Designing Distribution system of rewards and influence on Employees Satisfaction Case Study: Hamgamkhodro Asia factory

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Abstract

The purpose of this paper is minimizing job dissatisfaction through a coordinated system of payment in order to increase employees' satisfaction and productivity in Hamgamkhodro Asia factory. This study determines necessary parameters to evaluate the individuals and describes the determination of rewards according to mentioned parameters in total. The Survey methodology and data collection tools are Standard questionnaires of satisfaction which were distributed to employees. In this Study, SPSS software was used to analyze Hamgamkhodro Asia employee's satisfaction from distribution system of rewards. In non-manufacturing employees with 95 percent of reliability and in manufacturing employees with 99 percent of reliability were satisfied by the rewards distribution system. Finally, the approach to help managers understanding of the situation after the rewards system has been proposed.

Keywords: Reward Distribution System, Employees Motivation, Employees Performance, Hamgamkhodro Asia factory

1. Introduction

Reward management systems have major impact on organizations capability to catch, retain and motivate high potential employees and as a result getting the high levels of performance (Fay and Thompson, 2001).If the reward system is inefficient or does not use suitable and equal rewards, the way of implementation will not be important. The reward which is based on the motivation and satisfaction of employees' needs, if is not considered properly, will be changed to high-power source to reduce employees' motivation. Reward distribution system is changed to management tools that it can grow organization in long time (Kandula and Srinivas, 2007).

Reward distribution system is a framework to create performance reports in organizations; this approach enables management to translate mission goals and vision of the company, various business units and duties of directors to indicators related to performance evaluation (Bruggeman and Decoene, 2002). The core of Reward management systems is formed based on vision and strategy. This is actually the basis for financial goals, Improve internal processes, customer satisfaction and employee growth and learning (Kaplan and Norton, 1996).

2. Literature review and hypotheses

2.1. Reward Management System

Reward management system contains the organization's policies, processes and practices for rewarding its employees in accordance with their contribution, abilities and artifice. It is progressed within the organization's reward philosophy, strategies and policies, and includes agreements in the form of processes, practices, structures and procedures which will provide appropriate types and levels of pay, benefits and other forms of reward (Armstrong, 2003). Taylor is the innovator of reward in the industrial world. He defined pay system (payment systems business segment); this makes a big change in productivity growth and industrial development in west. In those years, Gantt action got premier situation than Taylor in rewarding system, according to human factors and issues. Some systems are also based on the numbers, levels and skills of person's job.

In this case, managers identify the skills needed to perform the job. As the skills of employees are increased, their income will be increased. But certainly Scanlon plan is turning point of known systems that underpin many of today's projects. According to the plan, labor cost(C) is related to sales(S) and according to reduce costs and increase sale the bonus(Re) will be paid to employees in determining ratio(φ_i).

$$Re = \sum_{i=0}^{n} \varphi_i * (S - C)$$

In the same years, Mitchell Fein presented a plan that is given group bonus to the workers according to improving their physical productivity (Number of hours saved by the number of pieces produced) (Daneshforozan, 2005). One system that was used in the executive managers is balanced score card. In this system, parameters are determined from four groups of internal processes, growth and learning, Financial and customers. According to table (1), in this system, the importance weight for each parameter has been determined. The performance index (KPI) is calculated from total of multiplying each parameter (α_i) and weight of parameter (β_i) (Kaplan and Norton, 1996).

$$KPI = \sum_{i=0}^{n} \alpha_i * \beta_i$$

Bonus of personnel is determined from multiply α percent of law (L) and the performance index (KPI).

$$Re = \alpha * L * KPI$$

Weight	Parameters used in KPI	Groups
10%	The amount oftimelostdue toincidents	**HealthCare(alternative of financial group)**
15%	Disease(total dayslost)	
15%	The amountofproducts thatare destroyed	**Production (alternative of internal processes)**
10%	Volume ofproductsproducedat thefirst time, are notacceptable	
15%	Fixed cost ofproduction	
10%	Frequency ofcomplaints	**customers**
10%	Timelydelivery	
15%	A team workingfor leasttwodays	**personnel**

Table 1: Indicators used in the balanced score card Payment system

Reward management systems have the following features:

- Reward should be fit to employee's role in implementing of organization responsibilities and goals.
- Reward should be equal, in other words, the reward to the employees, should be equal respect.
- Reward should be integrated, in other words, the design and application of reward management strategy should be balanced and comprehensive.
- Reward should have two results: motivational needs of employees and corporate business objectives.
- Reward should be creating performance oriented and able to institutionalize performance management systems and performance excellence (Kandula and Srinivas, 2007).

Reward management system tool includes both financial and non-financial rewards which are also called as extrinsic and intrinsic rewards. Financial rewards are salary increase, bonus system, perquisite etc. on the other hand there are non-financial rewards which are: promotion and title, authority and vacation time, comfort of working place, social activities, feedback, flexible working hours, design of work, recognition, social rights etc(Yang, 2008).

2.2. Employees performance

Employee performance is originally what an employee does or does not do. Performance of employees could include: quantity of output, quality of output, timeliness of output, presence at work, cooperativeness (Gungor, 2011). Some studies show that the reward distribution system can undermine individuals' performances while others show that system implementation can improve individuals' performances. For example determining reward in the schools for learning multiply table lead to increase efforts of students for learning while reward system in teams working lead to reduce performance if the rewards are allocated to some and not allocated to others, regardless of job type, age and skills of team members and etc (Kohn, 1993).

Performance and reward management system's productivity effect on morality and efficiency of organization. In other words, the ideal model explains relationship between reward systems and employee performance. If efficiency of worker seemed high, this means that he tries to achieve one or more personal goals if he feels his previous effort has resulted in his receiving rewards (Futrell, 1975).the effectiveness of an organizations performance and reward management have an impact on moral and productivity (Yazici, 2008).on the other hand "path-goal model" absolutely explains the relationship between reward system and employee performance. The concept states that "if a worker sees high productivity as a path leading to the attainment of one or more of his personal goals, he will tend to a high producer. Conversely, if he sees low productivity as a path to the achievement of his goals, he will tend to a low producer (Gungor, 2011).

Hypothesis1: Reward distribution system lead to increase efficiency in Hamgamkhodro Asia factory.

2.3. Motivation

Motivation is the internal state that encourages people to perform certain activities. Motivationis used for defining individuals working traditionally (Pervin, 2005). Workers' motivation for organizational tasks and align their goals with the organization goals have particular importance. Due to the importance of motivation subject and success in managing organizations, experts have investigated it from various perspectives. Theories explain the most important motivating factors for improvement and success include Maslow's hierarchy theory, Herzberg's theory and the theory of X and Y. This theory focuses on the motives and needs that shape the behavior (Hersay and Blanchard, 2004).

A basic explanation of motivation is the capability to change behavior. Motivation is a drive that holds one to act because human behavior is directed toward some goal (Demirci, 2007).Employees' motivations are highly engaged in their work and they are trying to advance their duties (Kuvaas and Dysvik, 2009). Grant (2008) established a study in which, motivation enforced the employees' outcomes such as persistence, productivity and performance. Reward management system also influences on motivation of employees.
Hypothesis2: Reward distribution system lead to increase employees' satisfaction of Hamgamkhodro Asia factory.

2.4. The case study described

Hamgamkhodro Asia factory produce mold press, mold part of car and assemble collections at the land area of 160,000 square meters in industrial zone of Alavijeh of Isfahan. Currently, the company's production area is 32,000 square meters. Hamgamkhodro Asia factory started its activity with production contract in 60 body part collection of Peugeot 206 in G3, G4 and G5 size. In this regard, the company was committed to deliver an annual 7.5 million pieces to Sapco Company. Also in 2004, the company contracted to build the mold and produce 70 pieces of body parts of Logan (L90) with Renault Pars and now it has achieved its goal. The company, having over 60 presses with capacities up to 1200 ton is one of the country factories for the production of press parts. This factory production contains many part of Peugeot 206, Peugeot 405, Peugeot pars and etc. The annual number of car parts is 1,000,000.

Molding unit of Hamgamkhodro Asia factory has one of the most advanced equipments and machinery design and manufacture to make molds in the country that it has been able to build a variety of formats to reach a high level of knowledge with cooperation specialists and experts. One of the company's strategies is to become a leading company in issues relating to personnel satisfaction and efficiency.

3. Designing reward distribution system with increasing satisfaction view in Hamgamkhodro Asia factory
In this article, with improving Scanlon reward system and with considering the profit margins of production parts, the amount of costs and profits is generated by production of each operator, reward distribution system has been designed for production workers with increasing employee satisfaction and work quality and factory profitability. Since preparation of raw materials is up to the customer of this factory, and its income will be taken when it is sold, the need to produce each product in order to increase the safety stock, is necessary. Now in order to achieve the objectives and considering organization culture of Hamgamkhodro Asia factory action to improve the payment system rewards of balanced score card and designed, the system determines rewards between non-production personnel. This system can not only increase the employees' satisfaction, but also in can be a good recommendation to the management staffs of industrialists.

3.1. Designing Operators Reward Distribution System

At first, reward distribution system was calculated by manager of Hamgamkhodro Asia factory according to count of operators production and didn't get any attention about what production was produced and how much time they needed to produce. In new system, overtime cost of operators is considered for determining times for producing by operators, and profit margin of production is considered for determining type of production. In determining the cost of the operator, consumer delivery such as gloves, shoes, work clothes and etc were considered by operators. Consider the cost of each operator (C) include payroll costs (L), the cost of consumable supplies received from the warehouse (O), the cost of transportation operator (T) and penalties of health and safety for operators (S) cost of damage components by the operator (Lo) is:

$$C = L + O + T + S + Lo$$

Income per operator (I) is equal fix ratio (α) to the number of parts produced by the operator (R_i) to revenue related to the production of parts (profit margin of production (R_i):

$$I = \alpha(\sum_{i=1} R_i * C_i)$$

Finally, the production staff reward (Rw) is the difference between income and the cost of each operator:

$$Rw = I - C$$

3.2. Designing Support Stuff Reward Distribution System

At first, reward distribution system for non-production personnel of Hamgamkhodro Asia factory was divided in different units according to ratio of production employees' reward and importance of each unit. In previous system, performance of units and its personnel, the manager's opinion of the areas under their control and Individual values of each person was not considered. Therefore, for determining system that can have these parameters, the distribution system designed to reward non-production employees. For designing this system first different jobs have to be evaluated. Job parameters comparison method was used for evaluating jobs in Hamgamkhodro Asia factory. Thus, we determine the factors and conditions and characteristics of the jobs (α), such as workplace conditions and job requirements in first. Then organization jobs prioritization in each the factors and we determine the total score obtained for each job.

The second step is to determine the intrinsic value of persons (γ) for determining this parameter degree, the organization side and job skills will be considered.

The third step is the opinion of senior managers (β) about the areas under their control. For determine opinion of great director of middle managers (a) and middle managers of the administrative staff (b), factors such as performance units under the supervision of the manager is very important. In figure (1) calculating the ratio of managers at various levels is shown.
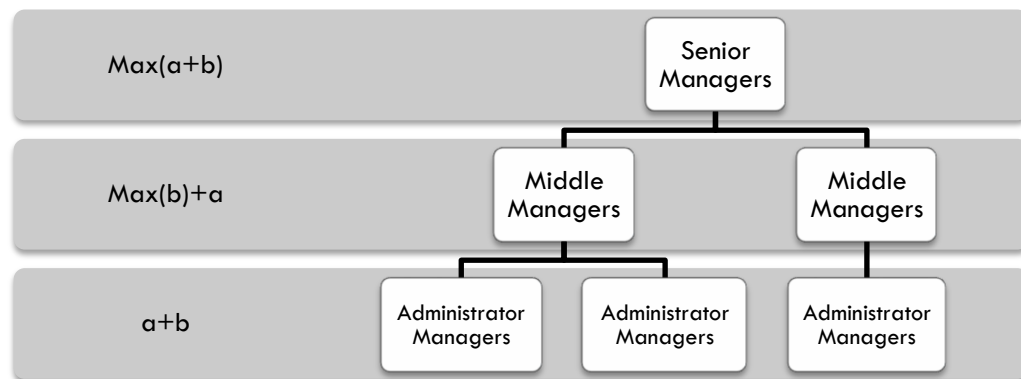

Figure 1: How to calculate the coefficients under the supervision of senior managers

In this table, opinion of first organization level (senior manager) about managers of second level (middle managers) was shown with (a) and opinion of second level (middle manager) about employee of third organization level was shown (b).In this structure, middle manager allocates to himself the maximum coefficient of the third level (Max (b)) and the coefficient of their senior manager opinion (Max (b) + a) and senior manager allocate to himself maximum coefficient of low levels (max (a+b)).

Now, we will achieve employees' reward coefficient (μ) with sum of coefficients of job parameters, coefficients of intrinsic values and coefficients of senior manager opinion.

$$\pi = \alpha + \beta + \gamma$$

In order to determine the coefficients of job parameters, coefficients of intrinsic values and coefficients of senior manager opinion we can use parameters of figure2.in this figure maximum value of each parameter has been shown according to opinion manager of Hamgamkhodro Asia factory.
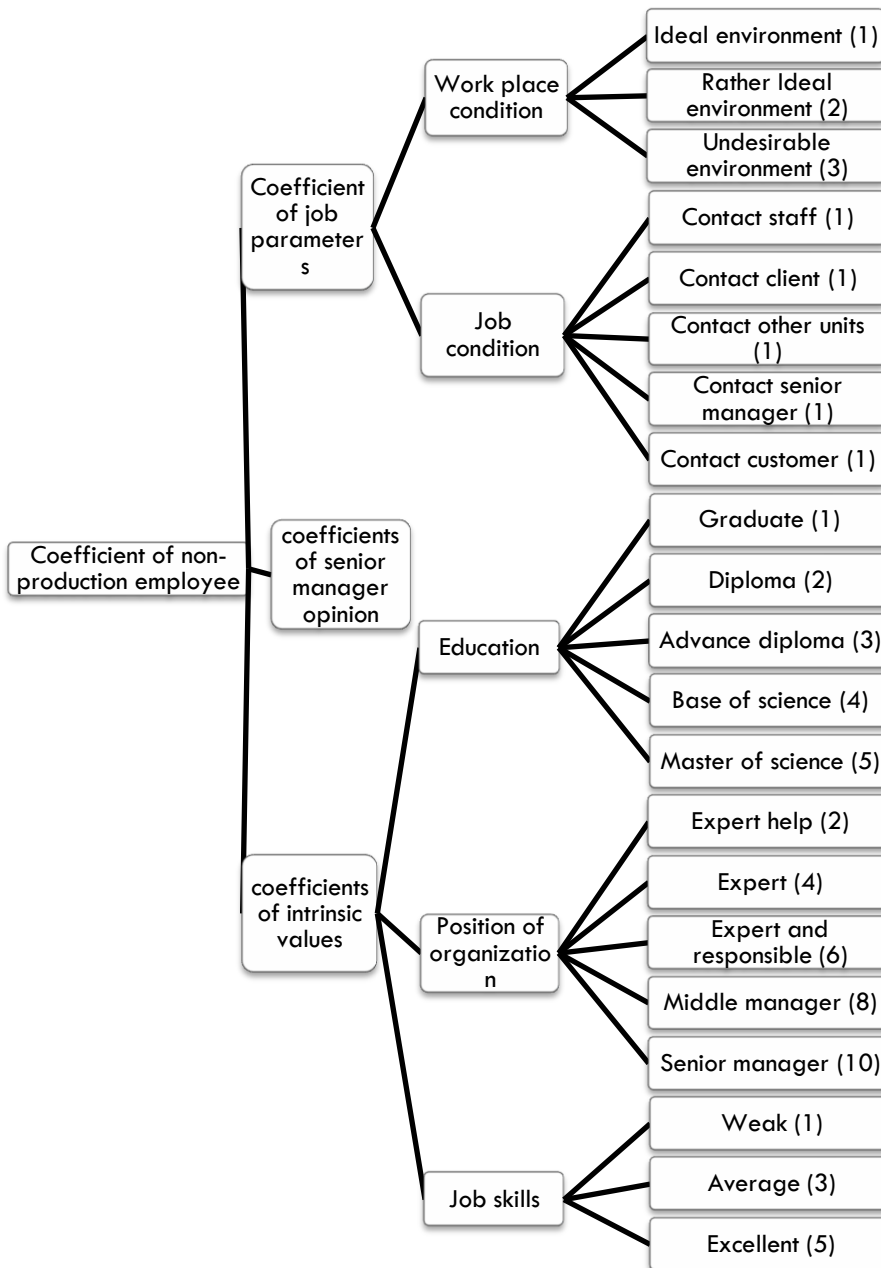
Figure2: Manner calculated to reward non-production staff

Now, according to production operators (I) and determining coefficient of production operators(r) and amount of non-production staff cost (Cs) that is calculated similar to production workers, reward budget is calculated(Is).

$$Is = (r * I) - Cs$$

Sum of non-production personnel reward (Rs) will be achieved from multiplying reward budget (Is) and weight of coefficient of non-production personnel reward (Ψ).

$$\Psi = \frac{\pi}{\sum_{i=1} \pi_i}$$

$$Rs = Is * \psi$$

Allocation of goods income coefficient and non-production employee reward coefficient need to proper balance between revenues and allocated reward to employees. In other words, our coefficients should not lead to increase costs more than earned income.

3.3. Numerical examples for understanding the reward productive employees and non-productive employees

Consider the operator that he has been produced a part with income (margins) 2000$ in the number 4000 and a part with income (margins) 1000$ in the number 300 in one day. If you assign a reward rate is 7% of income components, operator income is calculated that day as follows:

I = (2000*0.07)*4000 + (1000*0.07)*300 = 581000

C = 250000 + 10000 + 100000 + (20000*2) = 400000

RW = 581000 – 400000 = 181000

Now, consider one of factory employees that has taken 1 out of 5 maximum values of coefficient and number 1 in environment condition and job condition and number 2 in opinion of his middle manager and number 1 in opinion of senior manager while he has taken number 4 in education and number 5 in job skills and number 3 in side of organization. If the weight of all parameter was equal coefficient of this employee is calculated as follows:

π = (1 + 1) + (1 + 2) + (4 + 5 + 3) = 17

If this factory had 10 operators that their reward of each is 181000$ on that day and coefficient of production operators reward for non-production employee is 1.5 and the count of non-production employee is 3 and the cost of each employee is 500000$ and sum of coefficient for them is 18, 17, 19, budget of reward for non-production employee is calculated as follows:

IS = (10*181000*1.5) – (3*500000) = 1215000

According to Table 2, each person will share from total budget of reward according to coefficient of himself.

Name of employee	Sum of coefficient	Weight of coefficient	Amount of reward
Employee 1	17	17/54	$(17/54) * 1215000 = 382500$
Employee 2	18	18/54	$(18/54) * 1215000 = 405000$
Employee 3	19	19/54	$(19/54) * 1215000 = 427500$

Table 2: method of sharing reward between non-production employees

4. The proposed model validity

In this research we used a survey for two testing groups (operators and non-product employees) statistical community for this paper are the total number of Hamgamkhodro Asia Co.'s staff which is 370 people. From this number, regarding their label, 170 ones are product workers and 200 people are non-product workforce. For choosing the sample volume, using Morgan's Table, we got 12 people for product workers and 11 people for non-product employees. But for reducing the error, sample volume for both groups are 30 people.

We used questionnaire for collecting the information that had 12 questions. These questions were related to employee's satisfaction about the way rewards are paid (about people's function, how costs are recorded, the allocation of coefficients and rates, satisfaction of specified parameters and …).

Answers were in form of 5 choices, according to the Likret's 5 degree range. The questionnaires were given to both groups in two sessions.

First part of note question was about personal information of the employee (like sex, age, marital status).
Stability of the questionnaire was determined by Cronbach's alpha. Due to the large volume of data, SPSS software was used for analysis. According to table (3) the following results were obtained to determine employees' satisfaction of the reward system.

	Mean		Standard deviation	
Motivational factor	Production staff	Non-production employee	Production staff	Non-production employee
The reward system	4.03	3.38	0.63	1.21

Table 3: mean and standard deviation of employee satisfaction of the reward system in Hamgamkhodro Company
To determine the formal validity first the questionnaire was distributed to a limited level. (20 people) and with the interviews that were conducted in a small sample before test, the questions were modified and adjusted to the perceptions and attitudes and the culture of the statistical community. Information was analyzed by means of descriptive and inferential statistics, correlation, t test and chi-square, using SPSS software.

Chi-square test showed no significant relationship between gender and marital satisfaction but the relationship between age and job satisfaction was significant (p <0.05).

Now we can say with 99% confidence that manufacturing employees have been satisfied with the reward system in Hamgamkhodro Co. Therefore with 99% confidence assumption zero, based on equality of averages $H_0: \mu_1 = 3$ can be rejected and assumption 3, $H_1: \mu_1 > 3$ is accepted.

Also with 95% confidence we can say that non-manufacturing employees have been satisfied with the reward system in Hamgamkhodro Company. Therefore with 95% confidence assumption zero, based on equality of averages $H_0: \mu_1 = 3$ can be rejected and assumption 3, $H_1: \mu_1 > 3$ is accepted.

5. Conclusion

Decision on the implementation of effective reward systems aimed at increasing employee satisfaction requires an appropriate approach and as mentioned allocation of coefficients in order to determine the ratio of intrinsic values and the coefficient to employment factors, different managers are required to participate.

According toTable4 the bonus payment system and increase employee satisfaction analysis can be done.

Reward / Employee's satisfaction	High	Low
High	Situation 1: coefficients are correct and employee motivations desirable	Situation 2: Staff's expectations are small
Low	Situation 3: Coefficients are incorrect and distribution of rewards is unfair	Situation 4: Lacks of demand for products

Table 4: Analysis of the reward system, and increase in employee satisfaction

In situation 1, reward rate of products profit margins and non-production workers reward rate of this income is correct. It would be better if 7% of these Profit margins add to production staff, and non-production employees will be rewarded 1.5 times of the benefit budget. In this case, employee's motivations to achieve their personal goals are high, and reward of workers regarding to production increase, will be more than the previous period.

In situation 2, in that case production due to market down turns or unplanned maintenance and...Is low but because of understanding the current situation and fairness of the payments, Employees' satisfaction is also high.

In situation 3, with increasing the production rate reward are higher but personnel's satisfaction due to unfair reward distributions reduced which can result from determining incorrect factors in reward dividing between individuals.

In situation 4, also, Rewards of employees due to lower production rate is reduced and they are also dissatisfied because of the unfair division of Rewards.

In this paper a new model for the allocation rewards for productive and non-productive staff was designed, in order to increase employee productivity and satisfaction, and following results were obtained:

1) If staff's reward was higher than previous periods in a company, productivity and profitability of that company has been more than previous periods, respectively. Because part of the product's marginal profit is paid as reward, thus with increasing productivity employee's reward and profitability of company increases.
2) If Team work and participation of managers at different levels in determining parameters and coefficients in the reward system is more, Implementation of the system will be easier and employee will be more satisfied.

Considering the above points in a rewarding system, it can be expected that this system increases satisfaction and there by improves the performance of corporate and companies.

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