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A comparative assessment of the EFQM Excellence model and the ISO 9001:2000

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1. Introduction

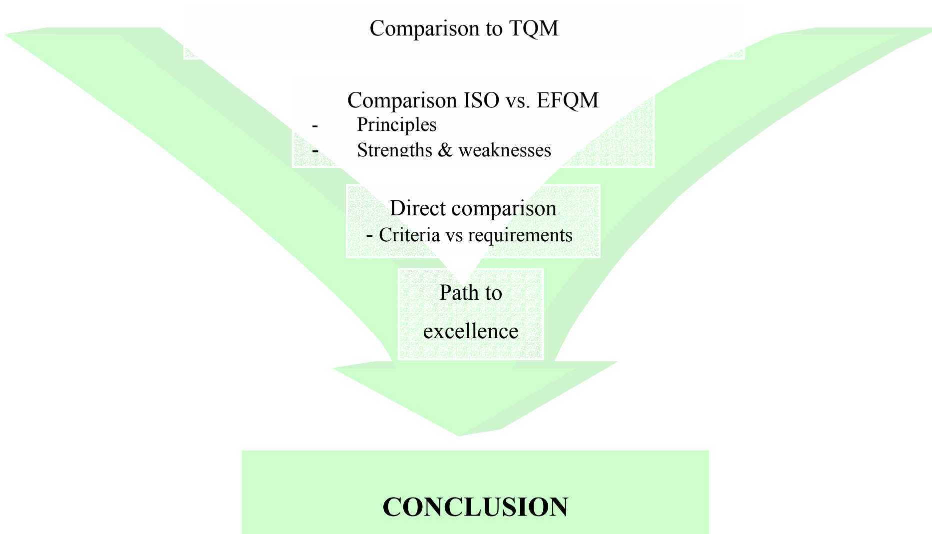
The principles of total quality management (TQM) have proven very valuable to individuals, groups of people and organizations and many organizations have now discovered a relationship between quality and profitability. It has now become important for organizations to develop a quality strategy by adopting the principles of TQM (Kristensen et.al, 1998). To fulfil the principles companies tend to apply one of the numerous quality models (ISO 9000, EFQM, MBNQA, etc.) as a framework. These models are all internationally recognized and they ensure a sound approach. The first international guideline to be presented in the field of quality that has gained acceptance is the ISO 9000 standards formulated by the International Standards Organization in 1987. Since then many award models have seen the day of light. The EQA was introduced in 1991. Both these models attempt to help quality-minded enterprises in keeping track of their development towards TQM.

The focus of this seminar is on these two models. A comparative assessment of them will be carried out both towards the overall TQM principles as suggested by Juran, and also against each other. The analysis of the models will further include a comparison of the underpinning principles supporting the two frameworks, to investigate if they are identical and, moreover, to inspect if they actually live up to their own ideology. Next, a thorough analysis is conducted where each individual sub-criterion is compared between the models to determine their breadth. This assessment will be measured up to a comparison of the ISO 9000 standards and the EFQM excellence model by a licensed award assessor. Finishing up the assessment of the two frameworks, we will try to clarify whether ISO 9000 standards or the EFQM excellence model is a sure way to total quality, or if the path to business excellence will go beyond the two models.

It has been chosen to limit the analysis to an evaluation of the ISO 9001:2000 against the EFQM, since companies are not contractually committed to apply ISO 9004:2000, which include suggestions, rather than requirements, to management. When we refer to the standards, ISO, ISO 9000 it is the new version, ISO 9001:2000 that is meant.

The underlying structure of the analysis is illustrated in figure 1.1. As one move down the funnel-like arrow, the scope of the analysis gets narrower.

Figure 1.1: Analysis structure



Source: Own work

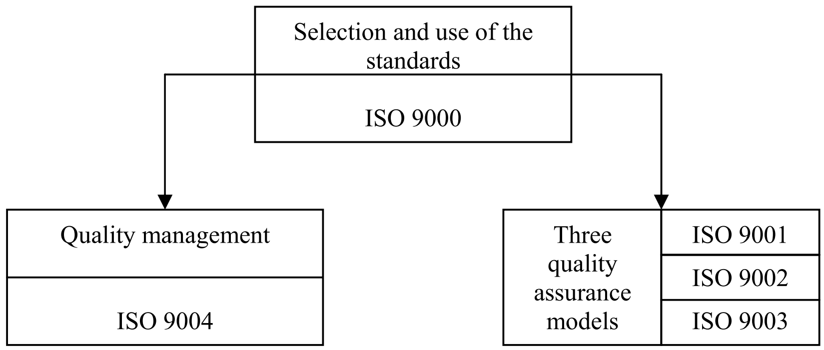
2. History of the models

2.1. History of the ISO 9000 standards

The International Standards Organization was established in Europe in 1947[1]. The purpose of the organization is to help and promote trade across the world through a set of international recognized standards for quality management. Currently the organization consists of approximately 100 membership bodies. The financing is secured from the members directly and through sale of material. Among its activities was the 1987 introduction of the ISO 9000 standards. The ISO 9000 standards can be traced back to the military procurement standards developed during World War II[2]. These standards were later adopted by the British Standards Institute in 1979 and became the BS 5750 standards. This was the first step towards an international recognized set of standards to guide commercial company's efforts in the area of quality management. In 1987 the International Standards Organization, ISO, accepted the BS 5750 with a few alterations. The original version of the ISO standards is illustrated below:

[1] Stevenson, Thomas H. et.al: Fourteen Years of ISO 9000: Impact, Criticism, Costs, and Benefits. Business Horizons May/June 2001.
[2] Bendell, Tony: The Implications of the Changes to ISO 9000 for Organizational Excellence. Proceedings of the First International Research Conference on Organizational Excellence in the Third Millenium, 2000.

Figure 2.1: Structure of the original ISO 9000 standards



Source: Stephens, Kenneth S: ISO 9000 and Total Quality. Quality Management Journal, 1993

The underlying premise of ISO 9000 certification is that the development of products and services is the result of a system, the inputs and outputs of which can be measured at different points as the systems adds value. ISO 9000 registration documents the procedures in the system and measures how well they conform to such documentation (Stevenson, 2001). In short, ISO 9000 sets system standards for paperwork, not products, by setting guidelines for establishing corporate systems.

The standards as known today have changed to keep up with the development in the research of quality management. During 1994 minor changes occurred with major changes postponed until 2000. The 2000 re-writing of the standards was initiated because of criticism that the original ISO 9000 was too superficial. The biggest change carried out in 2000 was the merging of ISO 9001 through ISO 9003 into ISO 9001:2000. Firms considering ISO 9001:2000 registration, or continued registration, should review the eight quality principles upon which the revised version is based in order to obtain a broad view of the ideals and goals of ISO implementation[3]. These principles include:

1. Customer Focused Organization
2. Leadership
3. Involvement of People

[3] Jackson, Kelly et.al: Understanding and implementing the year 2000 changes to ISO 9000. Ohio CPA Journal Oct-Dec 2001

4. Process Approach
5. System Approach to Management
6. Continual Improvement
7. Factual Approach to Decision Making
8. Mutually Beneficial Supplier Relationships

These revised requirements involve such areas as increased management commitment, allocation of resources, measuring customer satisfaction, and data analysis, as well as changing the perspective of the quality management system to represent the flow of the businesses processes (Jackson, 2001). With the new version, the International Standards Organization has tried to align the standards more along the different award models.

2.2. History of the EFQM excellence model

The excellence model was developed when European companies realized they had to focus more on quality in order to survive[4]. In 1988 14 leading companies established the European Foundation for Quality Management, who in 1991 officially launched the European Quality Award. The award is based on the framework, which today is called the excellence model. The aim of EFQM is to enhance the position of Western European companies, by accelerating the acceptance of quality as a strategy for attaining competitive advantage and by stimulating and assisting in the development of quality improvement activities[5].

The excellence model itself is based on the TQM principles, which are leadership, customer focus, continuous improvement, focus on facts, and everybody's participation[6]. If one look at the model, it is seen that there are some fundamental concepts. All in all the model is build on 8 concepts - result orientation, customer focus, leadership & constancy of purpose, management of processes & facts, people development & involvement, continuous learning, partnership development, and public responsibility[7]. These 8 concepts include all of the five TQM principles stated above.

It is stipulated by the EFQM that there is a causal relationship between enablers and results in the model. The proposed causality is that excellent results are achieved through leadership driving

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[4] Bohoris, G.A: A comparative assessment of some major quality models, The International Journal of Quality and Reliability Management, 1995.

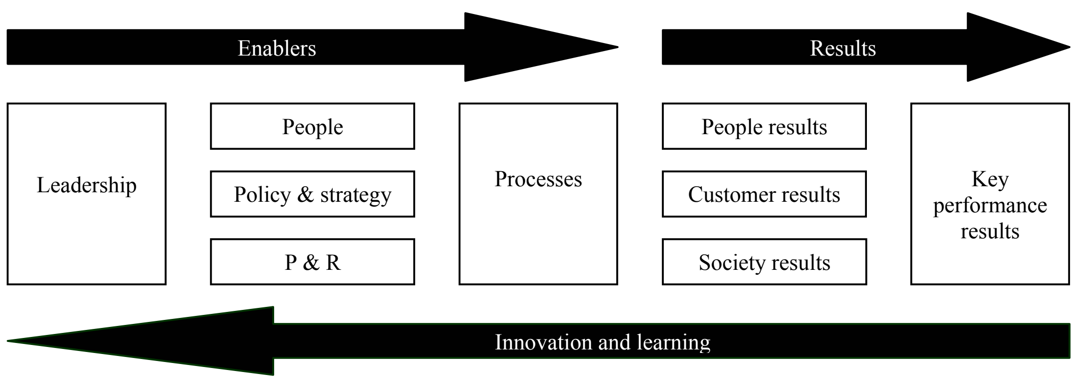
[5] Ghobadian, Abby: Characteristics, benefits and shortcomings of four major quality awards, The International Journal of Quality and Reliability Management, 1994.

[6] Kristensen, Kai et.al: Fundamentals of Total Quality Management. Chapman & Hall, 1998.

[7] EFQM: The EFQM excellence model, 1999.

policy & strategy, people, partnership & resources and processes[8]. Another thing about the model is that it is only prescriptive in terms of the philosophy and values[9]. The management philosophies and principles that Ghobadian (1994) puts forward are more or less the 8 concepts earlier stated. The model is however not prescriptive when it comes to method or tools to improve or achieve sustainable excellence, meaning that the model allows for many approaches in achieving excellence. When you use the excellence model there is also emphasis on prevention instead of inspection and testing[10], which again is in accordance with TQM and advocated by gurus like Deming and practiced by many leading companies. One last remark about the excellence model is to the use of the framework. First of all it is used as the basis for the European Quality award, but besides that it is helpful in understanding and identifying the key linkages and the cause and effect relationships that exist in the business. Finally, and perhaps the most important use is self-assessment. The Excellence model can be used as a diagnostic tool to identify the strengths end weaknesses of an organization, which can be used to develop a business plan. The figure below illustrates the EFQM excellence model:

Figure 2.2: The EFQM excellence model



Source: EFQM

3. A comparative analysis of the ISO 9001:2000 and the EFQM excellence model

This section will consist of 4 sub-sections; a comparative assessment of ISO 9000:2000 and the TQM concept, followed by an assessment of the EFQM excellence model and TQM. This is

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[8] EFQM: The EFQM excellence model, 1999.

[9] Ghobadian, Abby: Characteristics, benefits and shortcomings of four major quality awards, The International Journal of Quality and Reliability Management, 1994.

[10] Tummala, Tang: Strategic quality management, Malcolm Baldrige and European quality awards and ISO 9000 certification, The International Journal of Quality and Reliability Management, 1994.

continued by a comparison of the strengths and weaknesses, underlying principles, and performance impact of the two frameworks; ISO 9000 versus EFQM. It is followed with a detailed analysis of the individual sub-criteria of the ISO 9000 standards and the EFQM excellence model. The assessment will then be finalized by a description of the path to excellence.

3.1 A comparative assessment of ISO 9000 and the TQM concept

The fundamental difference between the ISO 9000 standards and total quality is that the latter, as a philosophy of management, has a broader spectrum (Lozano, 1997). The ISO 9000 is based upon quality assurance whereas the focus of TQM is more elaborate in that it searches for excellence. In this sense, the basic priorities of TQM are to achieve satisfied, and thereby loyal, customers and process efficiency, while the standards is solely aimed at fulfilling contractual commitments with the customers[11]. The key factors for the success of total quality are management commitment and the involvement and cooperation of all stakeholders. Contrary, ISO 9000 is founded on the rigorous application of procedures and the adequate composition of the workforce to complete the contracts. This view has been altered a little in the revised edition of ISO 9000 and has become more aligned to the total quality approach. However, it is still founded on procedures and not processes.

The principles of action of total quality are to act on the process of the business, procuring continuous improvement and incorporating "best practices" (Lozano, 1997). The standards also include continuous improvement but this improvement is based on the continuous reduction of non-conformities.

According to Kondo (2000), work standardization, as with ISO 9000, prevents the display of creative and innovative activities. For this to take place it is necessary to incorporate a company culture with room for creativity, physical activities, and sociality in daily operations. In this light, it is highly unrealistic that any single standard could be the most efficient for every enterprise, no matter how elaborate the formulation may be. This aspect is also questioned by Kristensen et.al (1998). The ISO 9000 is very appropriate for the standardization process but the company will not make any progress without relying on excellent leadership and continuous learning – TQM[12].

[11] Lozano, Ana Reyes Pacios: ISO 9000 and the total quality management models. Library Management, vol. 18, no. 3, 1997.

[12] Kristensen, Kai et.al: Fundamentals of Total Quality Management. Chapman & Hall, 1998.

3.2 A comparative assessment of EFQM and TQM concept

Different from the ISO 9000 standards, the EFQM is, like TQM, focused on business excellence as the ultimate goal. The five principles of TQM; leadership, focus on facts, continuous improvement, customer focus, and everybody's participation (Kristensen et.al, 1998) have been covered in the EFQM excellence model. The principles of action are also equivalent from EFQM to TQM. However, being similar to the principles of total quality, does the EFQM framework really ensure total quality? Hughes et.al (2002) states: "If Deming's 14 points for TQM are included in the EFQM excellence model and organizations, which demonstrate improvement using the EFQM excellence model, then those organizations should have eliminated all of the deadly diseases or be in the process of eradicating them." A study was set up to investigate the use of self-assessment and the EFQM excellence model, as applied to the UK financial services sector, and evaluate its effectiveness in helping companies remove the obstacles identified by Deming[13]. The general conclusion drawn from the analysis is that to significant difference can be detected between companies who score low, medium, or high from the self-assessment when measured against Deming's 14 points for management. A high self-assessment score does therefore not guarantee that an organization will be fully developed in terms of quality transformation or excellence. Though, the study indicate no significant connection between scoring levels from the self-assessment and an elimination of fundamental barriers to improvement as stated in Deming's 14 points for TQM, the EFQM excellence model does bring about a betterment in quality, but in the terms expressed by the model.

The above two assessments illustrate that neither the ISO 9000 standards nor the EFQM excellence model are adequate to ensure TQM. The ISO 9000 does not even pursue business excellence, but rather business assurance. A direct comparison with the TQM concept show several setbacks in the standards, i.e. lack of measurements to document improvement efforts, a view on procedures instead of processes, and a flawed approach to continuous improvement. These problems do not occur to the same extent with the EFQM excellence model. This framework has incorporated most of the principles from TQM. However, implementing it does not ensure total quality entirely, as seen by Deming, but it is more aligned to it that the ISO 9000. Therefore, the two models should not be seen as competing models, but maybe somewhat as complementary.

[13] Hughes, Adrian et.al: Comparison of the 14 deadly diseases and the business excellence model. Total Quality Management, vol. 13, 2002.

3.3. Comparison of ISO 9001:2000 standards and the EFQM excellence model

This part of the seminar compares the underlying principles and strength and weaknesses of ISO 9000 and the EFQM excellence model. To do this it is first necessary to understand the strengths and weaknesses of the models.

3.3.1. Strengths of the ISO 9000 standards

On the positive side, its main strength is the structure that ensures a uniform, consistent set of procedures, elements, and requirements that can be applied to all companies, within limitations of interpretation and individual implementation[14]. It provides framework for designing, implementing, evaluating, specifying, and certifying a quality assurance system. The guideline of ISO 9000 has provided a common language for international trade with respect to quality management, and it has been widely adopted throughout the world. It requires a sound, well-documented contractual relationship between customer and supplier. Hence, it aims to establish a common understanding between these parties based on agreed requirements (Stephens, 1994).

Furthermore, the ISO 9000 is generic in its structure. This can be acknowledged in two instances[15]. One, it is neither product nor process specific. The quality assurance system, as provided by the ISO 9000 framework, need to be supplemented by specific sub-systems related directly to the processes and the products to which it is utilized. Second, it is not quality-system specific either, in that it does not specify a fixed system for every company to follow. This opens up for considerable flexibility within the planning phases of a quality assurance system. The management is free to design and implement its own system within the framework of the requirements of the guidelines.

Other benefits obtained from pursuing registration include improved communication, lower operating costs and/or higher profitability, improved operations, and market expansion[16]. Through ISO 9000 registration, consistent procedures help reduce conflicts between formal and informal communication flows. Further, it helps communication back and forth between management and employees in that rules of documentation are standardized. Lastly, a certification also provides the basis for a networked communication system, both internal and external (Stevenson, 2001).

With regard to cost savings and profitability, research findings have generally been positive. A survey by Lloyd's Register Quality Assurance indicated that ISO 9000 registration increased net

[14] Stephens, Kenneth S.: ISO 9000 and Total Quality. Quality Management Journal, 1994.
[15] Ibid.
[16] Stevenson, Tomas H. et.al: Fourteen Years of ISO 9000: Impact, Criticism, Costs, and Benefits. Business Horizons May/June 2001.

profits[17]. This connection has been tried identified several times. Wolak (1994) reported that the costs of registration were recovered in three years and the British Standards Institution, who launched the BS 5750 standards on which the ISO 9000 is based, claim firms that achieve certification reduce annual operating costs by an average of 10 percent (Stevenson, 2001).

When addressing the fact of improved operations it gets more complex, because there are opposing views on the influence of ISO 9000 registration. Stevenson reports in one case study involving a manufacturer of liquid processing equipment that on-time delivery improved from 30% to 90%. On the other hand, in a research, including U.S. and Canadian firms in the electronics industry carried out by Simmons and White (1999) it was concluded that no significant difference could be identified in operational performance between certified and non-certified enterprises[18]. However, Stevenson quotes Lee and Palmer for reporting that operational performance does tend to increase with certification. With the revised standards, ISO 9000:2000, where continuous improvement has been included, this also seems more likely.

Market expansion is also thought to be facilitated by ISO 9000 registration. Often, large certified corporations require certification of their suppliers. Thus, businesses seeking to expand or even just maintain their markets are forced to pursue registration[19].

3.3.2. Weaknesses of the ISO 9000 standards

The ISO 9000 has always been exposed to heavy critique. However, many issues have been dealt with in the 2000 revision of the guideline.

One recurring criticism of the ISO 9000 registration concerns the formal certification process. Many experts believe certification is too costly and consists of a pursuit of quality certificates rather than a pursuit of quality (Stevenson, 2001). ISO 9000 represents a "least-common denominator" in its coverage of the quality management/assurance/system disciplines (Stephens, 1994). It is believed that the actual quality system, that is optimum for a given enterprise or corporation, may go well beyond the requirements, elements, and procedures of the ISO 9000 series. In the framework there is too much emphasis on conformance rather than on effectiveness. Though, this problem has been addressed in the re-writing in 2000, with efforts to enhance continuous improvement, it still lacks behind the major award models, such as the European Quality Award or the Malcolm Baldrige

[17] See reference 16..
[18] Stevenson, Tomas H. et.al: Fourteen Years of ISO 9000: Impact, Criticism, Costs, and Benefits. Business Horizons May/June 2001.
[19] Dick, Gavin P.M: ISO 9000 certification benefits, reality or myth? The TQM Magazine, vol. 12, no. 6, 2000.

National Quality Award. For ISO 9000 certified companies meeting the requirements is the principal concern. Short-term corrective action is emphasized over long-term improvement[20]. The ISO 9000 framework has largely depended on inspection as an assurance of quality. Several researchers have contended this. According to Seddon (1997), inspection increases errors, adds to costs, and decreases morale. Many people have started to have doubts about the necessity of all the external and internal inspections; both are controls associated with bureaucracy – and many rightly question whether this represents "quality" thinking[21]. Seddon goes on to say, "ISO 9000 has a fundamentally flawed conception of quality. Rooted in the philosophy of quality by inspection, it encourages managers to control their organizations in ways, which actually undermine performance and, paradoxically, damage quality…These methods are preventing people making a useful contribution, making them feel that the value of their contribution is, in whatever way, defined by procedures." However, the revised standards have realized the importance of focusing on prevention instead of inspection. Therefore ISO 9000 now seem more aligned to the business excellence models.

Another fundamental flaw with the ISO 9000 is that it does not start with performance. Rather, it starts with a view of the organization compared to a defined set of requirements, which is stated to have a beneficial impact on results if interpreted and implemented correctly[22]. This link has not been proven, and it is not a sound approach to quality management either, because it does not optimize operations. The focus of implementation is thorough documentation to allow monitoring of the defined procedures. This type of assessment where a third-party evaluator is a judge of the employee's performance is detrimentally wrong and very demotivational. When people are subjected to external controls, they are inclined to pay attention only to those things, which are affected by the controls. However, the revised edition of ISO 9000 has incorporated "Involvement of People" as one of the eight quality principles, but no systematic measurement of employee satisfaction is demanded by the organization.

Furthermore, the series is also believed to contain a rather weak quality audit program, which is conducted by third-party evaluators. Thereby the audits tend to be a subjective evaluation based on the evaluator's personal belief of quality[23].

[20] Stephens, Kenneth S.: ISO 9000 and Total Quality. Quality Management Journal, 1994.
[21] Seddon, John: Ten arguments against ISO 9000. Managing Service Quality, vol. 7, no. 4, 1997.
[22] Ibid.
[23] Sayle, A.J: ISO 9000 – Progression or Regression. EOQC Quality vol. 1, 1988.

Managing processes by understanding variation is the foundation for learning and improvement. This has been mentioned in the re-written version of ISO 9000 from 2000 with the addition of "Process Approach" as a fundamental quality principle. But it is still lacking compared to the holistic management models. In general, the ISO framework has discouraged managers from learning about the theory of variation by encouraging them to believe that adherence to procedures will reduce variation (Seddon, 1997). It reflects back to the problem with documentation as a way to control procedures. The presumption is that it is of value to work to procedures. This ignores the entire theory of variation where it is believed that statistical process control should be applied to reduce variation in production.

A last criticism, and perhaps the most influential, is that managers, and many assessors, tend to believe that a company has "good quality" through having obtained a certification. The ISO 9000 continues the tradition that "managers decide" and "workers do". This tradition has led to means of control – through adherence to procedures, budgets, targets, and standards – which ultimately will cause sub-optimization of corporate performance[24].

3.3.3. Strengths of the EFQM excellence model

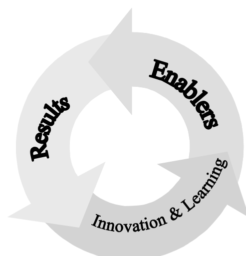
The holistic approach to achieve excellence is one of the strengths of the business excellence model. The model tries to incorporate all aspects of the business. For example is all the company's stakeholders, not only shareholders (their interest represented by the financial result) and customers (represented by customer results), included. In the model stakeholders such as employees and society are also represented, thereby adding to a more holistic picture of the business.

Another strength of the model is the relation to financial results. As mentioned above, the model indirectly include shareholders interests, but more importantly it helps the intuitive understanding of what is needed to improve the financial result. By directly improving people satisfaction, customer satisfaction and impact on society through the enablers, you in the end improve the financial results. It is not only the relation to financial results that is a strength. The whole model has a causal structure, meaning that the causal relationship between the criterions helps comprehend the model. The causal relationships seem sound and logical. The causal structure starts with leadership, which is responsible for the development of the structures and infrastructures necessary to achieve the wanted results (people and customer satisfaction, impact on society and in the end financial results).

[24] Seddon, John: Ten arguments against ISO 9000. Managing Service Quality, vol. 7, no. 4, 1997.

This logical causal relationship in the model is in accordance with what has been preached by TQM supporters, that the foundation for TQM (the TQM pyramid) in any organization is leadership[25].
As previously stated there is emphasis on prevention. This is a strength because in the optimal situation, you would actually prevent fires before they ignite, instead of fighting the fires as they appear. If you are able to prevent fires, you as a manager could spend much more time on the future activities, which according to Jan Leschly is exactly what leadership in the future should be about[26].
A last strength that will be mentioned here is the circular structure of the model (see figure 3.1).

Figure 3.1: Circular structure



Source: Own work

The circular structure of the excellence model shows, that you should continuously improve the organization. You should use the result to innovate end learn, which should help to improve the enablers and lead to improved results. Since it is a cycle you keep improving, you do not stop after one period.

3.3.4. Weaknesses of the EFQM excellence model

The EFQM excellence model has of course also received criticism; although there at the moment is not much literature about it compared to literature praising the model.
One criticism concerns the assigned weights in the model. The problem raised here is that these weights may very well vary across industries. The market situation is not the same in every industry and thereby the strategic focus would be different, leading to different weighting of the model's criteria[27]. A study made in Denmark actually showed that Danish companies did not weigh the criteria like it is done in the model. They actually had a 700/300 split – 700 points allocated to enablers and 300 points allocated to the results.

[25] Kristensen, Kai et.al: Fundamentals of Total Quality Management. Chapman & Hall, 1998.
[26] Jan Leschly, former CEO at SmithKline – Slide in class.
[27] Eskildsen, Jacob Kjær et.al: The criterion weights of the EFQM excellence model, The International Journal of Quality and Reliability Management, 2001.

From the same, another conclusion was that the companies could not focus within the enabler block. This was explained by the complexity. The criteria are related together in a complex structure, which made it difficult for companies to separate them. This complex structure of the EFQM model is another criticism. One of the requirements for a model to be a holistic management tool is the demand for a simple structure[28]. Evidence from the earlier mentioned study and the fact that the model has 9 criteria, 33 sub-criteria and a number of relationships, shows that the EFQM excellence model is complex. This complexity demands more effort from companies to fully understand the model.

A third criticism is the lack of evidence supporting the causal structure. Intuitively the causal structure seems sound and logical, but not much research has been done in this area. One study investigating this problem has been done. A study among more than 750 Danish chief executive officers revealed that the causal structure seem to exist[29]. More research in other countries on this issue is desirable, to support the Danish study.

Meeting or assessing all the criteria, whether for award application or self-assessment, is expensive. The time and financial investment is large and is one of the drawbacks of the EFQM excellence model. As an example, although with the Malcolm Baldrige National Quality Award, a company devoted over 14000 man-hours when it prepared for its application[30]. The expensive investment in using the EFQM excellence model has a negative impact on the use of the model for small and medium size enterprises (SME) – they do not use it. This is yet another criticism of the EFQM excellence model.

This criticism is particular interesting in a Danish context, since the major part of Danish companies is SMEs. So why is it that they have problems using it? First of all managers in SMEs often lack the knowledge of the models and underlying concepts and if they do know, they lack the expertise to apply it[31, 32]. A second problem is the nature of SMEs business environment. SMEs find themselves in increasing market turbulence, making their time horizon short[33]. The result is that SMEs cannot benefit from self-assessment due to the time needed to do it (average self-assessment iteration is

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[28] Eskildesn, Jacob Kjær et.al: Unravelling relevance – The nature of holistic management models, Proceedings: The 6th world congress for TQM, 2001.

[29] Eskildsen, Jacob Kjær et.al: The causal structure of the EFQM excellence model, Proceedings: The 1st international research conference on organizational excellence in the 3rd millinium, 2000.

[30] Ghobadian, Abby: Characteristics, benefits and shortcomings of four major quality awards, The International Journal of Quality and Reliability Management, 1994.

[31] McAdam, Rodney: Quality models in SME context – a critical perspective using a grounded approach, The International Journal of Quality and Reliability Management, 1999.

[32] Wilkes, N. et.al: Attitudes to self-assessment and quality awards: A study in small and medium-sized companies, Total Quality Management, 1998.

[33] ”Business excellence: does it work for small companies?”, Hewitt S., 1997.

between 6 month to one year[34]). A third aspect is that many SMEs are close to their customers. The employees have direct customer contact and knowledge and the customer voice can be incorporated without prolonged and formalised approaches, such as customer surveys[35]. A fourth problem is that SMEs cannot afford to allocate sufficient resources to improvement activities[36]. A last perspective of SMEs and the use of business excellence models are on the leadership in these companies. Often SMEs have been started by one or two individuals, who still are in charge of the company. These individuals might work against the use of excellence models and self-assessment, because they see it as critical comment, which directly reflects on themselves[37].

3.3.5. Impact of ISO 9001:2000 standards on business performance

The business value of certification has varied from unprecedented successes to an increasing workload and "cost of doing business"[38]. Those organizations that pursue ISO 9000 certification willingly and positively across a broad spread of objectives are more likely to report improved organizational performance (Terziovski, 2002). It seems that registration to the ISO 9000 has an effect on bottom-line results; however it is grounded in the fact that it is not enough to just pursue certification for the sake of certification. Rather, it is necessary for management to behold a sincere belief in TQM as the path to follow to report any effects of ISO 900 certification on the financial results. Terziovski quotes Juran for stating that "ISO 9000 only has an impact on performance in enterprises that is just beginning to realize quality as the future. For companies with good quality systems, the standard often just adds costs, delays, and burdensome documentation, rather than providing any competitive advantage". Moreover, those companies, which had stopped short at simply pursuing ISO 9000 certification, were significantly lagging in the performance dimensions of quality, time, and financial aspects (Najmi and Kehoe, 2000). Terziovski concludes that organizations that have been audited to the ISO 9000 standards believe that the quality audit process contributes to business performance only when the quality culture in the organization is well

[34] See reference 30.
[35] See reference 30.
[36] Ghobadian, Abby: Characteristics, benefits and shortcomings of four major quality awards, The International Journal of Quality and Reliability Management, 1994.
[37] McAdam, Rodney: Quality models in SME context – a critical perspective using a grounded approach, The International Journal of Quality and Reliability Management, 1999.
[38] Terziovski, Milé et.al: The longitudinal effects of the ISO 9000 certification process on business performance. European Journal of Operational Research, 2002.

developed and that the manager's motivation to gain certification has been to improve business performance and not to conform to an international standard.

3.3.6. Impact of the EFQM excellence model on business performance

The fundamental question is whether or not the introduction of the EFQM excellence model in companies actually has the desired effect. The desired effect being good financial and non-financial results. Research carried out by the European Center for Business Excellence indicates that there are benefits when introducing business excellence. Some examples of these benefits are[39]:

- $ 2.2 billion savings – European telecommunication company
- 76 % of companies showed higher return on total assets
- 80 % decrease in process cycle time – a service company
- 7 % business growth in 4 % growth market
- 50 % increase in customer satisfaction
- 86 % of award winning companies showed strong positive trends over three years in overall employee satisfaction
- 86 % reduction in emissions and waste

All these examples are both financial and non-financial benefits. There are other studies supporting that the EFQM excellence model produces positive benefits. One of these is a Danish study showing that the excellence model had an effect on financial performance in general[40]. Though, the study shows an effect on financial performance, it at the same time reveals that the EFQM excellence model does not have an effect on financial performance for small companies. In UK retail banking it has been noticed that even though some business units have completed their third or fourth self-assessment (using the EFQM excellence model), they have not showed any progress[41].

[39] Oakland, John: Winning performance through business excellence, Credit control, 1999.
[40] Kristensen, Kai et.al: Models that matter, International Journal of Business Performance Management, 2001.
[41] Hughes, Adrian et.al: Comparison of the 14 deadly diseases and the business excellence model. Total Quality Management, vol. 13, 2002.

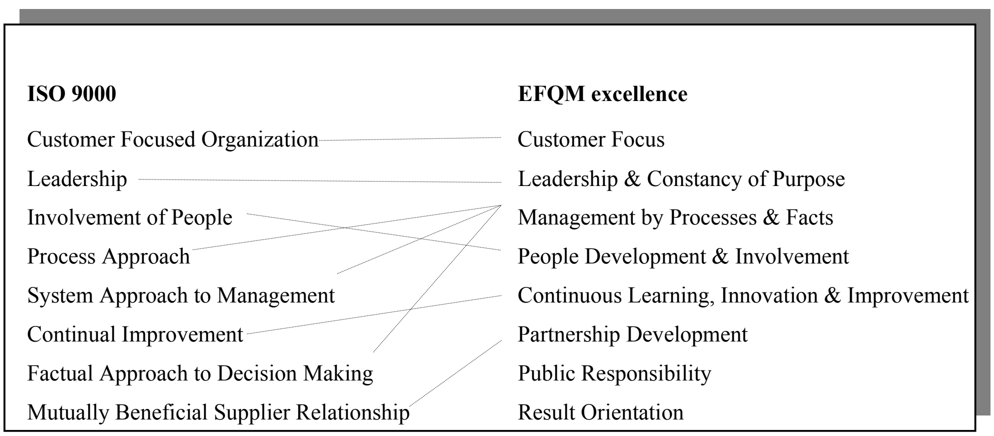
Even though there are some examples of no benefits using the EFQM model, the overall trend is that companies will benefit from it. What really is lacking in the negative examples is, why it does not work? It makes one speculate if there are some pre-requirements that are needed in order to reach the full potential of the EFQM excellence model.

3.3.7. Comparison

This part of the seminar compares the underlying principles and strength and weaknesses of ISO 9000 and the EFQM excellence model.

Both approaches to quality are non-prescriptive. If you decide to use ISO, you have to meet some requirements, but the way the company decides to meet them is optional. The same is true for the EFQM excellence model, in that it is prescriptive in terms of philosophy and principles, but non-prescriptive in methodology and tools to achieve excellence. The underpinning principles of the ISO and EFQM are more or less the same, as shown below.

Figur 3.2: Comparison of principles



Source: Own work

At first sight the principles seem to be the same. Both ISO and EFQM believe that focusing on the customer will benefit the organization. Leadership is also a principle within both approaches. ISO also embraced the principle of constancy of purpose. It is stated that leaders should establish unity of purpose and direction of the organization[42]. The principle of people involvement is, again represented in both cases. Both approaches acknowledge that the people in the organization are an important asset that, if they are involved, contributes to the overall performance of the organization.

[42] www.iso.ch

The two principles of ISO, “Process Approach” and “Factual Approach to Decision Making”, are also underpinning principles of the EFQM excellence model. Both frameworks recognize that activities and related resources should be viewed as a process and managed as a process and your decisions and plans should be based on facts. The EFQM principle “Management by Process & Facts” also covers the ISO principle “System Approach to Management”. They both emphasize that understanding the inter-relatedness of activities and managing them systematically is important in reaching a desired result. The EFQM and ISO both consider continuous improvement as the way to maximize performance, although the EFQM also include continuous learning and innovation as principle necessities in the quest for excellence. The last ISO principle “supplier relationship” is assumed to enhance the ability to create value[43]. This principle is also assumed in EFQM, but it is not limited to supplier relationship. The principle is much broader because it recognizes all partnerships as beneficial. The last two principles underpinning the EFQM excellence model are not covered at all in the ISO principles. From a holistic perspective it seems reasonable to include these two last principles. In general the EFQM excellence model builds on broader and more elaborate principles than ISO 9000. The EFQM model therefore seems to be built on a more holistic approach. One major difference between ISO 9000 and EFQM excellence model is, the fundamental principles cannot always be seen in the standards, whereas the criteria in the excellence model covers all the fundamental principles. One example of this is the involvement of people. The EFQM cover this principle in the people criterion – sub-criterion 3c. In the ISO standards this is not the case. There is no requirement that addresses involvement. Actually only requirements 6.2.1 and 6.2.2 concerns people, and none of these require involvement. Another example of this inconsistency is with the “Supplier Relationship”. Although a fundamental principle the ISO standards do not have any requirements about suppliers and the relationships with them. The EFQM model covers this principle in sub-criterion 4a.

The EFQM excellence model follows its principles much better than ISO 9000 standards. The latter do not incorporate all its principles into the standards, whereas the EFQM models actually do - all principles are covered by the 9 criteria. What ISO has done to get all of their stated principles somehow incorporated is to develop the guidelines for performance improvements (ISO 9004:2000). In this guideline they extend the requirements of 9001:2000, but it is only a guideline, companies are not contractual committed to fulfill it. So in order to get certified you do not have to be able to show that your company has incorporated all principles. In the comparison of the EFQM

[43] www.iso.ch

model and ISO 9000 it is also worth noticing that ISO to a large degree rely on inspection to ensure quality whereas EFQM relies on prevention instead. Thereby ISO display a reactive nature and not a proactive nature like the EFQM. The proactive nature is more aligned with the statement of the future oriented activities that the managers should be dealing with, instead of fire fighting. Another aspect that separates the two approaches is the question whether it is holistic or not. The ISO 9000 standards do not include all stakeholders. Society in general is not included at all and employees are not given much attention, only two sub-criteria (6.2.1 & 6.2.2) in resource requirements deal with this issue. The EFQM model covers more stakeholders than ISO 9000. The people criterion is much more elaborate on the employees. The EFQM model also recognizes all kind of partnership as beneficial, and has incorporated this in the model. Yet another difference is the link to financial performance. The EFQM model has this link through people, customer and society result. In the ISO standards there is no such link. So meeting all the requirements does not have an impact on financial performance or it is at least not stated by ISO. The talk about link to performance leads to a look at the structure of ISO 9000 and EFQM model. The excellence model has a causal structure where enablers lead to results. ISO on the other hand is not developed upon a causal structure and it makes it harder to comprehend. The standard is a lot of requirements, but how are they related and what leads to what is difficult to comprehend. Because ISO 9000 lack a causal structure the dynamic nature is also hard to comprehend. It has been tried to incorporate some kind of recursiveness in the standards[44]. The recursive structure of the EFQM is much simpler and easier to understand – enablers lead to results which lead to learning and innovation which again helps to improve enablers. This same kind of cycle is not present in the ISO standards. One thing that actually works for the ISO 9000 is that SMEs can easier use the standards. First, the standards are not as comprehensive as the EFQM model, which makes it easier to implement. Second, certification can help SMEs to expand their market – some potential customers only want certified suppliers. The last aspect that will be looked upon is the impact of the two approaches on business performance. There is no correct answer here. Evidence concerning impact of ISO 9000, show conflicting results. The conclusion drawn from several researches is that, in order to achieve an impact on business performance, companies have to embrace TQM. With the EFQM model there is a strong trend that the model does have an impact on business performance. There are certain cases where the trend is not evident, such as for SMEs. But research done in Europe and the US points in the direction that award models do have an impact on business performance.

[44] ISO 9001:2000 Quality management systems – Requirements, Introduction 0.2 process approach

To sum up the main comparison aspect table 3.1 will be illustrative.

Table 3.1: ISO 9000 vs EFQM model

	ISO 9000	*EFQM model*
Follows & covers fundamental principles	No	Yes
Non-prescriptive	Yes	Yes
Emphasis on inspection	Yes	No
Emphasis on prevention	(Yes)	Yes
Holistic	No	Yes
Link to financial performance	No	Yes
Causal structure	No	Yes
Work for SMEs	Yes	No
Impact on business performance	Yes/No	Yes/No
Circular structure	No	Yes

Source: Own work

3.4. Detailed analysis of the individual sub-criteria of the ISO 9001:2000 and the EFQM

The last part of this assessment is an analysis of the individual sub-criteria in the ISO guideline and the EFQM framework. The intension with this section is to uncover the depth of each model to understand their scope. A direct comparison of the individual sub-sections in the models are carried out, and thereafter compared to the findings of Steve Russell (2000).

3.4.1. Enablers

The enabler criteria cover what an organization does to create results and sustainable excellence in all aspects of performance.

3.4.1.1. Leadership

In sub-criteria 1a of the EFQM it is stated that leaders should develop the mission, vision, and values of the organization and furthermore act as role models to ensure a quality culture. This role of management is also covered by ISO 9000 in section 5.1 and 5.3 of the management requirements. It is the responsibility of management to develop and formulate a quality policy and set objectives for the organization. The objectives are equivalent to the mission as described in the EFQM. But nowhere in the standards is the role model aspect included, as it is in 1a of the EFQM.

Further, the leaders have to continuously review and improve their own effectiveness and efficiency and act on future requirements according to 1a of the EFQM. ISO 9000 also includes this in 5.3 and 5.6. The management needs to ensure a commitment to continuous improvement of them. Also, it is to review the quality policy on a regular basis to secure its suitability. Continuing to sub-criterion 1b, it tackles the area of leadership involvement. The standards also address this issue with sub-sections 5.3 through 5.6. It is the responsibility of the management to ensure that the quality policy and the quality system support each other. The one difference to be mentioned is that the EFQM expect more personal involvement from the executives than the ISO 9000. At least it has not been cited as explicit in the standards. Sub-criterion 1c of the EFQM declares leaders are to be involved with customers, partners, and representatives of society personally to guarantee a common understanding of expectations. This is also included in the ISO 9000 with sub-section 5.2. However, it is not stated as overt as in the EFQM. In 5.1 of the ISO 9000 it just states that customer requirements should be identified and met, but it does not expect leaders to be personally involved in this process. Again, the EFQM reaches farther than the ISO 9000 in that it is expected that management participate in seminars and professional bodies to ensure an understanding of changes in customer requirements, and also to promote and support business excellence (1c). Even further, the executive boards are supposed to contribute to society and the bettering of the environment. Connected to this is the task for management to promote a sound set of ethics. In the ISO 9000 this is not found anywhere.

Another similarity in the models is the focus on encouragement. Both the EFQM (1d) and the ISO 9000 (5.1) suggest management to always encourage the personnel, to meet quality system requirements. However, the EFQM is more elaborate in that it states that management should get personally involved in the improvement activities. According to 1d executives have to be accessible and supportive towards staff and help them achieve their plans. Moreover, it is important for management to recognize both team and individual efforts (EFQM:1d). This aspect of management is not stated in the ISO 9000 standards.

Overall, the leadership criterion of the EFQM covers a broader spectrum than the ISO 9000. The EFQM acknowledges the fact that managing a company is not solely about ensuring daily operations run smoothly, but also that a high degree of involvement is necessary to motivate the right innovative and creative atmosphere that will secure long term success.

3.4.1.2. Policy and strategy

Criterion 2 of the EFQM deals with the implementation of the organization's mission and vision through a clearly defined strategy, supported by relevant policies.

Sub-criterion 2a of the EFQM asserts that the policy and strategy should be based on the present and future needs and expectations of all stakeholders. ISO 9000 also affirm this in sub-section 5.2, the difference being that section 5.2 does not include future needs. It only recognizes present requirements to be met. This is a severe flaw, because companies cannot anticipate and incorporate progress into its R&D if they do not base its policies on future needs. Also, the EFQM includes employees, partners, society, and shareholder's requests in the strategy (2a). This makes the EFQM more wholesome and holistic in its policy making. All the ISO 9000 does is to require that the policies are continuously suitable to the organization (which is covered in the EFQM sub-criterion 2c), but it does not acknowledge what or who to address in this matter. In addition, policy and strategy in the EFQM are to be based on information from performance measurement, research, learning, and creativity related activities (EFQM:2b). The ISO 9000 also bases policy and strategy to some extent on measurement. Sub-section 5.4.1 of the ISO 9000 dictates that objectives should be measurable. However, it lacks in one sense – it does not require the results to be used in future planning. The EFQM goes on to take account of social, environmental, and legal issues (2b). This is not addressed anywhere in the standards. Furthermore, in sub-criterion 2b it is suggested that the firm analyses the performance of competitors and best-in-class organizations when designing the strategy. This aspect has not been admitted in the ISO 9000 either. Additionally, 2c in EFQM addresses the need for risk management. It advocates developing alternative scenarios and contingency plans to protect the organization from future risks. This area is very limited in the ISO 9000. Sub-section 5.6.2 refers to the need for examining opportunities to improve, but this is not as broad as 2c in the EFQM in that it might be too one-sided towards tracking improvements in present operations. One issue that has been included in both frameworks is the importance of internal communication. In sub-section 5.5.3 of the standards the procurement of internal communication processes is addressed. The organization is to ensure that communication occurs throughout it. This is comprised in 2e of the EFQM. A last important aspect included in the EFQM, but not really in the ISO 9000 guideline, is sub-criterion 2d. Here the deployment of the policy and strategy is dealt with. Policy and strategy are deployed through a framework of key processes. Key processes and critical success factors should be identified for the organization to benefit from the policies.

Summing up, the EFQM excellence model is quite a lot broader than the ISO 9000 standards in the area of policy and strategy. The EFQM circles the adoption of policies to fulfil the organization's mission and vision, the continuous reviewing and updating of policies, the deployment, and the legal, social, and environmental boundaries for the policies. In the ISO 9000 it is only imposed that objectives should be functional, facilitate product realization, support the quality policy, and be measurable. It does not deal with anything but the general procedures for designing and reviewing the policies. Therefore, it can be said that the ISO 9000 is very limited in this area compared to the EFQM.

3.4.1.3. People

The people criterion (3) in the EFQM model is not covered very well in ISO 9000. The EFQM sub-criterion 3a is not covered directly. ISO 9000 do not immediately require that people resources are planned, managed and improved. What ISO 9000 does require (in 6.2.1) is that the organization ensures that the employees have the right experience, education, training and skills. In order for an organization to ensure this, it has to somehow plan and manage people resources, as the EFQM model require. But to get certified the organization does not have to show that they for example align their human resource plans with the overall strategy of the organization. The EFQM sub-criterion 3b is more directly covered in ISO 9000 (requirements 6.2.1 & 6.2.2). ISO do require that the organization train and educate people and those competencies are identified and acceptable levels are defined. Although ISO covers some elements in the EFQM sub-criterion 3b, it is not as comprehensive as the EFQM criterion. EFQM also acknowledge such aspects as team skills and aligning people's objectives with the overall target of the organization. What ISO also covers is communication. ISO requires that communication processes are established and the organization communicates (5.5.3). This more or less covers the EFQM sub-criterion 3d where dialogue between employees and the organization is essential. What ISO 9000 does not include is people involvement and empowering (EFQM sub-criterion 3c) and that the organization should reward, recognize and care for its people (EFQM sub-criterion 3d). All in all not much attention is on the people of the organization in ISO 9000. The EFQM excellence model is much more focused on this asset, and the fact that ISO uses two sub-criteria in resource requirements concerning people and the EFQM model dedicates a criterion specific to people, shows that the EFQM model focus much more on this.

3.4.1.4. Partnerships and resources

The EFQM model has one sub-criterion concerning only partnerships (4a). The EFQM model expects an organization to identify and manage external partnerships. These partnerships are not limited to suppliers, but are any partnership that is beneficial to the organization. ISO does not have any requirements on strategic partnerships. In fact there is nothing about even supplier relationships. The only requirement that mentions suppliers is 8.4 where information about them should be provided. This one requirement in ISO is nowhere near what is expected in the EFQM excellence model. Besides the expectations of partnerships are managed, the EFQM excellence model also expects that finances are managed (4b). The ISO standards do not include any financial aspects in the requirements at all. One sub-criterion that ISO covers is the EFQM sub-criterion 4c, which expect an organization to manage its buildings, equipment and materials. In the ISO requirement 6.3 the organization has to identify infrastructure needs, provide the needed infrastructure and maintain it. What is not included in the ISO 9000, but in the sub-criterion 4c of the EFQM model is the monitoring and reducing of adverse effects of the organizations infrastructure on local and global community. The next EFQM sub-criterion (4d), that technology should be managed is covered in the same ISO requirement as above (6.3). In 6.3 it is required that the organization identify hard- and software needs, provide them and maintain the hard- and software. ISO does not directly require that the organization evaluate new technologies or innovate them, but as the organization identify new needs it will probably have to look at new technologies in order to fulfill them. The last sub-criterion (4e) is if information and knowledge are managed. ISO 9000 do require that organizations collect information on customers, supplier, products and processes (8.4) and it require that the organization should use these quality data to generate improvement (8.5). Where ISO is lacking compared to the EFQM sub-criterion is that ISO does not look at disseminating information and knowledge.

ISO 9000 cover some of the EFQM criterion on partnership and resource, but not one sub-criterion is covered entirely by the ISO standards. The EFQM partnership and resources criterion encompasses a broader perspective than ISO 9000.

3.4.1.5. Processes

The fifth criterion in the EFQM excellence model deals with the processes within the organization. It includes the design, management, and improvement of the processes supporting policy and strategy. This is also extensively covered by the ISO 9000 standards with section 7 – the realization requirements. Other parts of the standards also describe the processes. It does not have a specific criterion solely for processes. For example, sub-criterion 5a (EFQM) states that processes are systematically designed and managed. This aspect is dealt with in section 4, which are the systemic requirements of ISO 9000. Through 5a an organization is to establish a process management system to control the key processes needed to deliver the policies. This is addressed in sub-section 4.1 of the standards, which call for the establishment of a quality system to identify and cope with the processes that make up your quality system. Both frameworks focus heavily on this aspect to control the performance. Actually, ISO 9000 is mentioned specifically in sub-criterion 5a. Moreover, both the business excellence model and the standards explain the significance of setting performance targets for process improvement. The need for documentation is covered in 4.2 of the ISO 9000. Extensive documentation is necessary to win certification, and here the ISO 9000 exceeds the EFQM. However, it also makes the ISO guidelines very bureaucratic and time-consuming. Moving on to sub-criterion 5b in the business excellence model. The focus here is on improvement of the processes to continuously generate increasing value to the stakeholders. This is heavily covered by sub-section 7.3, 7.6, and 8.2.3 in the standards. Everything from planning changes to implementing and reviewing them are dealt with. The one drawback of the ISO compared to EFQM here, is that the EFQM realizes the importance of utilizing feedback from learning activities as an input for improved operations. This is not directly addressed in the ISO standards. The next part of criterion 5 in the EFQM, or 5c to be exact, also has an important advantage to the ISO. According to this, products and services are to be designed and developed based on customer needs and future expectations using market research and customer surveys to determine customer's perception of existing products and services and their future needs. The ISO 9000 does to a limited extend acknowledge the importance of interacting with the customers in the development phase with 7.2.1. Following, is criterion 5d of the EFQM. This deals with the control of operating activities, and is identical to 7.5 of the ISO. The last sub-criterion in the processes section of the EFQM (5e), the customer relationships is addressed. The importance of day-to-day contact, complaint handling, concerns, and satisfaction is recognized. This is mentioned with sub-sections 5.2 (customer focus), 5.6.2 (use customer feedback as input to reviews) and 8.2.1 (monitor and measure customer perceptions) in the ISO 9000.

The EFQM excellence model and the ISO 9000 standards are very similar in the area of processes. One major difference needs to be mentioned though. The EFQM acknowledges all stakeholders in the process, whereas the ISO 9000 standards only tend to involve the customers.

3.4.2. Results

The EFQM model operates with two kinds of measures - performance measures and performance indicators. ISO 9000 does not operate with requirements of measures as such, so the comparison will not be divided into performance measures and performance indicators, but an overall assessment.

3.4.2.1. Customer results

The first part of the result block is customer results. Since ISO 9000 is customer focused there are customer requirements throughout the standards. Requirement 5.2 is the first place where the organization has to have some kind of measures in order to demonstrate that they can identify, meet customers' requirements and enhance customer satisfaction. The next requirement concerning customer results is in 5.6.2, where the organization has to examine feedback from customers. The management has to examine for example complaints and compliments. Requirement 7.2 is the next section of the standards that relates to customer results. The organization has to determine and review customer requirements related to the product. For an organization to fulfill this it has to have measures of some kind. The only requirement that directly demands measurement of customer result is in 8.2.1, where the organization should use methods to determine customer satisfaction. The last place in the ISO standards mentioning customer results is in 8.4, where analysis of data should provide information about customers. For the most part of ISO 9000 requirements related to customer result, measurements is not directly required, but for an organization to fulfill the requirements it has to have measures about customers.

3.4.2.2. People results

People results are not covered very much in the ISO standards compared to the EFQM model. As with customer result it is not directly stated that an organization should have measures of people relationship with the organization. Where you need measures is in 6.2.2, in order to be able to define acceptable levels of competence and identify training needs. In addition the organization needs to record some kind of measures, before they can evaluate the effectiveness of the training. This is the only requirement in the ISO standards that addresses the people result criterion in the EFQM model.

3.4.2.3. Society results

Criterion 8, society results, in the EFQM model is not covered at all in the ISO standard. Nothing in the ISO standards is concerned with what the organization is achieving in relation to local, national and international societies.

3.4.2.4. Key performance results

The last EFQM criterion, key performance result, is first addressed in the ISO 9000 standards in the general requirement (4.1), where the organization shall measure their processes. In the management requirements (5.6.2) it is stated that management should review input, where some of this input should be process performance and product conformity. As with the other EFQM result criteria, this necessitates some kind of measures about the current performance of the processes and product conformity. In section 7.4 in the ISO standards there is also a need for measurements in order to evaluate the suppliers of the organization. Section 8.2.3 in the ISO standards directly requires that methods for measurement of processes are present in the organization. ISO do incorporate some measures, though only related to processes and suppliers. There are no measurements of financial and non-financial outcomes (9a) or measures of buildings, technology and information and knowledge (9b).

3.4.3. Comparison to Steve Russell

This last section of the comparative analysis will compare our own findings with the ones Steve Russell found in his analysis of ISO 9000:2000 and the EFQM excellence model[45].

Table 3.2: Enablers

Excellence criterion	*ISO 9001:2000 contribution*	*Sub-criteria*	*ISO 9001:2000 elements*	*Own findings*
Leadership	Low/medium	1a 1b 1c 1d	5.1, 5.3 5.3, 5.4, 5.5, 5.6 5.2 5.1, 5.3	5.1, 5.3, 5.6 5.3, 5.4, 5.5, 5.6 5.1, 5.2 5.1
Policy and strategy	Medium	2a 2b 2c 2d 2e	5.2, 8.2.1 5.6, 8.2, 8.4 5.3 5.4.2 5.3, 5.4.1, 5.5.4	5.2 5.4.1 5.6.2 5.5.3

[45] Russell, Steve: ISO 9000:2000 and the EFQM excellence model: competition or co-operation, total quality management, vol 11, 2000

People	Low	3a		6.2.1
		3b	6.2	6.2.1, 6.2.2
		3c	5.5.2, 6.2	
		3d	5.1	5.5.3
		3e	6.4	
Partnership and resources	Low/medium	4a		8.4
		4b		
		4c	6.1, 6.3, 6.4, 7.5.1	6.3
		4d		6.3
		4e	5.5.6, 5.5.7, 7.2.2, 7.3.3	8.4, 8.5
Processes	High	5a	Covered generically by 4.1 & 4.2	4.1, 4.2,
		5b	5.6, 7.3.7, 8.2.3, 8.4, 8.5	7.3, 7.6, 8.2.3
		5c	7.2,7.3	7.2.1
		5d	Addressed throughout 7	7.5
		5e	5.2, 7.2, 8.2.1, 8.4, 8.5.2, 8.5.3	5.2, 5.6.2, 8.2.1

Source: See reference 46 + own work

Table 3.3: Results

Excellence criterion	*ISO 9001:2000 contribution*	*Sub-criteria*	*ISO 9001:2000 elements*	*Own findings[*]*
Customer results	Medium	6a	5.6, 7.2.3, 8.2, 8.4	5.2, 5.6.2, 7.2,
		6b	8.2.3, 8.4	8.2.1, 8.4
People results	Low	7a		6.2.2
		7b	5.3, 6.2.2	
Society results	None			
Key performance results	Low	9a		4.1, 5.6.2,
		9b	5.6, 7.4.1, 8.2.3, 8.2.4	7.4, 8.2.3

[*] Own findings are an overall assessment of the individual result criteria, there has not been looked at for example 6a and 6b separately

Source: See reference 46 + own work

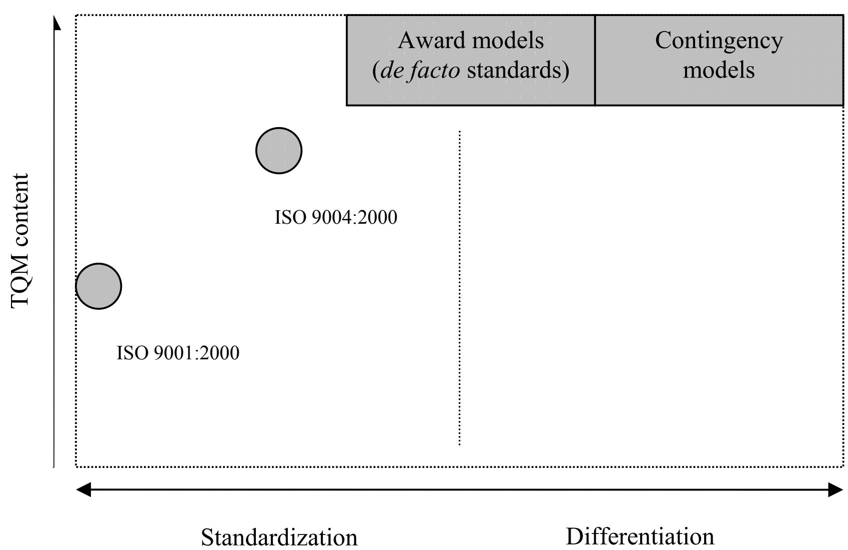
Looking at the tables the findings is not exactly similar, for at least two reasons. First, Russell's analysis is based on the draft and not on the official ISO 9000:2000 standards, which has been used in our analysis. For this reason a direct comparison should be made with caution, for example is Russell's ISO 9000:2000 elements 5.5.6 and 5.5.7 excluded in the official ISO 9000 standards. Second, since Russell is an award assessor, his experience is much greater when it comes to interpretation on the excellence criteria and what is done in practice to fulfill them. This may lead to a different interpretation of the Excellence criteria in the two analyses.

Though all findings do not match perfectly, the overall picture of the two analyses is the same. The EFQM criteria are more comprehensive than the ISO 9000:2000 standards. ISO does not cover any of the EFQM criteria 100 %, but what ISO covers best on the enabler side is the process criterion and on the result side it is the customer result.

3.5. The path to business excellence

In pursuing TQM, organizations tend to adopt an internationally accepted framework to follow, such as the ISO 9000 standards or one of the award based models, to ensure a structured and sound approach. As can be seen from the analysis carried out in this report the ISO 9000 is lacking in several aspects when compared directly to the EFQM excellence model. This is also supported by Conti (2000). The figure below shows the differences between the two guidelines in a TQM perspective.

Figure 3.3



Source: Conti, Tito: Quality Models and Business Dynamics. International Academy for Quality. The Best On Quality, vol. 11, 2000.

As seen from figure 3.3 ISO 9000 can be a good starting point, since it is less complex. After attaining ISO 9000 registration an organization should continue its path towards business excellence by studying costs and benefits of an excellence model, be it EFQM or any other of the numerous award models[46]. Therefore, the two models should not be viewed as competitive, but rather as complementary. But, implementing the EFQM excellence model (perhaps even winning the EQA) does not guarantee TQM, which has also been addressed earlier in the seminar. It is necessary to continuously improve the organization. Business excellence is a never ending road. It is necessary to focus further on integrative management systems, which include among others audit management

[46] Van der Wiele, A. et.al: ISO 9000 series registration to business excellence: the migratory path. Business Process Management Journal, 2000.

and innovation management as a couple of issues that extends from the EFQM excellence model[47]. It is of dire importance that this aspect is recognized by all companies to not suffer from apathy in the long run.

4. Conclusion

Several things can be drawn from this seminar. *First*, none of the two frameworks ensure total quality entirely. But of the two, the EFQM excellence model is more aligned with TQM than ISO 9000. *Second*, the EFQM excellence model seems better for several reasons. It incorporates all its principles in the criteria; this is not the case with ISO 9000. Besides that the EFQM excellence model is more holistic than ISO, thereby not saying that the EFQM model can be regarded as a holistic management tool, due to problems with the model's complexity. Another aspect in favor of the EFQM model is the causal structure it has. It makes it easier to comprehend how the model works. Since ISO does not have such a causal structure it is harder to see and understand activities' inter-relatedness. Yet another thing related to the understanding of the EFQM model is the recursiveness it has. ISO 9000 does not have this kind of recursive structure and it makes it harder to understand how an organization actually should improve. One last thing that makes the EFQM model better is the impact on performance. Evidence on performance impact is equivocal when you look at the ISO 9000 standards, while it has been proven the EFQM model has a definite impact on performance. But the standards do have one clear advantage to the EFQM – it is better suited for SMEs. Evidence show that SMEs do not have benefits when, and if, they use the EFQM model and they have difficulties in applying the framework. *Third*, The EFQM criteria are much more comprehensive than the ISO standards. The standards do not cover any EFQM criteria 100 %. Where the EFQM criteria are covered best by the ISO standards are on the process criterion in the enabler block and on the customer result criterion in the result block. The ISO 9000 standards could be seen as a subset of the EFQM criteria. *Fourth*, and finally the two frameworks should not be seen as competitors. Since the ISO standards are not as comprehensive as the EFQM criteria, it would be reasonable to start the quest in achieving excellence with implementing ISO 9000:2000. After ISO implementation the next step would be to implement the EFQM excellence framework, and from there begin to shape the excellence model so it fits the different needs of the different organizations.

[47] Managelsdorf, Dietmar: Quality Systems: The Evolution from ISO 9000 to TQM. International Academy for Quality. The Best On Quality, vol. 10, 1999.

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