

## Investigating the effect of triple perceptual-behavioral traps on marketing decisions (case study: Green Pipe manufacturing factories in Isfahan)

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**Abstract:** Decision making is the main part of management which is done in all sections of an organization in different ways, and according to the goal of organization, decisions of some units make a more important role in some organization's overall performance. Increasing rate of competition among organizations causes the role of marketing units to be more significant. This has resulted in attracting the attention of many scientists and investigators to factors influencing on the success of marketing. In this research, among factors which affect marketing, perceptual and behavioral traps influence on marketing decisions have been chosen as the main subject. The main aim of this research is investigating how many triple perceptual and behavioral traps affect marketing decisions. The statistical population here includes all sales and marketing managers, clerks and specialists of Isfahan's Green Pipe manufacturing factory. There are 300 people in this statistical population for which the sample size has been estimated as 136 people using Kochran formula, and the effect of conceptual traps has been investigated by gathering information.

**Key words:** Decision making; Framing Error trap; Escalation of commitment trap; Over- confidence trap; Marketing

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### 1. Introduction

Specialists of behavioral science have identified some human tendencies affecting the quality of decision making. These tendencies that damage the quality of decisions, have been considered as conceptual-behavioral traps including "framing error", "escalation of commitment trap", and "over-confidence trap" which have a significant impact on not only marketing but also all organizational decisions. In this research, we aim to investigate how much each of the traps mentioned above influences the performance of marketing decision makings. Wisdom and conscious avoidance of these traps will result in considerable benefits for decision makers.

All managers are dealing with decision makings. In fact, decision making and management can be considered as the same because decision making is the major part of management.

Current conditions of organizations need their owners to pay specific attention to their sales and marketing units. So focusing on decisions of this part of an organization and identifying the influential factors is very important in many organizations so that wrong decisions of this organizational unit lead to market share loss and consequently serious damages. Among various factors affecting marketing decisions, the influence of conceptual-behavioral traps on marketing decisions has been chosen and investigated as the major goal of this paper. In a same way, in this research, among factors

influencing marketing, conceptual-behavioral traps which affect marketing decisions have been chosen as the main issue.

### 2. Theoretical research literature and foundations

#### 2.1. Decision making

One of the main activities of management is decision making which involves recognizing the issues, determining solution alternatives, selecting from them, and administrating the selected solutions (Charms et al., 1978). In modern management literature, each traditional duty of managers, such as planning, organizing, controlling, etc., is a display of the type of management. Decision making is a function of important factors including decision subject, decision maker, time of decision making, and the most important one, complexity of variables involved in decision making (Yung Chen, 2000). Scientists and experts have presented some descriptions about decision making of which we mention some here. Professor Shackle *et al.* have described decision making in a book named "Commercial Decisions and Unreliability". They have suggested that "decision making" is a combination of knowledge, thought, emotion and imagination in a way that the resulting combination is applicable. In his book, "Informative Systems in Theory and Practice", John Berg DeGrey Nitzky has also explained "decision making" as a process of finding and choosing series of actions to solve a problem. In

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a clearer explanation, "decision making" is selecting an approach among two or more (Charles et al., 1997).

A decision is choosing a solution or action among a collection of possible actions and other alternatives. Unreliability usually makes the decisions difficult, and reduces relying on a choice of an alternative or an action which results in the best outcome (Charles et al., 1978).

## 2.2. Types of decision making

- Organizational decision makings: are those which managers make according to their official and organizational power.
- Personal decision makings: are related to the manager as a person not an organization.
- Strategic decisions: are those which affect the whole organization and are the responsibilities of chief managers.
- Integrated decisions: match strategic decisions of chief managers with decisions of the low rank employees.
- Practical decisions: deal with daily duties of organization (Ward, 1954).
- Structured decisions: those which are made in the first level of management.
- Unstructured decisions: those that can't be predicted.
- Inspirational decisions: those that are intuitional and based on experience and immediate analysis and guess. These are personal and taken faster.
- Rational decisions: these are logical and targeted and aim to have the maximum efficiency in reaching the organization's goals (Jao et al., 2013).
- Problem-solving decisions: are taken to solve the existing or predicted problem.
- Opportunistic decisions: positive action in which potential benefits outside the organization are used to enhance the sources or other valuable objectives.
- Planned decisions: are taken according to the policies and approaches or written and unwritten rules.
- Unplanned decisions: are related to unpredicted or emergency issues.
- Automatic decisions: biological decisions are the most fundamental ones in this group.
- Conscious decisions: the amount of human's thinking power is as much as his inability in making decision about his own life and physical survival; consequently, he has to obey the cultural environment and make decisions compatible to it (Filing, 2013).

Herbert Simon divides decision making into two categories: planned and unplanned.

Planned decisions:

Some decisions are usual and structured (ordinary or planned) which are made according to habits, rules or definite approaches. For instance, establishing a new production or closing a factory is common and a structured subject for decision making.

Simon adds decisions are considered to be planned when they are based on proved policies, regulations, rules or methods (Lojeh et al., 2013).

## 2.3. Contemporary challenges in decision making

Decision making has been always difficult and dealt with some limitations. However, nowadays it requires more pace and accuracy as a consequence of increasing acceleration of changes and complexity of environment. Today, decision making deals with not only the necessity for being matched with fast changes, but also a collection of challenging issues such as complicated situations of decision making, increasing unreliability, style of data processing and perceptual-behavioral traps (Violec et al., 1999).

## 2.4. Perceptual-behavioral traps

Specialists of behavioral science have identified some effective human tendencies influencing on the quality of decision making. These tendencies which damage the quality of decision making have been proposed in the frame of perceptual-behavioral traps including "framing error", "escalation of commitment trap", "over- confidence trap" (Paul et al., 2011).

### 2.4.1. Framing error

Human's judgment depends on the way of data accessing and naming a phenomenon; framing error shows one's tendency to a desirable assessment of "positive information" and undesirable assessment of "negative information" which in turn affect human's behavior. Human's tendency to framing error may have destructive effects on organizations; however it is possible to use it in a constructive way, indeed.

### 2.4.2. Escalation of commitment trap

It was sometimes seen that "enterprisers are in doubt about removing their unsuitable programs in their enterprising", or "organizations don't leave their harmful and detrimental strategies"; furthermore, "governments usually allocate extra budget to their prolonged and delayed plans and projects". Observing these issues, a question is arisen: "what is the reason of this commitment?" The answer is people and organizations' tendency to continue the in effective ways and approaches which are hard to stop just because of personal or social reasons. This tendency is like a trap on the way of logical decision making which is called "money is wasting" and is reinforced by some psychological, social and organizational factors.

### 2.4.3. Over- confidence trap

Getting acquainted with the psychology of "over-reliance" is so important, because it attracts the

managers' attention to dangers resulted from illogical reliance. Unfortunately, investigators have observed a positive correlation between managers' "over-reliance" to employees and "difficulties in their job", i.e., the more difficult the job is, the more tendency people have to trust others too much. Of course, there can be trust in more predictable and easier situations as well, yet it won't be "unreal" (Jiak and bazerman, 1991).

## 2.5. Marketing

Marketing is defined as a managerial-social process by which individuals and groups meet their needs and demands through producing and exchanging goods with each other. The origin and basic element of marketing system is human's needs and demands. Each product is the result of human's need. Anything that provides a service or meets a demand can be considered a product which includes individuals, places, organizations, services and beliefs. In other words, a product is whatever that can respond to a request. The meaning of need is showing a felt abdication in a person. The value of products depends on how much they can respond to one's requests. Request and demand in marketing are defined as providing the needs and the ability to respond to a request, respectively (Armstrong, 2012). Lots of factors affect marketing efficiency from which some are known as opportunity and some as limitation or problem. Recognizing the limits and trying to reduce their influence can definitely have a significant role in enhancing marketing performance.

Although many researches have been done in the case of factors affecting marketing, the main focus of this research is on determining the efficiency of perceptual-behavioral traps, explained in previous sections, on marketing performance.

## 3. Research objectives

The main goal in this survey is investigating the amount of effect that triple perceptual-behavioral traps have on marketing decisions and consequently on the performance of marketing and sales unit in Green Pipe manufacturing factories in Isfahan.

### 3.1. Secondary objectives

- 1-Determining the amount of framing error's effect on marketing decision making
- 2-Determining the amount of escalation of commitment trap's effect on marketing decision making
- 3-Determining the amount of over-reliance trap's effect on marketing decision making
- 4-Is there any difference among responders' ideas about the effect of perceptual-behavioral traps on marketing decision making according to demographic characteristics?

## 4. Research questions

The main question: can triple perceptual-behavioral traps have affected the performance of marketing and sales unit in Green Pipe manufacturing factories in Isfahan?

### 4.1. Secondary questions

- 1-Does the framing error influence marketing decision making?
- 2-Does the escalation of commitment trap influence marketing decision making?
- 3-Does the over- confidence trap influence marketing decision making?

## 5. Research method

This research is a descriptive survey in which the statistical population (300 people) includes all sales managers and marketing agents, clerks and specialists of Green Pipe manufacturing factories in Isfahan. To determine the sample size, because the ratio of advocates and opponents was not available, first, the above ratio was obtained using 30 preliminary questionnaires and then the sample size was estimated as 136 people using Kochran formula. Data gathering tool here was a researcher-made questionnaire in which the distribution of questions was based on perceptual-behavioral traps' elements. There were 48 questions in the questionnaire and to investigate its validity, experts, university professors and specialists were asked to help in marketing and decision making. Finally, by the opinion of these people, the validity of the questionnaire was proved. To investigate the stability of this questionnaire, 30 questionnaires were distributed in the preliminary distribution, and on the basis of Cronbach's alpha formula, the stability of questionnaire was obtained 0.84 which indicates the high coefficient of questionnaire's stability.

## 6. Hypothesis testing and research findings

Research findings are based on the research questions and the result of statistical analysis derived from the distributed questionnaire among marketing and sales managers, clerks and specialists in Green Pipe manufacturing factories in Isfahan. In questions 1, 2 and 3 we have:

According to t value in error level of 0.05 and the mean and assumed mean (3), if the derived mean is more than assumed mean, we can conclude that effectiveness of framing error, escalation of commitment trap and over- confidence trap on marketing decision making is more than average level and vice versa.

**Table 1:** Univariate t-test: mean comparison

Factor	Mean	Standard deviation	t	Level of significance
framing error	3.58	0.48	17.73	0.001
escalation of commitment trap	3.51	0.46	15.16	0.001
over-confidence trap	3.55	0.28	26.96	0.001

For the fourth question:

**Table 2:** Values of mean and standard deviation of employees' opinions about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of gender

Factor of perceptual-behavioral trap's impacts	Male		Female	
	Mean	Standard variation	Mean	Standard variation
framing error	49.88	9.38	48.64	13.47
escalation of commitment trap	52.19	8.44	52.07	10.99
over- confidence trap	45.22	8.15	43.57	11.10

Studying the means shows that the mean of male employees' opinion about effectiveness of perceptual-behavioral traps on marketing decision

making is a little more than that of female employees' ideas.

**Table 3:** Result of F-test (ANOVA), comparing the means of opinions about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of gender

Source	Factors of behavioral traps	Sum of squares	df	Mean of squares	F	Level of significance
Gender	framing error	18.32	1	18.32	0.18	0.67
	escalation of commitment trap	0.18	1	0.18	0.002	0.96
	over- confidence trap	32.43	1	32.43	0.44	0.51

The F value observed in error level of 0.05 indicates a significant difference between male and female employees' ideas about the influence of

perceptual-behavioral traps on marketing decision making in the statistical population.

**Table 4:** Values of mean and standard deviation of employees' opinions about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of work experience

Factors of perceptual-behavioral traps	Less than 7 years		7-13 years		13 years and more	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
framing error	50.32	9.16	50.16	11.61	50.14	8.82
escalation of commitment trap	53.75	8.99	51.22	9.33	53.02	8.08
over- confidence trap	47.03	8.80	44.45	9.02	45.21	7.29

Studying the means shows that opinions' mean of employees with less than 7 years of work experience

in Green Pipe manufacturing factories in Isfahan is a little more than two other groups.

**Table 5:** Result of F-test (ANOVA) about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of work experience

Source	Factors of perceptual-behavioral traps	Sum of squares	df	Mean of squares	F	Level of significance
Work experience	framing error	18.32	1	18.32	0.18	0.67
	escalation of commitment trap	0.18	1	0.18	0.002	0.96
	over- confidence trap	32.43	1	32.43	0.44	0.51

The F value observed in the error level of 0.05 doesn't indicate a significant difference among the employees' ideas, on the basis of work experience,

about the influence of perceptual-behavioral traps on marketing decision making in Green Pipe manufacturing factories in Isfahan.

**Table 6:** Values of mean and standard deviation of employees' opinions about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of education

	framing error		social-emotional commitment		over-reliance	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Diploma	56.17	7.49	76.37	8.48	50.40	9.46
Associate of Art/Sci.	57.72	7.85	48.68	8.67	52.90	8.36
Bachelor of Art/Sci.	55.83	6.72	45.10	7.05	51.43	8.65
Master of Art/Sci.	56.14	7.11	47.50	6.30	53.23	7.41

Means show that there is no significant difference among opinions of the employees, with different levels of education, about the influence of

perceptual-behavioral traps on marketing decision making in Green Pipe manufacturing factories in Isfahan.

**Table 7:** Result of F-test (ANOVA), comparing the means of ideas about effectiveness of perceptual-behavioral traps on marketing decision making on the basis of education

Source	Factors of impacts	Sum of squares	df	Mean of squares	F	Level of significance
Level of education	Framing error	89.73	2	89.73	1.63	0.32
	social-emotional commitment	75.81	2	75.81	1.44	0.38
	over-reliance	31.49	2	31.49	1.01	0.57

The F value observed in error level of 0.05 doesn't indicate a significant difference among the employees' ideas, on the basis of education, about the influence of perceptual-behavioral traps on marketing decision making in Green Pipe manufacturing factories in Isfahan.

**7. Conclusion**

This survey has been done to investigate the ration of each of triple perceptual-behavioral traps' influence on marketing decision making in Green Pipe manufacturing factories in Isfahan. Statistical data were obtained through a researcher-made questionnaire, distributed among marketing and sales managers, clerks and specialists of Green Pipe manufacturing factories in Isfahan and analyzed by SPSS software.

In the first question, the univariate t-test done here shows that according to the obtained t (17.73), the amount of framing error's effect on marketing decision making is more than average level, and its mean is 48.64. It doesn't show a significant difference among the employees' opinions based on work experience, about the effect of framing error on marketing decision making in Green Pipe manufacturing factories in Isfahan. The mean of employees' opinions based on various education levels doesn't indicate a significant difference. The observed F in  $\alpha=0.05$  doesn't show a significant difference among employees' opinions based on various education levels, neither.

In the second question, data derived from univariate t-test related to questions about the second question shows that escalation of commitment trap has a mean more than the assumed one; consequently, it can be concluded that

this factor has influenced marketing decision making in statistical population, as well. The difference between male and female's responses indicates a little difference between responses' means of both categories. Also, in the case of work experience, we can mention the tiny difference in means between those with less than 7 years and more than 13 years of work experience. Results of F-test (ANOVA) don't show a significant difference in this case, neither.

In the third question, results of univariate t-test show that over- confidence trap can impact on marketing decision making. The difference between the answers of males and females shows that males with the mean of 45.2 had more effect compared to the females with the mean of 43.57. Furthermore, results of F-test (ANOVA) imply that the observed F in  $\alpha=0.05$  shows a significant difference between the ideas of both genders about the influence of over-reliance trap on marketing decision making in the statistical population. Besides, regarding to work experience, those with less than 7 years of experience consider the effect of this trap more than others. ANOVA F-test doesn't indicate a significant difference in the significance level of 0.51. And according to education level, ideas of people with M.S. or M.A. degree have higher means in comparison to other groups in the case of over-reliance trap's impact on marketing decision.

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