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MENTAL ACCOUNTING – AS A FACTOR AND MEDIATOR IN PERSONAL FINANCIAL PLANNING

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ABSTRACT

Mental Accounting seems crucial while taking decision of financial planning by individual. It helps us understand how investment decisions are greatly influenced by psychological calculations. This research is being conducted to analyse the impact of mental accounting on financial planning of an individual. The data of 618 respondents is collected through Likert based structured questionnaire on relation between mental calculation and Financial Decision. Responses are analyzed through descriptive statistics and bi-variate analysis using SPSS and Smart PLS. Results of statistical analysis- EFA, CFA and SEM demonstrate that financial planning of people is highly influenced by their mental accounting. Mental Accounting changes the allocation and distribution of money in different situations. People do not only consider financial calculation of risk and return, rather they decide as per their own mental calculation and capacities while investing money for financial planning. Moreover, the significance of mental accounting varies as per the demographic profile of an individual as found in non-parametric test results. It is also found that people sometimes do not remain balanced while selecting different investment avenues for their financial preparation, due to the strategies of mental accounts. They assign less or more importance to the specific component of investment decision which can affect their financial plan. It is also found that mental accounting does not always directly affect the financial decision, instead it affects them indirectly also. The results of mediation analysis in this research approve that mental accounting can play a role of mediator also while building financial plan for future. Thus, this study on the relevance of mental accounting can assist individual and professionals to be considerate towards their role in financial planning by including mental accounting in financial decisions as well.

Key words: Mental Accounting, CFA, SEM, Mediation Analysis

I. INTRODUCTION

Financial Planning is very important at every stage of life. It varies as per the stage of life because people need to satisfy many financial responsibilities

simultaneously. These expenses can be related to children, medical needs, social responsibilities and many more. The fulfilment of these monetary requirements depends upon effective financial management. These affect the savings and allocation of money of people. Hence, it is necessary to understand and prioritize the financial responsibilities efficiently and effectively. So, people must remain realistic while determining and associating risk and returning to their investment strategies (Millar & Devonish, 2009).

The sensitivity of financial responsibilities cannot lead towards better monetary planning, rather practical knowledge of risk return calculations becomes necessary while investing money into different investment options. These investment options have different risk and return characteristics and so as per the need and time of money, people must park their money so that at the time of need, they can retrieve money from their investment. Moreover, without a positive attitude and involvement of people while distributing capital among different investment avenues, only financial knowledge cannot work enough. Hence, people need to play an active role by keeping aside greed while saving money for future (Hershey & Mowen, 2000).

(Hershey et al., 2007) suggested that with income, it is necessary for people to gain financial literacy as well. So, investors should use income to get financial literacy also because people with more income can easily have access upon more financial literacy compared to people with low income.

Not only financial factors but also psychological elements are relevant while planning for personal finance. Mental Accounting is one of such psychological determinants affecting the value of money, either positively or negatively. Mental accounting basically is the process of allocating money into different accounts as per the purpose of individual (Shefrin & Thaler, 1992). It is the psychological method of bookkeeping to control the extra spending and to monitor the financial transaction as per the purpose (Thaler, 1985). In this exercise of mental accounting, people mentally distribute their financial assets into three books, i.e. present income, current wealth, and future revenue. Based on that, they take care of their account as non-fungible. People control their account to the extent that their marginal tendency to consume (MTC) also varies. The MTC from present income usually is more as compared to their spending from current asset account.

Rather, People do not spend from future savings at all even if they are supposed to do varied situation. (Karlsson et al., 1997; Shefrin & Thaler, 1988).

Wright (1940) found that people use specific mental methods to save their money and to control their spending. He found that people tend to have small envelopes and space in their cupboard in which they kept some money aside and they do not consider that money for their regular use. The research of Rainwater et al. (1959) pronounce that people also use the method of "tin can account", in which they put their money in different tin cans and labeled tins as per the purpose of keeping money into it like medical tin, social gift tin, emergency fund etc.

Different studies favor the process of forming financial groups and labelling them as per the need and purpose of it. This increases the confidence and satisfaction of individuals while planning for their financial resources (Thaler, 1994). It is also found that people create psychological budgets and distribute their income to those budgets (Heath & Soll, 1996; Thaler, 1990, 1999). As per the study of (Heath, 1995; Heath & Soll, 1996) psychological distribution of money affects the spending and investment behavior and decision. Hence, mental accounting is the cognitive form of bookkeeping for purpose based financial saving and controlling many unwanted, unneeded expenses. (Cheema & Soman, 2006).

II. LITERATURE REVIEW

To analyze the development and effect of mental accounting on financial decision-making process Thaler (1988) considered four concepts naming them as mental budgeting, Current Income, Current Assets and Future Income. In mental accounting cognitive segregation of capital based on the expenses is explained where in other three concepts are taken from the concept of behavioral life cycle hypotheses.

The four concepts clarified by Thaler (1985), i.e. bifurcation of returns, incorporation of some losses, segregation of losses from higher gains, and inclusion of profits at same time has given rise to the new theory of consumer behavior. These components have added the importance of mental behavior with existing theories of economics. Each of these stories violates the standard economic theory and establishes an example of different types of behavior that get induced by the mental accounting system. Hence, the concept of mental accounting gave rise to

the choices of consumer and investors as per the theory of consumer behavior (Thaler,1980).

It can be derived from the theory of mental accounting that people use the reference point phenomena based on their perceived risk and returns along with their financial needs. It also explains the effect of framing related to their decisions and investment strategies. The study of (Maital & Maital, 1994; Thaler, 1990) says that people tend to divide money as per the source of money also. The pain and happiness related to the losses and gains relate to the source of income also. If they incur losses on their hard-earned money, the degree of pain is more in comparison with the loss on gifted money or lottery. Hence, the source of money becomes an important reference point while investing money for future need as risk-taking decisions relate to it. People prepare their spending strategy also as a source of income. If they get money in the form of gift or lottery, they find it easy to spend which they cannot with their own earned money. The saving and spending strategies are influenced by such mental behavior and hence budget allocation is done accordingly (Heath & Soll, 1996).

Various research supports the impact of mental accounting on consumption and saving habits and strategies. The same results are found in the study of (Feldman, 2010; Shefrin & Thaler, 1988) also. Mental accounting also encourages impetuous investment and saving behavior and validates the disposition effect (Ko & Huang, 2012). Apart from this, using survey data the evidence of mental accounts in individual financial and investment decisions is analyzed and supported in the study of (Shefrin & Thaler, 1988; Winnett & Lewis, 1995).

Mental accounting is the procedure of coding, categorizing, and evaluating the financial outcomes (Thaler, 1980). It explains the subjective boundary of the utility transactions and allocates income and expenditure into various cognition-based accounts as per the source and occurrence (Gourville & Soman, 1998; Prelec & Loewenstein, 1998; Thaler, 1985, 1999). The main importance of the concept is that it helps in understanding the behavior of individuals, especially economic behavior. In this way, it assists an individual to control their expenditure and improve savings for future needs. Hence, it causes the formation of mental accounts and its advantages to investors with effective self-control (Statman, 1999). Thus, people usually prefer mental accounts as a self-control device.

It is found in the research of Skwara, F. (2023). that the number of sources of funds, usage of funds and availability of funds at the time of investment has impact on the financial preparation of individual and so on investment. In the presence of easy access to borrowed capital, people would like to take risks and prefer to select equity as their investment avenue for higher return. This happens even if they do not have their own money. People would like to earn the monetary gap of return on equity and interest on borrowed capital which at time creates trouble for them if their prediction goes wrong. But it plays an active role in personal financial planning of people.

Due to Mental accounting, the choices and decisions of people become situational. As per their cognitive emotions people tend to decide and behave while preparing for their future financial needs. But due to the influence of mental accounting, they enact differently in similar situations also and park their money accordingly. Also, their own psychological traits direct them in their personal financial planning which ultimately affects their monetary decision and strategy. Also, psychological consideration of social responsibilities and obstacles affect the mental strategy while preparing for future financial needs of individual. Kivetz, R. (1999).

It is found in the research of Prelec, D., & Loewenstein, G. (1998) that people tend to react as per their psychological phenomena or tendency while saving and managing money for the present as well as future. People tend to compare return and risk based on their psychological impact instead of financial calculation. If they feel higher pain of loss or payment, they would like to avoid risk and prefer to invest in safe investment avenues of comparatively less returns but if the degree of happiness and satisfaction of gain is more than investors would like to take unnecessary risks also for more financial returns. This makes financial preparation difficult not only for them but also for their professional advisors. Also, easy access on borrowed capital restricts risk averse investors while parking their money into risky assets. Due to such mental calculations, people are involved in less optimum financial strategy which leads them towards financial crisis. Thus, the feeling of risk and return does not allow an individual to prepare the optimum portfolio of investment as per the risk and return characteristics of different financial instruments that at times create financial imbalances or disturbances to satisfy the financial needs of individual.

Mental accounting performs a positive role also in the monetary decision of individuals. Mental accounting assists people in determining their risk tolerance in line with their future financial needs and responsibilities. This determination of risk tolerance sometimes has a negative impact also on returns on investment, but it saves people from taking unwanted financial risk which can lead them towards financial scarcity in future. Hence, mental accounting encourages people by meeting the basic need of money instead of moving towards unsuitable aggressive investment and economic strategies. Salman, M., Ullah, I., Ullah, R., Javed, A., Rehman, K., Nawaz, T., & Rehan, M. H. (2020)

It is proved through the research of (Das, S., Markowitz, H., Scheid, J., & Statman, M. (2010) that people do not invest their money into single portfolio as per their financial need. Instead of it, people tend to prepare sub portfolio within their portfolio of investment avenues. Each sub portfolio is based on their goals and risk return expectations are also related with them as per mental calculations of investors. Hence, investors tend to behave accordingly while analysing the performance of their investment and make necessary changes as per the expected outcomes associated with their sub portfolios. This mental accounting also relates their risk assumptions with each sub portfolio and hence capital is distributed accordingly to each sub portfolio in line with the financial goals of people.

III. RESEARCH OBJETIVE:

The study aims to analyse the mediating role of mental accounting on financial planning of people in Surat city.

The study would help people, financial planners, and professionals to understand the impact of psychological accounting on the bifurcation and division of money while saving money for their personal financial planning.

Descriptive Research is used to study the role of mental management of money as a part of people's monetary planning. With the use of Likert based structured questionnaire, the information related to psychological factors and behavioral elements is collected using Primary data collection mode Also, Secondary Data is collected through Newspapers. Business Magazines, Internet etc.

Data from 618 individuals of the city is collected through Non-Probability Convenience Sampling method.

IV. DATA ANALYSIS and INTERPRETATION

Data is analyzed through descriptive and inferential statistic using SPSS and Smart PLS. Advance statistical techniques- Factor Analysis, CFA and SEM is used to examine the responses of people. For further analysis, Mediation Analysis also is tested on the responses collected.

The results show that Financial Literacy (FL), FR (Financial Responsibility), Financial Planning Complexities (FPC), Purpose of Savings and Investment (PSI) directly or indirectly influence Mental Accounting (MA) and ultimately Personal Financial Planning (PFP) of people. In the following section these statistical results are discussed in detail.

Non-Parametric Test Results

<Table 1>

As shown in table 1, personal financial planning (PFP) varies as per individuals' age, gender, income and availability of other income sources. Also, it is found from the non-parametric test results that people with varied demographic profiles show different mental calculation and consideration while managing their personal finance.

<Table 2>

The KMO Value as shown in table 2 is more than 0.7, indicating the acceptable adequacy of responses and Bartlett's significant value of 0.000 indicates the strong relationship among the variables of identified factors. Also, the total variance explained by the identified factors extracted is more than 60% signifying the consistency of data and data collection process.

CFA (CONFIRMATORY FACTOR ANALYSIS)

CFA is used to test how well the measured variables represent the number of constructions. The following tables show the correlation among latent variables of CFA indicating the strong consistency among the variables of identified factors.

<Table 3>

Model fit assessment:

- Constructs' indicator loading:

Loading above 0.7 is indicated as an accepted level of reliability. In this research all the construct items have loading of approximately 0.7 or more and thus, they are meeting the criteria of reliability.

- Construct Reliability and Validity

<Table 4>

(A) Composite Reliability (CR) Check:

Higher values of CR are the indication of high reliability. The standard value of CR between 0.6 to 0.7 is considered as an acceptable level. As shown in the result table, all the values of CR are between 0.8 to 0.9 admitting the good statistical results.

(B) Internal Consistency Check (Cronbach Alpha):

Alpha is a measure of internal consistency of items and has a threshold limit of 0.7. All the constructs of the research as shown in the table have Alpha values more than 0.7 explaining the pleasing outcome of internal consistency of items.

(C) Construct Reliability (Rho):

Rho is the measure of Construct Reliability and should be greater than 0.7 and it lies between Cronbach Alpha and Composite Reliability. Both these conditions are met as the result of this research as shown in the table.

(D) Convergent Validity Check:

Convergent validity is the degree to which the construct converges to explain the variance of its items. It is measured through average variance extracted (AVE) for all items on each construct with acceptable value of 0.5 or more. AVE value in table 4 shows that all the constructs are meeting the threshold limits of 0.5 and thus approving the convergent validity of constructs.

Discriminant Validity Check:

Discriminant Validity shows the extent to which constructs are distinct from each other. It is measured through two criteria. (I) Fornell and Larcker and (II) HTMT criteria.

- F n L (Fornell and Larcker) criteria:

Fornell and Larcker (1981) proposed the traditional metric and suggested that each construct's AVE should be compared to the squared inter-construct correlation (as a measure of shared variance) of that same construct and all other reflectively measured constructs in the measurement model. Below is the value of Fornell and Larcker for constructs of this research.

<Table 5>

It is clearly observed from the statistical results of Fornell and Larcker that constructs are fulfilling the condition criteria and distinguishing the constructs from each other.

- HTMT (Heterotrait-Monotrait) Criteria:

Discriminant validity problems are present if HTMT values are high than the standard values of 0.85 to 0.90.

<Table 6>

The results show that, all the constructs have HTMT value less than the standard range of 0.85 to 0.90. Hence, discriminant validity also is achieved for the measurement model of this research.

SEM (Structural Equation Modelling)

SEM is executed using Smart PLS. Further analysis is as below. The results are based on the benchmark of study done by professor Hair Jr, J. F., Hult, G. T. M., Ringle.

- Coefficient of Determination (R square):

R square measures the explanatory power of factors in the model. The standard range of R square is 0.25, 0.50 and 0.75 explaining the weak, moderate, and substantial explanatory power of various factors Following table represents the explanatory power of specific construct of the present study.

<Table 7>

As shown in table 7, the identified factors have moderate to good explanatory power in the model developed.

- The blindfolding-based Redundancy measure Q square:

<Table 8>

The benchmark values of Q square are 0, 0.15 and 0.35 depicting the small, medium, and large predictive relevance of latent variables on dependent variable. As shown in table 8, Q square value of DV is 0.397 (more than 0.35) and 0.372 (more than 0.35), indicating the large predictive relevance of identified factors on the investment decisions.

- Observation of Statistical Significance and relevance of path coefficient determination.

<Tabel 9>

The last step of SEM analysis requires an analysis of statistical significance and relevance of path coefficient determination. The lower values of RMSE (Or MAE) in comparison with the values of Q square value is the indication of high effect. The same results are found in this study as shown in above table.

Mediation Analysis

<Tabel 10>

<Table 11>

The results show in table 10 and 11 that personal financial planning of people is directly affected by their Financial Literacy as shown in the results of above table. (Table 10) wherein Mental Accounting is affected because of Financial Literacy, Purpose of Saving and Investment, Financial Planning Complexities and Financial Responsibility that an individual has. This mental accounting ultimately affects the financial planning of individuals as indirectly other factors are affecting it (Table 11). The same result is found in the statistical test through Mediation Analysis. Hence, Statistical results of Mediation Analysis indicate the existence of partial mediation between FL and PFP in the presence of mediating factor MA. Moreover, full mediation is there between PSI, FPC, FR and PFP.

V. CONCLUSION

Mental accounting is very important in financial planning of individual. It varies from situation to situation and hence it becomes necessary for everyone to consider it while planning for their hard-earned money. Mental Accounting includes both formal as well as informal calculation of identifying risk and return. It also has influence on the financial wellbeing of individual. Mental Accounting

cannot individually and independently affect financial return but at the same time it cannot be ignored because practically it has connection in making the financial strategies for expected returns.

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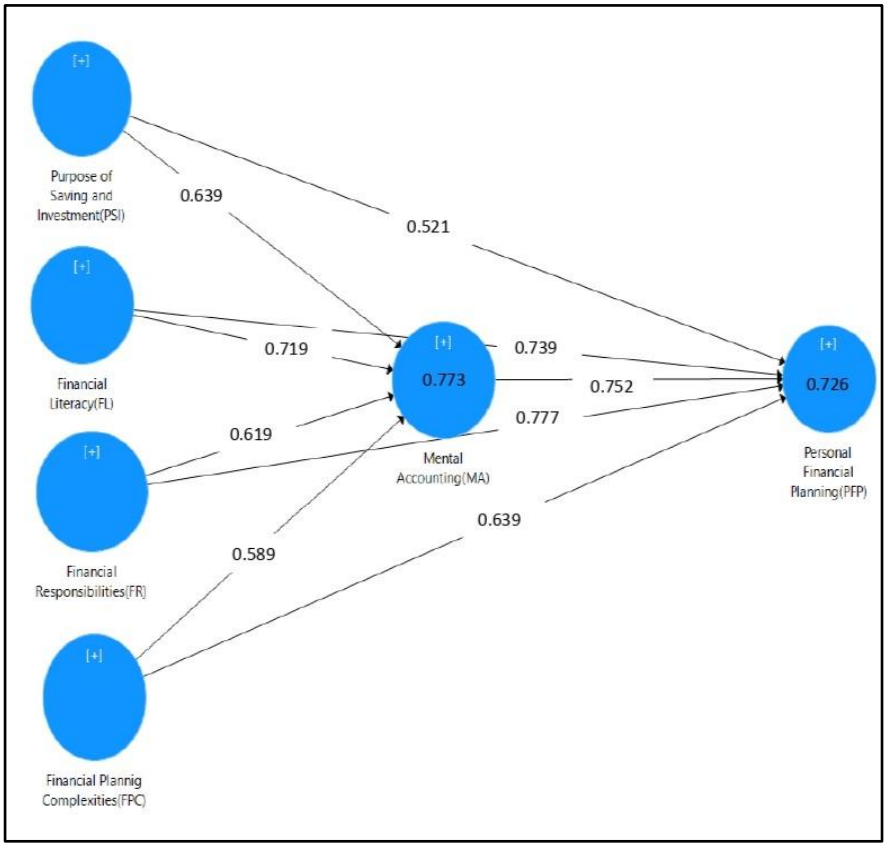
List of Charts

Figure 1 Self- Developed Model



List of Tables:

Table 1 - Mann Whitney and Kruskal Wallis Test Results

	FL	FR.	FPC	PSI	PFP	MA
Age	0.032	0.027	0.042	0.034	0.048	0.041
Gender	0.671	0.014	0.023	0.044	0.06	0.013
Education	0.010	0.092	0.04	0.020	0.033	0.034
Income	0.082	0.047	0.023	0.011	0.025	0.023
Other Income.	0.033	0.081	0.018	0.019	0.019	0.031

Table 2-Factor Analysis

KMO Measure of Sampling Adequacy.	Bartlett's Significant Value.	Total Variance Explained
0.792	0	72.799%

Table 3-Latent Variable Correlations

	FL	PFP	PSI	MA	FPC	FR
FL		0.769	0.632	0.772	0.63	0.721
PFP	0.769		0.654	0.719	0.616	0.603
PSI	0.632	0.654		0.644	0.733	0.716
MA	0.772	0.719	0.644		0.698	0.712
FPC	0.63	0.616	0.733	0.698		0.701
FR	0.721	0.603	0.716	0.712	0.701	

Table 4-Reliability and Validity Results

	Alpha	Rho	CR	AVE
FL	0.748	0.753	0.821	0.535
PFP	0.784	0.813	0.845	0.546
PSI	0.829	0.882	0.884	0.66
MA	0.838	0.855	0.877	0.577
FPC	0.81	0.834	0.842	0.575
FR	0.798	0.808	0.854	0.547

Table 5-constructs' F n L results

	FL	PFP	PFI	MA	FPC	FR
FL	0.66					
PFP	0.469	0.739				

	FL	PFP	PFI	MA	FPC	FR
PSI	0.432	0.454	0.812			
MA	0.472	0.719	0.424	0.69		
FPC	0.23	0.416	0.233	0.328	0.758	
FR	0.621	0.54	0.454	0.497	0.456	0.597

Table 6-HTMT of construc

	FL	PFP	PFI	MA	FPC	FR
FL						
PFP	0.567					
PSI	0.569	0.541				
MA	0.567	0.77	0.469			
FPC	0.296	0.46	0.25	0.392		
FR	0.489	0.765	0.674	0.821	0.731	

Table 7-R square Values

	R square	R square adjusted
MA	0.798	0.773
PFP	0.750	0.726

Table 8-Q square value (Blindfolding)

	Q square
MA	0.397
PFP	0.372

Table 9-LV Prediction Summary (PLS predict)

	RMSE	MAE	Q Sq predict
FL	0.547254	0.495792	0.60145
PFP	0.531155	0.44859	0.728151
PSI	0.467296	0.364178	0.569442
MA	0.504651	0.488956	0.52368
FPC	0.564945	0.440031	0.692877
FR	0.513205	0.423912	0.668175

Table 10 Direct Effect

	P value (Direct Effect)
FL- PFP	**0**
PSI – PFP	0.381
FPC – PFP	0.95
FR – PFP	0.274

	P value (Direct Effect)
FL– MA	**0.01**
PSI – MA	**0.02**
FPC – MA	**0.02**
FR - MA	**0.03**

Table 11 – Indirect Effect

	P value (Indirect Effect)
FL - MA - PFP	**0.006**
PSI- MA - PFP	**0.02**
FPC - MA - PFP	**0.04**

Author Profile

Dr. Payal Saxena is working as an Assistant professor at B.R.C.M. college of Business Administration, Surat. Her competence is around finance. She has done research related to financial and retirement planning of people. She is exploring her research in behavioral financial also. She does research on the sustainable finance too. She is being awarded for best papers in national and international conference also.