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ACHIEVING EXCELLENCE IN CONSTRUCTION

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ABSTRACT: The UK construction industry at its best is excellent. Nonetheless there is a deep concern that the industry as a whole is underachieving. Problems such as low and unreliable profitability, a lack of research and development, a shortage of skills, usage of tender price evaluations, and a fragmented industry structure, are widely recognised by the industry. These problems must be tackled in order to modernise (Egan, 1998). Developed using Egan's principles 'Constructing excellence' has been formed to help the industry deliver world-class products and services. In general management practice the principles of business excellence models are used to realise the similar objective of 'delivering world-class products and services. This enables the application of business excellence models in construction. EFQM excellence model & MBNQA are two well known internationally recognised excellence models. This paper compares Egan's principles with those of widely used business excellence models to identify areas that may point the way forward in achieving excellence in construction.

Keywords – Rethinking construction, Constructing excellence, Business excellence, EFQM, MBNQA

1. INTRODUCTION

The ultimate aim of any business is to prosper and to achieve world class performance (Oakland, 2002). The ways of achieving this world-class performance have changed over the years with the development of managerial concepts to satisfy the needs of dynamic business environment. This evolution in the concepts had led business organisations to change themselves and adopt these to excel in their relevant industries. In this context, the development and usage of excellence models has gained much momentum and attention in recent years. The construction industry is not an exception to this. Developments in the industry have shifted focus away from the product and towards the process (Egan, 1998). Recent developments in 'Constructing excellence', an integrated programme of activities, highlight a need for the industry to consistently deliver world-class products and services. Based on the common objective of 'improving and achieving world class performance', business excellence models can be compared to the developments of Egan's principles and 'Constructing excellence'. This paper attempts to outline the difference between the fundamental concepts of 'achieving excellence' in a business organisation and in a construction firm. 'Constructing excellence' is explored to find out the underlying theories behind the formation of the model. As the result, Egan's principles are compared with internationally recognised business excellence models to find disparity in the application of excellence concepts.

2. APPETITE FOR CHANGE IN CONSTRUCTION

The UK construction industry at its best is excellent. Nonetheless there is a deep concern that the industry as a whole is underachieving. Problems such as low and unreliable profitability, a lack of research and development, a shortage of skills, its current approach to the usage of tender price evaluations, and a fragmented industry structure, are widely recognised. These problems must be addressed if the industry is to modernise (Egan, 1998). Successive

independent reviews of construction have emphasised the need to improve the culture, attitude and working practices of the industry. Moreover, they have identified the need for a number of fundamental changes in the way construction services are procured and delivered, the aim being to improve value for money. Influence of seminal reports on productivity was evident when construction sector expanded at its fastest rate for four months; the thirty-sixth consecutive month in February 2002 (Grossman, 2002).

In July 1994, the final report on ‘Constructing the team’ was forwarded by Sir Michael Latham as a joint review of procurement and contractual arrangements in the UK construction industry. The report’s aim was to improve the industry performance and teamwork and thereby achieve better value for money. This report sought the views of contractors and key private and public sector clients. It asserted the role of intelligent clients, a comprehensive formulation of a project and contract strategy, fair tendering procedures, teamwork on site, formulation of a design check-list and interrelated package of documents etc. Also, in addressing the most important issue of a fragmented industry structure (Cox & Townsend, 1997), Latham’s report proposed experiments with partnering, long term relationships and fair treatment to each other among industry participants. Major concerns of Latham’s report were teamwork and collaboration of construction participants and the sharing of project information.

While Latham’s report influenced collaborative and teamwork thinking, Sir John Egan's Construction Task Force produced the landmark report on ‘Rethinking construction’ in July 1998. This strongly enforces the ideas of Latham and further recommends the collective improvement of performance by the application of best practice. The major effect of the report is the improvement in the belief of application of other industry experiences to the construction industry. The report identified client leadership, integrated teams throughout the delivery chain and respect for people as the main principles to achieve radical improvements in the design, quality, customer satisfaction and sustainability of UK construction. It also called for the adoption of a production-based philosophy, similar to that used in the manufacturing industry, in order to improve productivity and reduce cost. Egan’s report examined ways of improving the sector’ performance, placing a strong emphasis on reduced cost and enhanced customer value through supply chain improvement measures. Long-term partnering relationships, integrated production teams and continual monitoring, such as those observed in the manufacturing sector were recommended to tackle the fragmented structure of the construction industry. The recommendations and targets contained in the report are summarised in Figure 1, which has become established as the 5:4:7 mantra of Rethinking Construction.

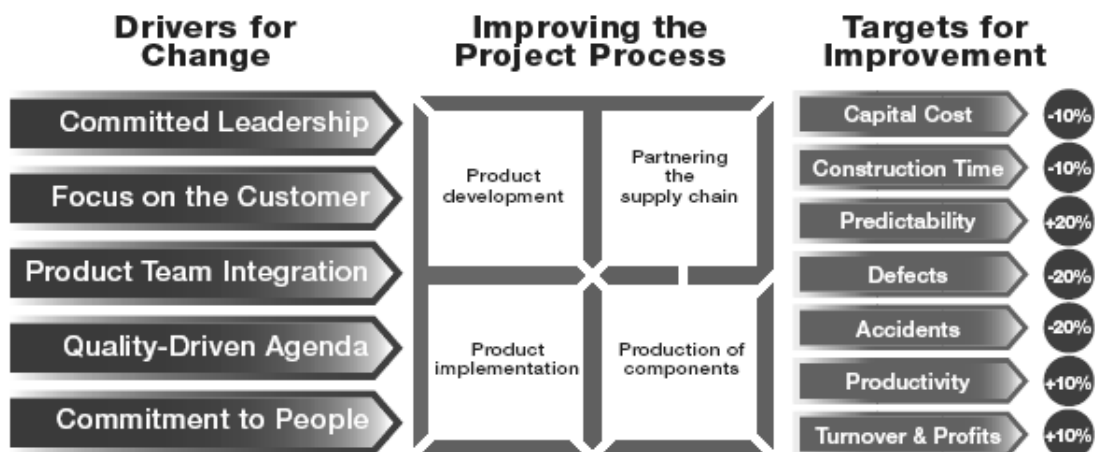


Figure 1. Egan’s principles from Rethinking Construction (© strategic forum)

Egan's recommendations made the most of the Latham's issues into practical arrangements by identifying specific drivers for change to improve the project process. Egan's report proposed to initiate a movement for change in the construction industry, for radical improvement in the process of construction. As the result, the concerns over the processes of construction management activities grew stronger than the functional product-based thinking.

As a follow up to the Egan report, the construction industry was looking at the implementation of Egan principles. 'Achieving excellence in construction' was launched in March 1999, by the Chief Secretary to the Treasury, to improve the performance of central government departments, their executive agencies and non-departmental public bodies (NDPBs) as clients of the construction industry. It puts in place a strategy for sustained improvement in construction procurement performance and in the value for money achieved by government on construction projects, including those involving maintenance and refurbishment. The Achieving excellence initiative set out a route map with challenging targets for government performance under four headings – management, measurement, standardisation and integration. Targets included the use of partnering and development of long-term relationships, the reduction of financial and decision-making approval chains, improved skills development and empowerment, the adoption of performance measurement indicators, and the use of tools such as value and risk management, and whole life costing.

More recently, several reports have been published reinforcing the ideas of Latham and Egan. 'Modernising construction' (NAO, 2001) provides detailed guidelines and best practice standards to support the concepts of Latham and Egan. 'Rethinking construction innovation and research' by Sir John Fairclough reviews government research and development. Furthermore, CPD programmes and seminars were conducted by Movement for innovation (M4I) to promote the concepts of Collaboration between parties, co-ordinated project information and supply chain techniques to aim at long term relationships and harmony among the participants in the industry. Building on Latham's and Egan's principles of achieving excellence, 'Constructing excellence' was formed by bringing together Rethinking Construction and Construction Best Practice, two unique organisations within the UK Construction Industry. The mission of 'Constructing excellence' is to deliver individual, corporate and industry excellence in construction. To achieve excellence against the set objectives, 'Constructing excellence' uses four complementary and integrated programs. They are:

- Innovation – Identifying and promoting tomorrow's best practice
- Productivity – Improving the competitiveness of the UK construction industry
- Best Practice Knowledge – Creating continuous improvement through the exchange of best practice
- Engagement – Working with people, businesses and organisations to change the culture of the industry

'Constructing excellence' is to achieve a step change in construction productivity by tackling the market failures in the sector and selling the business case for continuous improvement (Constructing excellence, 2004). Through focused programmes in Innovation, Best Practice Knowledge, Productivity and Engagement, 'Constructing excellence' has developed a strategy to deliver the process, product and cultural changes that are needed to drive major productivity improvements in the sector. These recent developments in 'Constructing excellence' can be seen as a response to the increasing popularity of 'Business/Organisational excellence' concepts in management literature.

3. EVOLUTION OF BUSINESS EXCELLENCE

Peters and Waterman's 'In Search of Excellence' (1982) introduced the concept of excellence into the conscious practice of organisations (Hermel & Ramis-pujol, 2003). Over the last ten years, the term 'business' or 'organisational' excellence has become frequently used in quality and management literature (Kanji, 2002). Various management theories existed in practice before the 1980's, and were also targeted to form the foundation of excellence. This section first looks into the evolution of excellence concepts to form a basic understanding on 'various ways of achieving excellence'.

In the early 1980's, the '7s' model was developed by McKinsey. The '7s' model comprises of three hard variables: 'strategy', 'structure', and 'systems'; three soft components: 'staff', 'shared values' and 'style'; and finally, 'skills' as the dependent variable arising from the other six components. Peters and Waterman (1982) insisted that, in order to obtain hard results, organizations need to take into account the soft side of the firm. They recommended eight attributes that should be combined to form excellent firms. They are a bias for action, priority to customers, autonomy, productivity through people, value driven management, stick to knitting, lean staff and flexible properties. Furthermore, they defined excellent companies as 'companies present the strengths of innovation, ability to change and a leadership that excel through both their values and their actions'.

This work of Peters and Waterman was readily accepted, became a virtual management 'bible', and was finally deeply criticized. The major critic about this view was that the stability of the organisation was sought with lack of consideration on environment (Hermel & Ramis-pujol, 2003). Responding to this, *Thriving on Chaos* (Peters, 1987) presented an extended analysis on the uncertainty of the environment. It is stated that the technology has an ever-increasing influence on every aspect, and that the customers continuously change their tastes and preferences. Also he stressed on other concepts such as "high value added" which he refers to as innovative product and service development. He believes that organizations need two main competencies: quality and flexibility. With this, a new type of excellence is formed. According to Peters 'Excellent firms don't believe in excellence -only in constant improvement and constant change'.

While the 'passion for change' dominated the excellence concept, the concerns on this being the source of future imbalance grew. It appears that Peters' proposals were based on very fast single-loop learning (Hermel & Ramis-pujol, 2003). To overcome this 'Learning organisations' were proposed by Peter Senge (1990). According to Senge, a Learning organisation is a group of people continually enhancing their capacity to create what they want to create. This needs clearly stated purpose, effective communications, training about all aspects of the business, flexible structure and systems, and an organization that facilitates innovation, creativity, and risk taking (Stambaugh, 1995). Here, the concept was to form an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights (Garvin, 1994). This became popular because of the shifting importance of factors of production, accelerating change in the business environment, usage of knowledge as an advantage in the increasing intensity of competition, demanding customers and ever growing dissatisfaction with the existed management paradigm (Harvey and Denton, 1999).

At this stage, concerns on 'Quality' started increasing. In any case quality could be considered as a foundation of the learning organization, and both as building blocks of excellence (Hermel & Ramis-pujol, 2003). Senge established that the real lesson of the quality movement is the learning, which comes in a series of three Quality waves: Change the front-line workers; improve the quality of management; and institutionalise learning. This takes time, patience, perseverance and dedication. Anyhow approaches such as business

reengineering are considered to be faster than learning organisations (Dervitsiotis, 1998). Also learning organisations were criticised for the lack of importance given for the important external elements (Hermel & Ramis-pujol, 2003).

With strong relation to quality, 'Excellence Models' started emerging to represent a holistic framework of management practices and to help organisations to focus on a variety of assessments and analytical criteria (Goasdoue, 2001). Some of these models are internationally recognised underlying criterion to rank organisations that are excelled in the implementation of quality practices. They provide a tool for measuring and evaluating organisational performance, and guide organisations to centre their improvement efforts on the right areas. Also they consider interest in other companies' processes and practices, and the development of inter and an intra-industry comparison with benchmarking and best practice approaches. However, they are not without limitations. The models could only be taken as a miracle recipe based on different criteria which may bring about biased interpretations from different models. Also fixed weights for different criteria could be considered inflexible and arbitrary (Hermel & Ramis-pujol, 2003).

This changing management paradigm clearly indicates the complexity in defining Business excellence in general. As discussed above, various management concepts and principles in different stages were directing business organisations towards excellence, based on different perceptions. This reinforces the requirement of continuously changing principles to achieve better performance. According to Oakland, Business excellence can be defined as '*Achieving world-class performance*', Even though '*Achieving world-class performance*' is a subjective term, it explains the requirement of a dynamic definition to suit the changing business environment.

As regarded by several, the most comprehensive definition of 'Business excellence' is of European foundation for quality management (EFQM) excellence model (Slatkeviciene and Vanagas, 2000). It defines excellence as the "*outstanding practice in managing the organisation and achieving results*". Further it goes on explaining that "*the true excellent organisations are those that strive to satisfy their stakeholders by what they achieve, how they achieve it, what they are likely to achieve and the confidence they have that the results will be sustained in the future*" (EFQM, 2005). According to Adebajo (2001), this definition is largely based on the concept of total quality management (TQM). Also many authors of quality management literature believe that 'Business excellence' is not so different from Total Quality Management. They see 'Business excellence' as an evolution of Total Quality Management which can be defined as "*a management philosophy that fosters an organisational culture committed to customer satisfaction through continuous improvement*" (Kanji, 2002). However developments in 'Business excellence' are targeted towards 'quality of management' rather than the TQM approach of 'management of quality' (Adebajo, 2001).

Excellence is generally associated with the European Foundation for Quality Management Excellence model (EFQM). EFQM is an improvement on other TQM based model Malcom Baldrige National Quality Award (MBNQA). These models are two well known internationally recognised underlying criterion to rank organisations that are excelled in the implementation of quality practices (Adebajo, 2001). They provide a tool for measuring and evaluating organisational performance and guide organisations to focus their improvement efforts on the right areas (Hermel & Ramis-pujol, 2003). The principles of business excellence models are used to realise the similar objectives of 'delivering world-class products and services' of 'Constructing excellence'. This enables the application of business excellence models in construction. The development of 'Constructing excellence' had instigated from the concepts proposed by Sir John Egan. Therefore comparison between

Egan’s principles and business excellence models will indicate the areas to be considered to pave the way forward in ‘achieving excellence in construction’.

4. EUROPEAN FOUNDATION FOR QUALITY MANAGEMENT (EFQM) EXCELLENCE MODEL

Business organisations in Europe and government agencies are committed to improve their performance through the promotion of quality techniques. One vehicle with which they hope to achieve success in this endeavour is the business excellence model. This model is based on the premise that customer satisfaction, people satisfaction and impact on society are achieved through leadership driving policy and strategy, people management and processes leading ultimately to excellence in business results. The belief is that organisations that have high levels of customer satisfaction and employee satisfaction, and have a positive effect on society, will prosper and achieve superior business results (Porter and Tanner, 1998). The model is well known for its balance in results and process orientation. Even though it places importance on handling technology, facilities and partnership, one of the major concerns is the lack of focus on ‘teamwork’ and ‘prevention’ (Kanji, 2002). The model is shown in figure 2.

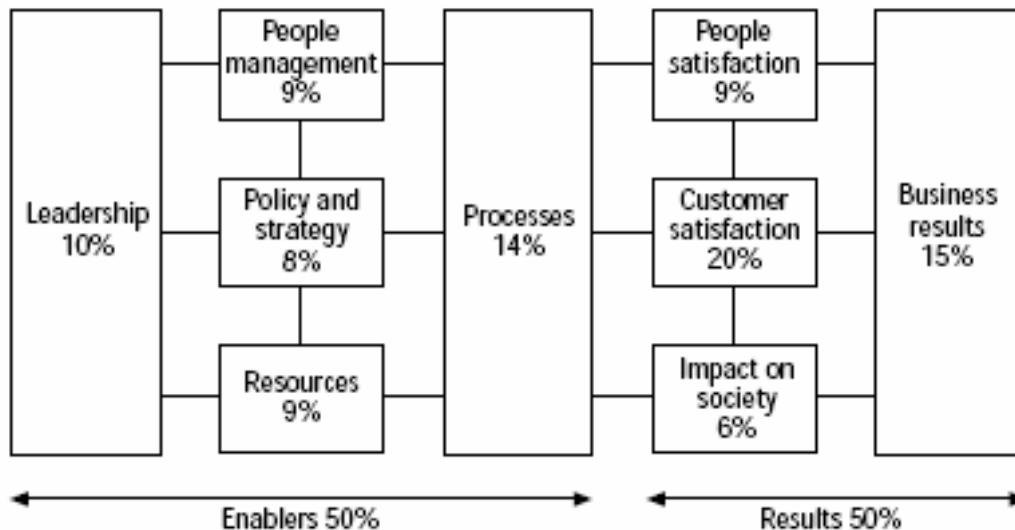


Figure 2. The European Foundation for Quality Management (© EFQM) Excellence model

Each of the nine elements of the model is a criterion which can be used to assess an organisation’s progress towards excellence. The ‘enablers’ criteria cover what an organisation does. The ‘results’ criteria covers what organisation achieves. That is ‘enablers’ cause ‘results’ (Kanji, 2002). These elements are in turn divided into 32 sub-criteria. Weightings given for each criterion indicates the overall importance of the criterion in contributing to business success. Scoring of each part of enablers is based on the degree of excellence and the extent of deployment of the approach. Each part of the results is also scored on the degree of excellence in the results and the scope of the results.

Here, *Leadership* relates to the behaviour of all managers in as much as how the executive team and all other managers inspire, drive and reflect total quality as the organization’s fundamental process for continuous improvement. *Policy and strategy* reviews the organization’s mission, values, vision and strategic direction. *People management* studies the management of the organization’s people and how the organization releases the full potential of its people to improve its business and/or service continuously. *Resources* refer to

the management, utilization and preservation of resources and how the organization's resources are effectively deployed in support of policy and strategy. *Processes* analyse the management of all value-adding activities within the organization, and address how processes are identified, reviewed and revised to ensure continuous improvement of the organization's business and/or service. *Customer satisfaction* examines what the organization is achieving in relation to the satisfaction of its external customers. *People satisfaction* investigates what the organization is achieving in relation to the satisfaction of its people. *Impact on society* probes what the organization is achieving in satisfying the needs and expectations of the community at large. *Business results* reviews what the organization is achieving in relation to its planned business objectives and in satisfying the needs and expectations of everyone with an interest in the organization (Shergold and Reed, 1996).

This provides a better opportunity for self-assessment and benchmarking. If used properly, this will help organisations evaluate their current level of performance, identify and prioritise areas for improvement, integrate improvement actions in their business plan and identify best practice. The opportunity to carry out future assessments against the model also mean that progress towards excellence can be measured and promotes continuous improvement (Adebanjo, 2001).

4.1 Comparison of Egan's Principles and Fundamental concepts of EFQM Excellence Model

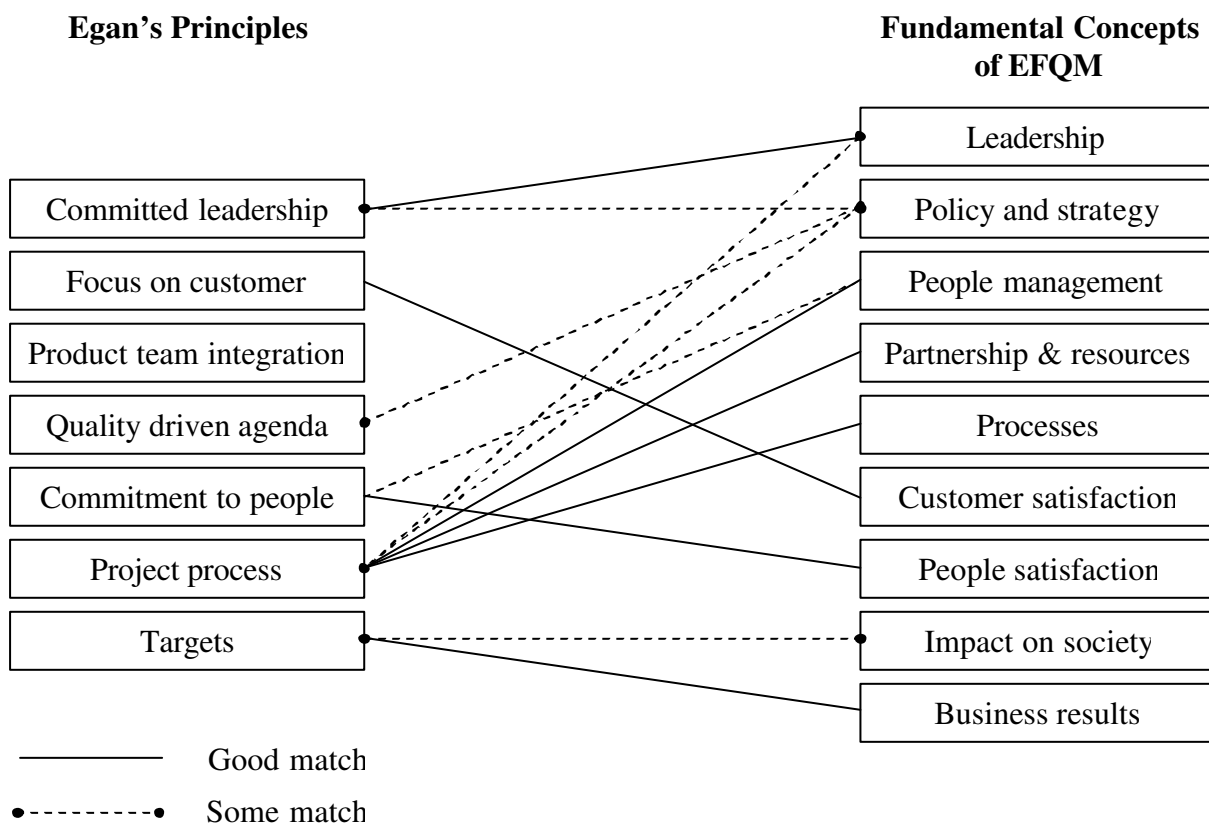


Figure 3 Comparison of Egan's principles and concepts of EFQM excellence model

The fundamental principles of Egan's rethinking construction and the EFQM excellence model match in several areas (Figure 3). Both indicate the major emphasis of leadership to move forward the entire concepts. A process centred business, driven with the results in relation to planned business objectives is also represented by both approaches. The focus on

customer satisfaction remains as the main factor of achieving superior business results. However, compared to the EFQM, Egan's principles lack recognition of 'employee satisfaction'. Egan in his proposal identified the importance of 'commitment to people' as one of the drivers of change to recognise people as the industry's greatest asset to create value for clients and profits for companies. The EFQM excellence model has gone a step ahead to identify employee's satisfaction than a mere commitment to people as one of the main focus themes to achieve excellence. Prominence of the people factor in the business world had been highly recognised, but much less so in the construction industry. Furthermore, Egan's principles lack recognition of the expectations of the community at large. Even though Latham and Egan indicated the 'poor image of the industry' as one of the areas needs improvement, the proposals lack incorporation of such initiatives lack of importance given to 'impact on society, affirms the need to concentrate on improvement measures to build a better public image. Also the EFQM excellence model places more importance on 'policy and strategy', in order to achieve excellence. Egan's principles identify 'policy and strategy' as an underlying factor on each principle. However the significance given for 'policy and strategy' is considerably less in Egan's principles.

Emphasis on 'quality' and 'project team integration' is the added features of Egan's principles over EFQM excellence model. The lack of importance given for quality in the EFQM excellence model is a highly debated subject in management literature. Anyhow lack of focus on 'teamwork' in EFQM excellence model is a major concern and Egan's proposal 'project team integration' lays down the fundamental principles of team working to the highly labour intensive construction industry. 'Prevention' is another important area which both Egan's principles and EFQM excellence model have overlooked. According to Kanji (2002), 'prevention' is a cornerstone in Total Quality Management and processes should be designed to prevent failures from reaching customers.

5 MALCOLM BALDRIGE NATIONAL QUALITY AWARD (MBNQA)

The Malcolm Baldrige National Quality Award (MBNQA) was created by an act of Congress in 1987 to stimulate quality awareness in USA. The Award aims to promote the understanding of the requirements for performance excellence and competitiveness improvement, the sharing of knowledge on successful performance strategies and the benefits derived from using these strategies (NIST, 2005). The model (Figure 4) establishes a self-assessment benchmark against which improvement can be measured and verified. This is a systematic assessment of an organisation's overall activities conducted for the purpose of evaluating performance, identifying areas for improvement, and developing recommendations and plans for further action. Award applicants are evaluated on seven major categories of quality criteria, including Leadership, Strategic Planning, Customer and Market Focus, Measurement, Analysis and Knowledge management, Human Resource Focus, Process Management and Business Results. These assessment criteria share a maximum score of 1,000 points and are designed to be flexible and inclusive of a wide variety of quality systems. They are used by organisations of all kinds for self-assessment, planning, training and other purposes (NIST, 2005). Model recognizes the crucial role of the top management in creating the goals, values and systems that guide the pursuit of continuous performance improvement and external orientation. Environment, key working relationships, and strategic challenges serve as an overarching guide for organizational performance management system (NIST, 2005).

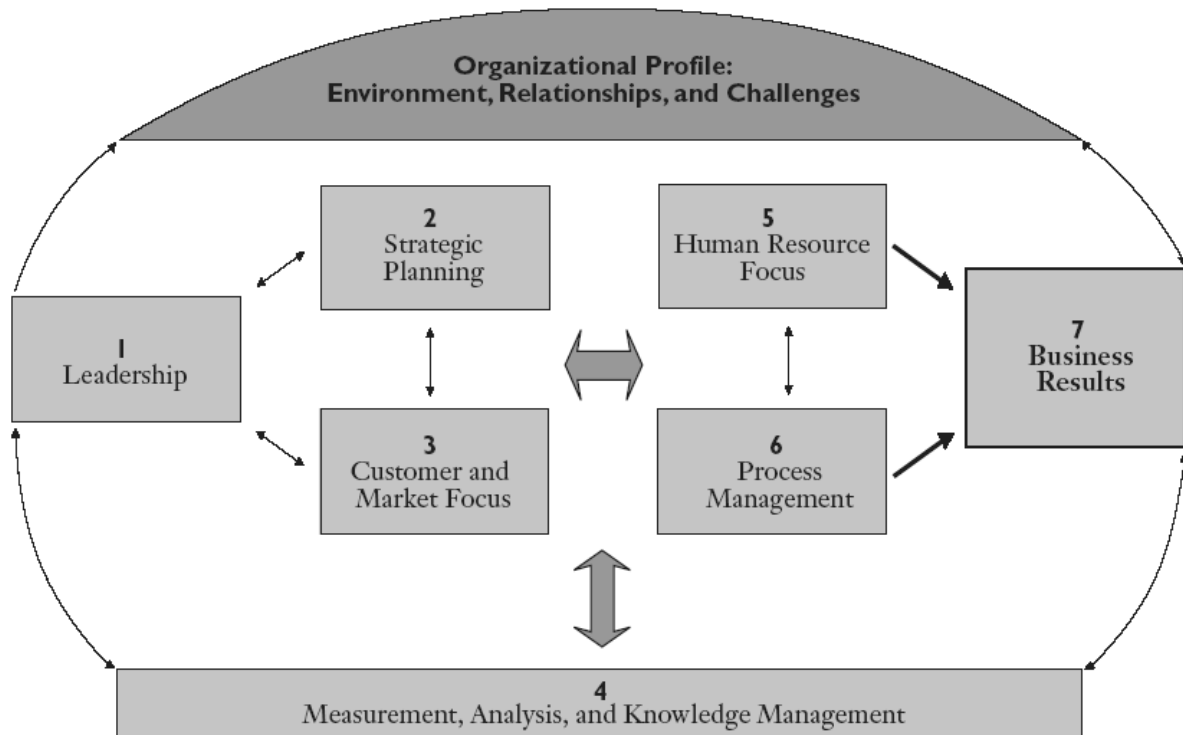


Figure 4. Malcolm Baldrige National Quality Award (© NIST)

Here, *leadership* highlights the role of senior leaders in setting and communicating vision, values, and a focus on customers and accomplishing organization’s objectives. It includes leadership responsibilities for all aspects of good governance of the organization. *Strategy planning* refers the ability to execute the strategic plan and to use customer complaint data and organization’s processes for minimizing customer dissatisfaction and loss of repeat business. *Customer and Market focus* examines the current and potential customers for both existing and new products and services. *Measurement, Analysis, and Knowledge management* studies the purpose and use of data, information and knowledge quality in recognition of the challenges. This also addresses the availability of data and information in the event of an emergency. *Human Resource focus* probes how work systems and employee learning reinforce accomplishment of action plans and retention of critical organizational knowledge for long-term sustainability. *Process Management* addresses operational planning and stewardship of resources for continuity of operations in case of an emergency. *Business results* reviews what the organization is achieving in relation to customer satisfaction, loyalty, and long-term business success through the accomplishment of organizational strategy, ethical behaviour, fiscal accountability, legal compliance, and organizational citizenship (NIST 2005).

5.1 Comparison of Egan’s Principles and Fundamental concepts of MBNQA

Once again Egan’s principles match with the fundamental concepts of MBNQA (Figure 5). Leadership, customer focus, commitment to people, process orientation and review & control of business by results/performance measures matches strongly in both models. Higher priority given for ‘quality’ and ‘project team integration’ in Egan’s principles reflects the need of construction industry. MBNQA recognises strategic planning, measurement and knowledge management combined with prevention measures as the key drivers towards excellence. As discussed before, significance given to strategic planning and prevention measures is comparatively less in Egan’s principles. Also the role of data/information in

measurement and analysis of business operations together with the usage of quality knowledge management to face challenges can be considered as key areas to include into the principles of Egan to achieve excellence in construction.

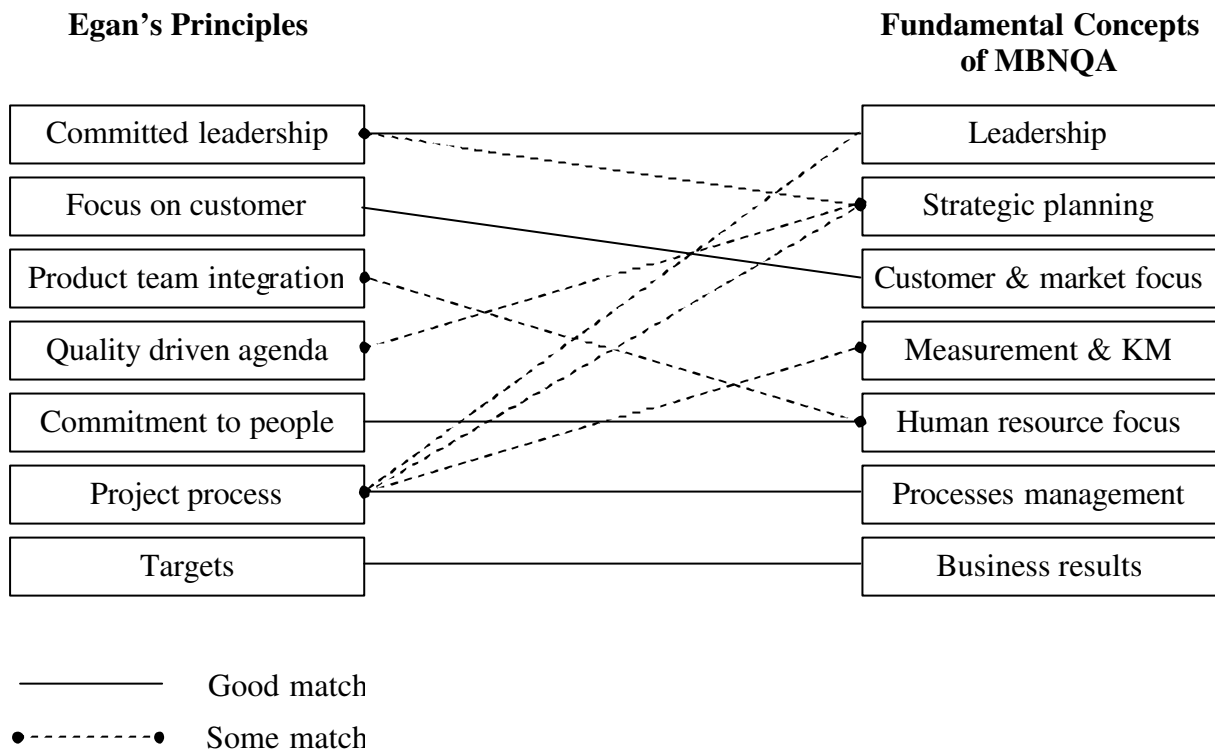


Figure 5. Comparison of Egan's principles and Concepts of MBNQA

6 ACHIEVING EXCELLENCE IN CONSTRUCTION

As discussed before, the construction industry is moving forward with the agenda of 'achieving excellence in construction'. Current developments in this context are the build-up from the principles of proposal laid down by Sir John Egan. The above comparisons of internationally recognised excellence criteria with Egan's principles are to find gaps which can be explored to pave path to achieve excellence in construction. Table 1 summarises the comparisons between business excellence models and Egan's Principles.

Comparison clearly shows the resemblance of the excellence models and Egan's principles. However the significance given in Egan's principles on strategic management and planning aspects is comparatively low. Both EFQM and MBNQA identify strategy as one of the main criteria to evaluate excellence. Formation, deployment, reviews and improvement of strategy and policy in construction needs further investigation. In recognising commitment towards employees business world has gone ahead of the construction industry by identifying their levels of satisfaction than the mere commitment to employees. 'Impact on society', one of the EFQM criteria needs proper investigation to understand the ways of creating better public image in construction industry. Also knowledge sharing and prevention measures lack significance in Egan's principles. Recent developments in 'Constructing excellence' through innovation, productivity, best practice knowledge transfer and engagement programmes shows the importance of these concepts in construction. Knowledge transfer and prevention measures are imposed to a greater extend by 'Constructing excellence'. However emphasis given for strategic management and planning, employee satisfaction and impact on society are still relatively low. To affirm this, Fairclough report in 2003 also identifies the

requirement of strategic vision, focus on people factor and better public image as the areas to improve in the industry to deliver better value for money. This clearly indicates the need for further research in these areas to achieve excellence in construction.

Table 1. Summary of comparison between Egan’s principles and Excellence Models

Fundamental concepts	Egan	EFQM	MBNQA
1. Leadership	v	v	v
2. Strategic management	~	v	v
3. human resource management	v	v	v
4. Partnering and project team integration	v	~	
5. Process orientation	v	v	v
6. Customer focus	v	v	v
7. People/employee satisfaction		v	
8. Impact on society		v	~
9. Knowledge sharing			v
10. Continues improvement	~	v	v
11. Teamwork	v		~
12. Prevention measures			~
13. Business results	v	v	v

v - Strong relationship
relationship

~ - weak

7 CONCLUSION

This paper highlights the change in construction industry in the last decade towards ‘Achieving excellence’ with the developments laid down by Sir John Egan. Also the evolution of excellence in business world is explored to understand the recent developments of business excellence models. Then internationally recognised excellence models, EFQM and MBNQA are compared with the principles of Egan and the development of ‘Constructing excellence’ to identify possible areas of improvement in construction. Comparisons show disparity in emphasis on the following areas.

- Strategic management and planning
- Employee satisfaction and people factor
- Creation of better public image

Theses areas should be further explored to pave a better path towards achieving excellence in construction.

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