A Moderated Practice for Strategy Implementation Analysis

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ABSTRACT

Implementation of strategies is a crucial part of the strategic management fundamental process. The main objective of this research is to develop a practical model for analyzing strategy implementation styles. Based on reviewed literature, authors have identified three major factors of strategy implementation, which include structure, leadership style and human resources. This study moderates TOPSIS, a multi attribute decision making tool, to analysis strategy implementation styles based on strategy implementation major factors. Furthermore, validity of the proposed practice of this study has been verified by conducting a case study.

Keywords: Stategic Management, Strategy Implementation, MCDM, TOPSIS

1. INTRODUCTION

Many researchers have concentrated on strategy implementation due mainly to insufficient and lack of active background in business between strategy implementation and formulation (Sorooshian and Dodangeh, 2013; Sorooshian *et al.*, 2010). They have defined implementation as total activity that required choice for planning strategy where strategies and policies are being enforced. A project that is well organized gives better performance to companies if adequately implemented. Top managers have power in making decision that affects generally, the structure of organization. Attention is paid on strategy implementation by managers. Human resource management and the structure of leadership are the main drivers in implementation strategy (Sorooshian *et al.*, 2010; Wheelen and Hunger, 2009). Efficiency of strategic implementation is dependent on leadership, structure and human rescue (Sorooshian *et al.*, 2010).

The objectives of this study centered on using the methods of decision making to determine the weightings of multi-dimensionality of drivers of strategic implementation and strategic implementation of multi-

alternative projects of ratings. Our proposed practice is capable of comparing and benchmarking various strategic implementation styles.

1.1. Method Selection

To meet the study objectives, suggested methods were reviewed. Generally, people adopt one or two methods of decision making, trial and error method and modeling method.

The decision maker is faced with the realities in trial and error method; therefore, he decides one of the alternatives and attests the results. When error decisions are enormous and are a problem, the decision is changed and other alternatives are chosen. In the method of modeling, the decision maker models the true problem while stating the elements and their influence on each other, obtaining analysis through model and prediction of the true problem (Adam and Sorooshian, 2012; Gwo-Hshiung *et al.*, 2011).

Making decisions, in the area of multiple and conflict criteria is resolved by the Multi-Criteria Decision Making (MCDM). Two types of criteria include objectives and attributes. The problems of MCDM can

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be widely stated into two groups, Multi-Attribute Decision Making (MADM) and Multi-Objective Decision Making (MODM). The major difference between MADM and MODM is that the later centers on continuous decision spaces, mainly on mathematical programming, having diverse functional objectives. While MADM discusses the problems associated with discrete decision spaces. MADM specific problems have attributes that must be recognized by the maker of decision in the future. The methods of MADM require information that must be gained in line with the attribute relative importance. Always, the information is serial or main scale. Criteria are directly, allocated attribute weights using Entropy method. Every attribute relative importance is specified by the weights (Dodangeh and Yusuff, 2011; Dodangeh et al., 2010).

1.2. Proposed Analysis Practice and Steps

This section of the paper suggests practice analysis as well as input model, output and process for which project management selection are outlined systematically. The stages taken for our strategic implementation analysis practice are stated thus:

- Conduct implementation strategy analysis in line with the criteria and alternatives
- Determine consensus for strategy implementation and forming decision matrix in line with the expert's experiences. Expert's three criteria are defined and reviewed in the literature, structure, leadership, human resource
- Adopting multi-attribute decision making (TOPSIS method)

Gwo-Hshiung et al. (2011) have shown that the technique for order preferences is TOPSIS, having similarity to ideal solution.

The major idea of this method is that alternatives selected must have the shortest distance from the correct solution and the farthest distance from the negative ideal solution in a geometrical sense. The alternative is selected by TOPSIS, which is the closest to the ideal solution and farthest from alternative negative idea. The assumption of TOPSIS was that m alternative and n attributes/criteria are available and also the score for every option in relation to every criterion is available. All MADM problems have attributes that must be recognized in problems in the future by decision maters.

MADM techniques require information which must be gained based on attributes relative importance. These criteria can directly be allocated attribute weights by decision maker groups or by scientific methods. The relative importance is specified by these weights for all the attributes (Dodangeh et al., 2009; Dodangeh et al., 2010). This study used Entropy method in determining attribute weight. Firstly, the decision matrix was normalized using the relation below Equation (1):

$$p_{ij} = \frac{a_{ij}}{\sum_{i=1}^{m} a_{ij}} \tag{1}$$

And then calculate Equation (2 and 3):

$$E_j = -K \sum_{i=1}^{m} [p_{ij}.Ln p_{ij}] \tag{2}$$

$$K = \frac{1}{\ln m} \tag{3}$$

And m shows number of alternatives.

And then has calculated degree of distance with this relation Equation (4):

$$d_j = 1 - E_j \tag{4}$$

Finally has calculated Attributes weight with this relation Dodangeh et al. (2009) Equation (5):

$$W_j = \frac{d_j}{\sum_{j=1}^{n} d_j} \tag{5}$$

1.3. TOPSIS Method

In TOPSIS method m alternative is assessed by n attribute and we can consider every problem as a geometrical system consisting of m point in n dimensional space.

This tool is established based on the concept that selected alternative should have the least distance with positive idea solution (the best possible state) and the most distance with negative idea solution (the worst possible state) (Gwo-Hshiung et al., 2011).

Transform decision matrix into dimensionless matrix with using of relation Equation (6):

$$n_{ij} = \frac{a_{ij}}{\sqrt{\sum_{j=1}^{m} a_{ij}^2}} \qquad (6)$$

Construct the Weighted Normalized Decision Matrix Equation (7):

$$V = N_D.W_{n\times n} = \begin{vmatrix} V_{1i},\dots & V_{1j},\dots & V_{1n} \\ \vdots & \vdots & \vdots \\ V_{m1},\dots & V_{mj},\dots & V_{mn} \end{vmatrix} \qquad (7)$$

Determine the Ideal and Negative-Ideal solutions Equation (8):

$$A^+ = \left\{ \left(\max_i v_{ij} \mid j \in j_1 \right), \left(\min_i v_{ij} \mid j \in j_2 \right) \mid i = 1,2,\dots,n \right\}$$

$$A^- = \left\{ \left(\min_i v_{ij} \mid j \in j_1 \right), \left(\max_i v_{ij} \mid j \in j_2 \right) \mid i = 1,2,\dots,m \right\} \qquad (8)$$

Calculate the separation measure Equation (9):

$$d_{i^+} = \left\{ \sum_{j=1}^{n} \left(v_{ij} - v_j^+ \right)^2 \right\}^{\frac{1}{2}}, \quad i = 1,2,\dots,m$$

$$d_{i^-} = \left\{ \sum_{j=1}^{n} \left(v_{ij} - v_j^- \right)^2 \right\}^{\frac{1}{2}}, \quad i = 1,2,\dots,m \qquad (9)$$

Calculate the Relative Closeness for the Ideal Solution Equation (10):

$$cl_{i^+} = \frac{d_{i^-}}{\left(d_{i^+} + d_{i^-} \right)}, \quad 0 \le cl_{i^+} \le 1, \quad i = 1,2,\dots,m \qquad (10)$$

1.4. Rank the Preference Order

The best (optimal) alternative can be decided according to the preference rank order of cli+ (Dodangeh *et al.*, 2010).

1.5. Case Study Project Management Selection using Proposed Practice

This study is conducted in electrical industries producing switchboard and electrical panels. There are five strategic projects with five different project managers, to implement strategies. An expert panel consists of managing director; marketing and sales director, engineering director, logistic director and production director were made up. The experts evaluate the organization based on strategic implementation criteria and against alternatives. Based on step 2, the three criteria comprising leadership, structure and human resource are defined by experts' panel knowledge and experience. Afterwards, the decision making matrix is constructed as **Table 1**.

And then **Table 2**; normalize the decision matrix regarding to Equation (1). Then determine the attributes weights regarding to Entropy method as **Table 3**.

Ultimately, with regards to step 3.2.5, which calculates the relative closeness for the ideal solution, utility of projects management, are determined. Subsequently, the projects management is ranked as **Table 4**. Project manager number four is selected as the best style with the highest ranked; style of project manager number one is the lowest ranked.

Table 1. Decision matrix based on TOPSIS method

	Leadership	Structure	Human resource
PM$_1$	5	7	3
PM$_2$	3	5	6
PM$_3$	2	8	5
PM$_4$	6	9	3
PM$_5$	9	5	1

Table 2. Normalized decision matrix

	Leadership	Structure	Human resource
PM$_1$	0.20	0.206	0.1670
PM$_2$	0.12	0.147	0.3330
PM$_3$	0.08	0.236	0.2780
PM$_4$	0.24	0.265	0.1670
PM$_5$	0.36	0.147	0.0556

Table 3. Attributes weights

Leadership	Structure	Human resource
0.433887919	0.100492434	0.46561965

Table 4. Ranking of Project management

	Utility	Rank
PM$_1$	0.41389512	5
PM$_2$	0.42821604	4
PM$_3$	0.45595101	3
PM$_4$	0.48343302	1
PM$_5$	0.48258873	2

PM$_4$ >> PM$_5$ >> PM$_3$ >> PM$_2$ >> PM$_1$

2. CONCLUSION

Strategy implementation styles considerably influence the functional strategic management process. It is worthy of note that successful strategy realization is distinguished by the coherence decisions and actions of employee resources at all organizational levels and not by people who initiated the strategy. It is needed to direct all employee and other resources to same strategy implementation to ensure strategy realization at all organizational levels. This study practices a MADM method for strategy implementation analysis based on defined variables. The proposed practical model would be applicable in other similar analysis.

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