

Manager Performance Evaluation Using Fuzzy 360 Degree Feedback; A Case Study

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Abstract:

360 degree feedback is a widely used technique in the strategic human resource management and development. Significantly, the evaluation is carried out for employees who manage some others, including supervisors or managers. Since the evaluation methods are often questionnaire-based, the reliability of the evaluation process depends on using the data appropriately. Because of using linguistic variables in questionnaires, some data may lose, in this situation; the fuzzy linguistic approach has the advantage of reducing distortion and losing of the information. This article turns to the evaluation of the production managers of a car manufacturing company with 360 degree feedback method. The method has been applied for ranking the managers in different periods. The fuzzy approach was adopted in designing the questionnaires, because, the respondents have problem with responding quantitatively, they are more comfortable to express their feelings by using linguistic expressions than giving marks. 360 degree feedback was carried out based on New Zealand government model.

Keywords:

360 degree feedback, human resource management, fuzzy, evaluation, case study.

Introduction:

In the history of human resource management, evaluation has been thought of as a key factor in develop human quality which is critical for successful realization of organizational strategy. These human qualities, especially those related to personality traits measured by the Five Factor model, frequently from the essence of a competency profile (Furnham, 2008). Competence is defined as a cluster of related knowledge, skills, attitudes, values and personal qualities requiring a person to be successful performing a group of related tasks (Blanchard & Thacker, 2007). Competences have unique characteristics or qualities that are difficult to copy. To make them applicable for strategic human resource development (SHRD) purpose, it should be possible to train and develop competences by SHRD programs (Hamel & Prahalad, 1994). Competence development is **considered** to be a key element of any HRD policy (Walton, 1999; Blanchard & Thacker, 2007).

There is an increasing tendency for SHRD professionals to focus on personal qualities (Blanchard & Thacker, 2007). This tendency is supported by studies showing a relation between personal qualities and a broad range of aspects of organizational effectiveness (Salgado, 1997; Anderson & Viswesvaran, 1998; Barrick, Mount, & Judge, 2001; Arthur, Bennis, Edens, & Bell, 2003). In the daily practice of HRD, monitoring of progress and systematically providing feedback on the development of personal qualities gets very little attention (Bassi & VanBuren, 1999; Walton, 1999; Blanchard & Thacker, 2007). Feedback on behavioural change, especially repeated feedback, has a significant positive effect on training effectiveness (Brett and Atwater, 2001). As it was mentioned, feedback in general is an important variable increasing the effectiveness of training and development (Houston, 1990). Studies have shown that feedback not only enhances personal performance in many areas, but also increases the intrinsic motivation of employees (Hackman & Oldman, 1975, 1980). Motivation to improve performance means whether the performance evaluation system is related to improvement in employees' future performance and the motivational effect of performance evaluation is considered an important but under researched outcome variable for performance evaluations (Roberson & Stewart, 2006; DeNisi & Pritchard, 2006). Employees experienced feedback as a helpful HRD instrument for planning developmental goals and behavioural change (McCarthy & Garavan, 1999).

However, the Meta-study by Fried and Ferris (1987) has shown that the experienced meaningfulness of feedback was a mediating variable in the relationship between feedback and performance. Feedback should provide employees with meaningful information concerning their behavioural change, feedback can only be considered as meaningful when reliable. Even negative feedback enhances the effectiveness of personal change when it provides employees with information about discrepancies between a desired standard and their current state (Atwater, Roush, & Fishthal, 1995; Walker & Smither, 1999). Moreover, feedback on strengths and weaknesses improves team performance (Lassiter, 1996; Martineau, 1998). But if the discrepancies between self-assessments and the received feedback are greater than expected, emotions, like anger and discouragement, can have a negative effect on behavioural change that is stronger when the feedback relates to personal qualities (Brett & Atwater, 2001).

Based on the aim of the evaluation, employees may have different reactions. Especially, when the evaluation has administrative goals, employees may perceive that administrative evaluations may lack distributive fairness (Kuvaas, 2007) and the procedures used for arriving at administrative evaluation decisions are procedurally unfair (Chen, Wu, & Leung, 2011).

For evaluations that include a developmental component, there may be fewer tendencies on the part of evaluators to manipulate the process and, thus, the evaluations may be perceived as having more positive procedural justice (Jawahar, 2007; Chen et al., 2011). In addition, for evaluations that have developmental components, there may be more positive interaction between manager and employees to discuss the employee's developmental goals, and, thus, may be perceived as having higher levels of interactional fairness (Thurston & McNall, 2010).

This facet emphasized that ratings of personal qualities, skills, or performances are so complex than we can imagine. So, it seems to be difficult to rate one's own abilities or effectiveness of work behaviour in a reliable and valid way. 360 degree feedback is a useful method which is applied for performance evaluation and the enhancement of self-knowledge. The term (360 degree) describing the all-around collation of feedback from peer ordinate, subordinates, super ordinate, and external contacts (Redman & Wilkinson, 2009).

360 feedback is often identified as key to developmental performance evaluation (appraisal), but not without a high feedback culture (Kuvaas, 2011; Garavan et al., 1997). If successful, the capture of varying views and perspectives on someone's performance increases the likelihood that the evaluative outcome is rounded and correct, and of more productive benefit to the individual and the organisation (Bo selie, 2010; McKenna & Beech, 2008).

It is a widely used technique to improve the reliability and validity of ratings of employee abilities or performances (London & Smither, 1995; Church & Bracken, 1997; Toegel & Conger, 2003; Society for Human Resource Management and Personnel Decisions International [SHRM], 2000).

The central assumption in using 360 degree feedback is that aggregated scores of several raters will result in a more accurate representation of the actual work behaviour (Robinson & Robinson, 1989).

As we mentioned above, because of evaluation effects on employee's emotions, a highly reliable and effective performance evaluation rule is essential in 360 degree feedback process. Hence, it is necessary to find the ways which can make the technique more appropriate to develop the employees.

In real world, evaluation techniques engage in handling cases like subjectivity, fuzziness and imprecise information application of the fuzzy set theory in evaluation systems can improve evaluation results (Othman et al., 2008).

360 degree feedback like many other performance evaluation techniques is commonly questionnaire-based. It is crystal clear that answering the questionnaires with linguistic expressions is easier for respondents. The respondents are more comfortable to select an expression to express their emotions than giving a mark or expressing their opinion by numbers. It is the very reason makes the fuzzy theory so applicable in evaluation processes. Basically, fuzzy set theory provides a framework for handling the uncertainties.

In this paper, the performance evaluation process of the production managers of a car manufacturing company performed with 360 degree feedback method using fuzzy linguistic variables in designing questionnaires and its analysis is reviewed. The presented case study has been done in the oldest car manufacturer company of Iran, Pars Khodro. The organizational structure is vertically wide and there are several levels from supervisors and managers. Among all levels, shop managers have the most important roles, because they have the closest levels to the shop floors with adequate authorities to operate them. Besides, since Truitt (2011) proved that there is a very strong significant relationship between meaningful coaching and perceived job proficiency, the top manager and their consultants decided to develop the shop managers through an evaluation and training process. A significant advantage of using such a process was to orient the annual training plans which have meaningful effect on job effectiveness. This process had been done periodically through the evaluation questionnaires which had been designed based on top manager criteria and the numbers between 1 to 10 which had been selected by respondents as the answers. Indeed, the respondents had to express their feeling about each evaluated person by the numbers and giving them a number as the scores.

However, identifying the right respondents, designing questionnaires based on scientific principals and compatible with the top manager criteria and giving scores more accurately were the issues which confronted with several problems. How we can select the respondents to cover all persons who evaluated person works with? (To avoid deviation in results and to be ensuring the right people are selected to run survey process), how we can design the questionnaires more efficiently? (From the scientific principles of human resource evaluation point of view and to be ensuring of obtaining the real feeling of people about the questions to calculate the scores more accurately).

To solve the first problem, it was necessary to use a multi-source evaluation method and to solve the second problem a competency model should be identified to design more efficient questionnaires and to obtain the real feeling of respondents the scoring method must be changed-for which the fuzzy method was applied.

To meet all criteria, 360 degree feedback method was selected to carry out across different periods. Some other reasons as following were taken into account:

Selvarajan and Cloninger (2012) in their experience named "Can performance appraisals motivate employees to improve performance?; A Mexican study" concluded that when (Mexican) employees get their feedback from several sources, they tend to accept evaluation as fair, as opposed to supervisory/manager evaluations (single-source evaluations). They proved that performance evaluations from multiple sources were also positively related to perceived accuracy of evaluation.

Thus, traditional manager-evaluated feedback is often regarded as biased and less accurate by the employees and employees may perceive that feedback from multiple sources is less likely to be biased by political and personal factors as opposed to single-source appraisals.

Also, Narcisse and Harcourt (2008) believed that a multisource evaluation environment may ensure better procedural fairness compared to a supervisory evaluation, which is subject.

The other reasons were related to the company's conditions:

Each manager operates a large number of employees -including supervisors, chiefs, experts and operators-who have exceptions, so managing this complicated collection and making commitment among them is a key factor which makes the "employee's satisfaction"

as a performance factor for any managers. Hence, the employees are important raters in manager evaluation processes and this fact has been taken into account properly in this method.

Analyzing the coordinates, subordinates and super ordinate's idea which is necessary in this method, aware the managers of their actual leadership styles.

Having process-oriented approach make this method appropriate to do frequently with the minimum errors.

Comparing the different idea of different raters with self-assessment result makes the manager aware about the accuracy of his imagination from his performance and helps him to modify his behavioural pattern.

In order to evaluate the manager it was necessary to find a competency model as the base of the evaluation process. For finding a compatible competency model with the studied company, many models were studied and then the model of New Zealand government was selected.

It has been published in 2003 and updated and refreshed in 2009 and aims to outline the skills and capabilities required to lead effectively in the State Services. It describes the personal attributes combined with leadership capabilities to enable high potential, high performing individuals to be successful in leading and managing complex organizations. It has been aligned to the competencies required of chief executives and senior leaders.

The Leadership Capability Profile can also be used to inform relevant and appropriate development opportunities for individuals, as well as provide support for talent identification programs within agencies. It can be used as a self assessment tool for aspiring senior leaders and should enable clear identification of development opportunities for the individual. It can provide an individual's manager with suggestions as to how to support individual development (Leadership Capability Profile, 2009).

With respect to the document conceptions, the questionnaires were designed. To ease answering the questions and enhance the reliability of the evaluation, fuzzy linguistic variables were applied in designing the questionnaires. To apply the importance factor for evaluation areas of the competency model, the weighted least square method was utilized.

After designing questionnaires, respondents were determined and data have been gathered in the form of fuzzy linguistic variables.

After processing the data, the score of each manager was calculated and they were ranked.

The findings were a good guide about their weak points and strength points. Some teams formed from managers to practice required management skills. In each team a person who achieved a high score in a specific skill was the leader and the other who achieved the lower scores were the members. So they could improve their skills through team working.

This study is a sample for the other companies specially the manufacturers to practice the same experience. They can use this process or improve it by applying the other methods in evaluating the other levels of employees or in weighting the evaluation areas or in selecting different competency models and doing the comparative studies. Analyzing of the findings of these studies can help the companies to choose the best methods to evaluate their employees in the reliable ways with the least errors.

Overview of the theory of fuzzy sets

Zadeh initiated the fuzzy set theory. In non-fuzzy set, every object is either a member of the set or it is not a member of the set but in fuzzy sets every object is to some extent member of a set and to some extent it is member of another set. Thus, unlike the crisp sets membership is a continuous concept in fuzzy sets. Fuzzy is used in continuous concept in fuzzy sets. Fuzzy is used in the problem.

Fuzzy theory is widely applicable in information gathering, modelling, analysis, optimization control, decision making and supervision. Special cases of fuzzy numbers include crisp real number and intervals of real numbers. Although there are many shapes of fuzzy numbers, the triangular and trapezoidal shapes are used most often for representing fuzzy numbers (Fasanghari et al., 2008).

Fuzzy logic was developed from fuzzy set theory to reason with uncertain and vague information and to represent knowledge in an operationally powerful form. The main reason to develop fuzzy logic from fuzzy set theory was to build conceptual framework for linguistically represented knowledge.

Fuzzy logic is an extension of multi-valued logics. It offers the base for approximate reasoning with uncertain and vague propositions. Fuzzy logic allows qualitatively speaking of the use of fuzzy predicates; e.g. instead of binary true and false propositions, we can use predicates such as 'usual' or quantifiers like 'all'.

In principle, the binary valued logic can be extended to be multi-valued logic $[0,1]$. The characteristic function can be generalized in fuzzy set theory so that the values assigned to the elements of the universal set fall within a pre-specified range. These values indicate the membership grade of these elements for the set in question (Mahonenand Frantti, 2000; Manoharan et al., 2011). More information about fuzzy set theory and fuzzy logic can be found from Klir and Folger (1988), Zadeh (1975) and Driankov, Hellendoor, and Reinfark (1994).

2. The proposed Method

First, it was necessary to select an appropriate competency model. After doing that and after finding the evaluation parameters, we calculated some coefficients to increase the accuracy of the results.

The survey was done via the questionnaires designed by using of linguistics variables. After gathering the completed questionnaires and defuzzification of the data, the final scores were calculated.

2.1. Competency model selection

Leaders must have certain personal attributes to be able to perform effectively. These attributes are a mixture of ability and experience including learning agility, interpersonal skills, courage, honour and integrity, energy and driving and so on. In addition, they should have leadership capabilities such as strategic, operating and organizational positioning abilities (Leadership Capability Profile, 2009). For each of these skills, the related characteristics were defined in this model and the questionnaires were designed based on them. Three questionnaires, “behavioural skills”, “personal characteristics” and “operational skills” were designed to evaluate the managers in different areas. The areas, number of questions and the other information are indicated in table 1.

Table 1. Evaluation area

Questionnaires	Questionnaire Characteristics		
	Evaluation criteria	Evaluation Area	Number of questions
Questionnaire 1	Behavioural skills	Individual behaviour	6
		Organizational contraction	5
Questionnaire 2	Personal characteristics	Personal characteristics	7
Questionnaire 3	Operational skills	Human resource management	4
		Operation management	5
		Strategic management	2

The importance of the mentioned skills for managers in different organizational positions is not equal. For example, having good contraction with workers is more important for shop managers and in contrast, having strategic thinking is necessary for planning managers. So, each area had different importance in this research which made this necessary to determine coefficients for each evaluation area.

2.2. Coefficient determination

Since there is not a decision matrix, importance determination of every question is not possible directly, so the method of weighted least squares due to utilizing a comparative logic was appropriate for our intention.

In a brainstorm meeting with the top manager and his assistants (deputies) the comparative importance of management skills for production managers was determined. Let L be the dual comparison matrix as is showed in table 2.

Table 2. Dual comparison matrix

Evaluation area	Individual behaviour	Organizational contraction	...
Individual behaviour	$a_{11} = \frac{w_1}{w_1}$	$a_{12} = \frac{w_1}{w_2}$	...
Organizational contraction	$a_{21} = \frac{w_2}{w_1}$	$a_{22} = \frac{w_2}{w_2}$	...
...	...	...	...

Matrix L has $C_n^2 = \frac{n(n-1)}{2}$ arrays or C_n^2 comparisons and $a_{ij} > 0$.

The amount of dual comparison obtained using table 3. The scores 2, 4, 6 and 8 have values between judgments shown in table 3.

Table 3. Importance comparisons

Importance Comparison i with j	Comparative importance
i and j are equally important	1
i is a little more important than j	3
i is more important than j	5
i strongly is more important than j	7

After providing the L matrix, we use the bellow lagrangian function:

$$L = \sum_i \sum_j (a_{ij} \cdot w_j - w_i)^2 + \lambda (\sum_j w_j - 1) \quad [1]$$

a_{ij} is the very arrays of the dual comparison matrix. w_i and w_j are weights. The weights of the area were found by setting the gradient equation of L to zero. (Asgharpour, M.A., 2010)

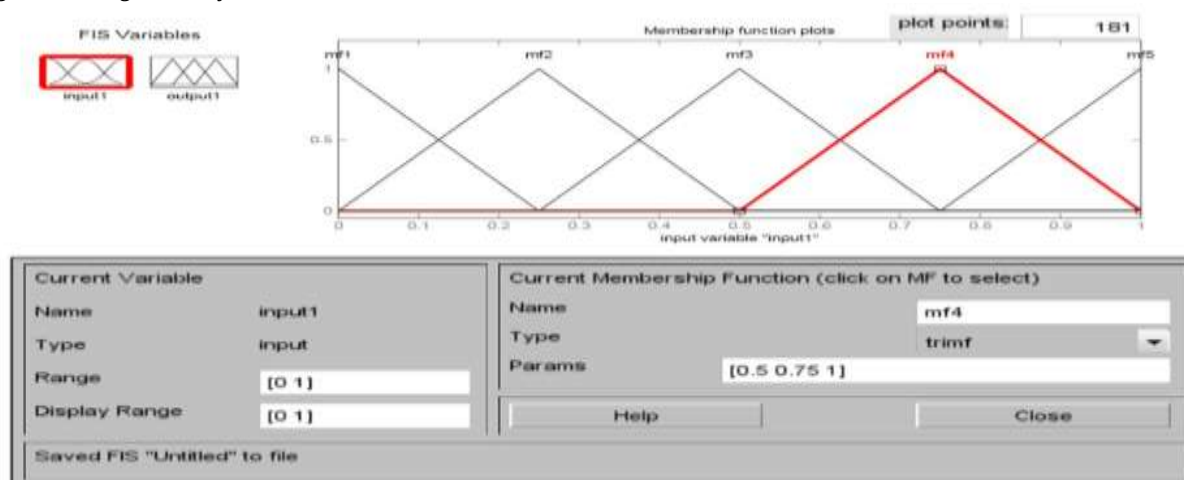
2.3. Linguistic variables

As it was mentioned in previous sections, by a linguistic variable we mean a variable whose values are words or sentences in a natural or artificial language. The motivation for the use of words or sentences rather than numbers is that linguistic characterizations are, in general, less specific than numerical ones.

Due to this fact and for avoiding losing data and for easing to answer the questions for respondents, the linguistic variables “never I have seen”, “merely I have seen”, “sometimes I have seen”, “often I have seen” and “always I have seen” were applied as the answers with which each participant can explain his/her preference about the manager evaluated by 360 degree feedback.

According to Ya and Yao (2000), the v linguistic variables can be transformed into v triangular fuzzy numbers by the following equations. The first linguistic variable L_1 can be represented as triangular fuzzy number $\tilde{L}_1 = (0, 0, \frac{1}{v-1})$, the last linguistic variable L_v can be transformed into triangular fuzzy number $\tilde{L}_v = (\frac{v-2}{v-1}, 1, 1)$, and the rest of linguistic variables can be respectively transformed into triangular fuzzy numbers $\tilde{L}_q = (\frac{q-2}{v-1}, \frac{q-1}{v-1}, \frac{q}{v-1})$, $q=2, 3, \dots, v-1$. The shapes of their membership functions are listed in Figure 1.

Figure 1. Triangular fuzzy numbers



For example, if we adopt the fifth grade of linguistic variables that include “never I have seen”, “merely I have seen”, “sometimes I have seen”, “often I have seen” and “always I have seen”, then, these linguistic variables are transformed into triangular fuzzy numbers (illustrated in Figure 1), and the numeric results are shown in Table 4.

Table 4. Triangular fuzzy numbers

Linguistic variable	Triangular fuzzy number
never I have seen	(0, 0, 0.25)
merely I have seen	(0, 0.25, 0.5)
sometimes I have seen	(0.25, 0.5, 0.75)
often I have seen	(0.5, 0.75, 1)
always I have seen	(0.75, 1, 1)

2.4. Respondent selection

One major disputed issue that may dominate the evaluation results concerns with selecting respondents. To obtain accurate results, it was necessary to identify and select impartial people. On the other hand, 360 degree feedback is a multi-source evaluation process and we needed the respondents in different positions such as coordinates, subordinates and superordinates and impartiality of the answers depended on the amount and type of contractions among evaluated person and evaluating people (respondents). In addition, due to having much contraction by subordinates and super ordinate, they have good knowledge and recognition about the evaluated person and his or her performance. So, as it is shown in table 5, to make the answers of the mentioned respondents more valuable, we defined coefficient for each respondent based on his or her position.

Table 5. Respondent's coefficients

The number of evaluation group	respondent	coefficient	Number of respondents	position
1	Self-assessment	1	1	Manager
2	Superordinate	3	3	Production deputy
3	coordinate	2	2	managers
4	subordinate	3	3	An expert & two chiefs
5	customer	3	1	manager of the next shop

To meet the impartiality of the answers, the relationship between evaluated and evaluating person in one-year period was considered through interviewing by the superordinates and coordinates of the respondents. All of the superordinates and some of coordinates and subordinates were selected.

As we mentioned in previous sections the process which is managed by production managers is body manufacturing, paint, and assembly. Hence, the manager of each shop considered as the customer for the manager of the previous shop and for the assembly shop the managers of quality assurance deputy were considered as customers.

To avoiding collusion -in selecting respondents for every manager- it was controlled that the persons do not evaluate each other.

On the other hand, 10 respondents were selected to reach a satisfying reliability level of 0.7 for rating of the capacity to develop personal qualities (Rainer et al., 2012).

After the selection stage, questionnaires were answered in privy meetings.

2.5. Score calculation

As it is shown in table 6, S_{ij} is an answer which was assigned to each question by each respondent. The final scores were calculated as shown in table6.

Table 6.The solution

Questions(i) Respondents(j)	1	2	3	...
1	S_{11}	S_{12}	S_{13}	S_{1n}
2	S_{21}	S_{22}	S_{23}	S_{2n}
3	S_{31}	S_{32}	S_{33}	S_{3n}
...	S_{m1}	S_{m2}	S_{m3}	S_{mn}

The score which is given to each questionnaire by each respondent is formulated as:

$Q_{kl} = \frac{\sum_{j=1}^m (\sum_{i=1}^n S_{ij} W_i / \sum_{i=1}^n W_i)}{A}$ $k = 1,2,3,4,5/L = 1,2,3$ [2] In which n is the number of questions in each questionnaire, m is the number of respondents in each evaluation group, S_{ij} is the obtained score for i-th question by the j-th respondent, w_i is the coefficient of i-th question, A is the number of respondents in each evaluation group, L is the number of questionnaires and K is the number of respondent group.

Q_{kl} obtained the score of each evaluated person which is assigned by a group of respondents (e.g. Q_{11} indicates the score which is obtained by each person from self-assessment in questionnaire1).

After defuzzification, the final score which is obtained by each person was calculated by this formulation as shown in [3]:

Total_Score = $\sum_{l=1}^3 (\sum_{k=1}^5 Q_{kl} Z_k / \sum_{k=1}^5 Z_k)$ [3]

Z_k is defined as the importance of k-th respondent. Sum of the scores of all three questionnaires is person scores. All of calculations were done by MATLAB (Figure 2).

Figure 2. MATLAB programming

```

end
    Q(k,l)=defuzz(x,T/m(k),'centroid');
end
end
E=0; U=0;
for l=1:3
    for k=1:5
        E=E+(Q(k,l)*Z(k));
        U=U+Z(k);
    end
end
Total_Score=E/U
Total_Score =
    0.7109

```

2.6 Ranking

The managers were ranked based on the scores which were ranged in 0 to 1. The scores were analyzed in detail and weak points and strength points were identified. To inform the persons who were evaluated, a document like a transcript was prepared and gave them in security.

3. Results

The results are presented in two sections. The first one is the result of the evaluation areas based on the Least Square Method and the second one indicates to the main result, "Final Ranking".

3.1 weighting the evaluation areas

To weight to each evaluation area, the comparison matrix was created in a meeting between deputy and his assistants.

	Individual behaviour	Organizational contraction	Personal characteristics	Human resource management	Operation management	Strategic management
Individual behaviour	1	$\frac{1}{2}$	$\frac{1}{3}$	4	5	7
Organizational contraction	2	1	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{1}{7}$	$\frac{1}{5}$
Personal characteristics	3	3	1	$\frac{1}{4}$	$\frac{1}{7}$	4
Human resource management	$\frac{1}{4}$	5	4	1	$\frac{1}{4}$	$\frac{1}{4}$
Operation management	$\frac{1}{5}$	7	7	4	1	$\frac{1}{7}$
Strategic management	$\frac{1}{7}$	5	$\frac{1}{4}$	4	7	1

Table 7. Comparisons

Based on the table 7 the output of the MATLAB was according to table 8.

Table 8. Weights of evaluation areas

Evaluation criteria	coefficient	Evaluation criteria	coefficient
Individual behaviour	0.400	Human resource management	0.253
Organizational contraction	0.073	Operation management	0.120
Personal characteristics	0.116	Strategic management	0.138

3.2 Ranking

The final score was obtained via programming in MATLAB software and the results including the evaluation process and ranking list were presented for the deputy and his assistants. To avoid tension and contest between the managers the transcripts were sent to each person privately and no one could be informed of the others' scores. On the other hand, to providing an appropriate and unchallengeable situation for competition, three ranges, green, orange, and yellow were defined to show the ranks. And in the feedback, each person was informed of his colour (Table 9).

Table 9. Ranking

No	Name	Rank	Colour
1	A	0.9381	Green
2	B	0.9245	
3	C	0.8520	
4	D	0.8068	
5	E	0.8062	Orange
6	F	0.7988	
7	G	0.7224	
8	H	0.7109	
9	I	0.7101	Yellow
10	J	0.6935	
11	K	0.6672	
12	L	0.6291	

Conclusion

The aim of this study was to review the performance evaluation process carried out for the production managers of a car manufacturing company in Iran, Pars Khodro. To perform this process, 360 degree feedback method was selected and the New Zealand competency model was applied as the base of the process. To accurate the results and to avoid losing data through the evaluation with questionnaire, fuzzy approach was adapted.

Based on the previous researches and our findings, during performance evaluations, individuals mostly prefer to express their feelings with verbal expression (Zulal, Gurkan, & Saadettin 2009) to answer the questions. So we think that it helped the judgments to be real. In spite of the role of fuzzy theory and linguistic variable subject, in clearing the opinion of the respondents, to the best of my knowledge the fuzzy theory has not been applied in 360 degree feedback process by now.

Application of fuzzy theory in evaluation process obtained the results which were close to the deputies' forecasts. It was also recognized when the 360 degree feedback was performed without using fuzzy approach in designing questionnaires and the results were compared. The first process –by using fuzzy theory- was more real and closer to the forecasts which will articulated in another paper.

Research in feedback and performance evaluation methods have demonstrated that performance evaluation characteristics (such as purpose and source) can elicit positive employee reactions to evaluation and, which in turn, can motivate employees to improve their performance (DeNisi & Pritchard, 2006).

This point and the mentioned reasons in the previous sections led the top manager to apply a multi-source evaluation method, 360 degree feedback which is an appropriate way to identify the human resource capacities and provides opportunities to improve them. On this base, a program to use the findings was planned with which the managers could improve their capacities through team working.

Intentionally, to improve any evaluation area, some chains were formed in which a person, who attained a good score in that, was the team leader and the persons who attained dissatisfied scores in that were the members. The leader of each group had to plan a program to improve the area and perform that. This evaluation process and improvement plans can be carried out in the certain periods as a cycle.

Despite his paper was about a manufacturing company, this methodology can be applied by the managers of any organization for whom human resource improvement is a strategic goal. It is worth mentioning that choosing competency model, weighting the evaluation areas, ranking and ... would be the topic to run the new researches.

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