

Research Article

Applying the EFQM Model in Performance Measuring of Organization

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Abstract

Present paper results from a descriptive – a survey research with the purpose of performance measuring of an active enterprise in steel industry in Iran based on the enabler criteria of EFQM model. The crucial questions presented in this research are as follows; First, to what level can an enterprise achieve its organizational goals based on enabled criteria of EFQM model?, Second, what are the strong, weak and improvable fields of enterprise?

The obtained results show that the enterprise relatively has considered the enabler criteria of EFQM model and human resource elements, with respect to its lower influence on improvement and promotion of performance in comparison with other aspects, regarded as weak sides that must be improved. In terms of its processes, the enterprise and its resources that are considered as strong sides are identified with the best processes and the field must be provided with the optimum condition, so that this enterprise can continue its movement toward excellence and achieve its goals.

Keywords: total quality management (TQM), performance measuring, European Foundation for quality management, enablers, continuous improvement.

INTRODUCTION

In the current competitive market, quality and its consideration are changing into a competitive instrument (Galperin 1999). This increase has become a motivation for senior managers of organizations to evaluate their competitive and managerial strategies for improving the organization's performance. Therefore, in order to improve the performance, they created some tools to reinforce the organizational excellence (Nazemi,2010). However, those organizations, which ask for survival through attending quality and continuous improvement of performance, consider total quality of management to be highly important (Haksever, 1996). Evaluation of performance and potential abilities of employees for improving the duty performance and promotion in their jobs is specified and the desired method for motivating the employees is manifested (Dessler, 2000) and feedback will be given to an individual to identify his shortcomings (Mondey et al, 1996). Commonly, due to the importance of performance measuring, some relatively similar cases are demonstrated, such as: planning the labor force, finding and selecting employees, training the labor force, designing the system of optimal compensation management, determining the way of occupational promotion, identifying the aptitude and abilities of man power, designing the motivation system, determining the employment tests and creating the trust atmosphere (Murphy 2008, Murphy and Celeveland 1995).

One of the well-known patterns in the management and organization's evaluation literature is the ETQM Model. This model is applied as a strong tool for evaluating the amount of system's settlement in different organizations.

Today, excellence model of TQM is utilized as a powerful tool for continuous improvement in different countries (Sadeh and Arumugan 2012).

Rouitz et al (2005) showed that the excellence model is an appropriate framework for quality management and continuous organization improvement. Now, the reward of European Foundation quality management, which is based on TQM, is one of three big rewards of quality management in the world.

Therefore, self-evaluation based on EFQM makes it possible to study the strength and challenges facing organization, through consulting the legislators and leaders with respect to comprehensive and total criteria of organizational excellence model and select some strategies in order to improve organizational performance. However, this paper is based on the findings of a research in an active industrial complex of steel. Documents and records represent that, this company has not utilized systemic methods for performance measuring so far, and prior evaluations cannot represent the strength and weakness very well. As a result, the most important questions that are hidden in the evaluation of organizations and enterprises' performance is as follows;

First, how is the current state of organizational performance in comparison with the desirable situation? Second, what strategies should be done in order to reduce the gap between the current and desirable states of the organization?

However, the main question in this paper is that, how performance of steel industry's company is based on EFQM model?

The objectives of research

- 1. Determining the current condition of the company based on EFQM model.
- 2. Evaluating the performance of the company based on EFQM model.
- 3. Identifying the strong, weak and improvable cases in order to achieve organizational excellence.

The questions of research

- 1. How is the performance of company according to leadership criteria?
- 2. How is the performance of company according to policy and strategy criteria?
- 3. How is the performance of company according to human resources criteria?
- 4. How is the performance of company according to resources and partners criteria?
- 5. How is the performance of company according to processes criteria?

Previous Research

During previous decades, the paradigm of total quality management has been extending in the world's trade successfully. Usually TQM is defined complicatedly. However, there are key principles or common principles such as: customer's satisfaction and continuous improvement, commitment on excellent management, reinforcement and solving the problems related to employees, group work, and evaluation through applying indexes and feedback (Sousa & Voss 2002, Claver – Cortes et al, 2008; The et al, 2009). Total quality of management is a set of concepts with the aim of engaging managers, employers and employees to achieve the development of continuous performance (Hoque, 2003). It is often considered as a philosophy with the aim of customer satisfaction that comes true via continuous development and group work (Sila,2007). Performing total quality management needs continuous total combination and a system based on senior management and personnel commitment and relationship with customers (Hua et al, 2000).

As pointed out by David and Strang (2007) the wave of media attention shown in Figure 1 mirrors the pattern observed for other management paradigms or fashions (Abrahamson & Fairchild, 1999) and helps us to chart TQM's fashion cycle. In the aforementioned figure it is shown that TQM experienced its period of summit at the beginning of the nineties. Since the end of the nineties it has practically disappeared from not only academic publications with a fulminating fall, but also the publications of academic characters whose citation of the term has had a much more gradual reduction. As we'll see, it seems that this evidence is not consistent with the evolution of ISO 9000 certification and the adoption of EFQM throughout Europe (Heras et al., 2008).

It is interesting that there are ten non-European countries among top ten countries where TQM is applied. According to the list, the countries are Pakistan, Thailand, India, Malaysia, Indonesia, Iran, Philippines, Hong Kong, United Arab, Emirates and Taiwan. Anyway, we have to take into account the Google Trends which provides insights into broad search patterns and several approximations are used when computing the results relying on its promoters. The operation of performance measurement systems was first formally discussed by Robert Own in outfit industry according to the organizational and individual levels in Scotland.

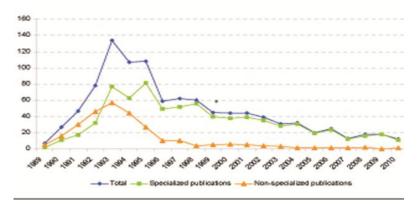


Figure 1. Trends in attention to TQM within the business community Resource: Allure,(2010:p.973)

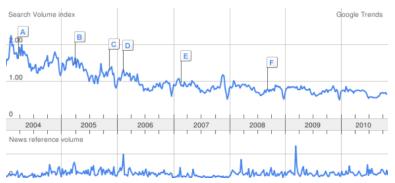


Figure 2. Trends in attention to TQM within the global internet community Resource: Google Trends Report, October 2010, Allure,(2010)p.973

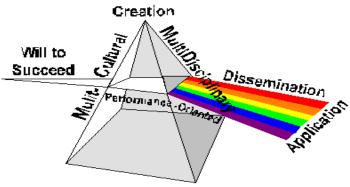


Figure 3. Organisational Excellence and Next General Quality



Figure 4. Organisational Excellence and the EFQM Criteria

Later some American countries, Poland, France, and Sweden applied it and developed it to a school of thought. Self-assessment is one of the new phenomena that is used in western companies in order to specify the problems and measure performance. Now, senior managers apply different models such as Deming in Japan, Malkom Baldrij in the United States and EFQM as strong tools to characterize weak and strong sides in different work scopes (Arora, 1998). Experts of management believe that performance measuring systems must be reviewed periodically (Ziari, 1994).

However, performance measurement means human performance measurement according to the methods of performing a specific task in a certain period in contrast with a standard task. In fact, performance measuring is considered to determining the level of competence and capability of promotion (assessing for excellence 1999). Performance measurement and evaluation plays a key role in managerial planning and controlling, therefore it is significantly considered by each group of managers and theorists (Asmild et al, 2007). Findings have shown that most researchers who dealt with performance measuring in the past focused on self assessment and the methodologies related to commercial and industrial organizations (Otely 2008, Ferreira and Otely 2009). But recent researches show the application of performance measurement with emphasis on self-assessment and its common models in public sectors (Carter, 1991; Propper and Wilson, 2003; Bogtter, 2003, 2004; Johnsen, 2005; Pollitt, 2006; de Bruijn, 2007). This trend was widely considered by various countries with appearance of new public management paradigms in 1980 and applyed in public sectors. Several researches have been done in this field so far (see Hood 1991, 1995, Carter; 1991, Lynn, 2006, Lapsely, 2008).

So the style and type of performance measurement used by mangers influenced different scopes. Researches show that there is a meaningful relationship between performance measurement and financial issues of organization, motivation, tension and job stress (Brownell, 1982, Dunk, 1993; Hartmann 2000, Hartmann et al, 2010). Hilman et al (1994) stated that self-assessment is a tool for regular and comprehensive reviewing of organizational activities and results from the criteria of this method.

Porter and Tanner (1996) deduced that the process of self-assessment that guarantees the excellence model of EFQM determines a complete set of goals and criteria for strong sides of organization and improves these points and increases the performing of practical programs according to comprehensive commercial programs. Van Der Vile et al (2000) believe that, the process of self-assessment also allows a model to be selected with regard to the level of progress toward excellence on the basis of regular principles that incorporate maintained scores in evaluation along with the degree of achievement of real improvement. Smith and Zink (1998) demonstrate that practical theoretical principles about self-assessment focuses on models, quality rewards and excellence and the comparison between the criteria and relationship between the winners of these rewards and the results they achieved in business. However, Richy and Del (2000) showed that the process of self-assessment is focused on decision making in the evaluation which consists of process management and required resources and the selection of the type of performance measurement (Shahroudi and Alipour 2011).

Self-assessor of EFQM informs the organization about weak and strong sides and also allows it to characterize some points that must be improved (Pipan and Sokovic, 2011). Hilman believes that, generally, companies may resort to different approaches to self-assessment: questionnaire, workshop, Pro-forma, and award simulation (Allure 2010, p.973) and EFQM, in spite of the size and type of organization's activities, shows a framework that represents a general view of organization and causes the promotion of organization's management system quality. This model of EFQM specifies the reason and influence of the relationship between using the process by organizations and real results that an organization can maintain (ETQM 2009). As a result, the use of self-assessment, especially the ETQM self-assessment model in organizations, particularly in industrial organizations, is increasing and becoming the basis of reviewing the processes and operations of organization (George et al 2003, EFQM 2010).

Excellence consists of passing from minimums that are set in the framework of regulations which an organization acts upon, and trying to realize and meet beneficiaries' expectations in society. Excellent organizations explain their performance to their beneficiaries and create a compatible behavior approach to responding organization (Westerveld, 2003, pp.411-414).

Relating Organisational Excellence to quality suggests that "quality" is best viewed through a len that determine "excellence" in terms of many dimensions (Edgeman). This is to say that next-generation quality is multidisciplinary, multicultural, performance-oriented, and driven by creation, dissemination and application of knowledge germane

to the advancement of Organisational Excellence (Dalrymple, Edgeman, Finster, Guerrero-Cusumano, Hensler and Parr, 1999a and 1999b). A portrayal of these ideas appears in Figure 2.

Resource: Edgeman, and Jonke (2000)

Studies have shown that offering prizes to successful individuals and institutes that promote the level of their products' quality and encourage this process may lead to increasing attendance to quality of goods and services in a country and consequently expand culture of productivity in a country (porter, 1990, p.73). One of the actions of big industrial companies for gaining the first rank in the world and surviving in a competitive world was observing from different dimensions (Garvin, 1983, p.70). One of these patterns is the use of self-assessment approach.

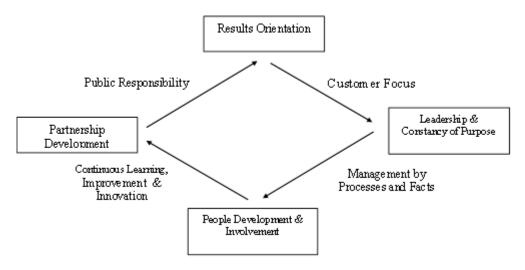


Figure 5. Fundamental values and concepts of organizational excellence (Anderson, 1996).

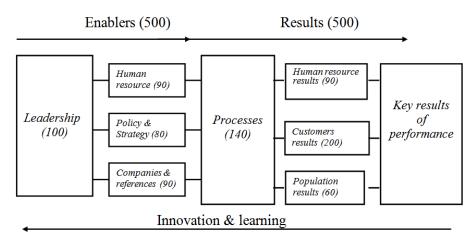


Figure 6. Structure and system of scoring of EFQM)

In 1988, in order to compete with Edward Deming quality reward in Japan and Malcolm Baldrige national reward that the U.S granted to pioneer industries (sadeh and Armungam 2010) 14 European companies with recommendation of European commission head established the EFQM, aiming at promoting the economic position of Europe in global competition and based it on self assessment (Mehrmanesh and Taghavi 2010). First reward of Europe quality by aforementioned foundation was granted to Xerox in 1991 as the most successful executor of TQM in west Europe. (www.quality.nist.gor).

The foundation of EFQM is employees' and customer's satisfaction. This model is extracted from the philosophy of total quality management and shows that individuals in different levels with different duties work with each other as a team. Applying this model results in efficiency of goals, improving the organization's activities and gaining comparison advantage for organizations (Edgeman and Jonker 2000, p.30).

Jose Ignacio Wert, former head of EFQM in Europe, believes that 30000 organizations used EFQM for performance measuring (Wert, 2006). Also, EFQM claims that more than 30000 European organizations are registered and completed the related forms (EFQM, 2010). However, EFQM is a non-suggesting model that keeps the record of the influence and type of relationship between using processes of organization and real results of organization and represents a framework for determining the circumstances of reinforcing the organization excellence (EFQM, 2009; Sokovic et al 2010; Russel 2000).

of excellence and an assessment philosophy. The EFQM Model provides a reasonable foundation and the Organisational Excellence principles cited therein are used in this work. These principles are: Leadership and Constancy of Purpose; Customer Focus; Results Orientation; Management by Processes and Facts; People Development and Involvement; Continuous Learning, Innovation and Improvement; Partnership Development; and Public Responsibility. Ultimately criteria derived from these principles must be organized into a coherent model.

The criteria derived by EFQM from these principles are Leadership; People; Policy and Strategy; Partnerships and Resources; Processes; People Results; Customer Results; Society Results; and Key Performance Results and the resulting model is referred to as the EFQM Excellence Model details of which can be found at the EFQM website. An expression of these criteria as they relate to Organizational Excellence can be found in Figure 3

For the first time, EFQM began in industry and then has been applied with respect to appropriate comprehensive efficiency in other fields (Gene Badia et al, 2001). This model is established based on a set of fundamental principles and values that are necessary for performance excellence, these principles are: results orientation, customer focus, leadership and constancy of propose management by processes and facts, partnerships and resources, continuous learning, innovation and improvement, partnership, society results (Pipan and Sokovic 2011).

This model is based on 9 criteria and 32 sub criteria, five of those are enablers and 4 are results (Bowels and Hammond, 1991). The scope of enablers that consists of:

1. Leadership, 2. Policy and strategy, 3. Human resources (people) 4. Companies and resources, 5. Processes and the scope of results that consists of: 1. Customer results, 2. Human resources results 3. Society results 4. Key performance results (Jaran, 1999, p.159). Enablers are indicators of achievements through appropriate performing of success factors. In other word achievements are created by enablers. In this model, criteria have 1000 scores totally, that is, 500 scores are given to enablers and 500 scores are given to results so that in this way, improve the performance measuring achieved (Allure 2010, p.975).

Several studies are done in the Iran and other countries about excellence models especially EFQM. Several studies in the world are occurred in the scope of performance measuring models such as EFQM, especially the efficiency of performance measuring systems; these groups of researchers have analyzed the efficiency of assessment system in different organizations and have shown the factors that were effective in reducing the efficiency of these systems.

Examples of these factors that lead to reduction of performance measuring efficiency are being deficient in giving feedback results of assessments; holding meetings between managers and employees for reviewing the results and analyzing the data gathered by assessors who didn't receive enough training (smith 1990); and playing the role of manager as a coach by manager (Valerie, 1996).

According to Bou-Liusar and et al. (2009) EFQM excellence model is used as a guide to total quality management and should capture TQM core concepts to manage both social and technical dimensions aimed at achieving excellent results. They considered paucity of empirical researches which have confirmed EFQM reflection of TQM premises as their research problem. They aimed at understanding whether the internal structure of EFQM excellence model takes into account TQM assumptions. Based on TQM assumptions they grouped Leadership and People criteria as Social Enablers and Partnership and Resources and Processes criteria as Technical. Also, there is a cause and effect relationship between these two dimensions, it means that enablers result in improving the results (Bou-Liusar et al, 2009).

Martinez-Lorente et al (2009) aimed at studying the relationship between argued elements in the excellence model of EFQM and tried to identify whether there is a relationship between 9 argued criteria in the model or not?

They highlighted 19 hypothesis based on the relationship of each criterion to another, and according to these hypothesis some questions were codified in as a questionnaire and distributed in 71 organizations. The obtained data were analyzed using regression. The results showed that all hypotheses are accepted and there are meaningful relationships among all existing criteria. (Martínez et al,2009)

Chinda and Mohamed (2007) aimed at testing causal relationships between key elements (five enablers and goals) of safety culture. They intended to examine the hypothesized positive relationships between the five EFQM enablers (Leadership, Policy and strategy, People, Partnership and resources, and Processes) and the goals of safety culture. They introduced number of accidents, Industrial image, workforce morale and the cost of accidents as the goals. The structural equation modeling was used to gain interaction and association among the different enablers of the model. The results revealed Leadership has positive effects on People, Partnership and Resources, and Policy and strategy. Also the results showed that People influence Partnership and Resources and processes. Further the results supported the impact of partnership and resources on Policy and strategy. Beside it was showed that Policy & Strategy has impact on processes. Finally they indicated the effect of processes on Goals (Chinda and Mohammad ,2007).

Vijande and Gonzalez (2007) aimed at determining the impact of the enabler criteria on the results predicted in the EFQM model using structural equation model (SEM). They stated that the result constructs a separate status in the study as the dependent variable influenced by EFQM practices of an organization. They addressed the problem of limited comprehensive analysis of the EFQM quality practices and outcomes and intended to fill this gap. They focused on the effect of direct and positive EFQM practices (enablers) on results criteria. Data were collected from Spanish manufacturing and service firms by means of a mail survey and finally 93 completed questionnaires were received. Confirmatory factor analysis was used to test the measurement scales and hypothesized relationship between enablers and results. The structural equation modeling (SEM) was applied to test the relationships among the criteria. The results showed there are causal relationships between enablers and results (Vijande and Gonzalz 2007).

Sila (2007) tried to determine the relationships among result factors in a total quality management system including: people results, Customer results, Society (Organizational effectiveness) results, and Key performance (Financial and market) results. They noticed the ambiguities of relationships among results criteria in an excellence system. The data of this research are gathered by completion of 302 questionnaires that is collected randomly from 2000 factories and service companies (Sila, 2007).

Research method

This study is an applied research which was developed and administered according to descriptive methodology.

A standard questionnaire of EFQM is used. Since the instrument is based on the criteria and basic principles of excellence model of EFQM and incorporated in several studies, it considered to be intrinsically valid. Cronbach's Alpha was calculated using SPSS 16 to verify the reliability of the questionnaire (α = 83%). The statistical population includes all managers, supervisors and experts. 46 individuals whose jobs, skills, expertise and job requirements were associated with the principles of quality management participated in the study. In order to calculate the amount of the achievement of a company to the objectives and success in each enabler criterion of excellence model of EFQM, all answers of related questions of each criteria (sum of A, B, C, D) is multiplied by maximum coefficient (100) and the result is divided by sum and multiplied by 100 so that the percentage of company success is obtained according to the objectives of each scopes. SPSS 16 is used to tabulate the data and analyze them both descriptively and inferentially.

On the basis of data and performed calculations in table (3), the obtained score for leadership was equal to 7554. The maximum desirable score for this criteria (table 4) is 165000 (table 3). According to analyses, in managers' and expert's points of views, success in leadership criteria was 45/8% and it was enough to reach the argued objectives in this criteria. Also, the obtained score for policy and strategy was equal to 5288; the maximum desirable score for this criterion is 13200. In fact this company from its managers' and experts points of view had 40% success in policy and strategy and was able to achieve the argued objectives in these criteria. Regarding human resources, the obtained score for company was equal to 6015; the maximum desirable score is 16500. Therefore, from managers' and experts' points of view the company can achieve to 36/4% of argued objectives in human resources criterion. On the other hand, the scope of the company in the criterion of resources and partnership is equal to 8281; maximum desirable score in this criteria for this company is 16500; that is, from experts' and managers' points of view, the company had 50/1% success in partnership and resources and was able to achieve the argued objectives in this criteria. The obtained score for this company in process criterion was equal to 11676; maximum desirable score in this criterion for the company is 23100. From managers' and experts' points of view, the company had 50/5% success in processes criteria and was able to maintain the argued objectives in these criteria

Table 1. The data obtained from questionnaires

		Measurement scale A	Measurement scale B	Measurement scale C	Measurement scale D
•	Coefficient b	100	67	33	0

Table 2. Analysis and Discussion of the findings

	The number of	The number of	The number of	The number of	
Enabler criteria	answers in index A	answers in index B	answers in index C	answers in index D	
Leadership	7	71	63	24	
Policy and strategy	22	69	33	8	
Human resources	30	93	38	4	
Resources and partnerships	21	47	90	7	
Processes	27	78	106	20	

Table 3. Analysis of the scores according to each criteria

	Measurement scale A	Measurement scale B	Measurement scale C	Measurement scale D	
Value of (a*b) in leadership criteria	700	4757	2097	0	7554
Value of (a*b) in policy and strategy	800	2211	2277	0	5288
Value of (a*b) in human resources	400	2546	3096	0	6015
Value of (a*b) in resources and partnership	700	6030	1551	0	8281
Value of (a*b) in processes	2000	7102	2574	0	11676

Table 4. The calculation of the maximum scores of the criteria

Calculating the maximum score of criteria	The model of calculation
Leadership	∑24+63+71+7=165*100=16500
Policy and strategy	∑8+33+69+29=132*100=13200
Human resources	∑4+38+93+30=165*100=16500
Resources and partnerships	∑7+90+47+21=165*100=16500
Processes	∑20+106+78+27=231*100=23100

Table 5. The percentage of company success and achievement to the objectives according to each criterio

The percentage of company success and achievement to the objectives				
according to each criterion	The model of calculation			
Leadership	7554/16500=0/457*100=45/7%			
Policy and strategy	5288/13200=0/40*100=40%			
Human resources	6015/16500=0/364*100=36/4%			
Resources and partnerships	8281/16500=0/501*100=50/1%			
Processes	11676/23100=0/505*100=50/5			

DISCUSSION

First question: How is the performance of the company in leadership criteria?

The objective of leadership criterion in this research was how the managers of steel industries company perceive the possibility of its development and achievement of its missions and objectives. Based on the obtained results, steel Industries Company could achieve 47/5% of goals in leadership. Out of 100 scores that is allocated to leadership criteria, with respect to the percentage of achieving the goals, it could receive 47/5. That is, the company is relatively successful in this criterion.

Second question: How is the performance of company in policy and strategies criteria?

In this research policy and strategy is defined as how a company proves its mission and objectives through a clear strategy considering its beneficiary interests and how it supports this strategy through policies, programs, goals, purposes and processes. That according to the results, steel industries could achieve the 40% of goals in the policy and strategy scope, and achieved 32 scores out of 80 scores dedicated to policy and strategy criterion in EFQM.

Third question: How is the performance of company in human resources criteria?

According to the results, this company can achieve the 36/4% of goals in the planning and human resource management criterion and 32/76 scores out of dedicated 90 scores.

This indicates that in comparison to other criteria the company acts weakly in this criterion; that is, it has been considered as company's weak side and must be improved. The results of these two researches indicated the same status of Iranian companies; that is, weakness in human resources and its management.

Fourth question: How is the performance of a company in resource and partnership criteria?

Every organization has internal and external resources of partners that should be managed so that the maximum operation of these resources and partnerships leads to fulfilling the goals. The aim of this research in performance measuring of steel industries company in resources and partners criteria was how a company should manage its partners to support company's policy and strategy and effective performing of its processes. Based on the results, this company can achieve 50/1% of goals in resources and partners scope and 45/09 out of 90 scores devoted to resources and partners criteria in EFQM.

Fifth question: How is the performance of company in processes criteria?

Management knowledge will be successfully applied in the organizations if they consider a process attitude besides their systemic attitude to the problems. The lack of process attitude results in wasting resources and missing the organizational goals. In fact, process is the method of performing an activity from the beginning to the end and must be designed and performed appropriately. The aim of this research in performance measuring of steel industry company according to process criterion was that how a company has designed, improved and managed its processes to support Company's policy and strategy and in addition to get customer's and other beneficiaries' absolute satisfaction, , in order to create increasing value for them. Based on the results, steel industries company can achieve 50/5% of its goals in the scope of processes and 70/7 out of 140 points allocated to processes criterion in EFQM. This implies that in this criterion company is relatively successful. Totally, the company has achieved 44/45% of the set goals (226/25 out of 500) in the scope of enablers of EFQM that was allocated to 5 criteria of enabler scopes.

CONCLUSION AND RECOMMENDATIONS

The results show that considered criteria of enabler's scope in EFQM and the degree of achievement to the goals indicate that all criteria of enabler's scope are related to company's performance and relatively result in the promotion and improvement of the company's performance. Only in resource or human resource management is weaker than other criteria. It is worth mentioning that most organizations achieve up to 20% of EFQM scores and most high-level organizations achieve 50% of the scores and the score of global high class organizations are about 75%. The results indicate that most answered questions in this research include alternatives B and C so that it achieved 44/45% of scores. Therefore, this company achieved 226/25 points and that means an acceptable status regarding EFQM criteria. It can be said that in terms of the amount of achievement, the company makes an increasing and significant progress. According to the findings it can be recommended that:

- Status quo of steel industries company in comparison with enabler criteria of EFQM is relatively acceptable and with respect to the results, these results were effective in promoting and improving its performance.
- In comparison to other scopes, human resource scope (human resource management and planning) with respect to its lower influence on improvement and promotion of performance is considered as weak sides and must be improved.
- Processes, partnerships and resources that are considered as strong sides should be identified and optimized so that the company can continue its way toward excellence and achieve its goals.

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