias	
Fundamental conditions	Demographic profile	The age of the people
		Gender factor
		Education rate
		Probability of relying on analogy due to high experience
	Emotional factors and social belongings	Selective attention to available scientific data
		Labeling on beliefs
		Weak human judgment
	Information asymmetry	Trust the information available
		Contradiction in the information received
		Lack of sufficient information
	Limited rationality	Increase the volume of information
		Personal interest
		time limitation
		The extent of the problem
	Expectation theory	The effect of ambiguity
		Disposal effect
		Risk aversion
Loss avoidance		
Pseudo-assurance effect		
Bias of the current situation		
Influential conditions	Organizational factors	Education
		Selection of executives
		Culture
		False incentives
		Siloic thinking
	Environmental factors	An atmosphere of mistrust
		Environmental complexity
		Conditions of ambiguity

	Use mental shortcuts	Finger rule	
		Exploratory rule of similarity or representation	
		False agreement	
		Self-intuition	
	cultural factors	time horizon	
		Tolerance of ambiguity	
		Algebraic belief	
		Habit of investing	
procedures	Dynamic mindset	Value system	
		Carrying out a working group	
		Examining alternative hypotheses	
		Meeting management techniques in group work	
		Identify sources of information and challenge it	
		Increase adaptability to reality	
	Critical Thinking	Consider the whole decision process	
		Raise the spirit of criticism	
		Recall the basic reasons for making decisions in a particular area	
		Examine the extent to which others influence your decisions	
	Social interactions	Constant questioning of our beliefs	
		Variety in individual life	
		Use the opinion of experts in the field	
	Awareness and cognition	Use of new technologies and facilities available on the Internet	
		Avoid rushing into decisions	
		Spend more time researching	
	Increase individual abilities	Welcome sources of new information	
		More awareness of cognitive bias and its types	
		Self-Knowledge	
		Ability to manage daily life	
	Decision process optimization	Strengthen free thinking	
		Increase understanding of intergenerational	
		Better understanding of news and information	
		Less error in data analysis	
	Reduce psychological consequences	Reduce judgment and wrong reaction	
		Avoid losing important information	
		Avoid severe vulnerabilities after failure	
		Reduce the effect of mood on decisions	
	Main phenomenon	Coding	Realistic assessment of a person's performance
			Formatting
		Classification	Combine the results
			Current Asset Classification
Current income classification			
Classification of future income			
Assessment		Mental budgeting	

5 Conclusions and practical suggestions of the research

Mental accounting refers to the desire of individuals to make decisions and improve them based on purely mental classification. While this can sometimes be logical, it is often argued that the mental classifications we create for ourselves are completely optional, and in some cases we make dangerous mistakes. If we are not careful, mental accounting can Investment strategy and even destroy our entire financial life. It is argued that the world today has taken on a new style and life and management in this century also require new and new ways, small and individual institutions of yesterday's world have given way to large and large production and industrial organizations today The economies of countries are based on such large institutions that the administration and organization of such departments requires the existence of accurate, correct, orderly and coherent management programs that are done in the light of mental accounting. Despite efficient and experienced managers and the attitude of mental accounting, the

heavy cycles of organizations, departments, companies, etc. are definitely better circulated, because it is necessary to have the right decision to have a broad view and attitude of mental management and accounting, because with an empty mind and lack of managerial information can never make the right decision and emerge. Or Rajab a knowledge. Therefore, planning is not possible without mental accounting. The existence of a complete and accurate mental accounting system can be the safest factor in the development of the current world of countries and help them in designing and setting up useful and effective programs. As Thaler [28] has argued for over 31 years, mental accounting is an important process that has been shown to be important and necessary in many financial decisions. On the other hand, studies show that people's decisions are not always logically consistent with the decision models presented in the financial texts. Investors should consider their vision as an account for a specific purpose and have a long-term vision. Because short-term goals usually outweigh long-term goals and lead to the use of mental accounts. Mental accounting has also helped accounting standards developers and legislators better understand how financial reporting users react to enacted rules and standards. The classical economic and financial view is based on the assumption that a broker or economic agent is rational. This assumption is based on two points, first, that when new information reaches the economic agent, he corrects his beliefs correctly. Second, in the matter of determining beliefs, economic agents choose options that are normatively acceptable. This means that the five human senses must be compatible with the primitive thinking of the desirability of mental expectation.

5.1 Applied Research Suggestions

1. Legislators and policymakers in the field of mental accounting are advised to develop regulatory mechanisms to further monitor the behavior of accountants in order to prevent opportunistic behaviors.
2. It is suggested that in order to strengthen the professional performance of accountants, the level of expectations defined from the accounting behaviors in the society and stakeholders should be created, which, while identifying efficient values, should strengthen the behavior in accounting and make the accountant react positively to this. Behaviors show.
3. The level of reinforced and more perceived expectations should be created not only from the society, but also from organizations and institutions supervising the performance of accountants in order to perceive more attention and importance of this profession in accounting than before, and this issue creates specific behavioral sources such as Virtue leads.
4. It is suggested that in order to develop the ethical conscientiousness of training courses with the aim of strengthening value-based functions in accountants on an ongoing basis. This can shape the skills and behavioral capabilities, cognition and perception and decision-making power of accountants in complex situations with high pressures based on ethical principles and values, and increase the quality of decisions and judgments to increase the decision-making power of capital market elements. Find.
5. It is suggested that the level of social awareness of stakeholders, especially shareholders and investors, about the content and nature of existing laws and regulations should be guided by the free flow of information so that there is complete familiarity with the capital market and responsibilities and responses. The most important tool is the media. Media, which includes social networks up to radio and television, can play a decisive role in shaping expectations and accepting investment in the capital market. Having a clear level of expectations from the market environment helps to create a more coherent understanding of the fundamentals of the capital market, such as accountants and the responsibilities they have, and allows accountants to use these responsible values to better respond. Under these circumstances, the existence of negative values declines due to existing controls, and this prevents negative behaviors from peers and turning them into pervasive values.

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