

# Nudge: A Bridge Between Choice and Desired Decision

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## ABSTRACT

The “real” decision often varies from the “rational” decision. The real or the actual behaviour of people is quite often biased and differs from the rational decision framework which has been put in place by classical economics. The irrational or undesired behaviour displayed by the people even in an informed public policy is a classic example of this. The purpose of this paper is to try to explain the classical nudge theory, which ‘nudges’ the people towards a desirable behaviour. We need to contemplate if we could use it as a method to awaken the motivate Indians to invest or if it could help them to devise policy or the marketing campaigns in such an effective manner that it could help them bridge the gap of non-investment behaviour. Researcher has considered the six nudge principles to prepare a questionnaire, which has been duly filled online by 135 respondents. It has been shown that there is an impact of nudge as a decision-making tool for policy formation.

## KEYWORDS

Behavioral Bias, Choice Architecture, Grading Policy, Nudge, Regression Analysis

## INTRODUCTION

In designing a public policy (Alcott, H., and S. Mullainathan, 2010), the behavior of citizens has commonly been modeled under the assumption of rationality, digging more into the research has proven that human beings are not rational decision-makers. The decisions are made on several governing factors like basis the events, situations, and ability to handle them affects the decisions made by an individual which can be taken in considerations to help and empower an individual to make better choices.

To help improve an individual’s decision-making (Thaler, 2013) and influencing positive behavior, there is a concept in behavioral science, political theory, and behavioral economics called nudge. Everyone sometimes acts against their self-interest which is described by Nobel Laureate Daniel Kahneman as two distinct systems for processing information (Tversky, A. and D. Kahneman, 1974):

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**System 1:** Fast, automatic, and highly susceptible often used while time constraints or judgmental heuristics for faster resolution.

**System 2:** Slow, reflective, and usually accountable for explicit goals.

It has also described as maladaptive behavior by Thaler and Sunstein where system 1 overrides the explicit goals which explain that human habitual behavior (Thaler, 2000) doesn't change without causing a disruption that triggers the behavior as per the surroundings.

Nudging is a concept of behavioral science that talks about indirect suggestions which could influence the thought process and decision-making ability of an individual or group (Thaler, Richard H, and C. R. Sunstein, 2008). The judgmental heuristic often aims the nudging technique to the advantage of creating a set of choices (Baumeister Et. al., 2001). E.g.: If there is a faster and reliable choice, the outcome would be more positive like a food chain store's choice of delivering ready-made food or the fruits provided a healthier option is ready to eat with faster service and delivery.

Cognitive biases is the term in psychology and behavioral economics that talks about systematic patterns of deviation. Biases impacting investment decisions (Barber & Odeon, 2001) are as follows:

- **Prospect Theory:** A choice given in the form of a gain or loss where an individual investor tends to choose former to latter is called prospect theory.
- **Overconfidence:** Investors often consider the decision as superior and do not tend to do logical analysis to take financial decisions is referred as overconfidence.
- **Disposition Effect:** Investors are often tempted to hold losing stock and sell the winners soon is called the disposition effect.
- **Narrow framing:** Biases of an investor to select investment individually instead of considering the broad impact on her portfolio is called narrow framing.
- **Heuristic:** Investors often tend to make use of thumb rules to process the information is called heuristics.
- **Regret Aversion:** Bad decisions or choices are considered as a negative feeling also known as regret aversion and known as an Investor's reaction or mistake. Investors are not allowed to accept the mistake resulting in future loss as they will tend to avoid selling the stocks.
- **Cognitive dissonance:** Investors relate unpleasant experiences to decisions instead of researching properly.
- **Anchoring:** Investors get into conflicting situations due to the time-consuming method and not being able to research properly. The quick judgment at this point may tend to proceed with the single figure or fact avoiding an important factor called anchoring.
- **Mental Accounting:** Post data analysis is the conclusion of proper research that depicts how well the results are received and decisions are made or evaluated. It follows the flow of specific activities resulting in evaluations done on a monthly daily, weekly, or monthly basis to get a positive outcome called as mental accounting.

## OBJECTIVES OF STUDY

The goal of the present article is to do the following:

- To study the relationship of demographic variables on Nudge behavior. Such a relationship will allow the investment agencies and decision-making bodies to devise focused investment plans and initiatives to increase the share of investment where there is a deficit.
- To study the impact of Nudge on financial decision-making because of public policy. This essentially warrants the urgent need by various agencies like the planning commission to create an environment for increasing investment behavior.

- Create a conceptual framework of decision-making using Nudges given creating and devising public policy aimed to increase investment behavior.

The general research question is focused on changes that need to be done for guiding the investment from the lens of economic policy.

## LITERATURE REVIEW

The section is divided into subsections to address the various factors that are needed to devise and grade a policy from the lens of nudging. The researcher has discussed the 6 principles needs for such a grading and how these address bias. There is also a discussion of the same by taking implementations in some countries like India, UK, and Denmark.

### Grading of Policy

Every country has the society's regulations and norms of safe driving, conserving natural resources, children's education, human rights, retirement investment, senior citizen amendments, and ensuring everyone follows the guidelines as public policies which are by following the right approach or mandate desired behavior by all people and ban the undesirable (Allcott, H., and S. Mullainathan, 2010). Hence public policies are the influence of how well one abides by or societal norms. Example: a free market with pollution, whereas public notification as a mandate form is one of the policies in a socially desired manner to be abiding by all the people or citizens. Below figure 1 indicated when to reinforce and avoid certain behavior relating to public policy (Fung Et. al., 2008).

These societal norms or mandate guidelines influence all aspects of our lives respecting the desired rights or mandate and graded as the right approach as influences in a strong behavior or approach. Also influences each individual to follow the right approach (Lassance, 2020). Policies that focus on human psychology to influence the liberty to choose while preserving the desirable behavior are called nudge policies. Figure 1 explains when to use Nudge in public policy. Typical Information dissemination (Economic survey, 2018) is considered as a less effective approach while mandating everything in the form of rules or laws is most effective. However, not everything can be mandated, hence Nudge provides a moderate path (Senarathne, 2020) to alter the choice architecture and resolve to desired decision making by people (Economic Survey 2018-19, Government of India).

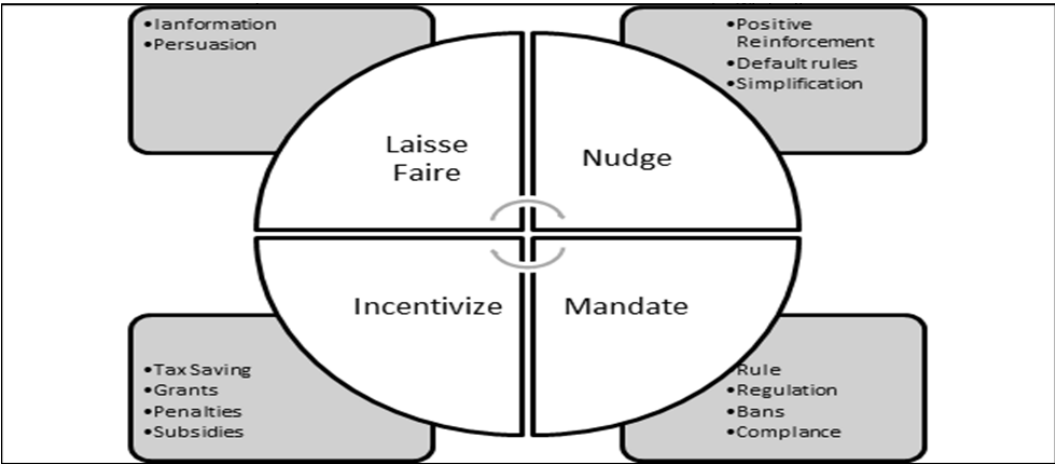
There is a need for government initiative and attention to implement and invest role in public interment behavior (Benartzi, 2017). The ratio of cost of such techniques is way less than traditional incitive and tax benefits.

**Table 1. Principle to use and avoid for public policy**

| Useful When                                                                                                 | Avoid When                                                                     |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Freedom of choice is important and individual preferences vary                                              | Context can be changed by businesses or other institutions in the marketplace. |
| Economic incentives or penalties are not appropriate                                                        | Additional regulation may be needed to set boundaries for market behavior.     |
| Behavior is affected by cognitive influences and individuals struggle with turning intentions into action's | Incentives may need to be changed to improve alignment with policy goals.      |
| Increasing alignment with current regulations or incentives                                                 | The intended outcome of the nudge may go against individual intentions         |

Source: Compiled by researcher

Figure 1. Nudge in public policy formulation (Source: Economic Survey, 2018)



There are different principles of behavioral economics (Datta S., and S. Mullainathan. 2014), (Matjasko Et. al, 2014) which are the following:

- Principle 1 – Optimizers:** People make optimal choices as tend to choose the best feasible option however sometimes make mistakes which is important to be considered as a corrective measure because they are partially predictable and require experience and training as experienced ones will make better choices resulting in fewer mistakes or errors.
- Principle 2 - Loss aversion:** Due to the mistakes the losses have more weight than profit and people suffer from a loss twice than the gain of equal magnitude and people care about how much is the loss as compared to the reference points or targets which impact the market transactions and discourages the trade.
- Principle 3:** One of the traditional approaches or economic models is self-control which defines that there is an approach by an individual to work hard and spend less to avoid unnecessary expenses (Ashraf Et. Al., 2006).
- Principle 4:** Individual choice of social preference often considering to care as socioeconomic factors to help others could result in various systematic forms of negative recipients.
- Principle 5:** Market exchange psychological factors resulting in good and bad decisions resulting gain or loss.
- Principle 6:** In theory, limiting people’s choices could partially protect them from their behavioral biases, but in practice, heavy-handed paternalism has a mixed track record and is often unpopular.

Table 2 summarizes the Nudge principles to Biases.

## Evidence of Nudge in India and Abroad

### India

Indian Government has taken a few initiatives that use nudges. The tax rebate option on 80C is a way to nudge people to invest in long-term securities like PPF etc., For this specific reason there have been huge savings registered in the scheme. SIP, Mutual funds use default options to continue regular investing to avoid panic selling in case of the market fall, etc. Gold bonds are a way to implement cultural norms and affinity to gold for investment.

**Table 2. Relationship of cognitive bias and Principles outlined**

| Behavioral Bias     | Nudge Principle applicable                       |
|---------------------|--------------------------------------------------|
| Anchoring Bias      | Leverage Default rules<br>Make it easy to choose |
| Failure bias        | Emphasize social norm<br>Disclose outcomes       |
| Sunk cost bias      | Reinforce Repeatedly                             |
| Loss aversion bias  | Leverage loss aversion                           |
| Flawed Mental model | Make message match the mental model              |
| Confirmation bias   | Make message match the mental model              |

Source: Compiled by Researcher

### *United Kingdom*

The UK government has centralized its initiatives with the formation of the Behavioral Insights Team, 2012 (also called the “Nudge Unit”). The Nudge Unit is a standalone government unit that works with businesses, NGOs, and other government departments to develop (Dolan, Et. al., 2010) is in talks of privatization of the Nudge Unit, as it shall add more commercial power and also a potential of generating more revenue for the government and taxpayers.

Taking into account the success of the Nudge Unit, other departments as that for Environment, Food and Rural Affairs (DEFRA), Department of Energy and Climate Change (DECC), and the Department of Health (DH) too have come up with their initiatives concerning behavioral economics which in turn has helped the government’s knowledge as well.

Also, now they are developing Behavioral science in the government network (the United Kingdom. Behavioral Insights Team, 2012)), to help them enhance the knowledge sharing throughout the UK government. And because the UK government knows that their current model of policymaking needs updating, they have made it a mandate for all the policymakers to engage in professional development to make sure that they are up to date on the latest policy tools, including behavioral science.

### *United States*

The US government has now formed the Social and Behavioral Science Team, which shall work with all the government agencies to test and implement the various behavioral interventions. All this is taking into account the success which the Behavioral Insights Team has achieved. As of now, the team is currently working on aspects related to child education, health compliance, and domestic violence. This team has been formed keeping in mind a broader initiative of improving the government efficiency and performance with the use of evidence and innovation (Mind, Society, and Behavior. World Development Report, 2015).

The government agencies (Behavioral Economics Research to Promote Healthy Eating at School) have been advised to take into account and apply the behavioral insights to improve on the outcomes of the policy and also cut down on the operational costs

Even the Department of Energy seeks to put in place their own separate behavioral science team. The Federal Trade Commission has used behavioral economics for their policy analysis and they have been a participant in many behavioral economics workshops and conferences.

### *Denmark*

As of now, though there is no centralized unit for behavioral economics, the Danish Nudging Network has many departments which constitute it. It includes researchers, practitioners, and policymakers who

are into public policymaking via behavioral science. The network is a part of the Nudge. There is a non-profitable organization - “You” which conducts research and organizes workshops in behavioral economics (Beshears, Et. al, 2005).

### Choice of Nudge as Tool to Uphold the Policy

Figure 2 explains how Nudge can be used as positive reinforcement for changing behavior and decision of people in general. A public policy cannot give punishment as it acts like a benefit (Barr El. at., 2008).

## RESEARCH METHODOLOGY

### Theoretical Framework

Based on the literature review, Below Theoretical framework is proposed for model preparation. Financial Decision is a dependent variable.

#### *Independent Variables*

- **Age:** People of different age groups behave differently towards an investment decision (Beshears, 2005).
- **Gender:** People of different gender behave differently towards an investment decision (Beshears, 2005).
- **Saving:** Saving attitude of certain individuals will impact the investment behavior. People consider savings as a sense of security (SEBI, 2005).
- **Income:** People of varied income will have different decisions based on income and expenditure (SEBI, 2015).
- **Existing Investor:** If you are an existing investor, the perception towards a nudge will be positively reinforced.

#### *Dependent Variables*

- **Decision making:** This is presented by 6 nudge principles. Data collected is collected on perception to such a principle.

Figure 2. Choice of Nudge as Tool to uphold the policy (Source: Compiled by researcher)

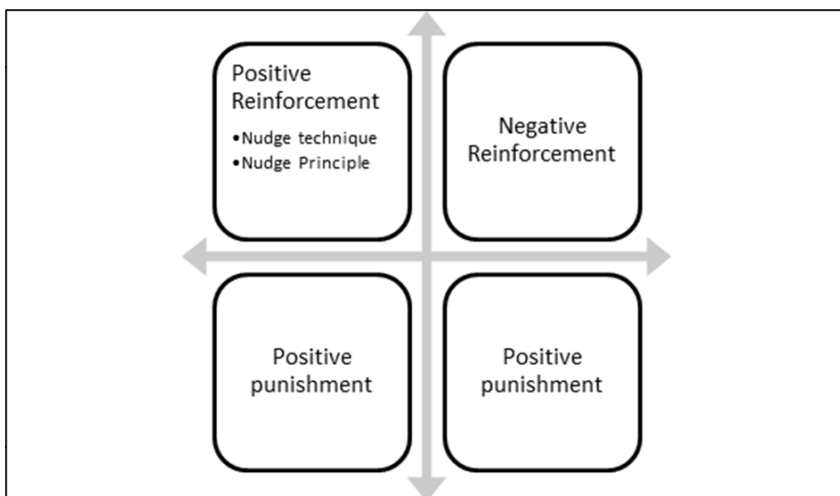


Figure 3. Theoretical framework (Source: Compiled by researcher)

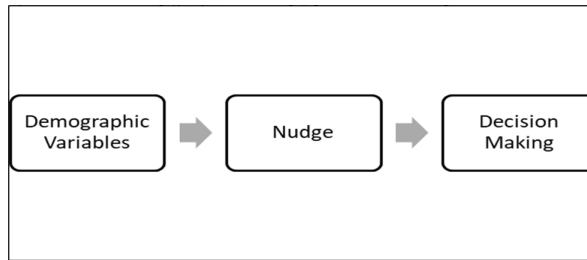


Figure 3 illustrates the theoretical framework of the proposed work.

### Data Collection

A structured Questionnaire was floated by the researcher using an Online method and data was collected for a period of 15 days.

### Hypothesis of Study

**Hypothesis 1:** There is no relationship between Age and Various Nudge principles.

**Hypothesis 2:** There is no relationship of Gender of the Individual to Nudge principles.

**Hypothesis 3:** There is no relationship of Savings of the Individual to Nudge principles.

**Hypothesis 4:** There is no relationship of Income of the Individual to Nudge principles.

**Hypothesis 5:** There is no relationship of existing investors to Nudge principles.

### Sample

The sample collected is based out in Delhi NCR. The total number of responses received is 235. and all the samples were accepted to be valid.

### Method of Data Analysis and Interpretation

In this study, various tools of statistical analysis, using STATISTICAL TOOL Statistical Software, such as Percentages, Cross Tabulation, and Chi-Square test for significance of hypothesis were used to arrive at a logical conclusion in respect of Sample data. Further regression analysis was done to prepare a model fit.

## ANALYSIS AND PROPOSAL

### Reliability Test

Cronbach alpha calculated for the data obtained from the questionnaire was calculated to be 0.805 which is a high-reliability score.

### Descriptive of the Sample

Out of total responses of 235, a proportion of 60% male and 40 female population, of which 55% are existing investors. A glimpse of standard deviations is provided in Table 3.

### Hypothesis Testing and Interpretation

*H1: There is no Relationship Between Age and Various Nudge Principles*

Chi-Square test performed of each type of Nudge and the following results were obtained (Table 4).

**Table 3. Descriptive Statistics**

|                    | N   | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|-----|---------|---------|------|----------------|
| Gender             | 235 | 1       | 2       | 1.39 | 0.49           |
| Age                | 235 | 1       | 3       | 1.85 | 0.91           |
| Income             | 235 | 1       | 3       | 1.96 | 0.888          |
| Saving             | 235 | 1       | 4       | 2.19 | 1.062          |
| DEMAT              | 235 | 1       | 2       | 1.59 | 0.493          |
| Valid N (listwise) | 235 |         |         |      |                |

Source: SPSS Output

**Table 4. Hypothesis 1 - Crosstabs and Chi-Square results**

| Crosstabs                 | Chi-Square Test |                    |    |                         | Symmetric measures |            |                   |
|---------------------------|-----------------|--------------------|----|-------------------------|--------------------|------------|-------------------|
|                           | N               | Pearson Chi-Square | DF | Asymptotic Significance | Phi                | Cramer's V | Appx Significance |
| Age * Q1_Default_invest   | 235             | 13.67              | 10 | 0.189                   | 0.318              | 0.225      | 0.189             |
| Age * Q2_Tax_rebate       | 235             | 22.34              | 8  | 0.004                   | 0.407              | 0.288      | 0.004             |
| Age * Q3_asset_small      | 235             | 20.54              | 8  | 0.008                   | 0.39               | 0.276      | 0.008             |
| Age * Q4_Shagun           | 235             | 20.149             | 8  | 0.01                    | 0.386              | 0.27%      | 0.01              |
| Age * Q5_EastofInvestment | 235             | 18.07              | 8  | 0.021                   | 0.366              | 0.259      | 0.021             |
| Age * Q6_Invest_plan      | 235             | 22.99              | 8  | 0.003                   | 0.413              | 0.29%      | 0.003             |

Source: SPSS Output

There exists a significant relation of Age with Most of the Biases as above, and hence null hypothesis can be comfortably rejected. This is interpreted as - There exists significant evidence to establish that Age has a relationship with Nudges.

### *H2: There is no Relationship of Gender of the Individual to Nudge Principles*

Chi-Square test performed of each type of Nudge and the following results were obtained (Table 5).

There exists a significant relation of Gender with some of the Biases as above, and hence null hypotheses can be accepted for three Nudges. Also, reject the null hypothesis for two - There exists significant evidence to establish that Gender has a relationship with Nudges Ease of investment and Investment plan.

### *H3: There is no Relationship of Savings of the Individual to Nudge Principles*

Chi-Square test performed of each type of Nudge and the following results were obtained (Table 6).

There exists a significant relation of Saving with some of the Nudges as above, and hence accepted the null hypothesis for three Nudges. Also, rejected the null hypothesis for three - There exists significant evidence to establish that Savings has a relationship with Nudges Ease of investment and Tax Rebate and Shugan Option.

### *H4: There is no Relationship of Income of the Individual to Nudge Principles*

Chi-Square test performed of each type of Nudge and the following results were obtained (Table 7).



Table 5. Hypothesis 2 - Crosstabs and Chi-Square results

| Crosstabs                    | Chi-Square Test |                    |    |                         | Symmetric measures |            |                   |
|------------------------------|-----------------|--------------------|----|-------------------------|--------------------|------------|-------------------|
|                              | N               | Pearson Chi-Square | DF | Asymptotic Significance | Phi                | Cramer's V | Appx Significance |
| Gender * Q1_Default_invest   | 235             | 4.813              | 5  | 0.439                   | 0.189              | 0.189      | 0.439             |
| Gender * Q2_Tax_rebate       | 235             | 4.936              | 4  | 0.294                   | 0.191              | 0.191      | 0.294             |
| Gender * Q3_asset_small      | 235             | 5.54               | 4  | 0.236                   | 0.203              | 0.203      | 0.236             |
| Gender * Q4_Shagun           | 235             | 7.83               | 4  | 0.99                    | 0.24               | 0.24       | 0.99              |
| Gender * Q5_EastofInvestment | 235             | 10.732             | 4  | 0.03                    | 0.282              | 0.282      | 0.03              |
| Gender * Q6_Invest_plan      | 235             | 16.074             | 4  | 0.003                   | 0.345              | 0.35%      | 0.003             |

Source: SPSS Output

Table 6. Hypothesis 3 - Crosstabs and Chi-Square results

| Crosstabs                    | Chi-Square Test |                    |    |                         | Symmetric measures |            |                   |
|------------------------------|-----------------|--------------------|----|-------------------------|--------------------|------------|-------------------|
|                              | N               | Pearson Chi-Square | DF | Asymptotic Significance | Phi                | Cramer's V | Appx Significance |
| Saving * Q1_Default_invest   | 235             | 22.44              | 15 | 0.097                   | 0.408              | 0.235      | 0.097             |
| Saving * Q2_Tax_rebate       | 235             | 23.33              | 12 | 0.025                   | 0.416              | 0.24       | 0.025             |
| Saving * Q3_asset_small      | 235             | 17.025             | 12 | 0.149                   | 0.355              | 0.205      | 0.149             |
| Saving * Q4_Shagun           | 235             | 28.787             | 12 | 0.004                   | 0.462              | 0.267      | 0.004             |
| Saving * Q5_EastofInvestment | 235             | 32.657             | 12 | 0.001                   | 0.492              | 0.284      | 0.001             |
| Saving * Q6_Invest_plan      | 235             | 17.566             | 12 | 0.13                    | 0.361              | 0.208      | 0.13              |

Source: SPSS Output

Table 7. Hypothesis 4 - Crosstabs and Chi-Square results

| Crosstabs                    | Chi-Square Test |                    |    |                         |
|------------------------------|-----------------|--------------------|----|-------------------------|
|                              | N               | Pearson Chi-Square | DF | Asymptotic Significance |
| Income * Q1_Default_invest   | 235             | 6.741              | 10 | 0.75                    |
| Income * Q2_Tax_rebate       | 235             | 10.428             | 8  | 0.236                   |
| Income * Q3_asset_small      | 235             | 9.738              | 8  | 0.284                   |
| Income * Q4_Shagun           | 235             | 7.256              | 8  | 0.509                   |
| Income * Q5_EastofInvestment | 235             | 16.27              | 8  | 0.039                   |
| Income * Q6_Invest_plan      | 235             | 7.54               | 8  | 0.479                   |

Source: SPSS Output

There does not exist a significant relation of Income with Most of the Nudges as above, and hence comfortably accept the null hypotheses. This is interpreted as - There does not exist significant evidence to establish that Income has a relationship with Nudges.

##### *H5: There is no Relationship of Existing Investors to Nudge Principles*

Chi-Square test performed of each type of Nudge and the following results were obtained (Table 8).

**Table 8. Hypothesis 5- Crosstabs and Chi-Square results**

| Crosstabs                  | Chi-Square Test |                    |    |                         | Symmetric measures |            |                   |
|----------------------------|-----------------|--------------------|----|-------------------------|--------------------|------------|-------------------|
|                            | N               | Pearson Chi-Square | DF | Asymptotic Significance | Phi                | Cramer's V | Appx Significance |
| DEMAT * Q1_Default_invest  | 235             | 4.535              | 5  | 0.457                   | 0.183              | 0.183      | 0.457             |
| DEMAT* Q2_Tax_rebate       | 235             | 2.807              | 4  | 0.591                   | 0.144              | 0.144      | 0.591             |
| DEMAT* Q3_asset_small      | 235             | 14.413             | 4  | 0.006                   | 0.327              | 0.327      | 0.006             |
| DEMAT* Q4_Shagun           | 235             | 6.251              | 4  | 0.181                   | 0.215              | 0.215      | 0.181             |
| DEMAT* Q5_EastofInvestment | 235             | 5.015              | 4  | 0.286                   | 0.193              | 0.193      | 0.286             |
| DEMAT* Q6_Invest_plan      | 235             | 3.574              | 4  | 0.467                   | 0.163              | 0.163      | 0.467             |

Source: SPSS Output

There does not exist a significant relation of Existing investors with Most of the Nudges as above, and hence comfortably accept the null hypotheses. This is interpreted as - There does not exist significant evidence to establish that existing investors have a relationship with Nudges. One Result related to small assets has come out to be significant in the study.

### *Regression Analysis and Model Fit*

Regression plot of the 6 Nudge types for decision-making dependent variable as results in the below Table 11 indicates that model coefficients of such a model containing the 6 Nudges have an impact on decision making with R2 being an insignificant range of 60%.

Nudges Analysis has further shown the predictors variable to be significant and hence a regression equation can be set to prove the above model.

The summary of the coefficients obtained is provided in Table 9. The model preparation has proven the significance of the Nudge being an important factor in altering behavior positively.

It is observed that in certain countries and cultures the investment share is less, however, this behavior can be changed by altering the public policy. Such an initiative leads to the maturity of the economic development of the country. The researcher established a relation of various Nudge principles among various demographic factors, which can be used in devising public policies aimed to increase the investment behavior of citizens.

**Table 9. Regression Analysis - Coefficient's summary**

| Coefficients                   |                     |                             |            |                           |        |       |
|--------------------------------|---------------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                          |                     | Unstandardized Coefficients | Std. Error | Standardized Coefficients | t      | Sig.  |
|                                |                     | B                           |            | Beta                      |        |       |
| 1                              | (Constant)          | 1.808                       | 0.094      |                           | 19.222 | 0     |
|                                | Q1_Default_invest   | -0.025                      | 0.019      | -0.109                    | -1.31  | 0.193 |
|                                | Q2_Tax_rebate       | -0.085                      | 0.025      | -0.32                     | -3.413 | 0.001 |
|                                | Q3_asset_small      | -0.002                      | 0.02       | -0.011                    | -0.12  | 0.905 |
|                                | Q4_Shagun           | -0.024                      | 0.022      | -0.107                    | -1.109 | 0.27  |
|                                | Q5_EastofInvestment | -0.011                      | 0.026      | -0.042                    | -0.439 | 0.662 |
|                                | Q6_Invest_plan      | -0.053                      | 0.021      | -0.21                     | -2.515 | 0.013 |
| a Dependent Variable: Decision |                     |                             |            |                           |        |       |

Source: SPSS Output

The default rule principle is more applicable to social benefit as one cannot 'force' an investor into an investment and often an 'approval' is required from a public policy standpoint. This may well be used for people to force them to create a Demat account, but not indulge them in creating investment.

The researcher has further concluded that Age has a significant relationship with Nudges principles. This means The public policy can be devised to suit age groups and focused age groups should be employed to increase investment behavior thereof. Gender has a relationship with Nudges Ease of investment and Investment plan. Females prefer easiness in investment and focused investment plans like child plans, marriage plans, etc.

Further, an investment that is easy to understand or has a benefit attached like gifting or tax rebate is very much preferred, this is because of the savings culture of Indian citizens. Income is not found to have a significant relationship with nudge principles.

Based on Analysis, Table 10 is the Summarized results of the above analysis.

## DISCUSSION

A very important observation is the independence of Income levels and Already an investor. This means that the government of policymakers can concentrate on other factors. This is deductible to SEBI's investor survey, where even with Income levels people are more savers in India.

Another important observation is the indifference of savers, that the behavior of their saving and investment pattern can be altered based on making things easy, reducing risk and SIP type investments, Saver carefully analyses these factors but, in a quest, to gain profits can invest provided other factors are improvised. This finding has a striking similarity to SEBI's investment survey 2015.

Another important factor is the cultural limitation of Indians to go for saving which is specific to them refraining from 'security-related investments which normally would have been done otherwise using cash etc. Culturally females and older people have such an affinity.

Another factor that has beautifully captured indifference to incentivizing a benefit by relaying to tax benefit, which is again deep-seated in our roots. for long Indian institutions have divides 'saving' oriented 'safe' investment instruments.

Investment in small assets in the form of SIP or otherwise has been established by the popularity of Mutual funds in India recently. Though not the purpose, Mutual funds have nudged people to invest very well. The below framework (figure 4) explained the conceptual diagram of the nudge to alter the choice model.

## RECOMMENDATION

Currently, Choice Architecture and Nudging are considered as fledgling approaches to behavior change majorly in the field of policy and welfare. The early adopters of this approach like the UK have shown results that have much promise. Also, several countries are using the general insights from behavioral economics, to design traditional policy tools like regulation. The choice architecture is one policy tool that is a low-cost affair but gives significant results. While the government is dealing with increasing resource constraints, nudging might become a popular and effective toolkit. The behavior though, in India, is majorly impacted by the social norms, but the power to have such behavioral changes in place to change them is not properly tapped. Including this as an agenda would be a great step in this direction.

The Research however suffers from certain limitations. The Sample taken is limited to a region which would give rise to region-specific interpretation. Moreover, the mode of the questionnaire in online forms will limit the data set to the urban population. Extensive research in the domain can be sponsored to cove a wide range of participants for practical implementation.

The Article explains the Literature review of Public policy creation and the principles employed in devising the same. With Nudging being an instrument in changing the behavior, it has been argued

**Table 10. Conclusion and Interpretation**

| S.No | Nudge type                                                                                                                                                                                                                                | Affects       | Interpretation                                                                                                      |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------|
| 1    | Default Rule Principle - Optimizers – people make optimal choices as tend to choose the best feasible option however sometimes make mistakes which is important to be considered as a corrective measure                                  | Age (No)      | This is more applicable to social benefit and likely to be generic because of ease or anchoring.                    |
|      |                                                                                                                                                                                                                                           | Gender (No)   | This is more applicable to social benefit and likely to be generic because of ease or anchoring.                    |
|      |                                                                                                                                                                                                                                           | Saving        | A saver tent to look carefully at hidden costs or terms that reduce his saving.                                     |
|      |                                                                                                                                                                                                                                           | Income (No)   | This is more applicable to social benefit and likely to be generic because of ease or anchoring.                    |
|      |                                                                                                                                                                                                                                           | Investor (No) | This is more applicable to social benefit and likely to be generic because of ease or anchoring.                    |
| 2    | Leverage Loss aversion(incentivizing) - Loss aversion – due to the mistakes the losses have more weight than profit and people suffer from a loss twice than the gain of equal magnitude                                                  | Age           | As Age increases people tend to take less risk, hence exhibit loss aversion bias.                                   |
|      |                                                                                                                                                                                                                                           | Gender (No)   | Irrespective of gender the incentive or reward are equally perceived                                                |
|      |                                                                                                                                                                                                                                           | Saving        | Savers are by nature risk-averse, hence look at it very carefully                                                   |
|      |                                                                                                                                                                                                                                           | Income (No)   | Irrespective of income the incentive or reward are equally Every Penny count                                        |
|      |                                                                                                                                                                                                                                           | Investor (No) | Irrespective of gender the incentive or reward is equally perceived. Saving means more investment!                  |
| 3    | PRINCIPLE 3: Make a message-match mental model - One of the traditional approaches or economic models is self-control which defines that there is an approach by an individual to work hard and spend less to avoid unnecessary expenses. | Age           | With age, the tendency to spend and the risk reduces.                                                               |
|      |                                                                                                                                                                                                                                           | Gender (No)   | For an investment option nudges to buying small asset male and female are equally acquainted for social reasons     |
|      |                                                                                                                                                                                                                                           | Saving (No)   | Savers are indifferent to such option as this is a way to save and invest in their mind                             |
|      |                                                                                                                                                                                                                                           | Income (No)   | Since it's a small investment in an asset, it is independent of income levels                                       |
|      |                                                                                                                                                                                                                                           | Investor      | An investor in India prefers options like SIP where risk and investment are distributed                             |
| 4    | PRINCIPLE 4: Emphasize social outcomes, disclose - Individual choice of social preference often considering to care as socio economic factors to help others could result in various systematic forms of negative recipients              | Age           | An Option gift has a traditional difference. How old people tend to give it in cash and young in form of securities |
|      |                                                                                                                                                                                                                                           | Gender        | Females tend to opt more so catch options culturally                                                                |
|      |                                                                                                                                                                                                                                           | Saving        | Savers prefer these options to avoid any jargons of investment                                                      |
|      |                                                                                                                                                                                                                                           | Income (No)   | No impact on income levels                                                                                          |
|      |                                                                                                                                                                                                                                           | Investor (No) | No impact on whether he is an existing investor or not                                                              |

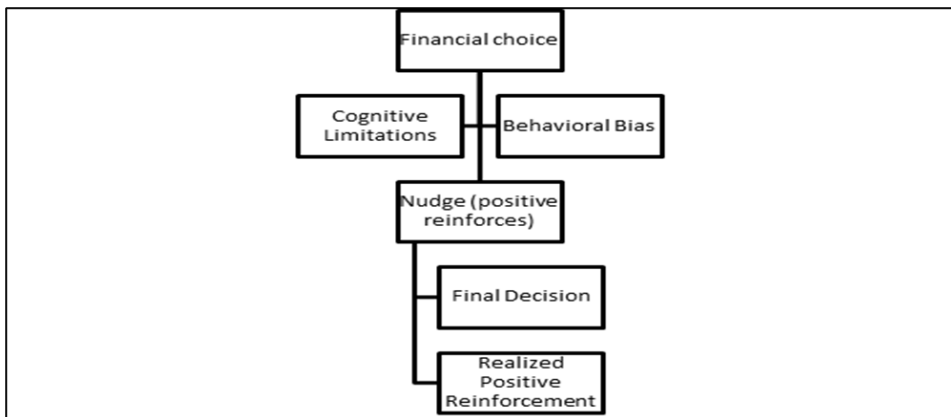
*continued on following page*

Table 10. Continued

| S.No | Nudge type                                                                                                                                        | Affects       | Interpretation                                                                                                   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------------------|
| 5    | PRINCIPLE 5: Reinforce positives repeatedly- Market exchange psychological factors resulting in good and bad decisions resulting in gain or loss  | Age           | Some messages are susceptible to age. like child's marriage and education will be of concern to middle age group |
|      |                                                                                                                                                   | Gender        | Some messages are more susceptible to females culturally like marriage                                           |
|      |                                                                                                                                                   | Saving        | Savers perceive it more prominently as it allows them to distribute amounts in buckets manageably.               |
|      |                                                                                                                                                   | Income (No)   | Indifferent to income levels                                                                                     |
|      |                                                                                                                                                   | Investor (No) | Indifferent to Whether you an investor or not                                                                    |
| 6    | PRINCIPLE 6: Framing (Ease and convenience) - Market exchange psychological factors resulting in good and bad decisions resulting in gain or loss | Age           | The modern generation is working to ease things out                                                              |
|      |                                                                                                                                                   | Gender        | Females tend to keep more ease because in India culturally they may be performing multiple roles.                |
|      |                                                                                                                                                   | Saving        | Savers want to keep themselves away from jargons on an investment portfolio                                      |
|      |                                                                                                                                                   | Income (No)   | Indifferent to income levels                                                                                     |
|      |                                                                                                                                                   | Investor (No) | Indifferent to Whether you an investor or not                                                                    |

Source: Compiled by researcher

Figure 4. How nudge influences choice architecture (Source: Compiled by Researcher)



that the investment behavior of a country can be and should be influenced positively to desired investment behavior. Research objectives are stated and a structured questionnaire is launched to collect data to collect the perception of the individual to such a change. This has been interpreted and represented in later sections.

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