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Evaluating of staff's performance with job satisfaction and Organizational Commitment approach by DEA (case study: Khuzestan Oxin Steel Company)

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Abstract

Evaluating of staff's performance and accessing to optimized performance in an organization will be possible by creating factors such as job satisfaction and Organizational Commitment.

In this paper, Data Envelope Analysis (DEA) was used in order to evaluate staffs' performance in Khuzestan Oxin Steel Company. Also, a questionnaire was used in order to collect necessary data and information (Cronbach's Alpha= 0.82). This study used CCR model because of constant yield to scale the most of DMUs.

The Inputs research consists of education, salary, relationship with colleagues, job security, workplace, organizational structure, benefits, and rewardswhile outputs are job satisfaction and Organizational Commitment. The results indicate that the amount of work was the main factor between performance of DMUs while higher salary was the most effective factor in staffs' satisfaction.

Keywords: Evaluation, Staff's Performance, Job Satisfaction, Organizational Commitment, DEA, Khuzestan Oxin Steel Company.

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1. Introduction

DEA is one of the modern methods in evaluation of staff's performance which is a multi-criterion for making decision and performance evaluation. This method is able to account the amount of staffs' performance on the basis of available information by using several input and output variables in order to separate efficient staffs from inefficient staffs. This, the reasons of inefficiency will be determined by sensitivity analysis.[1],[2] DEA is a non-parametric approach based on Mathematical planning to allow evaluation of similar Decision Making Units (DMUs) efficiency with multiple inputs and outputs.[3] There are several concepts which will influence on organizational performance such as job satisfaction and Organizational Commitment.[4] Othershave evaluated performance of organization and staffs. They could recognize the highest level of performance and assume that one person with the best performance is better than others. But, high-performance necessarily is not reason of high efficiency according to DEA approach. DEA is used in Economic Analysis for operating identifications in the view of efficient techniques.[5]

First of all, this study will reviewed Theoretical Foundations, then the method of study in order to collect information, identify inputs and outputs and how to identify mentionedmodel. Finally the results of solving model will be described.

2- Job satisfaction

Job satisfaction is the results of Man's Perceptions from How to provide expectations in the relevant job. Arnold and Feldmanbelieved that hob satisfaction is the most important job outlook and viewpoint. They believed that Job satisfaction is depended on staff's attitude to job and organization.A person with high job satisfaction means positive view in his job,interesting in job.[6]

3-Organizational Commitment

Organizational Commitment may be defined as the person's judgment with Activity and participation in one organization. In other word, Organizational Commitment is a situation and state in which one staff hope to be a member of organizationconsisting of positive and negative views to whole the organization.[7]

4- Data Envelope Analysis (DEA)

DEA is a mathematical planning in order to evaluate the efficiency of DecisionMaking Units (DMUs) with several inputs and outputs. Researchers always consider inmeasuring performance for its importance in performance evaluationof a company or an organization. Farrell (1957) measured efficiency for a productive Unit by using methods such as measuring performance in engineering discusses. Farrell considered on one input and one output. Charles, Cooper and Rhodes developed Farrell's theory and delivered a

pattern which was able to measure performance and efficiency toward severalinputs and outputs. For the first time, this pattern as the Data Envelope Analysis (DEA) was describe in doctorate thesis of Edward and Rhodes with Cooper's supervising with the title of evaluating Academic advancement in National schools in America (1976) in Carnegie University.[8]

The title of Charles, Cooper and Rhodes's model was CCR which was used in order to measure, evaluate, and compare relative efficiency of organizational Units such as schools, Hospitals, Banks, Municipalities, etc. with severalsimilarinputs and outputs.[9]

5- Method

Researchers tried to prove a basic relation between appropriate policies of human sources and organizational performanceand also they studied about relationship betweenappropriate policies of human sources and strategies of a company which enhance performance of organization. According to information job satisfaction and Organizational Commitment are the most important parts of human sources which influence on performance of organization. Thus mentioned factors are used in order to analyze performance of organization. In this study, the others use CCR in order to evaluate staff's performance of Khuzestan Oxin Steel Company.For this study All of managers of Khuzestan Oxin Steel Company were selected (n=20) and each manager was considered as a one DMU(figure1)
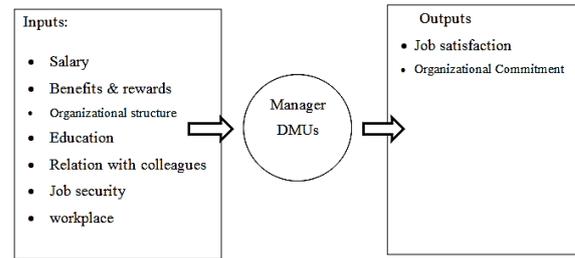

Figure 1- DEA model for evaluating manager's performance

It can be said that the questionnaire consists of Standard Spector[10], Organizational Commitment and aims of company. It was measured by experts and Cronbach test (0.82). According to policies of organization in order to enhance the staffs' satisfaction, all the inputs were assumed constant and model considered with Output nature. Also, the amount of performance was accountedwith efficiency assumption to constant scale, non-decreasing and non-increasing, in order to determine efficiency to Scale model. CCR model was selectedin order to determine efficient DMUs because the majority of efficiencies to scales were constant. OutputCCR model is formulated as follow:

$$\max \sum_{i=1}^{m} V_i x_{ip}$$

s.t

$$\sum_{r=1}^{s} u_r y_{rp} = 1$$

$$\sum_{r=1}^{s} u_r y_{rj} - \sum_{i=1}^{m} V_i x_{ip} \leq 0 \quad j = 1, \dots, n$$

$$V_i \geq 0 \quad i = 1, \dots, m$$

$$u_r \geq 0 \quad r = 1, \dots, s$$

6- Results

After solving the model, the results recognized ina table in which DMUs with efficient value on 1 and DMUs with efficient value more than 1 are efficient and inefficient, respectively.

According to the results 6 cases of DMU are efficient and also efficient units necessarily had not more appropriate inputs and outputs compared with others.

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7- Conclusion

The main purpose of this study was evaluation of staff's performance. Thus DEA was used in order to evaluate performance and efficiency. The reasons of using DEA model is the intricate relationship between

Table1: the results of performance evaluation of managers with DEA method

DMU	Efficiency	DMU	Efficiency
1	1.274	11	1
2	1	12	1
3	1.311	13	1.412
4	1.017	14	1.241
5	1.418	15	1.341
6	1	16	1.119
7	1.219	17	1
8	1.127	18	1.514
9	1.348	19	1
10	1.486	20	1.111

inputs and outputs and also easy connection with linear programming. In this study each manager was considered as a DMU. Input variables were salary, Benefits and Rewards, organizational structure, education, and relation with colleagues, Job security, and workplace. Outputs variables were job satisfaction and Organizational Commitment. This model was performed in Khuzestan Oxin Steel Company. The results indicated that 6 of 20 managers were efficient according to analysis. The amount of salary, has the greatest impact on job satisfaction and after that job security was effective.

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