

SELECTION OF QUALITY IMPROVEMENT INITIATIVES: AN INITIAL CONCEPTUAL MODEL

(Pemilihan Inisiatif Penambahbaikan Kualiti: Suatu Model Konsep Awal)

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ABSTRACT

There are numerous quality improvement initiatives that can be used by organisations to improve quality, productivity and sustainability towards achieving excellence, such as Six Sigma, Lean, Business Process Reengineering, ISO9000, and Benchmarking. Nevertheless, in reality, no single initiative can solve all problems effectively in the organisation. The right initiatives to be used may vary depending on several contextual factors, for instance, the current maturity level of the organisation, areas in which the initiatives are implemented, organisation type and size, and the capabilities of the workforce. Moreover, there is a lack of clear understanding by people regarding when, where and how to implement initiatives. Due to this situation, many organisations face difficulties in selecting suitable improvement initiatives according to the context. This paper discusses issues of selecting initiatives and proposes an initial conceptual model to select suitable quality improvement initiatives on the journey towards achieving organisational / business excellence (BE). The proposed initial conceptual model focuses on the critical factors that should be considered in selecting suitable quality improvement initiatives as well as some examples of the main initiatives to implement to improve performance according to the level of BE maturity and areas of implementation.

Keywords: quality improvement initiatives; organisational excellence; conceptual model

ABSTRAK

Terdapat pelbagai inisiatif penambahbaikan kualiti yang boleh digunakan oleh organisasi-organisasi bagi meningkatkan kualiti, produktiviti dan kelestarian ke arah mencapai kecemerlangan yang antaranya adalah 'Six Sigma', 'Lean', 'Business Process Reengineering', 'ISO9000', dan Penandaarasan. Namun begitu, kenyataannya, tiada satu inisiatif yang benar-benar mampu menyelesaikan semua masalah di dalam organisasi dengan berkesan. Inisiatif yang sesuai digunakan berbeza bergantung pada beberapa faktor kontekstual, sebagai contoh; tahap kematangan organisasi sedia ada, situasi yang inisiatif digunakan, jenis dan saiz organisasi, dan kemampuan tenaga kerja. Selain itu, masih ramai yang belum jelas berkenaan bila, di mana dan bagaimana untuk melaksanakan inisiatif-inisiatif tersebut. Disebabkan keadaan ini, banyak organisasi berdepan dengan kesukaran untuk memilih inisiatif penambahbaikan yang sesuai berdasarkan konteks. Dalam makalah ini dibincangkan isu-isu pemilihan inisiatif dan dicadangkan satu model konsep awal untuk memilih inisiatif-inisiatif penambahbaikan yang sesuai di dalam perjalanan mencapai kecemerlangan organisasi / perniagaan. Model konsep awal yang dicadangkan ini tertumpu kepada faktor-faktor kritikal yang seharusnya dipertimbangkan semasa memilih inisiatif penambahbaikan kualiti yang sesuai serta beberapa contoh inisiatif utama yang boleh digunakan untuk menambah baik prestasi berdasarkan tahap kematangan kecemerlangan organisasi / perniagaan dan situasi yang ianya boleh dilaksanakan.

Kata kunci: inisiatif penambahbaikan kualiti; kecemerlangan organisasi; model konsep

1. Introduction

It has been estimated that there are more than 900 quality improvement initiatives that can be used by organisations to continually improve quality, productivity and sustainability towards achieving excellence (Adebanjo & Mann 2008a; American Quality Foundation (1992) cited in Cameron & Barnett 1999). Improvement initiatives can refer to approaches, systems, tools and/or techniques. These include, for example: Six Sigma, Lean, Business Process Reengineering, ISO9000, and Benchmarking. A number of organisations implement these initiatives as a panacea for all organisation problems (Ricondo & Viles 2005). In reality, however, none of the individual initiative can solve all problems effectively in the organisation. Each initiative has a role to play towards achieving business excellence. Some initiatives are more effective under certain situations (Ricondo & Viles 2005). In process improvement, for instance, Six Sigma is more effective for reducing variation, Lean for eliminating non value adding processes or activities and Theory of Constraints for identifying and dealing with process constraints (Nave 2002). It is argued, however, that application of such initiatives in isolation without proper planning and strategy will only provide short-term benefits (Dale 2007; Dale & McQuater 1998; Ricondo & Viles 2005).

In other cases, many organisations find that some initiatives do not work exactly as they expect when they try to implement it. The root cause of failure in applying these initiatives is not because the initiative is ineffective. Instead, the failure is due to lack of clear understanding by people regarding when, where and how to implement the initiatives (Kwok & Tummala 1998; Ricondo & Viles 2005).

According to Cobb (2003), “every time a new management technique comes into vogue, whatever came before it is tossed out and forgotten and the new approach becomes a paradigm for redefining how the business is managed”. Management ideas and improvement initiatives swing in fashion similar to clothing style, car design and music trends (Clark 2004). This management fashion is also known as ‘hypes’, ‘fads’ or ‘myths’ (Gill and Whittle 1993; Abrahamson 1996; Kieser 1997) (cited in Benders & van Bijsterveld 2000). An effect of this phenomenon is that organisations become the market for the latest management fashion and managers tend to search for new initiatives (Cobb 2003; Seddon 2003). In response to this issue, Cobb (2003) asserts that the search for new initiative is not the absolute answer. It is more crucial that managers should have deeper understanding of how the organisation operates or should operate as a system, and carefully select the right initiatives to be used according to the context.

Most of the previous studies into operations improvement focus on one specific initiative, such as: benchmarking (Adebanjo & Mann 2008b; Mann & Grigg 2004; McAdam & Kelly 2002); ISO9000 (Bendell 2000; Casadesus & Karapetrovic 2005; Van der Wiele *et al.* 2000); and Six Sigma (Antony 2007; Antony & Banuelas 2002; Basu 2004). Each of these studies tends to promote the particular initiative and goes into detail about how to successfully implement it. Until recently, only few studies have been found (such as, Saunders & Mann 2007; Thawesaengskulthai 2007; Thawesaengskulthai & Tannock 2008a) to guide organisations on how to select suitable initiatives and show how the different initiatives might potentially complement each other towards achieving excellence (Cobb 2003). As a result, there are a limited number of models and/or guidelines to assist organisations in selecting suitable initiatives towards achieving business excellence.

One of the ways to achieve business excellence is by embarking on or continuing with a Business Excellence program using Business Excellence Models (BEMs), such as the Baldrige Criteria for Performance Excellence (CPE) and the European Foundation for Quality Management (EFQM) Excellence Model. However, these BEMs only focus on common requirements and do not provide clear guidance on the selection of initiatives that should be

used in achieving performance improvement (NIST 2008). Moreover, most of the available models do not stress the importance of contextual factors (Dahlgaard & Dahlgaard-Park 2004). The right initiatives to be used may vary depending on several contextual factors, for instance, the current maturity level of the organisation, organisation type and size, and the capabilities of the workforce (Benson *et al.* 1991; Dahlgaard & Dahlgaard-Park 2004; NIST 2008).

It is evident from literature research and from discussions with quality experts, managers and executives that many organisations need guidance on what initiatives to use, in what order to implement the initiatives and how to select suitable initiatives according to the context. To address this problem, the authors are conducting research to develop meaningful guidelines which highlight critical factors that should be considered in selecting suitable quality improvement initiatives as well as some examples of the main initiatives to implement to improve performance according to the level of BE maturity and areas of implementation.

2. Procedures and Methods

The overall research procedures for the current study are shown in Figure 1 and involved three main phases as follows: (1) setting research direction; (2) developing the model; and (3) testing the model. The first phase of research (set research direction) consisted of conducting an extensive literature review; obtaining expert opinions; discovering current problems or issues faced by organisations; determining research aim, objectives and scope; designing research; preparing initial research proposal; submitting and presenting research proposal; applying for human ethics approval and refining research proposal.

The activities involved in the development of model (second phase of research) are as follows: continuing to review literature; obtaining expert opinions; developing initial conceptual model (refer to Figure 2); conducting semi-structured interviews; reviewing related documents and records; conducting an on-line questionnaire survey; and refining the conceptual model.

Literature review, on-line questionnaire survey, semi-structured interviews, document review and assessment questionnaire were the main data sources, as summarised in Table 1. A six step approach was used to ensure successful questionnaire survey implementation. It started with designing the questionnaire and followed by validating the questionnaire, conducting a pilot study of the questionnaire, revising the questionnaire, conducting a global survey and finally analysing data. This online questionnaire survey was created using surveygizmo software (www.surveygizmo.com). Purposive sampling was used for this global survey involving practitioners, managers, executives, consultants and/or academicians who have good understanding and experience on quality / business improvement initiatives. The participants were informed about the availability of the questionnaire through:

- Websites and/or blogs (Business Performance Improvement Resource website - www.bpir.com; Centre for Organisational Excellence Research website - www.coer.org.nz)
- Newsletters (Business Performance Improvement Resource newsletter, Centre for Organisational Excellence Research newsletter)
- Direct email
- Professional group discussions in the social networking site (LinkedIn and Facebook)

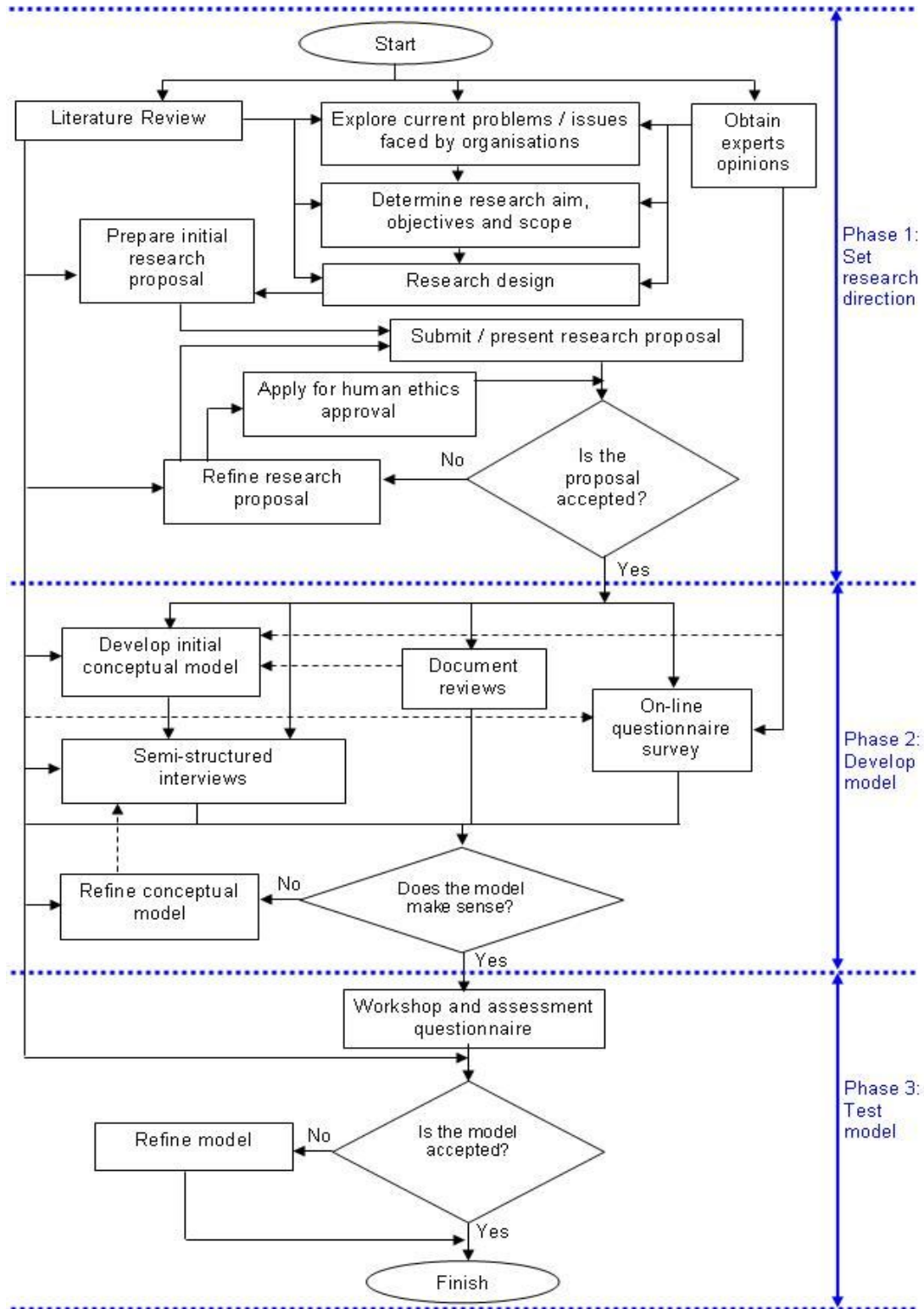


Figure 1: Procedures of the research

Table 1: Description of the main research methods for data collection

Research Methods	Main objectives	Sources of information
Literature review	<ul style="list-style-type: none"> Identify and set research direction Identify available guidelines or models for selecting quality improvement initiatives. 	All type of publications, such as journals, books and magazines.
On-line questionnaire survey	<ul style="list-style-type: none"> Identify the main quality / business improvement initiatives that should be used according to the following areas: leadership and social responsibilities, strategy and policy, customers, processes, workforce, and, partnerships and resources. 	Practitioners, managers, executives, consultants and/or academicians who have good understanding and experience on quality / business improvement initiatives.
Semi-structured interviews	<ul style="list-style-type: none"> Identify the main quality improvement initiatives that should be used according to the BE maturity (starting, progressing, mature and excellent) and areas of implementation (leadership and social responsibilities, strategy and policy, customers, processes, workforce, and, partnerships and resources); Investigate how the organisations should select suitable quality improvement initiatives; Evaluate the available models as compared to the proposed conceptual model. 	<ul style="list-style-type: none"> Chief Executive Officer, Director, General Manager, Senior Manager, Manager or Executive related to quality / business excellence of organisations that have won national Quality or Business Excellence (BE) Award. Chief Executive Officer, Manager or Executive of national custodians of Quality / BE award. Consultants / experts related to quality management and BE.
Document review	<ul style="list-style-type: none"> Identify the main quality improvement initiatives that should be used according to the BE maturity and areas of implementation. Identify existing guidelines or models for selecting quality improvement initiatives 	Documents and/or records, such as guidelines or model to assist in the selection / implementation of quality improvement initiatives, Quality / BE award application report and BE route map.
Assessment questionnaire (after conducting a workshop)	<ul style="list-style-type: none"> Test the model and identify areas for refinement 	Potential users of the model (for example, managers, executives and consultants that are involved in the selection and/or implementation of quality improvement initiatives.)

Once the participants agreed to participate, they were linked directly to the on-line questionnaire at the following address: <http://www.surveygizmo.com/s/140713/initiative>. The participants took approximately 5 to 60 minutes to complete the questionnaire depending on their knowledge and experience of different quality improvement initiatives. Returning the completed questionnaire was taken as participants' consent to participate in this survey.

Semi-structured interviews started with designing the interview protocol, followed by: validating the interview protocol; piloting the interview protocol; revising the interview protocol; conducting interviews in New Zealand, Malaysia and Singapore, and finally analysing data. Purposive sampling was used for semi-structured interviews involving:

- Chief Executive Officer, Director, General Manager, Senior Manager, Manager or Executive related to quality / business excellence of organisations that have won national Quality or Business Excellence (BE) Award;
- Chief Executive Officer, Manager or Executive of national custodians of Quality / BE award; and

- Consultants / experts related to quality management and BE.

The potential participants for interviews were contacted by the researcher via telephone or email and received an information sheet as well as a consent form for recruitment. Interviews were conducted at a mutually arranged venue and time. The participants were interviewed for approximately one to two hours. Part of the interview involved an evaluation of the available models as compared to the proposed conceptual model. The evaluation criteria were: validity - is the information given valid?; feasibility - is the model feasible and possible to be used?; usability - is the model easy to be used?; and utility - is the model useful and relevant to be used?.

As for the document review, four steps were involved. Firstly, the types of documents to be reviewed were determined. It is followed by preparing the list of required documents, conducting document review and analysing the data. The potential documents were guidelines or models to assist in the selection / implementation of quality improvement initiatives, BE award application report and/or BE route map.

The model testing (third phase of the research) was carried out in form of a workshop. After the workshop, the participants were provided with an assessment questionnaire in order to evaluate the validity, feasibility, usability and utility of the model.

3. Results and Discussion

From the overall research procedures shown in Figure 1, this paper is only focusing on the development of the initial conceptual model. The initial conceptual model (as shown in Figure 2) was developed based on a literature review (Dale & Lascelles 2007; NZBEF 2009; Saunders & Mann 2007; Thawesaengkulthai 2007), previous BE application reports and expert opinions. Expert opinions were obtained through the presentation of a paper at conference, attending seminars and workshops as well as communication through email.

The top part of the conceptual model consists of an input, process and output diagram. All the relevant quality improvement initiatives are the input for the filtration process. The filtration process involves the consideration of several critical factors in order to select suitable quality improvement initiatives. The critical factors are as follows:

(1) Characteristics of the initiatives

Each organisation should conduct research and understand about the characteristics of the relevant initiatives covering the fundamental purpose, strengths and weaknesses / limitations of the initiatives (Dale 2007; Rigby & Bilodeau 2005); ability to fit in with, complement, integrate or support other initiatives already in place, and might be used in the future (Dale 2007); expected benefits or pay-offs to an organisation that successfully implements the initiatives (Dale 2007; Thawesaengkulthai & Tannock 2008b); as well as the expected costs and resources needed to introduce and implement the initiatives successfully (Dale 2007).

Selection of quality improvement initiatives: an initial conceptual model

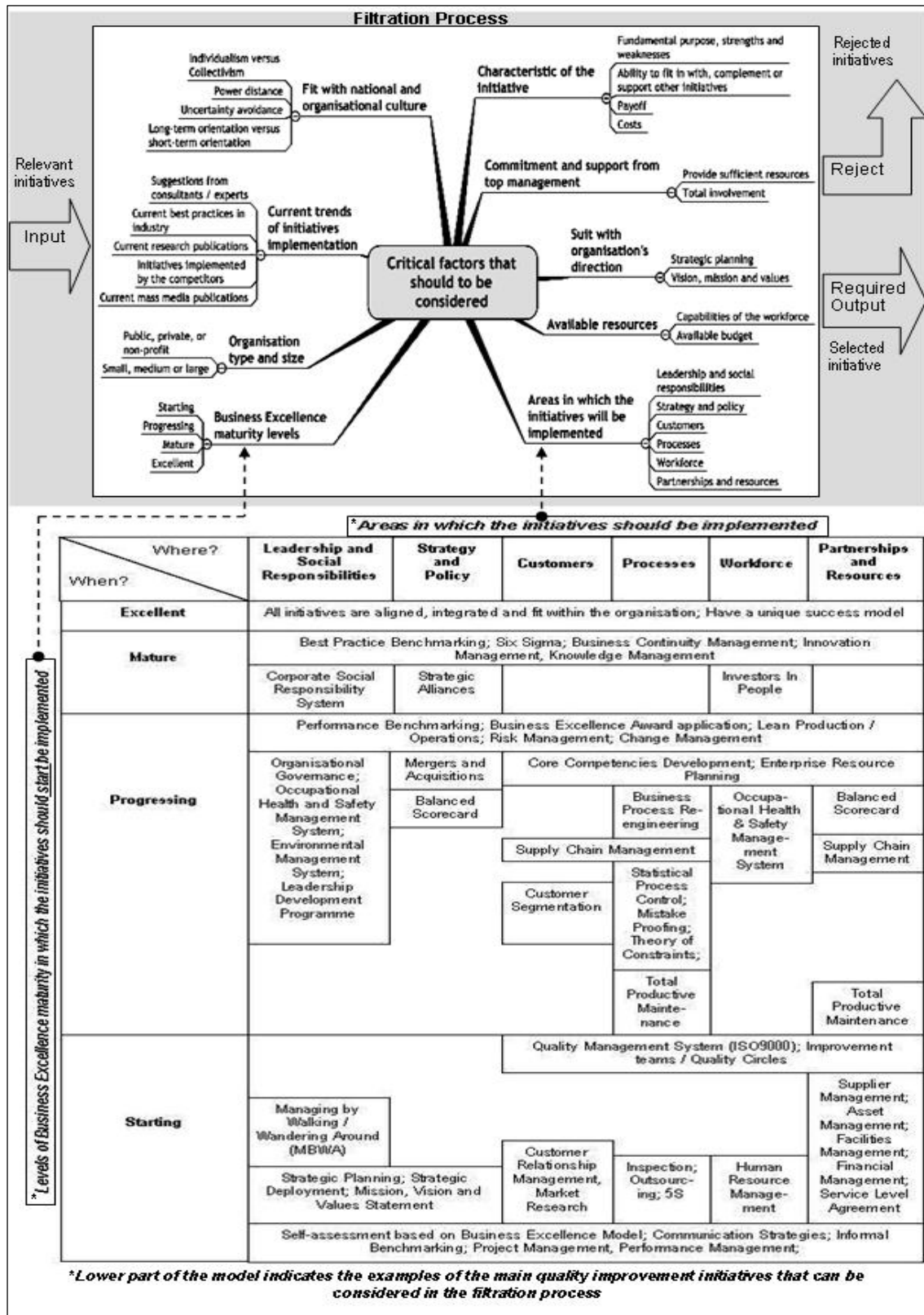


Figure 2: Initial conceptual model for selecting quality improvement initiatives

- (2) *Commitment and support from top management*
Before starting to implement any quality improvement initiative, the organisations need to obtain top management commitment and support, including understanding of the initiatives, providing sufficient resources as well as involvement in the introduction and implementation of the initiatives (Benson *et al.* 1991; Saunders & Mann 2007; Thawesaengskulthai 2007).
- (3) *Suit with organisation's direction*
It is crucial to evaluate whether the initiatives will suit with the organisation's vision, mission, values and strategic plan (Thawesaengskulthai 2007).
- (4) *Available resources*
Each company should assess whether they have sufficient resources to introduce, implement and sustain the initiatives, such as capabilities of the workforce and available budget (Thawesaengskulthai 2007).
- (5) *Areas in which the initiatives will be implemented*
Areas in which the initiatives will be used is another critical factors that need to be considered in the selection of initiatives (Saunders & Mann 2007), which can be segregated into leadership and social responsibilities, strategy and policy, customers, partnerships and resources, processes, and workforce.
- (6) *BE maturity levels*
The organisation should assess their BE maturity in order to select suitable initiatives based on their current BE maturity level (Dahlgaard & Dahlgaard-Park 2004; Mann 2008; NIST 2008; Sousa & Voss 2008), which can be divided into starting, progressing, mature and excellent.
- (7) *Organisation type and size*
The organisation type (public, private or non-profit) and size (small, medium or large) are another important factors that should be considered in the selection process (Benson *et al.* 1991; Dahlgaard & Dahlgaard-Park 2004; NIST 2008; Sousa & Voss, 2008). In many cases, private-sector and large organisations have more options in selecting the initiatives since most of them are able to devote more resources to introduce and implement the initiatives (Benson *et al.* 1991).
- (8) *Current trends of initiatives implementation*
It is also quite useful to know which initiatives are being used as best practices in today's business (Thawesaengskulthai 2007). Current best practices will be the standard / common practices in the future.
- (9) *Fit with national and organisational culture*
Another critical factor that need to be considered is whether the initiatives will fit with the national and organisational culture (Sousa & Voss 2008; Thawesaengskulthai 2007). For example, some of the Hofstede's dimensions of national culture are including individualism versus collectivism, power distance, uncertainty avoidance and long-term orientation versus short-term orientation (Hofstede 1980; Hofstede & Bond 1988)

In order to select a suitable initiative according to the context, it is crucial to understand all these critical factors before making any decision. The required output from the filtration process should be the quality initiative(s) that will fit within the organisation. Other initiatives will be rejected from this process.

The lower part of the conceptual model indicates some examples of the main quality improvement initiatives according to the level of BE maturity in which the initiatives should first start to be used as well as the areas of implementation. This model only shows some examples of the main initiatives widely used by organisations. There are many other initiatives that have not been included in this model. All these improvement initiatives require further consideration in the filtration process.

The areas of implementation are derived from the enabler criteria of major Business Excellence Models (BEMs) (such as, Baldrige Criteria for Performance Excellence, EFQM Excellence Model, and Singapore Quality Award Criteria) due to the validity and wide usage of these models. According to Grigg and Mann (2008b), various researchers have statistically validated the criteria and items of the major BEMs using techniques including simple bivariate correlation (Saunders & Mann 2005); path analysis (Flynn & Saladin 2001) and Covariance Based Structural Equation Modelling (Lee *et al.* 2003; Wilson & Collier 2000). As reported by Grigg and Mann (2008a; 2008b), these BEMs are used by more than 80 countries in the world. Descriptions of each area are summarised in Table 2.

Table 2: Description of the areas in which the initiatives should be implemented

No.	Areas of implementation	Brief description
1	Leadership and Social Responsibilities	Focuses on management's behaviour and leadership system in building culture of excellence in the organisation (Puay <i>et al.</i> 1998; SPRING 2007), as well as, organisation's responsibilities and contribution to society and environment (Puay <i>et al.</i> 1998; Tan 2002)
2	Strategy and policy	Focuses on how organisation develops, communicates, deploys, monitors, reviews and improves its strategy and policy to achieve performance excellence (Puay <i>et al.</i> 1998; Tan 2002)
3	Customers	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers, and determines their satisfaction (Puay <i>et al.</i> 1998; SPRING 2007; Tan 2002)
4	Processes	Focuses on the design, management, evaluation, and improvement of the various key processes in the organisation in order to fully satisfy, and generate increasing value for, customers and other stakeholders (EFQM 2003; Puay <i>et al.</i> 1998; Tan 2002)
5	Workforce	Focuses on how the organisation engages, manages, and develops the workforce to utilise its maximum potential in alignment with the organisation's overall mission, strategy, and policy (NIST 2008; Tan 2002)
6	Partnerships and Resources	Focuses on how the organisations plan and manage external partnerships, suppliers and internal resources (such as information, financial, materials, technology, intellectual property and assets) in order to support strategy and policy, and the effective operation of processes (EFQM 2003; Puay <i>et al.</i> 1998; Tan 2002)

This study uses the BE maturity levels proposed by Saunders and Mann (2007) because it is the only previous study that links the BE maturity with the criteria of Business Excellence Model and quality improvement initiatives. The levels of BE maturity are: (1) starting, (2) progressing, (3) mature and (4) excellent. Brief descriptions of the BE maturity levels according to the areas of implementation are presented in Table 3.

Table 3: Descriptions of the Business Excellence maturity levels according to the areas of implementation

Areas of implementation	Levels of Business Excellence Maturity			
	Starting	Progressing	Mature	Excellent
1) Leadership and social responsibilities	Not all senior managers are committed to improvement initiatives (Dale & Lascelles 2007). Rarely monitor and plan in advance to meet regulatory and legal requirements; and identify a few potential risks associated with products, services and operations (BPIR 2008a).	Senior managers initiate and support the improvement initiatives (Saunders & Mann 2007). Sometimes monitor, and plan in advance to meet regulatory and legal requirements; and identify some potential risks associated with products, services and operations (BPIR 2008a).	Improvement initiatives is recognised by all managers as an important element of business success (Saunders & Mann 2007). Usually monitor and plan in advance to meet regulatory and legal requirements; and identify most potential risks associated with products, services and operations (BPIR 2008a).	All managers at all levels promote and commit with improvement initiatives implementation (Saunders & Mann 2007). Always monitor and plan in advance to meet regulatory and legal requirements; and identify all potential risks associated with products, services and operations (BPIR 2008a).
2) Strategy and policy	There is a stated strategic objectives and action plan. (NIST 2008; Saunders & Mann 2007)	A policy of strategy deployment is in place, together with a robust and proactive system (Dale & Lascelles 2007)	Strategy development and deployment are based on achieving leading industry performance (NIST 2008; Saunders & Mann 2007)	Strategy development and deployment are based on achieving world-class performance (NIST 2008; Saunders & Mann 2007)
3) Customers	Aware the importance of customer relationships and market knowledge (Saunders & Mann 2007).	There is a process for capturing customer and market data and implementing performance measures for markets and customers (Saunders & Mann 2007)	Perceptions of key customers of organisational performance are surveyed and acted upon to drive improvement action (Dale & Lascelles 2007)	There is total willingness and inherent capability to predict and respond to changing market conditions and customers need and requirements (Dale & Lascelles 2007)
4) Processes	Continuous improvement effort is concentrated in a certain department (e.g. manufacturing / operation). The emphasis is on solving current rather than future problems (Dale & Lascelles 2007)	There is a high degree of closed-loop error prevention through the control of basic production / operation and / or service processes. Process improvement activities exist throughout the organisation with people looking to improve activities within their own sphere of influence (Dale & Lascelles 2007)	Organisation procedures and processes are efficient and responsive to stakeholders needs. Effective cross-functional management process and achieved process-stream improvements that are measurable (Dale & Lascelles 2007)	All key processes of the organisation are aligned / integrated to create common and shared objectives and to facilitate an environment conducive to improvement (Dale & Lascelles 2007)

Table 3: Descriptions of the Business Excellence maturity levels according to the areas of implementation (Cont.)

Areas of implementation	Levels of Business Excellence Maturity			
	Starting	Progressing	Mature	Excellent
5) Workforce	Workforce start concern about continuous improvement (Saunders & Mann 2007)	A long term and company-wide education and training programme are in place. Importance of workforce involvement through a variety of departmental and cross-functional teams and other means is recognised, communicated and celebrated (Dale & Lascelles 2007).	All workforce are involved in improvement initiatives. Quality and continuous improvement is viewed by all employees as a way of managing the organisation to satisfy and delight customers (Dale & Lascelles 2007)	Each workforce in the organisation is committed in an almost natural manner to seek opportunities for improvement to the mutual benefits of everyone and the organisation (Dale & Lascelles 2007)
6) Partnerships and resources	Rarely work together with suppliers / partners to add greater value to the customers. Data and information is rarely accurate, reliable, secure, relevant, and/or current with business needs and direction in all areas. All the resources are rarely aligned with the policies and strategies of the organisation (BPIR 2008b).	Sometimes work together with suppliers / partners to add greater value to the customers. Data and information is frequently accurate, reliable, secure, relevant and/or current with business needs and direction in all areas. All the resources are frequently aligned with the policies and strategies of the organisation (BPIR 2008b).	Frequently work together with suppliers / partners to add greater value to the customers. Data and information is always accurate, reliable, secure, relevant and current with business needs and direction in all areas. All the resources are always aligned with the policies and strategies of the organisation (BPIR 2008b).	Always work together with suppliers / partners to add greater value to the customers and the approach is reviewed for effectiveness. Data and information is always accurate, reliable, secure, relevant, integrated and current with business needs and direction in all areas. All the resources are always aligned with the policies and strategies of the organisation. Approach is reviewed for effectiveness (BPIR 2008b).

As shown in the lower part of the model in Figure 2, some initiatives can be used across more than one area such as, Self-assessment based on Business Excellence Model, Informal Benchmarking, Risk Management, Best Practice Benchmarking, and Knowledge Management. For each area, there are also some examples of the main initiatives that should first start to be used based on the levels of BE maturity. If an organisation at the beginning stage of BE journey intends to improve its processes, they can consider implementing 5S, inspection, Informal Benchmarking and Improvement Teams to tackle the ‘low hanging fruits’. When their level of BE maturity increases, they can continue using the existing initiatives. Alternatively, they can also consider using more sophisticated initiatives such as,

Statistical Process Control, Business Process Reengineering, Lean, Best Practice Benchmarking and Six Sigma.

4. Conclusion

This paper has discussed issues associated with selecting improvement initiatives and proposed an initial conceptual model to assist organisations in selecting suitable improvement initiatives according to the context. It is apparent that there is no single quality improvement initiative that can solve all the problems effectively in the organisation. Therefore, practitioners, consultants and/or academicians should try to understand all the relevant quality improvement initiatives, the organisational profiles as well as the critical contextual factors to help them select the right initiative for the right situation (Jones (1993) cited in Jackson 2000; Ricondo & Viles 2005).

The proposed initial conceptual model focuses on the critical factors that should be considered in selecting suitable quality improvement initiatives as well as some examples of the main initiatives to implement to improve performance according to the level of BE maturity and areas of implementation. This initial conceptual model will be continuously improved as shown in Figure 1.

This research will contribute to the knowledge of quality and operations management by developing a new guidelines model for selecting quality improvement initiatives based on business excellence, systems and contextual approach. This research will also indicate the critical contextual factors and how they should be considered. In overall, the findings of this research are beneficial for researchers, academicians, practitioners, consultants and managers in the area of quality, operations and production systems, especially those who face difficulties in selecting suitable quality improvement initiatives according to the context.

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