EMPLOYEE SUGGESTION SYSTEM (KAIZEN TEIAN)
THE BOTTOM-UP APPROACH FOR PRODUCTIVITY IMPROVEMENT

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Abstract. In a globalization environment, the organizations' competitive advantage is determined by the products' cost/quality ratio which is in direct correlation with the employees' knowledge, attitude and commitment, at all the levels of the company. The creative ability is present in everyone, needing only to be developed through adequate and accessible systems, known as Employees Suggestion System (the English interpretation of Japanese system name: Kaizen Teian). This article aims to give the essential guidance in order to draw up and implement such a system that helps develop the motivation and creativity of all the members and a bottom-up approach for productivity increase of each organization. Based on Japanese and Western countries experiences, are presented the potential areas of improvement, how to encourage people to participate and work, motivating tools and awards, review and evaluation possibilities. An implementation model is presented. In the last part, as result of ten years of experience in this field of activity in Romanian companies, are presented the key points for a good implementation.

Keywords: suggestion system, Kaizen Teian, employees' involvement, continuous improvement, cost saving

1. Introduction

Nowadays, the companies have access to new technologies and systems. Then, what will make the difference? More and more, the organization efforts are oriented to theirs peoples and new organizational methods. Each company must select and put in practice a pool of tools to helps develop the motivation and creativity of all the members and increase productivity. It is a known fact that the employees, who are close to an operation, process or function, are often in a position to observe how things might be improved. Varying degrees of savings can be achieved when such ideas are brought forward and implemented.

For more than 25 years, the Japanese concept of Kaizen (continuous improvement), and the managerial techniques behind it, has been universally accepted all over the world. The international standard ISO TS 16949 requests to all employees "to consider continuous improvement as their permanent duty, by proposing, evaluating and gradually implementing small improvements, directly in their own workplace" [1, 2].

The companies, from all industries, but especially those from automotive industry, put in practice different employee's suggestion systems, adapted to their needs. The efforts to draw-up the system and the implementation process itself should take into account basic system principles,

the company vision, mission and strategy, long term objectives and local conditions (management style, national and organizational culture) [1, 3, 4].

Romanian companies start to implement such systems with their own efforts or, through know-how transfer. The process results are different; the main influences are coming from the management commitment and resources allocated.

2. General frame

Every job has two important components. One of them is standardization, or support of the daily status quo, and the other is destroying the status quo in order to improve. Standardization means maintaining present levels, the present character of the work. On the other side, it is also crucial to incorporate into the company structure a system for breaking away from the existing circumstances, so that the company can surpass present performance levels.

Successful companies are those that are able to strike an effective balance between the element of standardization and the innovative forces represented by innovation and Kaizen (continuous improvement).

Major innovations bring about remarkable results, but they require the spending of large sums of money. They may involve development of new products, or large investment in equipment; it also

takes a lot of material and time.

On the other hand, continuous improvement through employees' suggestions represents an incremental, ongoing process as one small invention is added to another. It is something that everyone can participate in, using common sense to make logical improvements. When a constant stream of small improvements flows from all the employees, a powerful force is set in motion. This is why Kaizen, has become one of the most important tools of managerial strategy.

While all areas of the company will be open for suggestions, the principal focus will reside in the following areas:

- Productivity and Quality: how might we improve a design, an operation, a function, the use of, or substitution of materials?

- Product Design: can we improve, change, modify or alter a design so as to build it more cost-effectively with superior quality performance? A design that needs less energy consumption?

- Purchasing: what changes can we bring to our purchasing practices that will save us money? Material and component substitutions? Volume purchased? Multiple versus fewer suppliers? Domestic versus imported materials/ components?

- Administrative: what changes can we bring to any of our varied administrative practices, which will save us money?

3. Proposed approached

Basically, each suggestion system should represent a cycle with four major components:

- Encouraging people to participate

- Motivating them to write proposals (either implemented or unimplemented ideas).

- Review, evaluation, implementation

- Award payments and commendations.

If this cycle flows smoothly, the proposal activity will also run smoothly, one idea will lead to another, and continuous improvement will translate into improved productivity. Making improvement suggestions is an activity that should take place on a daily basis in our jobs. That is why the system and its rules must be simple and easily applicable. The simpler the tools, the easier they are to use, and the fewer problems we will have [1, 4, 5].

3.1. Encouraging People to Participate

People must be influenced from outside by various methods which nudge them in the desired direction of suggestion activity. Methods that use compelling measures and targets will get positive results quickly, at least in the short term. They are definitely necessary in the initial period, until desired working habits have been established.

Campaigns and events represent more subtle methods. People naturally become interested when they see displays of improvement examples with positive results and when they can experience for themselves the meaning of continuous improvement. Such methods are helpful in shaping a public consensus about Kaizen activities. Other tools can also play an important role, such as lectures on suggestion activities or articles in the company newsletter or reference manuals.

3.2. Motivate Employee to Write Proposals

One of the principles, controlling our world is the "2-6-2" rule. According to this statistical principle, in any group of ten people, there will be two who have very positive attitudes and will be full of enthusiasm. Another two people in this group will be very uncooperative and will oppose anything. The remaining six will have no particularly positive attitudes but will not be uncooperative. This middle group can be swayed in either direction, depending on the atmosphere and climate around them.

Some 20 percent of employees (the positive-attitude group) will usually think about innovative changes, whether a suggestion system is in place or not. Another 20 percent will never come up with any innovation. The remaining 60 percent will participate in creative continuous improvement if a system for doing so is in place. If we want to set them in motion and bring out their potential, we have to create a system that motivates everyone and that builds innovative activity into the company climate.

This is the purpose behind the requirement that every improvement idea of every employee should be submitted in written form. Only after something is written down as a proposal, someone else can understand the actual conditions of the workplace and the improvement that was made.

3.3. Review, evaluation and guidance

The biggest obstacles in the suggestion cycle lie in the area of review, evaluation and guidance. When people submit their ideas for evaluation and never receive feedback from the examiners, they feel dejected and frustrated. Insensitive comments of proposal reviewers can sometimes kill an employee's improvement initiative. Even if the

evaluator means no harm in a written answer if his or her intent is not clearly communicated, it invites to negative misinterpretations.

When the review evaluation and guidance aspect of the system functions properly, it can be a great motivating force that will attract many excellent proposals. The suggestion activity will never function properly when this component of the process is neglected. This is the most important part of the innovation process.

So, who should review the suggestions? Some companies assign a Suggestion Committee who reviews the proposal, makes decisions whether it should be adopted or not and informs the author of the decision. If adopted, the Committee instructs the management to implement the suggestion, and decides what award should be given to the person who submitted the suggestion. If the number of suggestions is growing, the Committee might find it unable to keep processing all of them centrally, and could delegate the authority to process them to the department manager.

Other companies consider that the persons in charge of the workplace, right there, should examine suggestions on the spot. The colleagues and the supervisor are the persons who know the workplace better than anybody else does. They know about potential problems and where the difficulties are likely to be encountered.

It is not recommended for examination to be done only by the direct manager. Sometimes, a one person evaluation could be biased. Some reviewers are indulgent, while others are overly strict; this is only natural. However, it would not be fair to leave some people at the mercy of very strict supervisors. It is important to have some type of mechanism to prevent the harm that could come from such behaviour. It is possible to maintain a system of direct appeal to the upper management, but only as a supplementary system. This will enable employees to appeal if they feel their suggestion have been rejected unfairly.

For suggestions which require important technical changes, the process engineer must be consulted, in order to be sure that the implementations do not negatively affect other process elements. The change will be reflected in the process documents, which must be updated (i.e. FMEA, Control plans, control instructions and working standards)

3.4. Award Payments

Numerous reward systems operate within organizations, often used as a key management tool that can contribute to a firm's effectiveness by influencing individual and group behaviour. The design of these systems may include pay for individual performance, pay for individual development, rewards based on the performance of small groups or teams and finally rewards based on division or organizational performance.

The increasing of improvement activities and joint problem solving has led to questions about the rewards that the employees should receive for this work. Companies face choices regarding the type of reward (financial or non-financial), the amount, and the frequency with which rewards are provided and collective or individual rewards. These choices are summarized in the Figure 1.

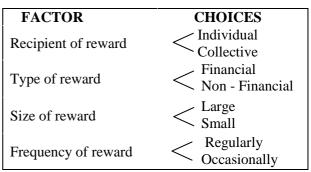| FACTOR	CHOICES
Recipient of reward	Individual / Collective
Type of reward	Financial / Non - Financial
Size of reward	Large / Small
Frequency of reward	Regularly / Occasionally

Figure 1. Reward factor and choices

It is well known that some Japanese companies pay a nominal fee for each suggestion, once it is submitted, and credit is given, even if the suggestion is not implemented. This is based on the premise that preparing a suggestion is a learning experience itself and has an educational value.

There are a number of potential problems that are posed by rewarding suggestion. The first is the extent to which rewards are actually effective in encouraging employees to contribute with ideas and participate in the improvement process. The second problem is whether rewards should be awarded to individuals or teams.

Companies differ in the reward given. Some give none; others give one-off standard payments, regardless of the impact of the suggestion, some make a one-off payment, the size of which depends on the savings made. Other rewards include bonus "points", by awarding those making the suggestions with a number of "points", depending on the savings made by that suggestion. These

points are being accumulated and exchanged for gifts from catalogues or other payoffs.

Beyond monetary award, other types of awards could be considered, such as:
- petrol vouchers;
- paid holidays in a seaside resort, beauty spot or spa;
- dinner in a restaurant with the family;
- free day-trips to places of interest;
- different products: watches, T-shirts, ties, wallets, cameras, cosmetics, bags, etc.

Some HR researchers point out that direct financial rewards in proportion to the value of the suggestion – the basis of many "traditional" suggestion schemes, are not particularly effective. They suggest that this is because such systems tend to encourage the submission of "big" ideas, since only these are seen to have high potential reward. They consider that most recognition systems should reward the behaviour itself, rather than the suggestion, and often involve giving a token reward for every idea, no matter how simple, and whether the idea is implemented or not. [1, 4, 5]

3.5. Evaluation Standards

Executive managers and suggestion system promoters give various answers when asked what determines the quality of a suggestion. A good suggestion, they say, is one that:
1. is effective
2. has a wide range of applications
3. can be implemented
4. has already been implemented
5. represents a major idea
6. is "ingenious"
7. eliminates the causes of problems
8. corresponds to the goals of the company
9. solves problems that affect all employees
10. does not cost a lot of money.

When the objective of the suggestion activity is simply effectiveness or good results, then the quality in a suggestion means simply that it is effective, saving big costs or making big profits. In some companies, the suggestion systems are bound to promote participation (thereby energizing the workplace), the development of skills (thereby creating employees that think) and effectiveness.

Many companies use evaluation standards like those shown in figure 2. They often include evaluation points such as "efficiency", "novelty of ideas", or "effort". Each of these categories is assigned with a certain number of points; the total score will determine the grade or class of the proposal and the corresponding award amount.

However objective and analytical it may be, this method is time consuming and confusing for reviewers. Even when reviewers gain a sense of the suggestion's worth on first reading, they must still go through the motions of assigning the points to arrive at the grand total [1, 3, 5].

Evaluation Standards *)																
EvaluationFactors	**Principal Review Items and Evaluation Points**															
	Very significant				Considerable				Small				Not significant			
Effect (40)	40	38	36	34	30	28	26	24	20	18	16	14	10	6	4	0
Originality (25)	Highly novel and creative				Quite original, offering a wide sfere of application				Can be creatively applied with some help; creative when widely applicable				Similar examples elsewhere; hot very creative or insightful, but has reference value			
	25		23		20	18		16	14	12	10	8	6	4	2	0
Effort (20)	Required a great deal of effort				Required quit a bit effort				Required some effort				Just a lucky strike, very little effort			
	20		18		16	14		12	10	8		6	4		2	0
Possibility of implementation (15)	Can be implemented immediately				Requires a preparation period				Still some room for improvement and more thinking				Will require a lot of further study; hard to tell if proposal has much future			
	15		12		10		8		6		4		2		0	
Class of proposal and award payment																
Class	1		2		3		4		5		6		7			
Total points	90 or more		80 or more		70 or more		60 or more		50 or more		40 or more		30 or more			
Award, USD	200		130		70		20		13		7		4			
*) Adapted from Nichii Co., Ltd., Japan																

Figure 2. Evaluation standards

4. Implementation model example

In this chapter, it is presented a suggestion system implementation model, drawn-up according the criteria described in the previous chapters.

4.1. Suggestion form and evaluation criteria

In Figure 3, the suggestion form is presented. A condensed evaluation chart is presented in Figure 4.

The accepted suggestions are evaluated on a five-grade scale, from "not bad" to "excellent". The minimum award is 5 USD, and is meant to reward suggestions that identify and point out a problem, without proposing countermeasures or solutions. The maximum award is 100 USD, for very valuable, implemented suggestions. In this case, the Suggestion Committee revaluates the suggestions.

4.2. Suggestions' process

Any employee, who has a suggestion, obtains the suggestion form from his/ her direct supervisor. The form, when completed, is submitted to the first reviewer (i.e. the direct supervisor and workplace colleagues) during workgroup weekly meetings. The supervisor previously advises the applicant how to fill in the form or to make an estimate of the potential savings / benefits arising from the suggestion.

The suggestion is promptly evaluated, especially when the top award for the suggestion is in the region of 20 USD, or less. The implementation will be realized with the maintenance department support.

For larger award amounts, the Suggestion Committee is informed, in order to have the proposal properly evaluated.

The same committee examines employees' appeals against first reviewer's decisions, if their suggestions are considered unfairly rated or rejected. The Suggestion Committee meets once a month, so that any suggestion gets a final decision in max. 30 days.

4.3. Suggestions' follow-up and promotion

The number of issued and realized suggestions is a good indicator for each department. A follow-up chart is completed and the figures are reported in order to have the big picture of the company. The indicators tell about people involvement and management support and commitment.

Quarterly, the organization presents to a big group of people, from all departments, the most creative implemented suggestions. The Suggestion Board presents all suggestion in before-after sketches, mentioned the creative ideas and the savings.

SUGGESTION FORM			
Workplace : Employee name : Badge no: Date of submission			
Suggestion / Idea:			Already implemented ? ☐ Not yet implemented ? ☐
Purpose of suggestion: problem-solving ☐ improvement ☐ cost saving ?☐ restructuring ☐			
Description & Effect (Please describe concretely, specifying the value in financial terms, if possible): For more detailed description please use separate sheets		If suggestion proposes changes to product, process, materials, suppliers, please submit it for approval to: **Technical Dept.:** Code no. _____ Concurred by _____ Date _____ Signature_____ **Commercial Dept.:** Code no. _____ Concurred by _____ Date _____ Signature_____	
Comments / Proposal of First Reviewer (to be completed in max 10 days after submission): 		Comments and Decision of Suggestion Committee (to be completed in max 10 days after submission):	
Rating (see below):	Award: USD	Name: Date: Signature:	Final Decision Award: USD	Employee Acknowledgement: Date: Signature:

Figure 3. Suggestion form

EVALUATION STANDARDS			
The suggestion conflicts with the department policy and objectives, or is not feasible, or has no efficiency / benefit, or is not very useful, or falls within the employee's normal job responsibilities, or do not represent actual improvement (i.e. demands, grievances, complaints, etc.)	Rejected **(R)**	The suggestion is quite creative, applicable and feasible. Benefits are fairly significant, although the proposal requires further study. Can be used extensively within the company.	Good **(G)** 20 USD
The suggestion is confined to simply pointing out a problem, a shortcoming, an inappropriate process or procedure, a waste of resource, or other business inadequacies. It does not propose countermeasures or solutions, but has reference value and could be used as starting point for effective improvements.	Not bad **(NB)** 5 USD	The suggestion is quite original and very creative and can be implemented immediately. The anticipated effect is considerable and significant benefits are expected, as the idea has a wide range of applicability.	Very good **(VG)** 50 USD
The suggestion can be creatively applied with some help. The anticipated effect is small, but the proposal can be implemented immediately. There is still some room for improvement and more thinking.	Acceptable **(A)** 10 USD	Excellent idea, already implemented with extraordinary effect and benefit. The author worked very hard and made very strong efforts to overcome all problems involving implementation. Can be widely used	Excellent **(E)** 100 USD
Note 1: Suggestions considered to deserve awards equal to, or higher than USD 50, will be examined and rated by the Suggestion Committee. Note 2: If some suggestions exceed, or doesn't meet the criteria of the grade, the reviewer can add "plus" or "minus" to the rating and increase or decrease the amount of the award.			

Figure 4. Evaluation standards

5. Key points

There are many other aspects that could be taken into consideration when a suggestion scheme is thought out, such as:

- What should be the route through which proposals are submitted (suggestion boxes, submission to direct supervisor, direct petition to top management, etc.)?

- How does one recognize the dividing line between his or her basic job responsibilities and those involving creative improvements?

- Should suggestions that apply to other departments be accepted?

- Should suggestions that require for implementation the involvement of a large number of staff, and big investments be accepted?

- How to deal with suggestions already implemented in other departments?

Attempts to answer all these questions could generate very complex and sophisticated suggestion systems.

In the Romanian company, at the beginning, the monetary award was taken into consideration. It had the most powerful impact and encourages people to identify areas for improvement and make adequate suggestions.

Those who were awarded for their suggestions were brought to the other employees'

notice through the in-house communication channels, periodical meetings and ceremonies, and the company newsletter.

The main influence for a successful implementation is the management commitment and resources allocated.

References
1. Amabile, T.M.: *How to Kill Creativity*. Harvard Business Review, Vol. 76, No. 5, September, 1998, p. 18-24, ISSN 0017-8012, Boston, USA
2. Drucker, P.F.: *The discipline of innovation*. Harvard Business Review, Vol. 76, No. 6, August 2002, p. 5-11, ISSN 0017-8012, Boston, USA
3. Hagardon, A., Sutton, R.I.: *Building an innovation factory*. Harvard Business Review, Vol. 78, No. 3, 2000, p. 1-3, ISSN 0017-8012, Boston, USA
4. Japan Human Relations Association: *Kaizen Teian 1 - Developing System for Continuous Improvement Through Employee Suggestions*. Productivity Press, ISBN 1-56327-186-9, Portland, Oregon, USA, 1997
5. Kerrin, M., Oliver, N.: *Collective and individual improvement activities: the role of reward system*. Emerald Personnel Review, Vol. 31, No. 3, 2002, p. 320-337, ISSN 0048-3486, Emerald Group Publishing, Bingley, UK