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## Performance Assessment of Three Companies (Road Construction) using Business Excellence Models

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### **Abstract:**

*Private road construction Companies are active in the field of landscaping, pavement and asphalt. It is necessary to know Organizational Excellence (OE), because potentially leads to success of a business in the future. The required condition to promote and to achieve OE is to develop and implement a system of performance measurement criteria or factors. These factors points out beyond the presentation of financial views and include other success factors. The purpose of this paper was the performance assessment of three private Companies. In order to evaluate of performance, the professional experiences, problems and critical success factors of Companies were studied. In present study was used from check list to collect data in Companies workshops. Then, obtained results were surveyed with models such as European Federation for Quality Management (EFQM) and Kanji's Business Excellence Model (KBEM). Results of this analysis indicated that simultaneous implementation of these models and approaches could be helpful to study of sustainable development and strength and weakness areas in Companies. In current study the both factors of customer and community results were the strength points but the resources and partnership the weakness point. These weakness points needs to boost and improve.*

**Keywords:** Performance assessment, Business Excellence Model, Road construction Companies

### **1. Background & Literature Review**

Globalization and competition lead to the presentation of quality awards for companies [1]. The road construction Companies are large group from Companies that are active as private or part of government organizations. An uncountable group of Companies participate in the field of roads construction in Iran. These road construction Companies need to a continuous improvement trend that enables Companies to promote their performance by implementing the best methods. The integrated management will embrace all required activities and expectations of the customer and the community. Therefore, the aims of the Companies are satisfied in the best condition all employees in a continuing state to improvement [2, 3]. All organizations are examined for the development, growth and sustainability in today's competitive performance evaluation systems [4, 5]. Performance measurement focuses on the reasons that explain success or failure in term of historical perspective. OE is measured by the satisfaction of customers, employers and shareholders [6]. In the real world, a Company needs to survive by adapt with changes in its external environment. So, the main objective of implement the business excellence models was integrating the different factors to adapt themselves to their environment. A key factor in these models is the proceeding the Company's responses in a systematic condition to improve performance [7].

The first time, the Peters and Waterman were introduced the concept of excellence in relation to management and organizational performance about 25 years ago. Using EFQM for organizational self-assessment has started in 1992 in Europe. [8,9,10]. After studies at higher education institutions in Northern Ireland, it was concluded that the EFQM in different ways for different purposes are used in an organization, may even logic of using this model changed. Senior executives from 40 European Companies such as Renault, Fiat, Philips, British Telecom, and others were based on the EFQM [11]. These models have been used in various countries such as USA, UK, Malaysia and Japan. EFQM was based by 14 European large Companies and at first was implemented as a model to measure the European quality award in 1998. European universities have used EFQM as the discipline for the measurement of their performance [12,13]. Tambi et al. (2008) has suggested the use of KBEM as a tool for quality review and enhancement of higher education institutions [14]. The study of Hassanpour et al. (2014) has reported the trend of sustainable development using KBEM in used motor oil industries. These excellence models are used for any service or department is depending on scores against criteria or factors [15]. The main objective of present study was evaluation of performance using business excellence models in three Companies. The models were used so that comparison and get scores.

**2. Patient and Method**

KBEM framework is depends on Critical Success Factors (CSFs). CSFs include the required activities to get the organizational objectives. Therefore, CSFs are related with key motors of performance. Figure 1 and 1-a show the CSFs. OPI is the final outcome of overall OE in leading all CSFs. The role of KBEM and Kanji Business Score (KBS) are dedicated to the measurement of organizational performance of the internal and external stakeholders respectively. Thus, it was used from equation 3 so. KBEMS is equal with performance excellence A plus B (Figure 1 and 1-a) [16,17]. In present study was used from check list to collect data in the Companies workshops [18,19]. Results of study were evaluated using models.

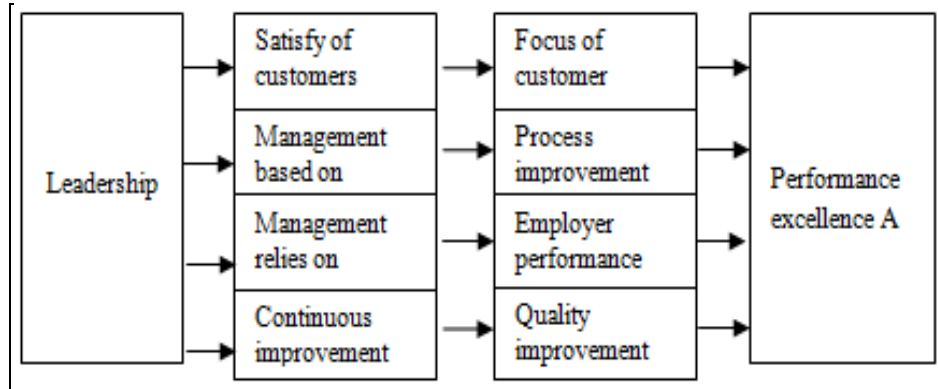


Figure 1: KBEM

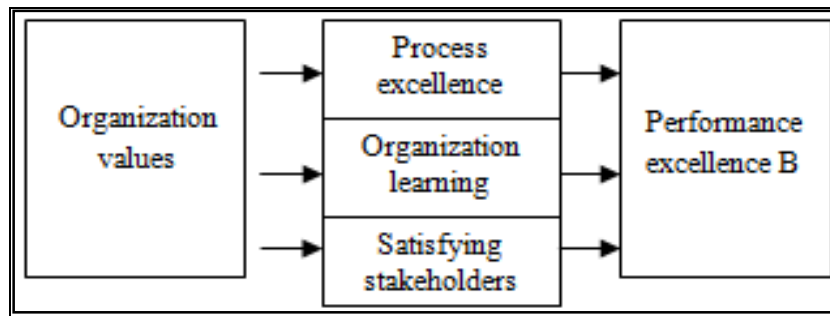


Figure 1(a): Kanji - KBS

|                              |              |
|------------------------------|--------------|
| $OPI = \frac{A + B}{2} * 10$ | equation (1) |
| $KBEM = A + B$               | equation (2) |
| $B = \frac{\sum BI}{N}$      | equation (3) |

**3. Results and Discussion**

| KBEM (Full model)              | EFQM                      |
|--------------------------------|---------------------------|
| Leadership                     | Leadership                |
| Satisfy of customers           | Policy and strategy       |
| Satisfy the external customers | Employees                 |
| Satisfy the internal customers | Resources and partnership |
| Fact-based management          | Process                   |
| Process                        | Customer results          |
| Measurement                    | Employees results         |
| Management relies on employees | Community results         |
| Team work                      | Key performance results   |
| Employees make quality         |                           |
| Continuous improvement         |                           |
| Continuous improvement cycle   |                           |
| Prevention                     |                           |

Table 1: Comparison of models criterias

There are different models to estimate the BE such as MBNQA, TQM, KBEM and EFQM. Table 1 shows the EFQM as a non-prescriptive of TQM framework with nine criteria [19,20,21].

| Factors                    | Description   |
|----------------------------|---|
| Leadership                 | 1- Higher management actively directs our quality management program.   |
|                            | 2- Managers actively communicate a quality commitment to the employees.   |
|                            | 3- Employees are encouraged to help implement changes in the organization.  |
|                            | 4- Managers and supervisors allow employees to make their own decisions.  |
|                            | 5- Managers and supervisors motivate their employees and help them perform at a high level in their tasks.  |
| Quality planning           | 1- Development and implementation of strategies and plans based on data concerning, customers requirements and the firm's capabilities.   |
|                            | 2- The management sets objectives for managers.   |
|                            | 3- The management sets objectives for all employees.  |
|                            | 4- The management communicates its strategy and objectives to the whole staff.  |
|                            | 5- Management involves the employees in the setting of its objectives and plans.  |
|                            | 6- Results are evaluated by comparing them to planned results, in order to make improvements.   |
| Employee management        | 1- Training management in quality principles.   |
|                            | 2- Training employees in quality principles.  |
|                            | 3- Training employees in problem-solving skills.  |
|                            | 4- Training in teamwork.  |
|                            | 5- Employees' performance is measured in order to support quality programs.   |
|                            | 6- There is bottom-up, top-down and horizontal communication among all the staff.   |
| Suppliers of management    | 1- Closer work with suppliers   |
|                            | 2- Requirements are place upon suppliers in order to find quality specifications.   |
|                            | 3- The management encourages the usage of few suppliers, emphasizing quality rather than price.   |
| Customer focus             | 1- Increased personal contacts between the organization and customers.  |
|                            | 2- Customers' requirements are use as the basis for quality.  |
|                            | 3- Managers and supervisors support activities improving customer satisfaction.   |
| Process management         | 1- Continuous control and improvement of key processes.   |
|                            | 2- Preventing faulty products/services is a strong practice   |
|                            | 3- quality measures   |
|                            | 4- Employees have to know how to evaluate the different processes   |
| Continuous improvement     | 1- Program at finding time and cost losses in all internal processes.   |
|                            | 2- These companies reinforce continuous study and improvement of all its products, services and processes.  |
|                            | 3- Use of specific companies structures (quality committee, work teams) to support quality improvement.   |
|                            | 4- Identification of areas to improvement.  |
|                            | 5- Information management to support quality management (analysis of data regarding, business performance, cost and financial aspects in order to support the development of improvement priorities). |
| Learning                   | 1- Managers and supervisors declared that all employees are train to help them understand how and why these Companies perform.  |
|                            | 2- Most employees had sufficient knowledge of the basic aspects of their sector.  |
|                            | 3- Most employees understand the basic processes used to create products / services.  |
|                            | 4- Higher management has developed an environment helping towards on-the-job training.  |
|                            | 5- Managers and supervisors participate in specialist training.   |
| Customer satisfaction      | 1- These Companies are not concerned about collecting information from its customers in order to measure their satisfaction.  |
|                            | 2- Customer satisfaction has historically shown improvements.   |
|                            | 3- These Companies have implemented a process to listen to and solve customer complaints  |
| Policy and strategy        | 1- Policy and strategy are based on the present and future needs and expectations of stakeholders.  |
|                            | 2- Policy and strategy are based on information from performance measurement, research, learning and creativity related activities.   |
|                            | 3- Policy and strategy are developed, reviewed, updated and deployed through a framework of key processes.  |
|                            | 4- Policy and strategy are communicated and implemented.  |
| Partnerships and resources | 1- External partnerships are managed.   |
|                            | 2- Finances are managed   |
|                            | 3- Buildings, equipment and materials are managed.  |
|                            | 4- Technology is managed.   |
|                            | 5- Information and knowledge are managed.   |

|                  |  |
|------------------|--|
| Processes        | 1- Processes are systematically designed and managed.  |
|                  | 2- Processes are improved, as needed, using innovation in order to fully satisfy and generate increasing value for customers and other stakeholders. |
|                  | 3- Products and services are designed and developed based on customer requirements and expectations.   |
|                  | 4- Products and services are produced, delivered and serviced.   |
|                  | 5- Customer relationships are managed and enhanced.  |
| Customer results | 1- Increased satisfaction  |
|                  | 2- Increased loyalty   |
|                  | 3- Improved quality  |
|                  | 4- Reduced complaints  |
| People results   | 1- Increased engagement  |
|                  | 2- Training delivery   |
|                  | 3- Increased productivity  |
|                  | 4-increased welfare  |
| Society results  | 1- Reduced waste   |
|                  | 2- Reduced energy  |

Table 2: Explain some concepts of models

The literature used in this model with the key elements TQM is in full agreement. There are important similar between main models of BE in term of factors. Many factors of EFQM are same with KBEM [22,23,24]. The framework of both the EFQM and KBEM are relies on the scientific approaches based on identification and validation of the CSFs. These approaches are not relies on the discipline empirical evidence. KBEM can setup as an accurate methodology in order to estimate interactions among key motivations of performance [25,26]. Many of these models have quality or quantity content. In quality view is used from equations. The objective of evaluation these models is present a perspective from strength and weakness points and areas to be improved in companies [27,28]. Table 2 shows some concepts of models.

| EFQM                      | KBEM                                 | Score |
|---------------------------|--------------------------------------|-------|
| Leadership                | Leadership (60%)                     | 60    |
|                           | Satisfy of customers (10%)           | 10    |
|                           | Fact-based management (10%)          | 10    |
|                           | Management relies on employees (10%) | 10    |
|                           | Continuous improvement (10%)         | 10    |
|                           |                                      | 100   |
| Policy and strategy       | Leadership (30%)                     | 30    |
|                           | Fact-based management (20%)          | 20    |
|                           | Satisfy of customers (20%)           | 20    |
|                           | Management relies on employees (20%) | 20    |
|                           | Continuous improvement (10%)         | 10    |
|                           | 100                                  |       |
| Employees                 | Management relies on employees (40%) | 40    |
|                           | Employees create quality (50%)       | 50    |
|                           | Continuous improvement (10%)         | 10    |
|                           | 100                                  |       |
| Resources and partnership | Team work (50%)                      | 50    |
|                           | Measurement (50%)                    | 50    |
|                           | 100                                  |       |
| Process                   | Process or total work (50%)          | 50    |
|                           | Fact-based management (40%)          | 40    |
|                           | Continuous improvement (10%)         | 10    |
|                           | 100                                  |       |
| Customer results          | Satisfy of customers (50%)           | 50    |
|                           | Satisfy the external customers (25%) | 25    |
|                           | Satisfy the internal customers (25%) | 25    |
|                           | 100                                  |       |
| Employees results         | Prevention (50%)                     | 50    |
|                           | Management relies on employees (30%) | 30    |
|                           | Continuous improvement cycle (20%)   | 20    |
|                           | 100                                  |       |

|                         |                                      |     |
|-------------------------|--------------------------------------|-----|
| Community results       | Satisfy the external customers (25%) | 25  |
|                         | Satisfy the internal customers (25%) | 25  |
|                         | Satisfy of customers (20%)           | 20  |
|                         | Leadership (10%)                     | 10  |
|                         | Continuous improvement (20%)         | 20  |
|                         |                                      | 100 |
| Key performance results | Fact-based management (30%)          | 30  |
|                         | Continuous improvement (40%)         | 40  |
|                         | Continuous improvement cycle (30%)   | 30  |
|                         |                                      | 100 |

Table 3: Network of comparison scores

In order to survey different criteria together were used multiple weighting systems (Table 3) [29]. Every one of KBEM factors has a worth equal with 50 scores in EFQM. Therefore, in the suggested system were added 900 scores for criteria in EFQM until KBEM be enable to measure OE rates in a diagram. Every one of criteria of the EFQM must be matched with more than one dimension of KBEM [30, 31]. In present study every one of criteria the EFQM must be matched with two dimension of KBEM.

| Performed project    | Location        | Year | Workshop No. | Companies             |
|----------------------|-----------------|------|--------------|-----------------------|
| Landscaping          | Shiraz          | 2014 | 4650002530   | Hamta Rah Tasbit Aria |
| Landscaping          | Shiraz          | 2013 | 4650002382   | Imen Rah Kavosh Fars  |
| Landscaping          | Shiraz          | 2013 | 4690008619   | Hamta Rah Tasbit Aria |
| Pavement and asphalt | Shiraz          | 2013 | 4650002530   | Hamta Rah Tasbit Aria |
| Pavement and asphalt | Shiraz          | 2012 | 4650002382   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2012 | 2880007188   | Imen Rah Kavosh Fars  |
| Landscaping          | West Azarbaijan | 2012 | 2860005299   | Imen Rah Kavosh Fars  |
| Landscaping          | Shiraz          | 2012 | 4690008619   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2011 | 2880007188   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2011 | 2900000335   | Imen Rah Kavosh Fars  |
| Landscaping          | West Azarbaijan | 2011 | 2980004320   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2011 | 2860005299   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2010 | 2880007188   | Imen Rah Kavosh Fars  |
| Pavement and asphalt | West Azarbaijan | 2013 | 2940005793   | Zamen Rah Gharb       |
| Landscaping          | West Azarbaijan | 2013 | 2810025970   | Zamen Rah Gharb       |
| Pavement and asphalt | West Azarbaijan | 2012 | 2948005793   | Zamen Rah Gharb       |
| Pavement and asphalt | West Azarbaijan | 2011 | 2848005792   | Zamen Rah Gharb       |
| Landscaping          | West Azarbaijan | 2010 | 2850005783   | Zamen Rah Gharb       |
| Landscaping          | West Azarbaijan | 2009 | 2744005763   | Zamen Rah Gharb       |
| Pavement and asphalt | West Azarbaijan | 2008 | 2740005793   | Zamen Rah Gharb       |
| Pavement and asphalt | West Azarbaijan | 2006 | 2744005793   | Zamen Rah Gharb       |

Table 4: List of completed projects by three companies

Table 4 shows the list of completed projects by three Companies. There were 30 staffs in workshops. Also, there were more than 45 completed projects by these Companies. Figure 2 and 3 show the areas of completed projects by three Companies and professional experiences respectively.

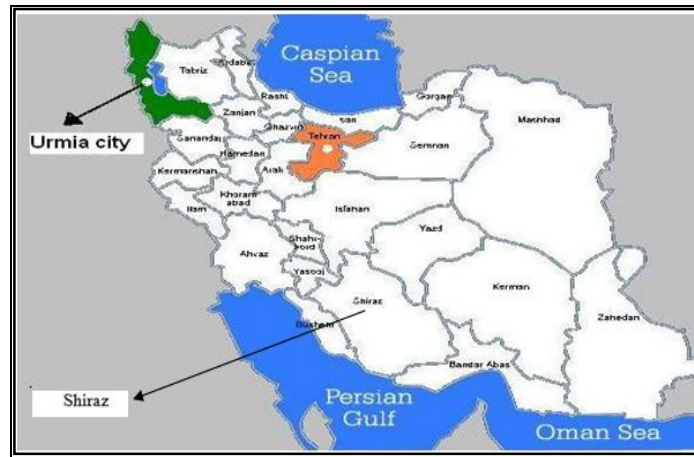


Figure 2: Areas of completed projects by three companies



Figure 3: Professional experiences of three Companies

| KBEM (Hamta Rah Tasbit Aria)        |        | EFQM                             |        |
|-------------------------------------|--------|----------------------------------|--------|
| Criteria                            | Score  | Criteria                         | Score  |
| Leadership                          | 75.66  | Leadership                       | 94.16  |
| Satisfy the citizen and customers   | 100    | Policy and strategy              | 91.66  |
| Satisfy the external customers      | 100    | Employees                        | 92.5   |
| Satisfy the internal customers      | 100    | Resources and partnership        | 60     |
| Fact-based management               | 100    | Process                          | 82     |
| Process or total work               | 60     | Customer results                 | 100    |
| Measurement                         | 50     | Employees results                | 85     |
| Management relies on employees      | 50     | Community results                | 100    |
| Team work                           | 50     | Key performance results          | 87.5   |
| Employees make quality              | 90     | -                                | -      |
| Continuous improvement              | 88.33  | -                                | -      |
| Continuous improvement cycle        | 90     | -                                | -      |
| Prevention                          | 74     | -                                | -      |
| Performance excellence index or OPI | 840.66 | Business excellence score or OPI | 753.15 |
| KBEM (Imen Rah Kavosh Fars)         |        | EFQM                             |        |
| Criteria                            | Score  | Criteria                         | Score  |
| Leadership                          | 74.66  | Leadership                       | 90.16  |
| Satisfy the citizen and customers   | 100    | Policy and strategy              | 92.66  |
| Satisfy the external customers      | 100    | Employees                        | 82.5   |
| Satisfy the internal customers      | 100    | Resources and partnership        | 60     |
| Fact-based management               | 100    | Process                          | 85     |

|                                     |              |                                  |              |
|-------------------------------------|--------------|----------------------------------|--------------|
| Process or total work               | 62.67        | Customer results                 | 100          |
| Measurement                         | 50           | Employees results                | 65           |
| Management relies on employees      | 50.25        | Community results                | 100          |
| Team work                           | 52.8         | Key performance results          | 80.33        |
| Employees make quality              | 90.5         | -                                | -            |
| Continuous improvement              | 88.33        | -                                | -            |
| Continuous improvement cycle        | 90.5         | -                                | -            |
| Prevention                          | 74           | -                                | -            |
| Performance excellence index or OPI | 844.53       | Business excellence score or OPI | 738.44       |
| <b>KBEM (Zamen Rah Gharb)</b>       |              | <b>EFQM</b>                      |              |
| <b>Criteria</b>                     | <b>Score</b> | <b>Criteria</b>                  | <b>Score</b> |
| Leadership                          | 79.66        | Leadership                       | 90.16        |
| Satisfy the citizen and customers   | 100          | Policy and strategy              | 93.66        |
| Satisfy the external customers      | 100          | Employees                        | 82.9         |
| Satisfy the internal customers      | 100          | Resources and partnership        | 60           |
| Fact-based management               | 100          | Process                          | 88           |
| Process or total work               | 62.67        | Customer results                 | 100          |
| Measurement                         | 50           | Employees results                | 68           |
| Management relies on employees      | 53.25        | Community results                | 100          |
| Team work                           | 52.8         | Key performance results          | 83.33        |
| Employees make quality              | 91.5         | -                                | -            |
| Continuous improvement              | 88.33        | -                                | -            |
| Continuous improvement cycle        | 93.5         | -                                | -            |
| Prevention                          | 74           | -                                | -            |
| Performance excellence index or OPI | 849.53       | Business excellence score or OPI | 748.44       |

Table 5: Comparison of scores system in three companies

The Company's main activities (process criteria) were construction and development projects of roads, pavement, asphalt and landscaping. Results of Table 5 show that construction projects can provide as a result of their work satisfaction, internal and external clients. Construction activities were performed using team [31]. The quality of completed projects was depending on the management and supervision of the executives of team and internal organization. Leadership is a critical factor considering the OE as many studies has been conducted on this factor. Leadership is considered as the determinant factor for leading the organizations towards its goals. It has to explain that each of these Companies had several commendation letters from different employers. Therefore, the process of continuous improvement, used strategy and policy, satisfy the citizen and customers, satisfy the internal and external customers correctly was quite apparent within the framework of Companies. Also, it will follow satisfy of community as reduced wastes and energy. There was the wane in coordination between the various governmental and private organizations in the process of project implementation. This deficient had negative impact in the performance of the Companies that includes the criteria of resource and partnership. Therefore, the weakness point needs to improve. Resource and partnership criteria include the management of several factors such as external partnerships, finances factor, buildings, equipment and materials, technology, information and knowledge [31,32].

| <b>KBEM</b>                         |              | <b>EFQM</b>                      |              |
|-------------------------------------|--------------|----------------------------------|--------------|
| <b>Criteria</b>                     | <b>Score</b> | <b>Criteria</b>                  | <b>Score</b> |
| Leadership                          | 90.33        | Leadership                       | 90.55        |
| Satisfy the citizen and customers   | 77.5         | Policy and strategy              | 87.7         |
| Satisfy the external customers      | 60           | Employees                        | 85.83        |
| Satisfy the internal customers      | 60           | Resources and partnership        | 90           |
| Fact-based management               | 74.16        | Process                          | 81.66        |
| Process or total work               | 80           | Customer results                 | 78.33        |
| Measurement                         | 60           | Employees results                | 73.88        |
| Management relies on employees      | 70.41        | Community results                | 70           |
| Team work                           | 98           | Key performance results          | 49.42        |
| Employees make quality              | 70           | -                                | -            |
| Continuous improvement              | 70.4         | -                                | -            |
| Continuous improvement cycle        | 70.8         | -                                | -            |
| Prevention                          | 80           | -                                | -            |
| Performance excellence index or OPI | 768.2        | Business excellence score or OPI | 806.77       |

Table 6: Comparison of scores system in the used motor oil industry

Table 6 shows the results of case study the Hassanpour et al. (2014) in a case study of used motor oil industry. Based on the models criteria and results the industry was in sustainable development condition [33].

| KBEM                              |       | EFQM                      |       |
|-----------------------------------|-------|---------------------------|-------|
| Criteria                          | Score | Criteria                  | Score |
| Leadership                        | 63.4  | Leadership                | 63.9  |
| Satisfy the citizen and customers | 70.5  | Policy and strategy       | 64.2  |
| Satisfy the external customers    | 64.6  | Employees                 | 62    |
| Satisfy the internal customers    | 68.3  | Resources and partnership | 57.3  |
| Fact-based management             | 59    | Process                   | 59.9  |
| Process or total work             | 59.2  | Customer results          | 68.5  |
| Measurement                       | 48.4  | Employees results         | 63.1  |
| Management relies on employees    | 62.7  | Community results         | 67.1  |
| Team work                         | 66.2  | Key performance results   | 63.3  |
| Employees make quality            | 60.3  | -                         | -     |
| Continuous improvement            | 67    | -                         | -     |
| Continuous improvement cycle      | 62.8  | -                         | -     |
| Prevention                        | 63.5  | -                         | -     |
| Performance excellence index      | 744   | Business excellence score | 633   |

Table 7: Comparison of scores system in a Hospital

Table 7 shows the results of case study the Amiri. (2005) in an Hospital. In the case study the both factors of focus on customer and social results were strength points but process management, resources and partnership the weakness points. The weakness points need to boost and improve [34].

The EFQM focuses on mission definition, the leadership and processes which are shared between the core activities of higher education. The study of Arjomandi et al. (2009) using EFQM showed that implementation of policies and methods will guarantee the quality in all aspects of its activities in universities [35]. Tambi (2000) has suggested the use of KBEM to explaining the values of improved indices and corresponding performance indicators as a method to improve quality and study of higher education departments [36]. The study of Dahlgard, (2007) to interpret excellence by focusing on some of the CSF<sub>s</sub> showed that the results will have great advantages both for researchers and practitioners as well as organizations [37]. The study of Baidoun, (2003) presents the full agreement results of TQM about 100 percent in 78 organizations, 78 targets, with 78 usable questionnaires, 19 factors from through three tiers in Palestinian [38]. Gopal et al. (1999) had reported good fit for the supply chain activities of 139 companies in relationships between supply chain management and TQM using KBEM on supply chain activities in Hong Kong [39]. The survey Tutuncu et al. (2007) showed relationship significant between EFQM and organizational commitment of Meyer & Allen Organizational Commitment scale. Leadership, partnerships and resources, policy and strategy, affective commitment, processes, results, people development and involvement and continuance commitment were the determinants of the organizational commitment and EFQM respectively [40]. The study of Hendrics (2000) on 600 awards winning companies in North America with selected companies from the same industry were founded relationship significant in the post implementation period (5 years after the award). The same companies experienced 8% mean increase in 1 year after the award in sales revenues to 17%, 3 years after the award and 77%, 5 years after the award. Also, there was a higher mean increase of 18% in operating income, 40% in total assets and a 4.4% reduction in cost over sales 5 years after the award [41]. The results of study Ritchie D, (2000) in 10 companies on the self-assessment practices using business excellence model showed that potential to analyze organizational performance and areas to improve and promote the commercial aspects were underestimated by leaders and the quality award process was diluting their effects. [42]. Dong-Ling et al. (2006) used of multiple criteria by software on business excellence model. The results showed handling different types of uncertain and incomplete data and wide range of information such as scores, performance diversity, strength and weakness profile and graphics. These results of studies are in good agreement with the findings of the present study [43].

#### 4. Conclusion

These models were enabled to determine the strengths and weakness points to improve. *The objective to use these models* present a realistic strategy for continuous improvement and sustainable development. The present study showed that three Companies had suitable performance. The performance assessment of road construction Companies will help to facilitate continuous improvement and sustainable development for their business based on these models.

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