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Development of a Guidance Model for the Selection of Organisational Improvement Initiatives

A thesis presented in partial fulfilment of the requirements for the degree of
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Abstract

This research aims to develop a guidance model for selecting organisational improvement initiatives. The final guidance model was developed using the acronym 'GUIDE' which represents the five key steps to select improvement initiatives: (1) Goal setting, (2) Understanding relevant improvement initiatives, (3) Identifying decision criteria, (4) Deciding on the appropriate initiative, and (5) Evaluating the decision. This research used mixed methods approach, whereby qualitative data was used more dominantly than quantitative data. Two research phases were involved: (1) Development, evaluation and refinement of a conceptual model; and (2) Development, evaluation and refinement of a guidance model. This research incorporated multiphase concurrent and sequential data collection, which comprises an extensive literature review, a document review, a global exploratory survey, an evaluation survey and seventeen semi-structured interviews conducted in New Zealand, Singapore and Malaysia. Semi-structured interviews and an evaluation survey were used as primary sources of data. The proposed multilayer guidance model is one of the first to focus on the holistic processes to be used in selecting improvement initiatives whereby its contents are explicitly aligned to the Business Excellence Models (BEMs), such as Baldrige Criteria for Performance Excellence and European Foundation for Quality Management (EFQM) Excellence Model. Systems and contingency approaches were incorporated in the development of this model so that multiple perspectives and contexts (e.g. current maturity level of an organisation, benefit of implementing the initiative, ability to gain top management commitment and support) are considered when selecting an initiative. Part of the guidance model also consists of a framework that shows the main improvement initiatives that can be adopted towards business excellence (BE), which can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas of implementation and BE maturity. This framework also indicates that the BEM can be used as an overarching framework for selecting and managing multiple improvement initiatives. In addition, this research identified that there were 94 national Quality / BE Awards used in 83 countries in year 2010 and revealed one of the latest and comprehensive list of the Quality / BE Awards worldwide.

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Abbreviations

AHP	Analytic Hierarchy Process
AIRMIC	Association of Insurance and Risk Managers
ALARM	National Forum for Risk Management in the Public Sector
APO	Asian Productivity Organisation
BE	Business Excellence
BEM	Business Excellence Model
BCM	Business Continuity Management
BI	Business Improvement
BPIR	Business Performance Improvement Resource
BPR	Business Process Reengineering
CEHE	Consortium for Excellence in Higher Education
CEO	Chief Executive Officer
COER	Centre for Organisational Excellence Research
CPE	Criteria for Performance Excellence
EFQM	European Foundation for Quality Management
ERM	Enterprise Risk Management
FMEA	Failure Mode and Effect Analysis
GUIDE	Goal-Understand-Identify-Decide-Evaluate
IRM	Institute of Risk Management
ISO	International Organisation for Standardisation
KM	Knowledge Management
MADM	Multiple Attribute Decision Making
MCDM	Multiple Criteria Decision Making
NIST	National Institute of Standards and Technology
NZAS	New Zealand Aluminium Smelters
NZBEF	New Zealand Business Excellence Foundation
NZMED	New Zealand Ministry of Economic Development
NZOQ	New Zealand Organisation for Quality
PESTLE	Political-Economic-Social-Technological-Legal-Environmental
PDCA	Plan-Do-Check-Act
QC	Quality Control

QFD	Quality Function Deployment
ROI	Return of Investment
SAW	Simple Additive Weighting
SME	Small and Medium Sized Enterprises
SPC	Statistical Process Control
SPRING	Standards, Productivity and Innovation Board Singapore
SQA	Singapore Quality Award
SWOT	Strengths-Weaknesses-Opportunities-Threats
TOPSIS	Technique for Order Preference by Similarity to Ideal Solution
TPM	Total Productive Maintenance
TQM	Total Quality Management
WSM	Weighted Sum Model

Chapter 1: Introduction to the research

1.1 Introduction to the chapter

This chapter explains the research background, aim and objectives, scope, and importance. It concludes with a description of the outline of the thesis.

1.2 Background to the research

To remain relevant, competitive and sustainable in today's increasingly complex, uncertain and dynamic environment, organisations require to improve their performance in order to meet the purpose of their existence, and to satisfy and exceed the expectations of customers, employees, shareholders, supply chain partners, community and other stakeholders (Foley, 2010; Harrington & Harrington, 1995; Porter, 1998; Slack, Chambers, Johnston, & Betts, 2009). Organisations are facing problems in selecting appropriate improvement initiatives due to a plethora of initiatives currently available in the market (English, 1998; Hendra, 2010; Thawesaengskulthai, 2010). 'Improvement initiatives' refers herein to approaches, systems, tools and/or techniques and include, for example: Six Sigma, Lean, Business Process Reengineering, ISO9001, and benchmarking (Van der Wiele, Van Iwaarden, Dale, & Williams, 2007). Even more challenging is that the number of improvement initiatives is increasing every year, which makes it even harder to select the most appropriate initiative (Baxter & MacLeod, 2008; Davenport, Prusak, & Wilson, 2003; Thawesaengskulthai, 2010).

A number of organisations view initiatives such as these as a potential panacea for all organisational problems (Ricondo & Viles, 2005). In reality, while none of the individual initiatives can solve all problems effectively in the organisation, each initiative has a role to play towards improving organisational performance. Every initiative has its own strengths and limitations (Francis, 2010). Some initiatives are more effective under certain conditions and contexts (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 'elevating', or dealing with process constraints (Nave, 2002).

In the quality and organisational improvement community, there can be considered to be certain factions, which comprise those who are primarily oriented towards ISO9000, Six Sigma, Lean and others. Each of these groups competes among one another and tends to solve the problem through the lens of a particular initiative, without seeing the complementary nature of the different initiatives (Cobb, 2003). 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).

Improvement initiatives swing in and out of fashion similar to clothing style, car design and music trends (Clark, 2004). According to Cobb (2003, p. 10), "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." 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 initiatives is not the absolute answer. It is more crucial that people should have deeper understanding of how the organisation operates or should operate as a system, and carefully select the right initiative for the right situation (Basu & Wright, 2005; Cobb, 2003; Francis, 2010). Slack et al. (2009) pointed out that:

The problem lies not with new improvement ideas, but rather with some managers becoming a victim of the process, where some new idea will entirely displace whatever went before. Most new ideas have something to say, but jumping from one fad to another will not only generate a backlash against any new idea, but also destroy the ability to accumulate the experience that comes from experimenting with each one. (p.451)

In other cases, many organisations have failed to reap the benefit of implementing the improvement initiatives. One of the reasons why this happens is due to lack of clear understanding by people regarding when, where and how to implement the initiatives (Kwok & Tummala, 1998). Many people have also not considered the contextual factors when selecting and implementing improvement initiatives at their

organisation. The right initiatives to be used may vary depending on several contextual factors, such as: the current maturity level of an organisation, areas in which the initiatives are adopted, type or size of an organisation and the capabilities of its workforce (Benson, Saraph, & Schroeder, 1991; Dahlgaard & Dahlgaard-Park, 2004; National Institute of Standards and Technology [NIST], 2010).

Most of the previous studies only focused on one specific initiative, such as, benchmarking (Adebanjo & Mann, 2008a; Mann & Grigg, 2004; McAdam & Kelly, 2002), ISO9000 (Bendell, 2000; Casadesus & Karapetrovic, 2005; Van der Wiele, Williams, & Dale, 2000), and Six Sigma (Antony, 2007; Antony & Banuelas, 2002; Basu, 2004a). Each of these studies tends to promote the particular initiative and goes into detail about the purpose, strengths, limitations and/or implementation process of the initiative. On the other hand, there are also several surveys undertaken to identify the trends, usage and/or effectiveness of improvement initiatives, which includes Cullen, O'Connor, and Mangan (2004), Mann (2008a), Rigby and Bilodeau (2007) and Weiler (2004). Unfortunately, only a few studies have been found (such as, Bendell, 2005; Radziwill, et al., 2008; Thawesaengskulthai, 2007) to address how to manage multiple improvement initiatives and provide guidance on how to select appropriate initiatives. As a result, there are limited number of models and/or guidelines currently available to assist organisations in selecting and managing multiple improvement initiatives. Most of the existing models do not explicitly stress the importance of understanding organisational profiles and improvement initiatives before selecting an appropriate initiative. In addition, none of the existing guidance models have explicitly aligned the selection processes with the Business Excellence Models (BEMs) although there is a demand for this alignment from the users and administrators of BEMs.

It is also evident from literature research (such as, Francis, 2010; Radziwill, et al., 2008; Thawesaengskulthai, 2010; Thawesaengskulthai & Tannock, 2008a) and from discussions with quality experts and practitioners that many organisations need guidance on what initiatives to use, in what order to implement the initiatives and how to select suitable initiatives. To address this problem, this research was conducted to develop meaningful guidelines for selecting appropriate improvement initiatives according to the context.

1.3 Aim and objectives of the research

This research aims to develop a guidance model for selecting appropriate organisational improvement initiatives. In order to achieve the research aim, the following objectives were set:

- (i) To identify the main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity;
- (ii) To identify the guidance models currently available to assist in the selection of organisational improvement initiatives;
- (iii) To investigate the main steps involved in selecting organisational improvement initiatives;
- (iv) To identify the critical contingency factors that should be considered in selecting organisational improvement initiatives; and
- (v) To develop, evaluate and refine an original guidance model for selecting appropriate organisational improvement initiatives.

1.4 Scope of the research

The scope of the research is described as follows:

- (i) This research focuses on the decision making process in selecting appropriate organisational improvement initiative, which is depicted in Figure 1.1. It does not cover the adoption and maintenance of initiatives.
- (ii) This research is intended for practitioners, managers, consultants, researchers, and/or academics in the area of quality and business excellence (BE).
- (iii) This research focuses on the usage of rational and structured approach in selecting improvement initiatives.

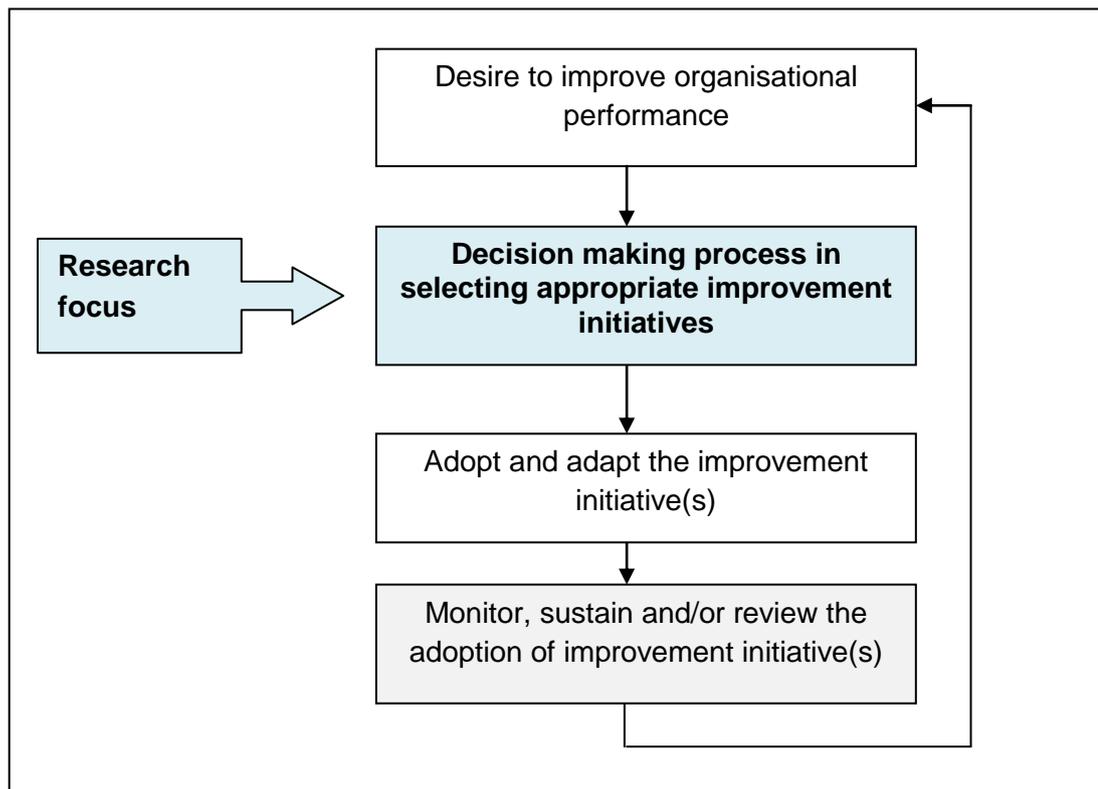


Figure 1.1: Research focus involving decision making process in selecting improvement initiatives

1.5 Importance of the research

Selection of improvement initiatives is an important area of research due to the following main reasons:

- Previous literature have highlighted the importance of selecting the right initiative for a given context or situation, such as Basu (2004b), Francis (2010), Hendra (2010) and Rigby and Bilodeau (2005). Selection processes will help organisations doing the right thing. As stated by Ackoff (1999, p. 10), “It is better to do the right thing wrong than to do wrong thing right. When we do the right thing wrong, we make mistake that can be corrected; hence we learn how to be more effective”. Therefore, selection and adoption of the most appropriate improvement initiative according to the situation are really crucial to the organisations.
- The adoption of initiatives requires time, resources, financial and knowledge (Thawesaengskulthai, 2007). To avoid unnecessary waste and frustration, it

would be better for people to select the right initiative that will fit with organisation's context and provide value to the organisation.

- Many organisations need guidance and advice on the selection of appropriate improvement initiatives due to a myriad of initiatives currently available and the number of initiatives is increasing every year (Thawesaengkulthai, 2007).
- Selection, management and/or integration of multiple improvement initiatives is an important quality issue in the future and become one of the main competencies required for future quality professional (Burnell, 2008).
- There is a relatively very few academic publications and only one PhD thesis (Thawesaengkulthai, 2007) have been found focussing on the selection of improvement initiatives. Therefore, this research is important to enrich the pool of reference materials and findings relating to this important subject matter.

A global on-line exploratory survey was conducted to investigate the importance of the research. The respondents of the survey were the practitioners, managers, consultants, and academicians who have good understanding and experience on improvement initiatives. Further details of this survey are discussed in Chapter 4. Fifty-nine (59) respondents answered the question related to this issue and all of them, 100%, agreed that the selection of suitable improvement initiatives is an important area of study. Thirty respondents (51% of total responses) indicated that the study is 'extremely important', 23 respondents (39%) indicated 'high importance' and the balance of six respondents (10%) indicated 'moderate importance'. All the interviewees also agreed that this study is important. This research also makes an original contribution to the body of knowledge and gives impact on practice, which will be discussed in Chapter 9.

1.6 Outline of the thesis

This thesis consists of nine chapters as depicted in Figure 1.2. The first chapter introduces the background, aim, objectives, scope, and importance of the research. Chapter 2 elaborates the critical review of literature related to the organisational improvement initiatives, main concepts and/or theories that can be used for the selection of improvement initiatives (Systems theory, Contingency theory, BE and rational decision making), and previous models on the selection of improvement initiatives. This chapter highlights primary literature and concepts that are relevant to the research as well as identifies gap in current knowledge of selecting improvement initiatives.

Chapter 3 describes the research design and methodology. This chapter consists of the selection of research design, research procedures, data collection methods, ensuring quality of research and ethical considerations. All the data collection methods (literature review, exploratory survey, semi-structured interviews, document review and evaluation survey) are briefly explained in this chapter. A detailed explanation on the planning, implementation and findings of the exploratory survey, interviews, and evaluation survey is provided in Chapter 4, 5 and 6. This study uses multiphase research design which comprises two research phases: (1) Development, evaluation and refinement of a conceptual model and (2) Development, evaluation and refinement of a guidance model. These two research phases are further discussed in Chapter 7 and 8.

Chapter 4 explains about the exploratory survey. It consists of the planning and implementation of the exploratory survey, profiles of survey respondents, and exploratory survey analysis and findings.

Chapter 5 describes about the semi-structured interviews. It comprises of the planning and implementation of the interviews, profiles of interviewees, and findings from the interviews. Results from the document review are indirectly explained in this chapter.

Chapter 6 explains about the evaluation survey. It consists of the planning and implementation of the evaluation survey, profiles of survey respondents, and evaluation survey analysis and findings.

Chapter 7 describes the first phase of research involving the development, evaluation and refinement of a conceptual model for selecting improvement initiatives. It comprises: (1) development of a conceptual model, (2) evaluation of the conceptual model and suggestions for improvement, (3) refinement of the conceptual model, and (4) evaluation of the refined conceptual model and suggestions for improvement.

Chapter 8 describes the second phase of research involving the development, evaluation and refinement of a guidance model for selecting improvement initiatives. It consists of: (1) development of a guidance model, (2) evaluation of the guidance model, and (3) refinement of the guidance model.

Chapter 9 concludes the main findings in relation to the research aim and objectives, explains the contributions of the research and describes the limitations of the research and suggestions for future research. This chapter also explains the linkages between research problem / issue, aim, objectives, data collection methods and sources of data (for example, see Figure 9.1).

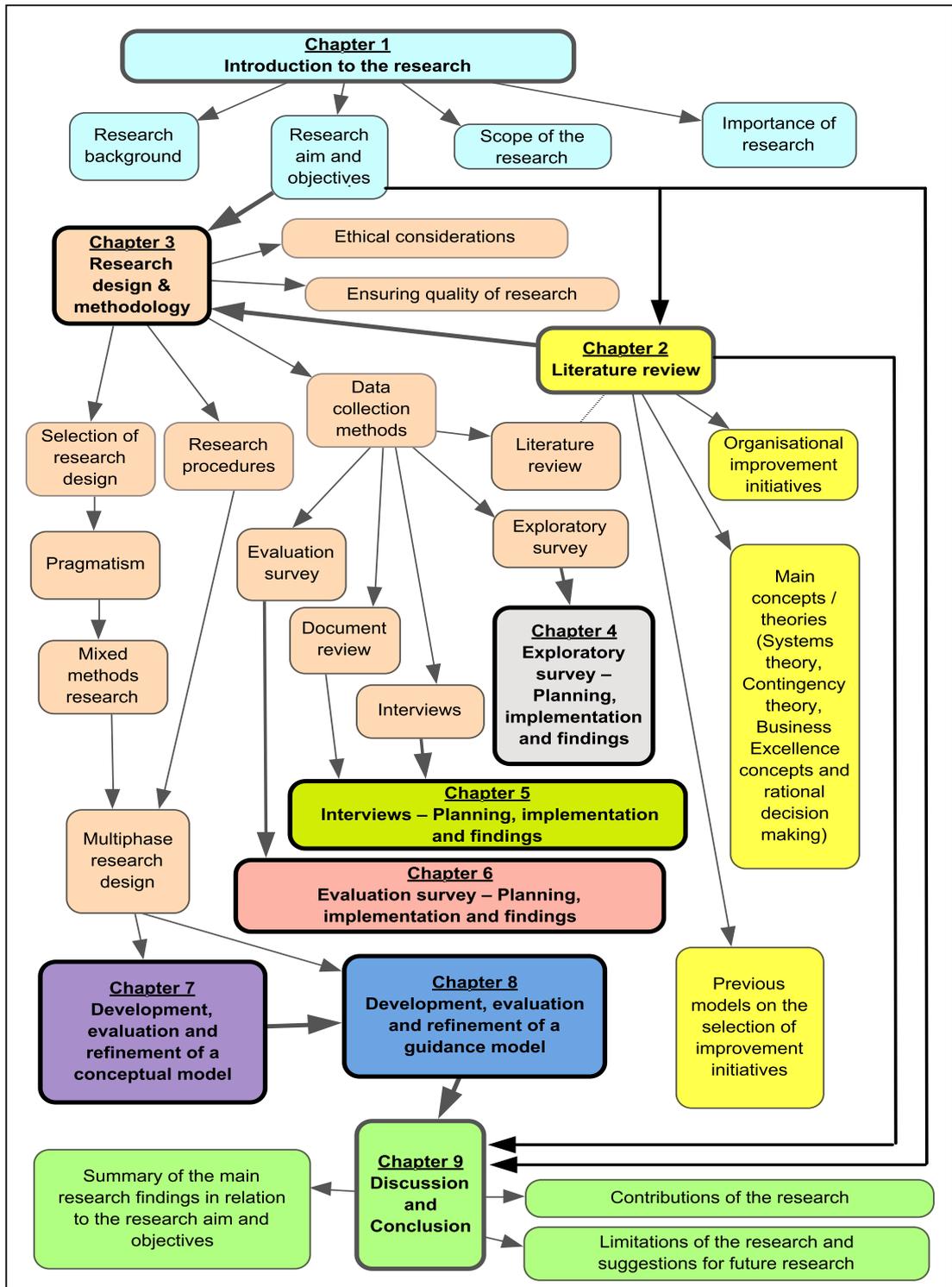


Figure 1.2: Outline of the thesis

Chapter 2: Literature Review

2.1 Introduction to the chapter

This chapter reviews the relevant literature related to the selection of organisational improvement initiatives. First of all, the term 'organisational improvement initiatives' is explained. Then, the four main concepts and/or theories that can be used in the selection of improvement initiatives are described: (1) contingency theory, (2) systems theory, (3) Business Excellence Models (BEMs), and (4) rational decision making. It is followed by explanation of previous improvement initiatives selection models. Finally, a conclusion for this chapter is presented.

2.2 Organisational improvement initiatives

Performance improvement, change and innovation are part and parcel of organisational life (Baxter & MacLeod, 2008). Organisations need to improve their performance in order to meet the purpose of their existence, and to satisfy and exceed the expectations of customers, employees, shareholders, supply chain partners, community and other stakeholders (Foley, 2010). Organisations should endeavour to improve faster than their competitors to stay ahead in their market segment.

In general, organisational improvement can be categorised into continuous improvement and breakthrough improvement (Imai, 1986; Slack et al., 2009). 'Continuous improvement', also known as 'Kaizen', is a never-ending, small and incremental performance improvement involving everyone in the organisation (Imai, 1986, 1997; Slack et al., 2009). It is normally people oriented, based on common sense and use a relatively low-cost approach (Imai, 1986, 1997). In contrast, the 'breakthrough' or 'innovation-based' improvement is a major and dramatic non-incremental performance improvement based on technological breakthrough and/or new inventions (Imai, 1986, 1997; Slack et al., 2009). According to Slack et al. (2009, p. 439), this type of improvement "can be expensive, often disrupting the ongoing workings of the operation, and frequently involving changes in the product/service or process technology". To survive in the 21st century, both types of

improvement should be adopted by the organisations in order to achieve performance excellence (Harrington, 1995; Thawesaengskulthai, 2007). In relation to this, Hayes et al. (2005) stated that:

The great risk of the incremental approach is being leapfrogged...by a competitor that abandons its traditional technology, location, or corporate strategy and adopts a new and more successful one...Conversely, the great risk of strategic leap approach is that a new breakthrough may not be available exactly when it is needed...An obvious response in such eventuality is for the company to adopt an incremental approach until a breakthrough does become possible. (p.286)

Harrington and Lomax (2000) and the Business Performance Improvement Resource website (www.bpir.com) have listed more than one thousand improvement initiatives that can be used by organisations. In addition to this, Cameron and Barnett (1999, p. 286) highlighted that: “the American Quality Foundation's (1992) survey of companies initiating quality improvement programs found that more than 945 quality tactics, tools, and techniques had been employed”. It is also expected that the number of improvement initiatives will continue to increase every year concurrent with the increment of books and publications connected to performance and/or organisational improvement (Baxter & MacLeod, 2008; Davenport et al., 2003).

Organisational improvement initiatives are also known as management tools (Rigby & Bilodeau, 2005), quality management and improvement initiatives (Thawesaengskulthai, 2007), business process improvement methodologies (Bendell, 2005) and performance improvement methods (Harrington & Lomax, 2000). These improvement initiatives were mostly developed by the management gurus, consultants, academics and/or practitioners (Baxter & MacLeod, 2008; Davenport et al., 2003; Greatbatch & Clark, 2005). Improvement initiatives in the present context refer to approaches, management systems, tools and/or techniques (Van der Wiele et al., 2007). Definitions of an approach, management system, tool and technique together with some examples of initiatives are provided in Table 2.1. Each improvement approach (e.g. Six Sigma, Lean, Total Quality Management [TQM], Business Process Reengineering [BPR]) has its own set of management systems, tools and/or techniques. For example, the following tools and techniques are widely used in the adoption of Six Sigma: Statistical Process Control (SPC),

Failure Mode and Effect Analysis (FMEA), Quality Function Deployment (QFD), and Control Chart (Ricondo & Viles, 2005). As for TQM, the following management systems, tools and techniques may be used: ISO9000, Control Chart, Cause and Effect Diagram, QFD, and Benchmarking (Hellsten & Klefsjö, 2000).

Table 2.1: Definitions and examples of approach, management system, tool and technique for improving organisational performance

No	Item	Definition	Examples
1	Approach	An approach needs resources (e.g. training, hiring additional and specific personnel), senior management commitment, strategic planning and an "intellectual effort in term of its deployment and adoption" (Van der Wiele et al., 2007, p. 561).	TQM, BPR, Six Sigma, Lean
2	Management system	"A system comprises written information in the form of instructions and procedures in order to direct and control some form of operation" (Van der Wiele et al., 2007, p. 561)	Quality Management System (ISO9000), Environmental Management System (ISO14000), Occupational Health and Safety Management System
3	Tool	A tool can be "described as a device which has a clear role and defined application. It is often narrow in its focus and can be and is usually used on its own" (Dale, 1993, as cited in Van der Wiele et al., 2007, p. 562)	Cause and Effect Diagram, Pareto Diagram, Control Chart, Histogram, Relationship diagram, Flowchart
4	Technique	A technique "has a wider application than a tool". It requires "more thought, skill, knowledge, understanding and training to use them effectively. A technique may even be viewed as a collection of tools" (Dale, 1993, as cited in Van der Wiele et al., 2007, p. 562)	SPC, Benchmarking, QFD, FMEA

These improvement initiatives can be linked, aligned and/or integrated in order to eliminate redundancies and improve system efficiency and effectiveness. Six Sigma is widely integrated with Lean and known as Lean Six Sigma (Arnheiter & Maleyeff, 2005; Byrne, Lubowe, & Blitz, 2007). Ricondo and Viles (2005) explains how Six Sigma can be linked to TQM, BPR, Lean and the Learning Organisation. Numerous literature also discusses about the integration of Quality Management System (e.g. ISO9001), Environmental Management System (e.g. ISO14001) and/or Occupational Health and Safety Management System (e.g. OHSAS 18001), including Abarca (1998), Douglas and Glen (2000), Karapetrovic and Willborn (1998), Mohammad, Osman, Yusuff, and Ismail (2005) and Zutshi and Sohal (2005).

Slack, et. al. (2009) and Slack and Lewis (2008) summarise several expected benefits of adopting these improvement initiatives which include but are not limited to:

- Improve quality (e.g. reduce defects per units, reduce level of customer complaints).
- Improve dependability (e.g. reduce percentage of orders delivered late, better schedule adherence).
- Improve speed (e.g. improve order lead time, improve cycle time).
- Better flexibility (e.g. reduce time needed to develop new products / services, better range of products / services).
- Reduce cost (e.g. reduce cost per operation hour, better utilisation of resources, reduce transaction cost, improve labour productivity).

2.3 Main concepts and/or theories that can be used for the selection of organisational improvement initiatives

This section explains four main concepts and/or theories that can be used for the selection of organisational improvement initiatives: (1) Systems theory, (2) Contingency theory, (3) BE, and (4) Rational decision making.

2.3.1 Systems approach in selecting and managing organisational improvement initiatives

Kast and Rosenzweig (1985, p. 15) define a system as “an organized, unitary whole composed of two or more interdependent parts, components, or subsystems and delineated by identifiable boundaries from its environmental suprasystem”. A system can also be defined as “a complex whole the functioning of which depends on its parts and the interactions between those parts” (Jackson, 2003, p. 3).

Systems approach helps people to be aware about the “interrelationships among sub-systems” and “interactions between system and its suprasystem” (Kast & Rosenzweig, 1985, p. 15). According to Ackoff (1999):

A system is a whole that cannot be divided into independent parts without loss of its essential properties or functions...For example, no part of an automobile by itself can transport a person from one place to another, nor can any part of a person live when separated from him or her. (p.8)

In addition to this, Ackoff (1999) also highlighted that:

When the performances of the parts of a system, considered separately, are improved, the performance of the whole may not be (and usually is not) improved...The performance of a system depends on how its parts interact, not on how they act taken separately. (p.9)

Therefore, it is crucial to use systems and holistic approach in managing organisational improvement as opposed to the piecemeal approach (Kast & Rosenzweig, 1985). With regards to the selection of improvement initiatives, it is also important to consider whether the initiatives to be used are compatible and can interact well with the existing and future organisation system (Dale, 2007).

Subsequently, it is also important to understand feedback mechanism in a system. Kast and Rosenzweig (1972) stated that:

Information concerning the outputs or the process of the system is fed back as an input into the system, perhaps leading to changes in the transformation process and/or future outputs. Feedback can be both positive and negative...Negative feedback is informational input which indicates that the system is deviating from a prescribed course and should readjust to a new steady state. (p. 450)

In general, systems can be categorised as closed and open system. According to Kast and Rosenzweig (1972):

Open systems exchange information, energy, or material with their environments. Biological and social systems are inherently open systems; mechanical systems may be open or closed...The open system can be viewed as a transformation model. In a dynamic relationship with its environment, it receives various inputs, transforms these inputs in some way, and exports outputs...systems have boundaries which separate them from their environments. The concept of boundaries helps us understand the distinction between open and closed systems. The relatively closed system has rigid, impenetrable boundaries; whereas the open system has permeable boundaries between itself and a broader suprasystem. (p.450)

Modern organisation theories consider the organisation as an open system as opposed to the traditional organisation theories that view the organisation as a closed system (Ashmos & Huber, 1987; Kast & Rosenzweig, 1985). Organisation can also be seen as a system that consists of various subsystems and as a subsystem of a larger external environment system (Johnson, Kast, & Rosenzweig, 1964). Examples of the subsystems within the organisation system are quality system, financial and costing system, human resources system, management information system and production system. Meanwhile, external environment systems of an organisation include external political system, economic system, social system, technological system, legal system and environmental system (Karapetrovic & Willborn, 1998; Kast & Rosenzweig, 1985).

By adopting a systems approach in managing organisational improvement, people should be able to understand that the organisation consists of various interlinked processes that convert input (e.g. materials, money, human resources, information) into output (e.g. products, services, stakeholder satisfaction) and interact with its external environment in order to achieve the goal and purpose of its existence. Better output can be obtained by improving the input and processes within the organisation's system (Dean & Bowen, 1994; Kast & Rosenzweig, 1985). The concept of input, process and output will also be incorporated in the development of a guidance model for selecting improvement initiatives.

2.3.2 Contingency approach in selecting and managing organisational improvement initiatives

According to Kast and Rosenzweig (1985):

The contingency view seeks to understand the interrelationships within and among subsystems as well as between the organization and its environment and to define patterns of relationships or configurations of variables... Contingency views are ultimately directed toward suggesting organizational designs and managerial actions most appropriate for specific situations. (p.116)

Kast and Rosenzweig (1985) also added that:

The essence of this view is that there is no one best way and that there is a middle ground between 'universal principles' and 'it all depends'. This approach recognize the complexity involved in managing modern organizations but uses the existing body of knowledge to relate environment and design, to match structure and technology, to integrate strategy and tactics, or to determine the appropriate degree of subordinate participation in decision making, given a specific situation. (p.18)

Many existing literature have highlighted the importance of using contingency approach in managing organisation and understanding complex and dynamic situations, for instance Donaldson (2001), Koontz and O'Donnell (1976), Lawrence and Lorsch (1967), and Sousa and Voss (2008). In relation to this, several examples of main contingency factors that should be considered in selecting appropriate initiatives have been included in the guidance model. Since every organisation is unique, there is no one best initiative that can solve all organisational problems. Each initiative also has its own purpose, strengths and limitations. The most appropriate initiative depends on the context in which it is adopted, rather than assumed to be universally applicable. Managers and/or leaders in the organisations should therefore consider all related contingency factors before selecting the right initiative for the situation. The examples of contingency factors include but are not limited to:

- Capability of the workforce to implement the improvement initiatives (NIST, 2010; Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Organisational culture (Sousa & Voss, 2008; Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Top management commitment and support (Benson et al., 1991; Saunders & Mann, 2007; Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Expected costs, time and resources needed to introduce and implement the initiatives successfully (Dale, 2007).
- Vision and mission of the organisation (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Direction, strategic plan and goals of the organisation (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).

- External environment in which the organisations operate, which includes: political, economic, social, technological, legal and environmental factors (Capon, 2004).
- Level of organisational excellence maturity (Dahlgaard & Dahlgaard-Park, 2004; NIST, 2010).
- Ability of the initiative to “fit in with, complement”, integrate, and/or “support” other initiatives “already in place, and might be [used] in the future” (Dale, 2007, p.338).
- Types (e.g. private, public or non-profit) and sizes (e.g. small, medium or large) of the organisation (Benson, et al., 1991; Dahlgaard & Dahlgaard-Park, 2004; NIST, 2010; Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a).
- Expected value / benefit of using the initiative (Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a, 2008b).
- Areas in which the initiatives will be used (Saunders & Mann, 2007).

2.3.3 Business Excellence Models (BEMs) as a guiding framework for selecting and managing multiple organisational improvement initiatives¹

There are many definitions of BE and it varies depending on the areas of study. Several definitions of BE based on Quality Management area are listed as follows:

- “Excellence in strategies, business practices, and stakeholder²-related performance results that have been validated by assessments using proven business excellence models” (Adebanjo & Mann, 2008b, p. 1).
- “Overall way of working that balances stakeholders concerns and increases the probability of long-term organisational success through operational, customer-related, financial, and marketplace performance excellence”

¹ A large part of this section was published in the International Journal of Total Quality Management and Business Excellence (see Mohammad, Mann, Grigg, & Wagner, 2011a).

² Stakeholder is defined as “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984; Jones, 1995; Kreiner & Bhambri, 1988) (reported in Mitchell, Agle, & Wood, 1997, p. 869). According to European Foundation for Quality Management (EFQM) (2010, p. 2), stakeholder includes the “person, group or organisation that has a direct or indirect stake or interest in the organisation because it can either affect the organisation or be affected by it.”

(Bergquist, Foley, Garvare, & Johansson, 2000, p. 517; Edgeman, Dahlgaard-Park, Dahlgaard, & Scherer, 1999, p. 49)

- “Business aim (that circumstance where all stakeholders are satisfied), and [total] quality management ... as the means of achieving that aim” (Foley, 2004, p. 13).

BE is also known as Organisational Excellence. The term “Organisational Excellence” emerged to imply inclusion of public and not-for-profit organisations (Dalrymple et al., 1999; McAdam, 2000). Many BE concepts, frameworks and models were developed since 1980s, mainly as a result of quality movement in Japan and USA (Adebanjo & Mann, 2008b). Examples of the BE concepts and models include Peter’s and Waterman’s eight excellence attributes (1982), Peter’s and Austin’s excellence model (1985), Baldrige Criteria for Performance Excellence (CPE) (first developed in 1987), European Foundation for Quality Management (EFQM) Excellence Model (first developed in 1992), Kanji’s BE Model (2001), and Dahlgaard’s and Dahlgaard-Park’s 4P excellence model (2004).

This research focuses on BEMs used within quality and BE award programmes, due to the validity and wide usage of these models. This type of BEM includes the Baldrige CPE (NIST, 2010) and the EFQM Excellence Model (EFQM, 2009). According to Grigg and Mann (2008b, p. 1176), various researchers have “statistically tested and validated” the design, 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, Rho, & Lee, 2003; Wilson & Collier, 2000). As reported by Grigg and Mann (2008a, p. 234; 2008b, p. 1173), BEMs are adopted for Quality / BE Awards by more than 80 countries. Further research by the author of this thesis in 2010 (which was commissioned by Baldrige Performance Excellence Program, NIST, USA) revealed that there were 94 national Quality / BE Awards used in 83 countries worldwide. Appendix 1 lists the awards together with their adopted BEMs and administrative organisations. This information is important for the users and potential users of BEMs as well as the organisations entrusted to administer the national quality / BE award. This list was developed based on data from Quality / BE award administrators, an internet search conducted between 9th and 13th of January 2010 and latest updated on November 2010, as well as data from a comprehensive literature review (Calingo, 2002; Mavroidis, Toliopoulou, & Agoritsas, 2007; Sharma

& Kodali, 2008; Tan, 2002; Tan, Wong, Mehta, & Khoo, 2003). An early version of this list is available on the Baldrige Performance Excellence Program website (refer to Mohammad & Mann, 2010).

The data presented in Appendix 1 indicates that the EFQM Excellence Model and the Baldrige CPE are the two most widely used BEMs. The EFQM Excellence Model is used in 30 countries on two continents - Europe (e.g. Austria, Northern Ireland, Sweden, Italy, and Portugal) and Asia (India, Turkey and United Arab Emirates). Meanwhile, the Baldrige CPE is used in 8 countries on four continents, including Northern America (United States of America), Asia (Hong Kong, Indonesia, Philippines, Thailand and Sri Lanka), Oceania (New Zealand), and Europe (Sweden). Many countries are also using their own national bespoke model, such as Japan (Deming Prize) and Australia (Australian BE Award). In addition, some countries have more than one national quality / BE awards, such as India, Japan, Malaysia, United Arab Emirates, Greece and Hungary. In Sweden, organisations can choose one of the following BEMs when applying for Swedish Quality Award: (1) the Baldrige CPE (see item 6 in Appendix 1); (2) the EFQM Excellence Model (see item 34 in Appendix 1); or the Swedish bespoke model (see item 80 in Appendix 1). In contrast, Bahrain does not have any national quality / BE award to date, but many public sector organisations are using a bespoke model based on the EFQM Excellence Model, which is administered by the Bahrain Centre for Excellence (see item 60 in Appendix 1).

In general, a BEM can be considered as a TQM framework (Adebanjo, 2001; Adebanjo & Mann, 2008b; Bou-Llusar, Escrig-Tena, Roca-Puig, & Beltran-Martin, 2009; Dale, Van der Wiele, & Van Iwaarden, 2007a). More specifically, the BEM can be described as a non-prescriptive organisational framework based on several main criteria that can be categorised as 'enabler' and 'result' (Dahlgaard-Park, 2008; EFQM, 2003; NIST, 2010). Dahlgaard-Park (2008) summarised that:

The "Enabler" criteria cover what an organisation does. The "Result" criteria cover what an organisation achieves. "Enablers" cause "Results". (p. 106)

Table 2.2 shows the common criteria of BEMs based on comparison of major BEMs and previous research. The descriptions of the common enabler criteria of BEM and their core values and concepts are presented in Table 2.3. These core values and concepts of BEM are based on attributes, beliefs and/or behaviours of high performing organisations (NIST, 2010; New Zealand Business Excellence Foundation [NZBEF], 2009).

Table 2.2: Common criteria of BEMs based on comparison of major BEMs and previous research

Category	Common Criteria	Baldrige CPE 2011 - 2012 (NIST, 2010)	EFQM Excellence Model 2010 (EFQM, 2009)	Bohoris (1995)	Puay, Tan, Xie, & Goh (1998)	Tan (2002)
Enablers	1. Leadership and social responsibilities	1.Leadership	1.Leadership	1.Leadership	1.Leadership	1.Leadership system
					2.Impact on society	2.Impact on society
	2. Strategy	2.Strategic planning	2.Strategy	2.Strategy and policy	3.Strategy and policy	3.Strategy and policy planning
	3. Customer focus	3.Customer focus	3.Processes, products and services	3.Customer management and satisfaction	4.Customer management and satisfaction	4.Customer management and satisfaction
	4. Process management	4.Operations focus		4.Process quality	5.Process quality	5.Process management
	5. Workforce focus	5.Workforce focus	4.People	5.Human resource management	6.Human resource management	6.People management
6. Partnership and resources	6.Measurement, analysis and knowledge management	5. Partnership and resources	6.Resources Management	7.Resources management	7.Resources	7.Resources
					8.Information and analysis	8.Suppliers / partners management and performance
Results	7. Results	7. Results	6.People results	7.Results	9.Results	10.Business results
			7.Customer results			
			8.Society results			
			9.Key results			

Table 2.3: Descriptions of the common enabler criteria of BEM and their core values and concepts

Common enabler criteria of BEM	Brief descriptions	Core values and concepts
1. Leadership and social responsibilities	Focuses on leader's behaviour and leadership system in shaping the future and building culture of excellence in the organisation (EFQM, 2009; NIST, 2010; Puay, et al., 1998; Standards, Productivity, and Innovation Board Singapore [SPRING], 2007), as well as, organisation's governance systems, responsibilities and contribution to society, community and environment (EFQM, 2009; NIST, 2010; Puay, et al., 1998; Tan, 2002).	Leading with vision, inspiration and integrity; systems perspective; and taking responsibility for a sustainable future (EFQM, 2009; NIST, 2010).
2. Strategy	Focuses on how the organisation develops, communicates, deploys, measures, monitors, reviews and / or improves its strategy to achieve organisational success and sustainability (EFQM, 2009; NIST, 2010; Puay, et al., 1998; Tan, 2002).	Visionary leadership; focus on the future; nurturing creativity and innovation; and agility (EFQM, 2009; NIST, 2010).
3. Customer focus	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers; uses customer information to improve and identify opportunities for innovation; and determines customer satisfaction for long-term marketplace success (EFQM, 2009; NIST, 2010; Puay et al., 1998; SPRING, 2007; Tan, 2002).	Customer-driven excellence; focus on results; and creating value (EFQM, 2009; NIST, 2010).
4. Process management	Focuses on the design, management, evaluation, and improvement of various work systems and work processes in the organisation in order to fully satisfy, and generate increasing value for customers and other stakeholders (EFQM, 2009; NIST, 2010; Puay et al., 1998; Tan, 2002).	Organisational learning; nurturing creativity and innovation; focus on results and creating value; agility; and systems perspective (EFQM, 2009; NIST, 2010).
5. Workforce focus	Focuses on how the organisation engages, manages, values, recognises and develops the workforce to utilise its maximum potential in alignment with the organisation's overall mission, strategy and plan (EFQM, 2009; NIST, 2010; Tan, 2002).	Personal learning; valuing workforce members; focus on results and creating value; succeeding through people; and nurturing creativity and innovation (EFQM, 2009; NIST, 2010).
6. Partnership and resources	Focuses on how the organisations plan, manage, measure, analyse and improve external partnerships, suppliers and internal resources (such as information and knowledge, financial, materials, natural resources, buildings, equipment, technology, and intellectual property) in order to support strategy and the effective operation of work processes (EFQM, 2009; Puay et al., 1998; Tan, 2002).	Building partnerships; management by fact; focus on results and creating value; and nurturing creativity and innovation (EFQM, 2009; NIST, 2010)

Note: These descriptions were included in the proposed guidance model (see Supplement B in Appendix 8, page A8.11)

Dahlgaard-Park (2008) has analysed the EFQM Excellence Model from six management control perspectives involving: (1) Bureaucratic and mechanic view of control, (2) Cybernetic view of control, (3) Agency view of control, (4) Human resource view of control, (5) Contingency view of control and (6) Cultural view of control. In addition, Dahlgaard-Park (2008, p. 111) found that “all the criteria [of the model] show more or less interrelationships with the six management control theories” and concluded that “the model can be considered as a holistic and integrative approach, where strategic, managerial and operational control processes are integrated in the model”. On the other hand, Dahlgaard-Park (2008) also highlighted the disadvantages and limitations of the EFQM Excellence Model, which includes: (1) less attention is given to contextual / contingency factors; (2) not being able to include all possible variables and all aspects of real situation due to the nature of a model that only represent a generalised and simplified version of a reality; and (3) the actual practice is not always consistent with the expectation when using the model.

BEMs are widely used as a basis for evaluating the performance of Quality / BE Award applicants as well as to identify the winners of the award (Adebanjo & Mann, 2008b; Tan et al., 2003). Although numerous organisations have participated in the BE award programmes, the main purpose of using the BEMs should be for organisational performance improvement rather than merely receiving the award (Dahlgaard-Park & Dahlgaard, 2007).

Most of the previous studies into BEMs mainly focused on the design and/or validation of BEMs (Dahlgaard-Park & Dahlgaard, 2007; Evans & Jack, 2003; Flynn & Saladin, 2001; Husain, Abdullah, Idris, & Sagir, 2001; Jayamaha, Grigg, & Mann, 2009), the usage of BEMs for quality / BE awards (Eriksson & Garvare, 2005; Grigg & Mann, 2008b), the usage of BEMs for organisational assessment (Ritchie & Dale, 2000; Shergold & Reed, 1996; Williams, Bertsch, van der Wiele, Van Iwaarden, & Dale, 2006) as well as the usage of BEMs for benchmarking and best practices (Adebanjo & Mann, 2008a; Mann & Grigg, 2004). Minimal literature used BEMs as a guiding and/or overarching frameworks for selecting and managing multiple improvement initiatives (such as, Brown & Pemberton Planning Group Ltd., 2008; Saunders & Mann, 2007).

In relation to the usage of BEMs as an overarching framework, Jamie Ambrosi, Deputy Director of Baldrige Performance Excellence Program (as cited in Mann, 2011) highlighted that:

I think where organizations get off track is when they think Baldrige is just an initiative, rather than a model for organizing and managing the enterprise and all its initiatives. If Baldrige is reduced to an initiative, rather than an overall model and a way of thinking, then organizations can say they have done it and moved on. We see this all the time. But in organizations that embrace the Baldrige Framework as an overarching model, they never move beyond it. This includes very high-performing organizations, including our Award recipients. (p.109)

Supporting the same issue, Joe Goasdoue, Chief Executive of the British Quality Foundation (as cited in Francis, 2010), explains that:

While there are numerous management tools and techniques commonly used, the EFQM excellence model provides a holistic view of the organisation and it can be used to determine how these different methods fit together and complement each other. The model can therefore be used in conjunction with any number of these tools, based on the needs and function of the organisation, as an overarching framework for developing sustainable excellence. (p.30)

The proposed guidance model utilised the BEM as a guiding framework for selecting and managing multiple improvement initiatives. Part of the model shows some examples of the most common improvement initiatives that can be adopted towards BE, which are arranged according to the common enabling criteria of BEMs and levels of BE maturity. In this study, common enabling criteria of BEMs represent areas for improvement. This feature can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas for improvement and BE maturity.

2.3.4 Rational decision making in selecting appropriate improvement initiatives

Various literature advised decision makers to make a rational decision with regards to the selection and adoption of appropriate improvement initiatives (Cagliano & Spina, 2000; Miller & Hartwick, 2002; Rigby & Bilodeau, 2005; Thawesaengskulthai, 2007). According to Bazerman and Moore (2009, p. 4), a rational decision making is “logically expected to lead to the optimal result, given an accurate assessment of the decision maker’s values and risk preferences”. Eisenhardt and Zbaracki (1992) highlighted that:

Rational model of choice follows the everyday assumption that human behavior has some purpose...actors enter decision situations with known objectives. These objectives determine the value of the possible consequences of an action. The actors gather appropriate information, and develop a set of alternative actions. They then select the optimal alternative. (p.18)

Thawesaengskulthai (2010) explains that rational selection of improvement initiatives is associated with a structured and systematic processes that consider the organisation’s direction and context. Thawesaengskulthai (2010) added that the rational approach is mainly based on operations strategy concepts (Slack & Lewis, 2008; Voss, 2005) and strategic decision making theory (Eisenhardt, 1999; Eisenhardt & Zbaracki, 1992). In contrast, irrational selection of initiatives as stated by Thawesaengskulthai (2010) relates to the intuitive and less structured approach which considers factors such as management fads and fashions, persuasion and power.

Existing literature suggests that there are a number of steps / processes involved in making a rational decision. Table 2.4 compares the decision making steps proposed by Hicks (2004) and Huber (1980). Based on comparison shown in Table 2.4, the common steps involved in making decision can be blended as follows: (1) Problem identification, diagnosis and goal setting; (2) Generation of alternative solutions to achieve the goal; (3) Identification of evaluation criteria; and (4) Selection of the most appropriate solution. These steps have been incorporated in the development of proposed guidance model.

Table 2.4: Comparison of steps involved in making decision

Common Steps	Hicks (2004)	Huber (1980)
Problem identification, diagnosis and goal setting	Identify the objectives (goals) of the decision	Activities dealing with problem identification, definition, diagnosis
Generation of alternative solutions to achieve the goal	Find alternative ways of meeting these objectives	Activities dealing with generation of alternative solutions
Identification of evaluation criteria	Determine evaluation criteria/ techniques	Activities dealing with evaluation and choice among alternative solutions
Selection of the most appropriate solution	Select best course of action	

Managers involved in decision making always have to deal with numerous alternatives and evaluation criteria. When making decision, they face difficulties in choosing the most appropriate alternative / solution. One of the ways to help them to choose appropriate solution is by using Multiple Attribute Decision Making (MADM) technique. The MADM is a part of Multiple Criteria Decision Making (MCDM) technique (Triantaphyllou, 2000; Yoon & Hwang, 1995). According to Yoon & Hwang (1995, p. v), MADM can be defined as “making preference decisions (e.g., evaluation, prioritization, selection) over the available alternatives that are characterized by multiple, usually conflicting, attributes”. Yoon & Hwang (1995) also stated that the common characteristics of MADM include:

A finite number of alternatives...are screened, prioritized, selected, and/or ranked...The term ‘alternative’ is synonymous with ‘option,’ ‘policy,’ ‘action,’ or ‘candidate,’ among others...Each problem has multiple attributes...The term ‘attributes’ may be referred to as ‘goals’ or ‘criteria.’...Almost all MADM methods require information regarding the relative importance of each attribute, which is usually supplied by an ordinal or cardinal scale...A MADM problem can be concisely expressed in a matrix format, where columns indicate attributes considered in a given problem and rows list competing alternatives. (p.2)

There are several methods that can be used within the MADM technique, such as maximin, maximax, conjunctive method, lexicographic method, Simple Additive Weighting (SAW), weighted product, Technique for Order Preference by Similarity to

Ideal Solution (TOPSIS), median ranking method, and Analytic Hierarchy Process (AHP) method. However, the SAW method is perhaps the most commonly used and well known method, particularly in single dimensional cases (Triantaphyllou, 2000; Yoon & Hwang, 1995). The SAW method is also known as Weighted Sum Model (WSM) (Thawesaengskulthai, 2007). This method has been incorporated in the proposed decision matrix in order to assist decision makers in choosing the most appropriate improvement initiatives. Further details on the usage of this method are presented in Section 8.2 and 8.4.

2.4 Prior models on the selection of organisational improvement initiatives

This section compares and describes seven prior models that can be used to assist in the selection of improvement initiatives. The comparisons of prior models according to the basis of model development, strengths, and limitations are summarised in Table 2.5.

Table 2.5: Comparison of seven prior models that can be used to assist in the selection of improvement initiatives

<i>Author(s)</i>	<i>Basis of model development</i>	<i>Strengths</i>	<i>Limitations</i>
1) Thawesaengskulthai (2007)	<ul style="list-style-type: none"> • Literature review • Case studies – conducted in Thailand • Interviews with experts - conducted in Thailand • Assessment survey (model validation / testing) 	<ul style="list-style-type: none"> • Provide an improvement initiative selection framework focussing on the triggers for adoption, selection views and criteria, processes involved after selecting the initiatives, critical success factors and barriers (refer to Figure 2.1). 	<ul style="list-style-type: none"> • Only focus on six initiatives: TQM, Six Sigma, ISO 9001, Lean, Business Process Reengineering, and BEM. • Quite complex since a lot of things are included in the model, starting from the triggers for adoption until the adoption of initiative. However, the detailed steps involved in selecting the initiative are not included. • Does not explicitly stress the importance of understanding organisational profiles and improvement initiatives before selecting the initiative.

Table 2.5: Comparison of seven prior models that can be used to assist in the selection of improvement initiatives (Cont.)

<i>Author(s)</i>	<i>Basis of model development</i>	<i>Strengths</i>	<i>Limitations</i>
2) Saunders & Mann (2007)	<ul style="list-style-type: none"> • Literature review • Consulting experiences 	Provide examples of initiatives to be used according to the levels of BE maturity and enablers of Baldrige CPE (refer to Figure 2.3)	<ul style="list-style-type: none"> • Does not explain the processes involved in selecting initiative • Does not explicitly stress the importance of understanding organisational profiles and improvement initiatives before selecting the initiative. • Does not highlight contingency factors that should be considered in selecting improvement initiative
3) New Zealand Ministry of Economic Development (NZMED)(2006, as cited in New Zealand Business Excellence Foundation [NZBEF], 2009)	<ul style="list-style-type: none"> • Literature review • Consulting experiences 	Indicate examples of initiatives to be used according to the enablers of Baldrige CPE (refer to Figure 2.4)	
4) Brown & Pemberton Planning Group Ltd (2008)	<ul style="list-style-type: none"> • Literature review • Consulting experiences 	Provide examples of initiatives to be used according to the enablers of Baldrige CPE (refer Figure 2.5)	
5) Rimington (2007)	<ul style="list-style-type: none"> • Literature review • Case studies – conducted in Singapore 	Provide examples of initiatives to be used according to the core values / concepts of Singapore Quality Award model (refer Figure 2.6)	
6) Bendell (2005)	<ul style="list-style-type: none"> • Literature review • Consulting and training experience 	Provide a decision tree and road map on the adoption of improvement initiatives in terms of: (1) what initiative to adopt? (refer Figure 2.7) and (2) when to adopt an initiative? (refer Figure 2.8).	
7) Radziwill, et al.(2008)	<ul style="list-style-type: none"> • Literature review • Consulting and training experience 	Provide a decision tree and road map on the adoption of improvement initiatives (refer Figure 2.9).	<ul style="list-style-type: none"> • Does not explicitly stress the importance of understanding improvement initiatives before selecting the initiative. • Does not highlight contingency factors that should be considered in selecting improvement initiative

The first model as shown in Figure 2.1 was developed by Thawesaengskulthai (2007). The structure of the model is quite similar to 'make-or-buy' model proposed by Canez, Platts, and Probert (2000). The model consists of: (1) triggers for adopting improvement initiatives, (2) selection views and criteria, (3) processes involved after selecting the initiative, (4) critical success factors, and (5) barriers. This model is quite complex because it covers a lot of details from the triggers for adoption until the adoption of initiative. However, comprehensive steps involved in selecting the initiatives are not included. Due to this limitation, Thawesaengskulthai (2007) includes an explanation of the process for evaluating and selecting the initiative in a separate model shown in Figure 2.2. The process comprises of: (1) brainstorming and agreeing upon the sub-criteria and pro forma for rating, (2) weighting the criteria, (3) Rating and ranking the initiatives, and (4) Result and analysis. Unfortunately, the input to the selection process is not clearly shown in the model. The input to the selection process may include: (1) understanding of the areas for improvement (Mohammad, Mann, Grigg, & Wagner, 2010a, 2010b), (2) understanding of relevant improvement initiatives (Mohammad, Mann, Grigg, & Wagner, 2009a, 2009b; Mohammad et al., 2010a, 2010b), and (3) understanding of organisational profiles / context (Capon, 2004; Mohammad et al., 2010a, 2010b). As discussed in Section 2.3.1 (Systems approach in selecting and managing organisational improvement initiatives), the input of the process will determine the quality of the output.

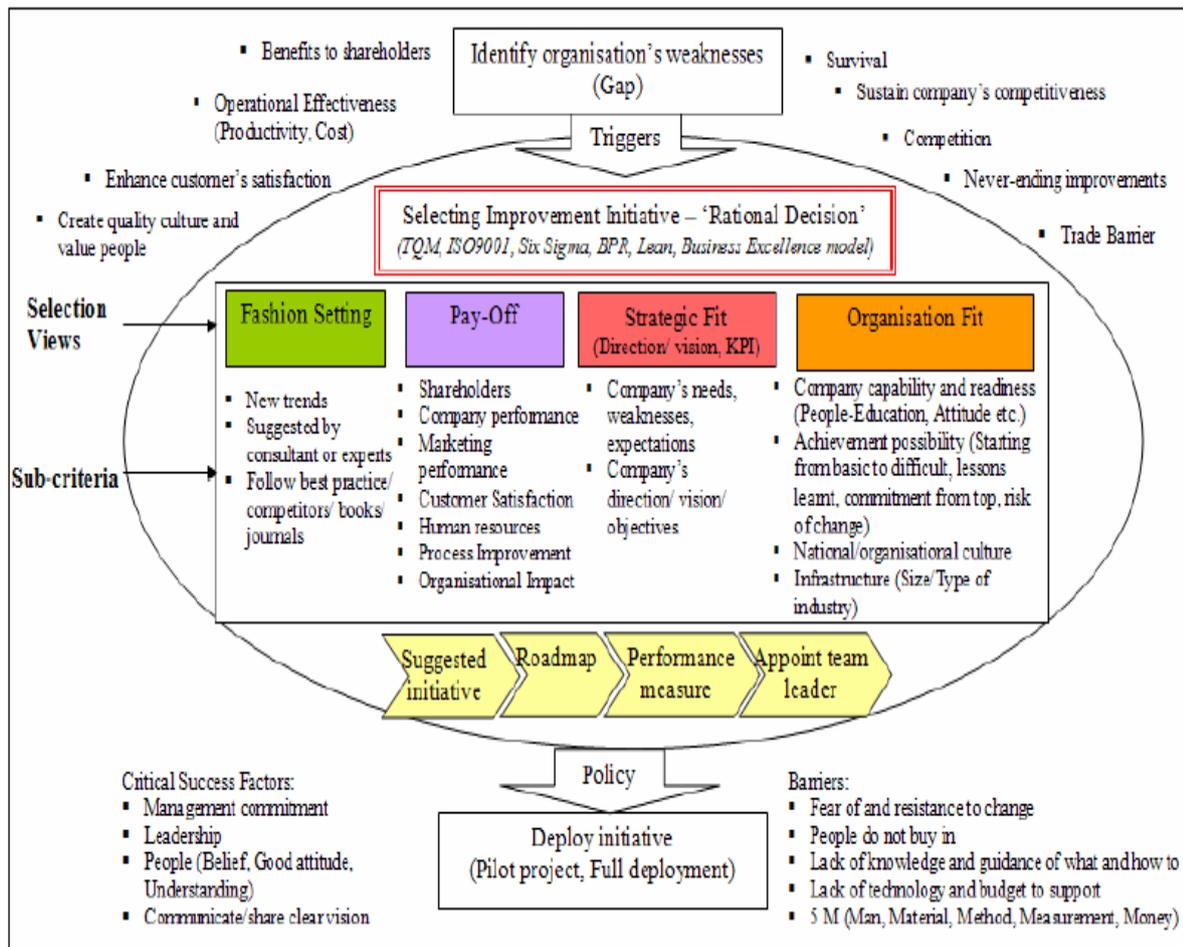


Figure 2.1: An improvement initiative selection framework proposed by Thawesaengskulthai (2007)

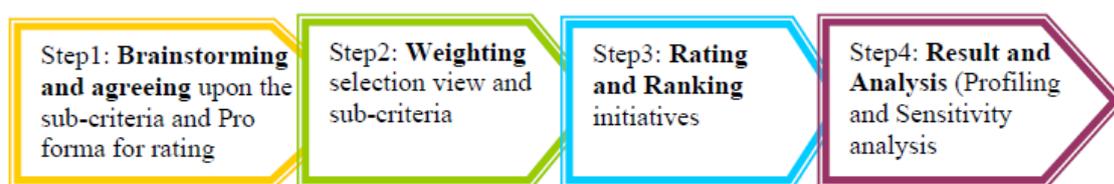


Figure 2.2: Steps involved in evaluating and selecting the initiative (Thawesaengskulthai, 2007)

The models proposed by Saunders and Mann (2007), NZMED (2006, as cited in NZBEF, 2009), Brown and Pemberton Planning Group Ltd (2008) and Rimington (2007) utilise the BEM as a guiding or overarching framework for selecting and managing multiple improvement initiatives. This concept is explained in Section 2.3.3. The model developed by Saunders and Mann (2007) (as shown in Figure 2.3) consists of examples of initiatives to be used according to the levels of BE maturity

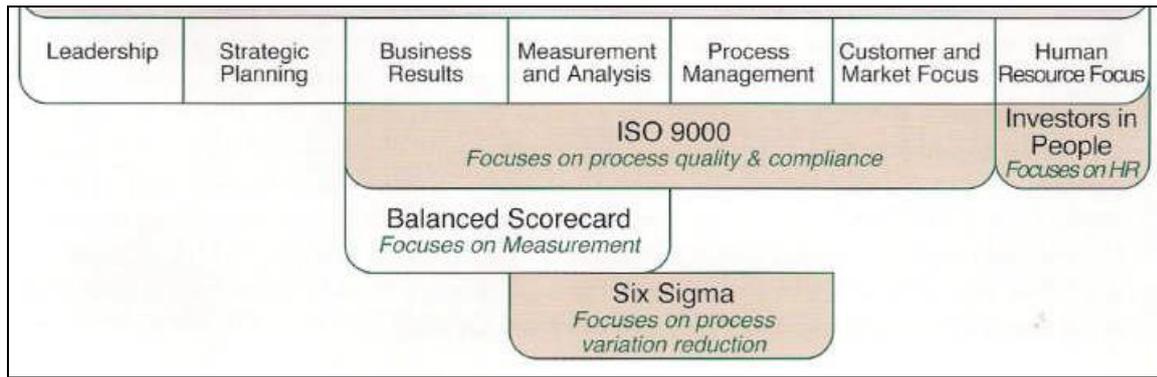


Figure 2.4: A simple consultant-based model indicating the examples of initiatives to be used according to the Baldrige CPE (NZMED, 2006, as cited in NZBEF, 2009).

Leadership	Strategic Planning	Business Results	Measurement, Analysis and Knowledge Management	Process Management	Customer and Market Focus	Workforce Focus
Baldrige Criteria for Performance Excellence						
Organisation wide						
		ISO 9001 Focuses on quality & compliance of processes				
Various Leadership & Strategy schemes		Six Sigma Focuses on process variation reduction				
		Lean Processing Focuses on process variation reduction & customer satisfaction				
		Balanced Scorecard Focuses on measurement				
						Investors in People - Focuses on HR

Figure 2.5: A consultant-based model indicating the examples of initiatives to be used according to the Baldrige CPE (Brown & Pemberton Planning Group Ltd, 2008).

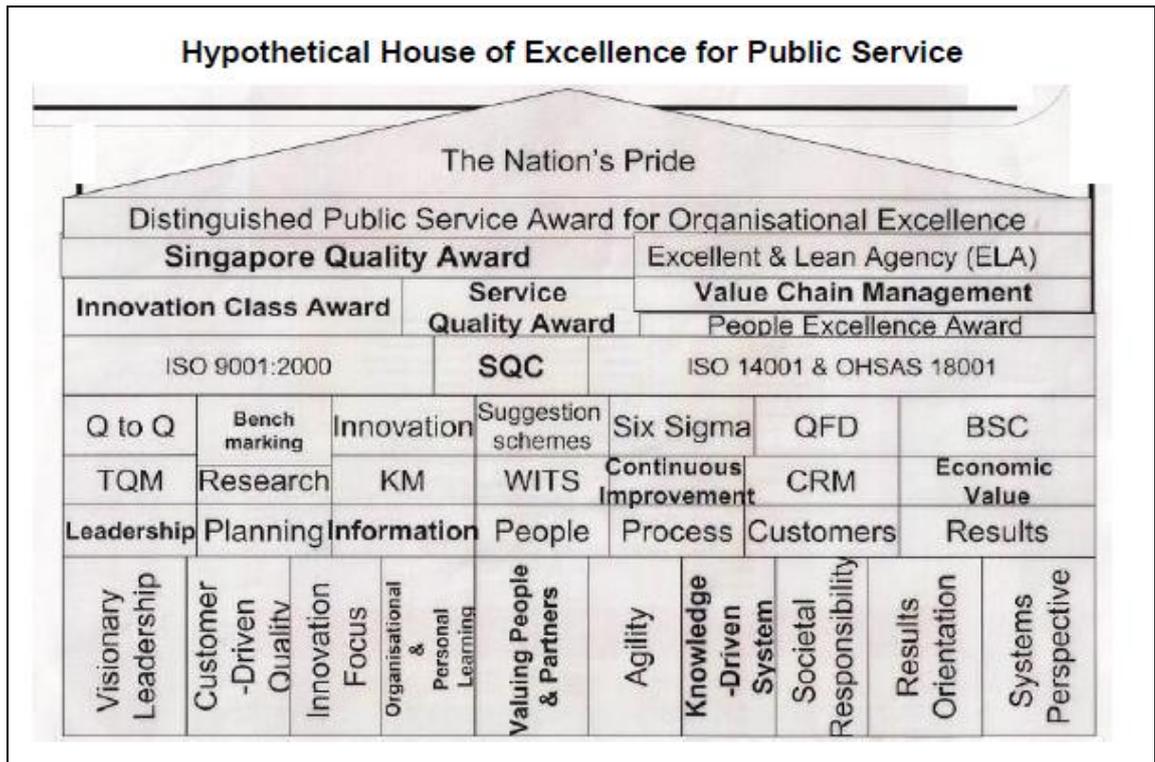


Figure 2.6: A guiding model indicating the examples of initiatives to be used according to the core values and concepts of SQA model (Rimington, 2007).

As shown in Figure 2.7, Bendell (2005) developed a decision tree for adopting organisational improvement initiatives, focussing on process mapping and simple improvement tools, Six sigma, Lean, ISO9001:2000 and Investors in People. This model can help decision makers to decide which initiative to be adopted based on the situation. For example, if the main issue faced by an organisation is market pressure, then implement ISO9001. In addition, Bendell (2005) also proposes a simple road map for adopting improvement initiatives (see Figure 2.8). The road map suggests the appropriate time to start implementing the initiatives. For instance, an organisation can start implementing Six Sigma after 12 months of implementing process mapping and simple improvement tools. However, this decision tree and road map approach does not explain the detailed processes involved in selecting initiative and does not highlight various contingency factors that should be considered when selecting the most appropriate initiative according to the situation.

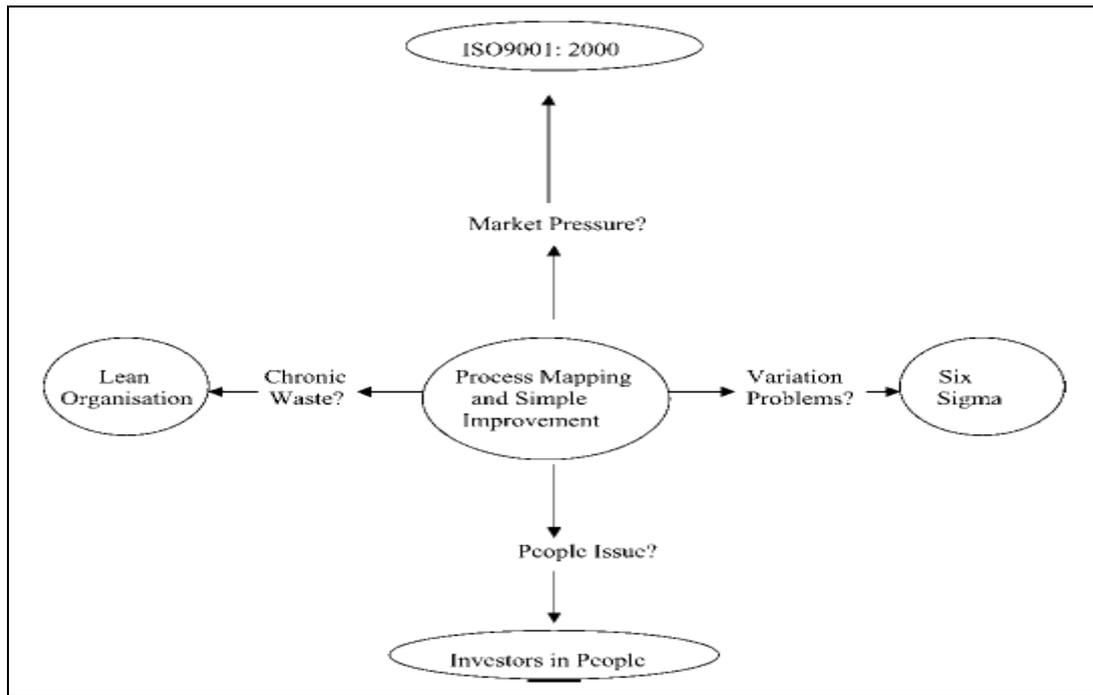


Figure 2.7: A decision tree for adopting organisational improvement initiatives (Bendell, 2005).

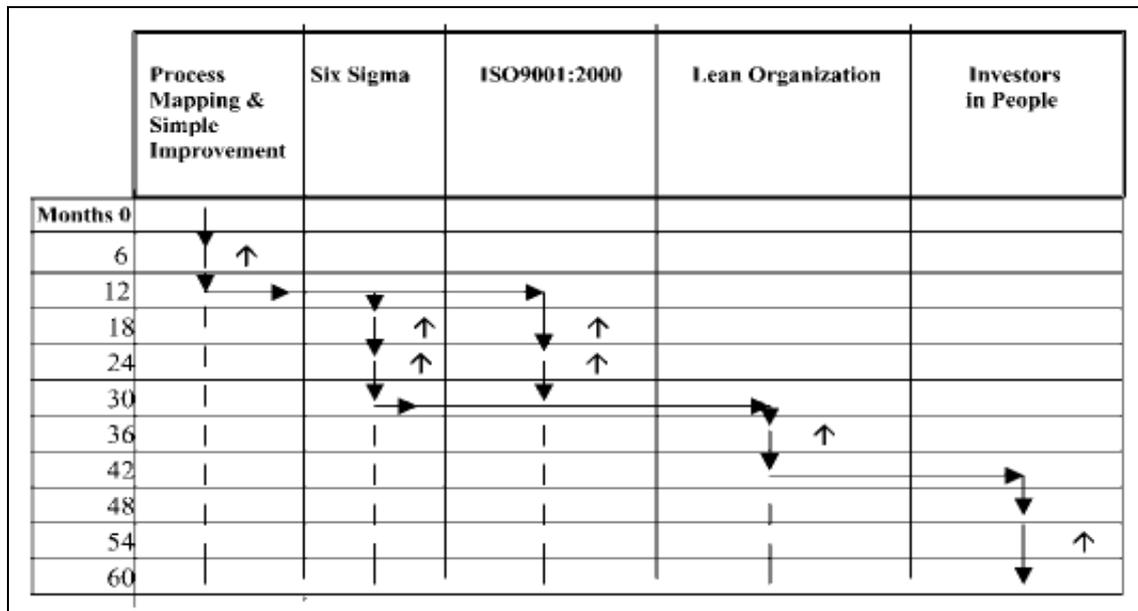


Figure 2.8: A road map for adopting organisational improvement initiatives (Bendell, 2005).

Figure 2.9 depicts a decision tree for adopting improvement initiatives which was developed by Radziwill, et al. (2008). The decision tree consists of four main components: (1) Organisational evaluation – readiness assessment for adopting improvement initiatives in the organisation, (2) Quality Systems – focussing on the existing quality systems in the market, (3) Quality methods – focussing on the available quality methods for solving organisational problems, and (4) Quality toolbox – focussing on the data analysis tools for improving organisational performance. For example, if an organisation is ready to adopt improvement initiatives and have decided to implement Quality Methods, then there are four options available: (1) Lean, (2) Six Sigma, (3) Total Productive Maintenance (TPM), and (4) Plan-Do-Check-Act (PDCA) cycle. Lean is suitable for eliminating waste. If waste free processes are established and defect reduction is desired, then Six Sigma would be the best option. If there is an equipment or maintenance problem, then implement TPM. Otherwise, PDCA cycle can be an option. Despite illustrating a decision process, this decision tree does not explain the contingency factors that should be considered when selecting the right initiative according to the context.

As summarised in Table 2.5, all the prior models were mainly developed based on a literature review and consulting / training experience, except for the models developed by Thawesaengkulthai (2007) and Rimington (2007). Thawesaengkulthai (2007) developed the improvement initiative selection model based on a literature review, three case studies conducted in Thailand, several experts interviews conducted in Thailand and an assessment survey to evaluate the model. Meanwhile, the model developed by Rimington (2007) was based on a literature review and case studies conducted in Singapore.

All the prior models tend to use prescriptive approach, except for the model developed by Thawesaengkulthai (2007). Thawesaengkulthai (2007) uses a descriptive approach so that the organisations can consider various contextual factors when choosing an appropriate improvement initiative.

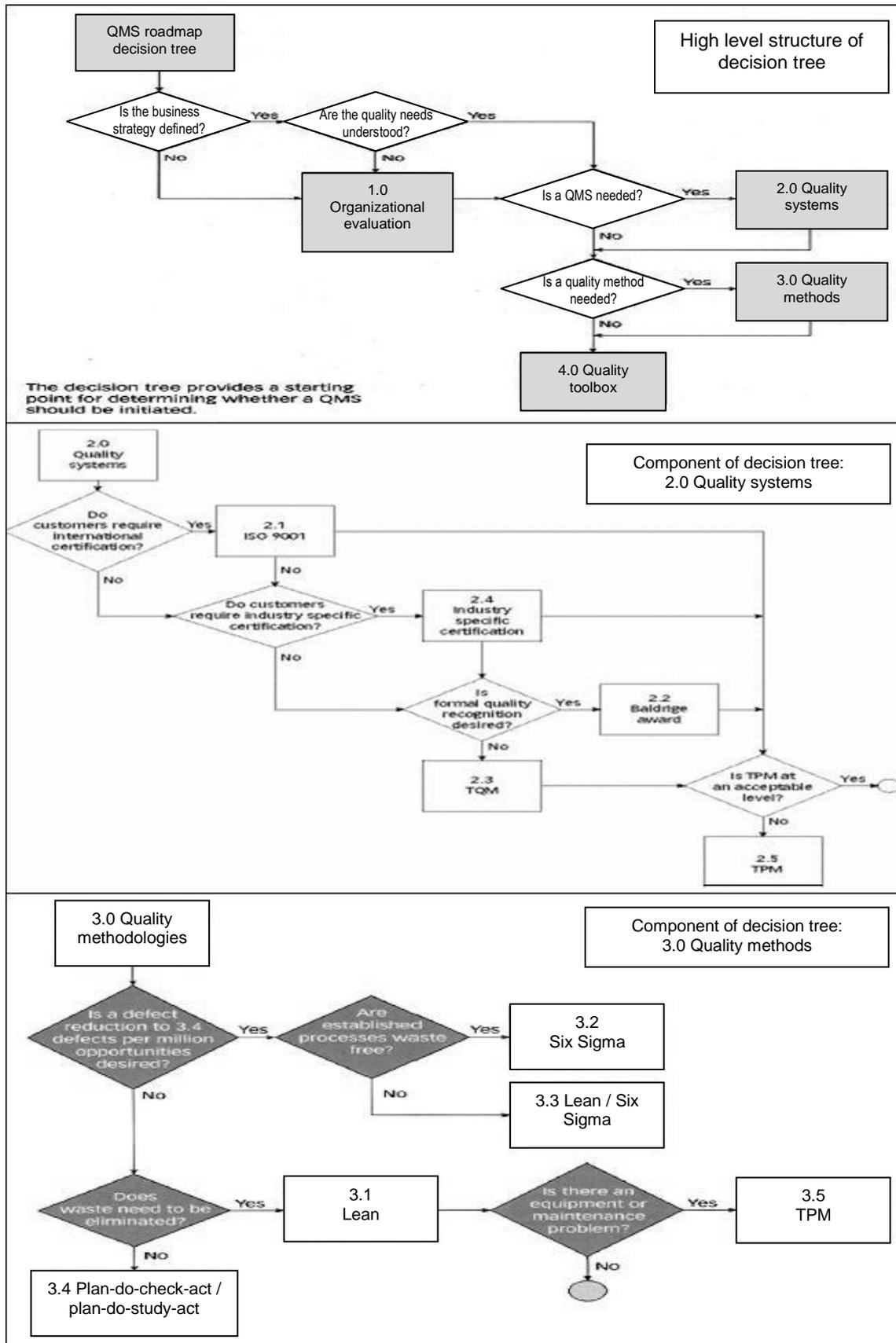


Figure 2.9: A decision tree for adopting organisational improvement initiatives (Radziwill et al., 2008).

2.5 Conclusion of the chapter

Based on the literature review, a clear gap has been identified in current knowledge of selecting improvement initiatives. There is a lack of recognition and utilisation of systems theory, contingency theory, BEM and rational decision making techniques in current literature. Therefore, this study attempts to close the gap by incorporating these concepts in the guidance model development. As mentioned by Kast & Rosenzweig (1985, p. 681), "Systems concepts, contingency views, and self-renewal increase the probability of success by improving a manager's chances of doing the right thing, at the right time, in the right way". The usage of systems and contingency approach also can help people to deal with complex and dynamic environment (Kast & Rosenzweig, 1985; Koontz & O'Donnell, 1976).

Many prior models also were developed based on consulting / training experience without using a rigorous development process. The proposed guidance model is expected to be developed using iterative processes based on research evidence such as findings from several expert interviews, a survey and / or a document review. Further explanation on research design and data collection methods can be obtained in the following chapter (Chapter 3).

Chapter 3: Research design and methodology

3.1 Introduction to the chapter

This chapter describes the research design and methodology used to achieve the research aim and objectives. First of all, the selection of research design is explained in Section 3.2. It is followed with research procedures (Section 3.3), data collection methods (Section 3.4), ensuring quality of research (Section 3.5) and ethical considerations (Section 3.6). Finally, a conclusion of this chapter is presented in Section 3.7.

3.2 Selection of research design

First of all, characteristics of the research need to be understood prior to the selection of an appropriate research design. As mentioned in Chapter 1, this research aims to develop a guidance model for selecting appropriate organisational improvement initiatives. Referring to the research aim and the fifth research objective (see Section 1.3), it is apparent that this research is mainly about theory / model development with some application of theory testing to evaluate the proposed model. In order to develop the model and fulfil the research objectives, this study could utilise qualitative, quantitative or a combination of both data.

It is important to position the researcher in a specific research paradigm to guide the selection of research design. A research paradigm can be defined as “a basic set of beliefs that guides action” (Guba, 1990, p. 17). Neuman (2006, p. 81) defines a paradigm as a “general organizing framework for theory and research that includes basic assumptions, key issues, models of quality research, and methods for seeking answers”. Examples of the main research paradigms used in quality and operations management research include positivism, interpretivism and pragmatism. Within the context of this research, it seems that pragmatism would be the most suitable paradigm to be adopted. Some key proponents that articulated the pragmatism idea are John Dewey, William James, Charles Sanders Peirce, Cherryholmes and Murphy (Creswell & Clark, 2011). Tashakkori and Teddlie (2003a) define pragmatism as:

[A] deconstructive paradigm that debunks concepts such as 'truth' and 'reality' and focuses instead on 'what works' as the truth regarding the research questions under investigation. Pragmatism rejects the either/or choices associated with the paradigm wars, advocates for the use of mixed methods in research, and acknowledges that the values of the researcher play a large role in interpretation of results. (p. 713)

The reasons for using pragmatism are as follows:

- Pragmatism is compatible with this study that is practical and applied oriented using both qualitative and quantitative research methods (Tashakkori & Teddlie, 1998, 2003b). Positivism mainly uses quantitative research methods. Meanwhile, interpretivism and constructivism mainly use qualitative research methods (Sale, Lohfeld, & Brazil, 2002; Saunders, Lewis, & Thornhill, 2009).
- Pragmatism supports both inductive and deductive research approach, which is consistent with the nature of this study (Tashakkori & Teddlie, 1998). Positivism is normally associated with deductive research approach while interpretivism and constructivism are associated with inductive research approach (Tashakkori & Teddlie, 1998).
- Pragmatism stresses the importance of answering research questions and achieving the best desired research outcome without restriction to a particular research method and paradigm (Tashakkori & Teddlie, 1998; Teddlie & Tashakkori, 2003). Teddlie and Tashakkori (2003, p. 21) highlighted that pragmatist researchers make “decisions regarding the use of mixed methods or qualitative methods or quantitative methods depend on the research question as it is currently posed and the stage of the research cycle that is ongoing”.
- Previous PhD research such as Thawesaengkulthai (2007) also adopted the pragmatism paradigm to develop and test her proposed model related to the selection of improvement initiatives.

This study used mixed methods to fulfil the research aim and objectives. The mixed methods research is normally associated with the pragmatism paradigm (Creswell & Clark, 2011; Teddlie & Tashakkori, 2009). According to Creswell and Clark (2007):

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone. (p.5)

The reasons why this study used mixed methods research are as follows:

- Mixed methods increase the chances of answering research questions properly by utilising the most appropriate method for each research question (Newman, Ridenour, Newman, & DeMarco-Jr., 2003; Teddlie & Tashakkori, 2003). Table 3.1 summarised the research questions for this study together with research objectives, data collection methods and types of collected data.
- Mixed methods give flexibility to the researcher to use various types of data collection techniques and analysis in one single study (Creswell, 2009; Creswell & Clark, 2011).
- Mixed methods allow the use of additional methods to complement the dominant research method used in a single study (Creswell & Clark, 2011). For this research, quantitative data was used to enhance the qualitative data.
- Mixed methods is accepted and widely used in the area of quality and operations management research. Previous PhD studies that used mixed methods include Grigg (2004), Innes (2005), Mann (1992), and Thawesaengskulthai (2007).
- Combining qualitative and quantitative research methods is useful in the area of quality and operations management because of the interdisciplinary nature of study and complexity of phenomena which requires input from various perspectives (El-Kafafi, 2006a, 2006b). In relation to this, Creswell & Clark (2011, p. 21) highlighted that “The complexity of our research problems calls for answers beyond simple numbers in a quantitative sense or words in

a qualitative sense. A combination of both forms of data provides the most complete analysis of problems”.

- To increase research validity through triangulation of various research data (El-Kafafi, 2006a, 2006b; Newman et al., 2003).

With regards to the quantitative and qualitative research, Saunders, et al. (2009) states that:

Quantitative [research] is predominantly used as a synonym for any data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, qualitative [research] is used predominantly as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorising data) that generates or uses non-numerical data. (p.151)

Since this research aims to develop a model, the qualitative research was used more dominantly than quantitative research. Quantitative data was used to support qualitative data. This is also consistent with the research questions shown in Table 3.1.

Table 3.1: Summary of research questions together with research objectives, data collection methods and types of collected data

Research Objectives	Research Questions	Data collection methods	Types of data
1) To identify the main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity	What are the main organisational improvement initiatives widely used by organisations?	<ul style="list-style-type: none"> Literature review Exploratory Survey Document review 	Qualitative
	What is the degree of suitability in terms of where the organisational improvement initiatives should be used according to the areas of implementation*?	Exploratory survey	<i>Quantitative</i>
	What are the main organisational improvement initiatives that should be used according to the areas of implementation* and organisational maturity?	<ul style="list-style-type: none"> Literature review Interviews Document review 	Qualitative
2) To identify the guidance models currently available to assist in the selection of organisational improvement initiatives	What are the guidance models currently available to assist in the selection of organisational improvement initiatives?	<ul style="list-style-type: none"> Literature review Interviews Document review 	Qualitative
	What are the strengths and limitations of the existing guidance model?	Interviews	Qualitative
3) To investigate the main steps involved in selecting organisational improvement initiatives	What are the main steps in selecting suitable organisational improvement initiatives?	<ul style="list-style-type: none"> Literature review Interviews Evaluation survey 	Qualitative
4) To identify the critical contingency factors that should be considered in selecting organisational improvement initiatives	What are the contingency factors that should be considered when selecting organisational improvement initiatives?	<ul style="list-style-type: none"> Literature review Interview 	Qualitative
	What is the level of importance of each contingency factor that should be considered when selecting organisational improvement initiatives?	Evaluation survey	<i>Quantitative</i>
5) To develop, evaluate and refine an original guidance model for selecting appropriate organisational improvement initiatives	What are the strengths and limitations of the proposed conceptual models?	Interviews	Qualitative
	What is the degree of agreement of each statement related to the design, steps and/or content of the proposed guidance model?	Evaluation survey	<i>Quantitative</i>
	What are the strengths and limitations of the proposed guidance model?	Evaluation survey	Qualitative
	What are the suggestions to improve the proposed conceptual and guidance models?	<ul style="list-style-type: none"> Interviews Evaluation survey 	Qualitative

Remark: * Areas of implementation are based on the common enabler criteria of major BEMs

Previous literature has suggested various types of mixed methods research design such as summarised in Table 3.2. Initially, this research used the fully integrated mixed model design as proposed by Tashakkori and Teddlie (2003b). At a later stage, it was decided that a multiphase design approach as proposed by Creswell and Clark (2011) suited this research better. The reasons for using the multiphase design are as follows:

- Multiphase design is suitable to be used for development and evaluation of a guidance model through an iteration of interconnected qualitative and quantitative data collection and analysis “that are sequentially aligned, with each new approach building on what was learned previously” to achieve the overall research aim (Creswell & Clark, 2011, p. 100). Multiphase design combines the “concurrent and/or sequential collection of qualitative and quantitative data sets over multiple phases” of model development and evaluation within a single study (Creswell & Clark, 2011, p. 73). This research design incorporates a rigorous process of developing and evaluating the model. As shown in Figure 3.1, this study comprises of two phases: (1) development, evaluation and refinement of a conceptual model, and (2) development, evaluation and refinement of a guidance model. The later phase of study was built upon the feedback and learning obtained from the previous phase (Creswell & Clark, 2011).
- Multiphase design provides flexibility to the researcher to choose and implement suitable type of data collection methods to address a list of interrelated research objectives and questions (Creswell & Clark, 2011). A list of research objectives and questions together with the types of data collection methods can be found in Table 3.1.
- Previous researchers such as Grigg (2004) and Thawesaengskulthai (2007) also used similar type of research design in order to develop and evaluate / test model (theory).
- Results from each phase of research can be disseminated and published individually in order to obtain feedback on the design and contents of the proposed model. For example, results from the first phase of study were published in the Proceedings of International Conference on Quality, Productivity and Performance Measurement (Mohammad et al., 2009a), Journal of Quality Measurement and Analysis (Mohammad et al., 2009b) and Proceedings of the 40th International Conference on Computers and Industrial Engineering (Mohammad et al., 2010a). Findings from the development of a guidance model (part of the second phase of study) were published in the

Proceedings of the 15th International Conference on ISO and TQM (Mohammad, Mann, Grigg, & Wagner, 2011b). Feedback obtained during the conferences was used as an input for improving the model and eventually contributed to the achievement of research aim (Creswell & Clark, 2011).

Table 3.2: Classification of mixed methods research designs

Author(s)	Classification of mixed methods research design
Tashakkori and Teddlie (1998)	Mixed methods designs <ul style="list-style-type: none"> • Equivalent status designs: Sequential or Simultaneous • Dominant-less dominant designs: Sequential or Simultaneous • Designs with multilevel use of approaches Mixed model designs <ul style="list-style-type: none"> • Confirmatory investigation, Quantitative data, Qualitative analysis and inference • Confirmatory investigation, Qualitative data, Qualitative analysis and inference • Confirmatory investigation, Qualitative data, Statistical analysis and inference • Exploratory investigation, Quantitative data, Qualitative analysis and inference • Exploratory investigation, Quantitative data, Statistical analysis and inference • Exploratory investigation, Qualitative data, Statistical analysis and inference
Patton (2002)	<ul style="list-style-type: none"> • Experimental design (Quantitative strategy), qualitative data, and content analysis • Naturalistic inquiry (Qualitative strategy), quantitative data, and statistical analysis
Morse (2003)	Simultaneous designs <ul style="list-style-type: none"> • Qualitatively driven, qualitative and quantitative simultaneous design • Quantitatively driven, quantitative and qualitative simultaneous design Sequential designs <ul style="list-style-type: none"> • Qualitatively-driven project followed by a quantitative project • Quantitatively-driven project followed by a qualitative project
Tashakkori and Teddlie (2003b)	Multistrand designs <ul style="list-style-type: none"> • Concurrent mixed designs: Concurrent mixed method design or Concurrent mixed model design • Sequential mixed designs: Sequential mixed method design or Sequential mixed model design • Multistrand conversion mixed designs: Multistrand conversion mixed method design or Multistrand conversion mixed model design • Fully integrated mixed model design
Creswell and Clark (2011)	<ul style="list-style-type: none"> • Convergent design: Concurrent quantitative and qualitative data collection, separate quantitative and qualitative analyses, and the merging of two data sets. • Explanatory design: Methods implemented sequentially, starting with quantitative data collection and analysis in Phase 1 and followed by qualitative data collection and analysis in Phase 2, which builds on Phase 1. • Exploratory design: Methods implemented sequentially, starting with qualitative data collection and analysis in Phase 1 and followed by quantitative data collection and analysis in Phase 2, which builds on Phase 1. • Embedded design: Either the concurrent or sequential collection of supporting data with separate data analysis and the use of the supporting data before, during, or after the major data collection procedures. • Transformative design: Framing the concurrent or sequential collection and analysis of quantitative and qualitative data sets within a transformative, theoretical framework that guides the methods decisions. • Multiphase design: Combining the concurrent and/or sequential collection of quantitative and qualitative data sets over multiple phases of a program of study.

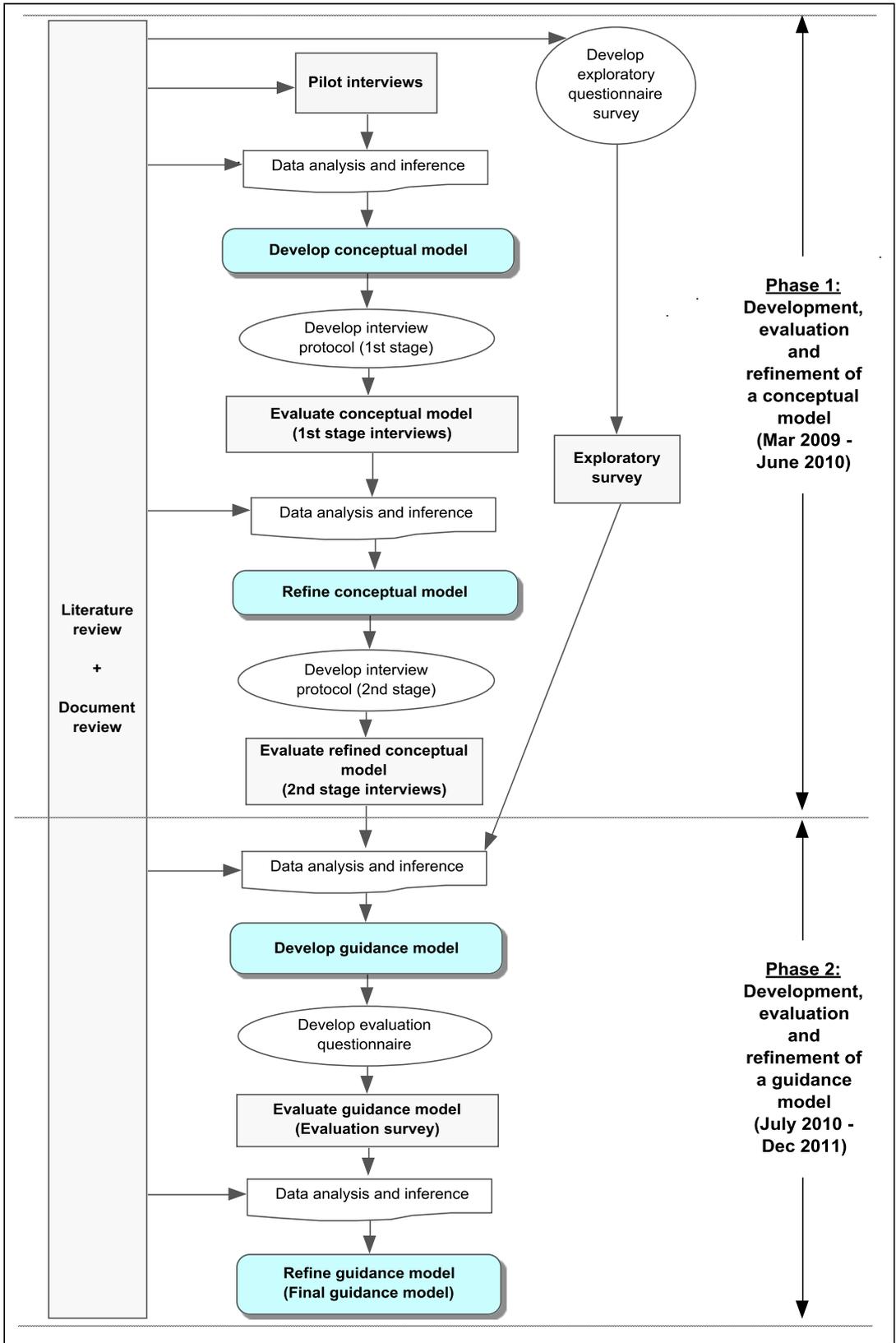


Figure 3.1: Multiphase research design in developing, evaluating and refining conceptual and guidance model for selecting organisational improvement initiatives

3.3 Research procedures

The overall research procedures are shown in Figure 3.1 and involved two main phases as follows: (1) development, evaluation and refinement of a conceptual model, and (2) development, evaluation and refinement of a guidance model. The first phase of research (development, evaluation and refinement of a conceptual model) was conducted from March 2009 until June 2010. It consists of conducting an extensive literature and document review; conducting pilot interviews; developing a conceptual model; developing an interview protocol for first stage interviews; developing an exploratory questionnaire survey; conducting first stage of interviews; evaluating the conceptual model; conducting a global on-line exploratory survey, analysing and inferring data; refining the conceptual model; developing an interview protocol for second stage interviews (based on learning obtained from conducting first stage interviews); conducting second stage interviews; and evaluating the refined conceptual model. Further details on the activities carried out in Phase 1 are explained in the Chapter 7.

The development, evaluation and refinement of a guidance model (second phase of the research) involved the following activities: (1) continuation of reviewing related literature and documents; (2) data analysis and inference based on findings from interviews, exploratory survey, literature review and document review; (3) developing a guidance model; (4) developing an evaluation questionnaire; (5) conducting an evaluation survey; (6) data analysis based on feedback from evaluation survey, literature review and document review and (7) refining the guidance model. This second phase was conducted from July 2010 until December 2011. Detailed explanation of this research phase can be found in Chapter 8.

3.4 Data collection methods

This section briefly explains five main data collection methods used in this study, as depicted in Figure 3.2. The data collection methods are: (1) Literature review, (2) Exploratory on-line questionnaire survey, (3) Semi-structured interviews, (4) Document / record review, and (5) Evaluation survey. Semi-structured interviews and evaluation survey were used as primary sources of data for this study, whereby other methods were used as supplementary data to enhance the research.

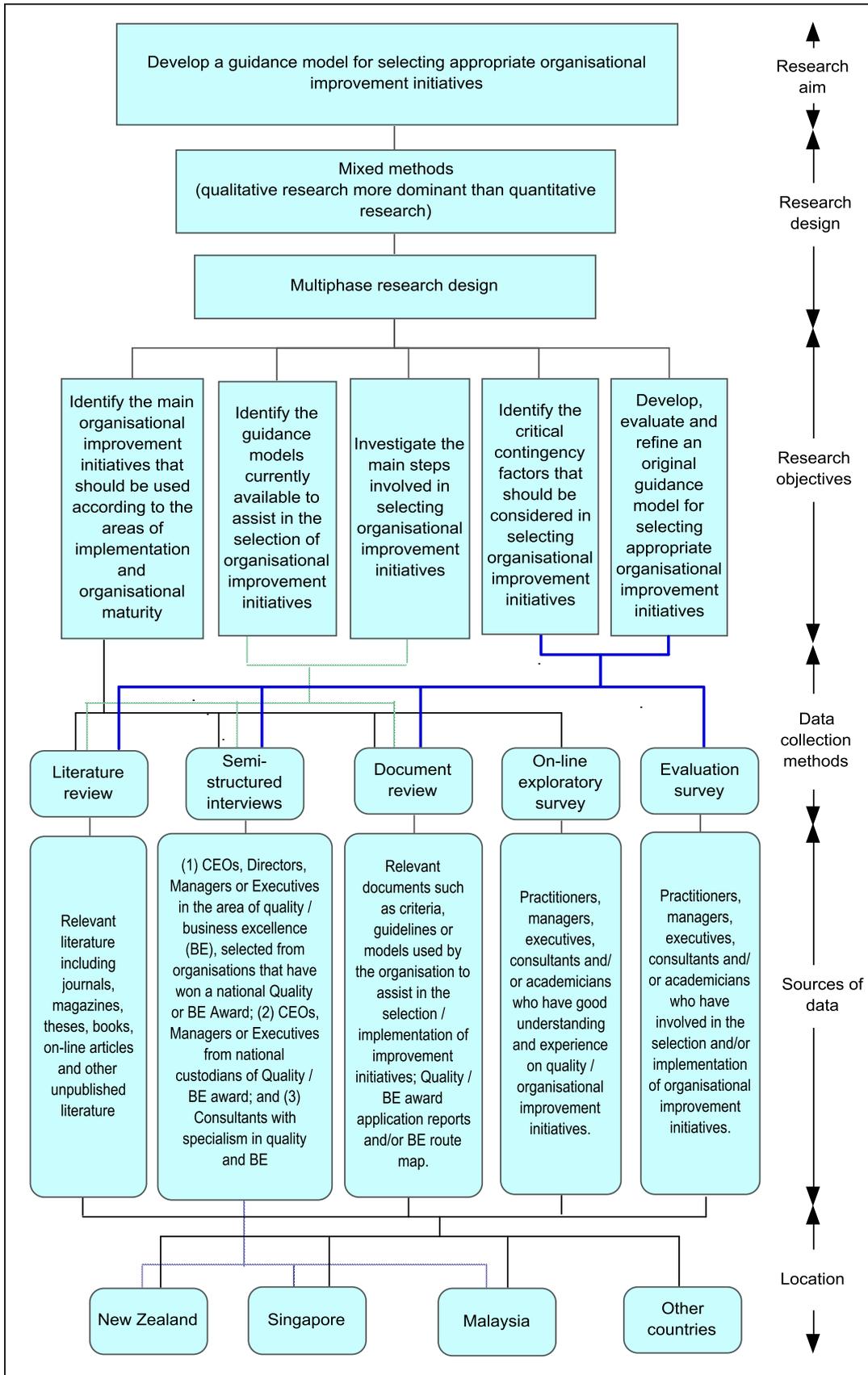


Figure 3.2: Linkages between research aim, research design, research objectives, data collection methods and sources of data

3.4.1 Literature review

Reviewing the literature is an on-going activity from the start of the research until the end of the research. At the early stage, literature review was crucial for identifying research problems and research gap, understanding previous related researches, determining relevant research direction, investigating suitable underlying theories and concepts to be adopted as well as identifying relevant research design and methodology. As for the development of a new guidance model, existing improvement initiatives selection models and guidelines were identified from relevant literature including journals, magazines, theses, books, on-line articles and other unpublished literature. Seven most related improvement initiatives selection models and guidelines identified from literature were explained in Section 2.4. Although six existing guidelines were identified at the early and middle stage of research, the seventh guidance model by Radziwill, et al. (2008) was found at the later stage of research. Normally, the researchers could not capture all the relevant literature at the early stage of research. While the research is progressing, there are always opportunities to find more literature related to the research topic especially after reading myriads of literature and communicating with experts in the research field. Furthermore, there is always new literature published every day concurrent with the industry development and findings from new studies. Therefore it is important to continuously review the literature (as shown in Figure 3.1) so that all relevant new concepts and findings can be recorded as well as all the related guidance models can be identified. This study utilised Endnote X3 software to manage, organise, store and retrieve all the relevant literature and references.

3.4.2 Exploratory on-line questionnaire survey

The main objectives of conducting an exploratory survey were as follows:

- To assess the importance of conducting research on the selection of organisational improvement initiatives, and
- To identify the main organisational 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.

Self-administered questionnaire was selected as the survey instrument because of the following reasons:

- It is suitable to fulfil the objectives of exploratory survey.
- It allows wider geographic coverage and larger samples due to larger number of companies that can be reached simultaneously at different locations (Bourque & Fielder, 2003; Walliman, 2006).
- It is relatively easy to implement, has lower costs and a fast way of collecting data (Bourque & Fielder, 2003; Walliman, 2006).
- Respondents can complete the questionnaire at their own convenience time (Bourque & Fielder, 2003; Walliman, 2006).

Further details on the planning, implementation and findings from the exploratory survey are provided in Chapter 4.

3.4.3 Semi-structured interviews

The interviews were based on a qualitative research approach designed to extract rich data from a small sample to aid the development of concepts and deepen the researchers' understanding of the research topic (Saunders et al., 2009). Main objectives of the semi-structured interviews were to:

- Identify the main organisational improvement initiatives that should be used according to the areas of implementation and organisational excellence maturity. The areas of implementation are based on the common enabler criteria of major BEMs;
- Investigate the processes or steps involved in selecting organisational improvement initiatives;
- Investigate the critical factors that should be considered in selecting improvement initiatives;
- Identify the guidance models currently available to assist in the selection of improvement initiatives;
- Evaluate several existing guidance models for selecting improvement initiatives; and
- Evaluate the proposed conceptual model for selecting improvement initiatives.

Information about the planning, implementation and findings from these interviews can be found in Chapter 5.

3.4.4 Document / record review

Documents review was used as a supplementary source of data for this study. The documents that have been reviewed included any criteria, guidelines or models used by the organisation to assist in the selection and/or implementation of improvement initiatives. Other relevant documents included Quality / BE award application reports and/or BE route map. Applicants of the Quality / BE award undergo a rigorous assessment process involving an assessment of their application report, interviewing managers and staff as well as observation of key work processes (Jayamaha et al., 2009). The quality / BE award application report is a kind of case study report produced by the organisation explaining how they address the BE award criteria. Some main findings from document review are explained in Chapter 5.

3.4.5 Evaluation survey

The main objectives of the evaluation survey were as follows:

- Evaluate the proposed guidance model in terms of design and contents; and
- Identify the levels of importance of each proposed factor that should be considered when selecting organisational improvement initiatives.

A self-administered questionnaire was selected as the survey instrument. The planning, implementation and findings from the evaluation survey are explained in Chapter 6.

3.5 Ensuring quality of research

This study used the term 'quality' of research similar to Bryman, Becker, and Sempik (2008) and O'Cathain (2010). In the current context, this term is identical to 'trustworthiness' (Lincoln & Guba, 1985) or 'validity' (Dellinger & Leech, 2007; Maxwell, 2002). To ensure the quality of this study, quality domains proposed by O'Cathain (2010) were customised to suit the research design (see Figure 3.3). The quality domains can be categorised as: (1) Planning quality, (2) Design quality, (3) Data quality, (4) Interpretive rigour and (5) Inference transferability. In relation to this, Creswell and Clark (2011, p. 270) have recommended the researchers to use these quality domains as a set of criteria to assess the quality of mixed methods

research whereby the criteria should be customised “within a specific study application and its design”.

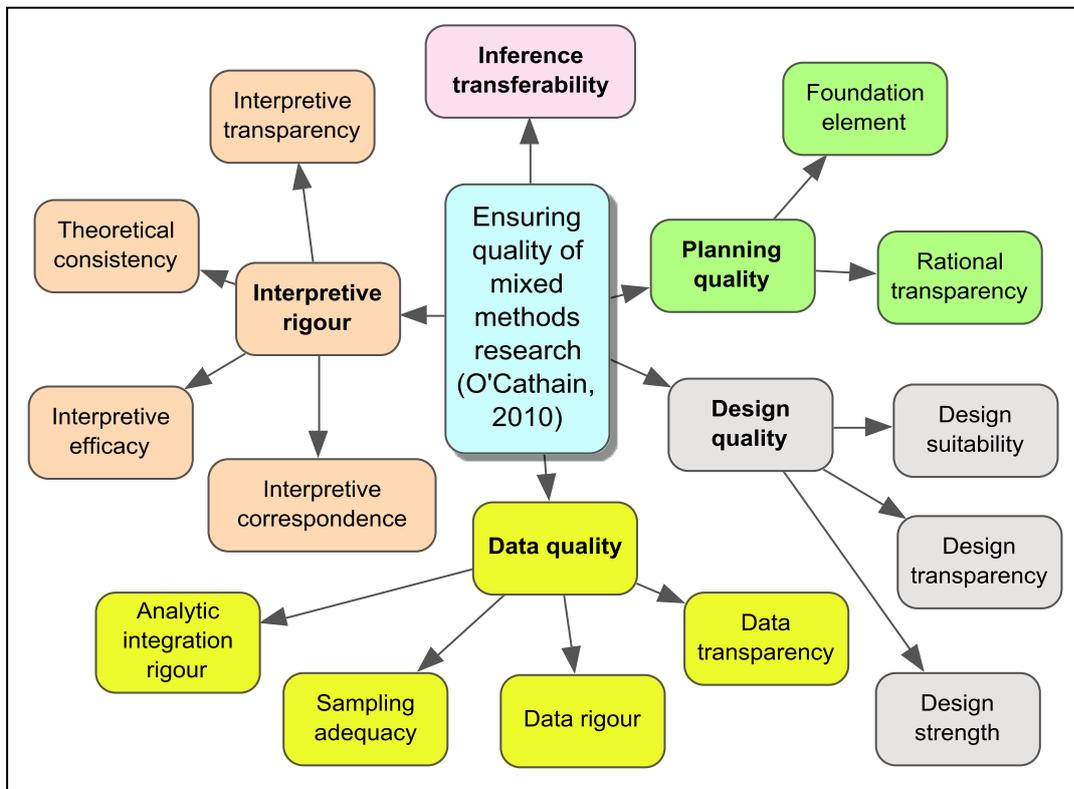


Figure 3.3: Quality domains proposed by O’Cathain (2010) which has been used to ensure the quality of this research

3.5.1 Planning quality

To ensure a proper plan of this study, the following strategies were carried out:

- Conduct a critical and comprehensive literature review covering theoretical and empirical aspects of the research topic in order to determine appropriate research aim, research objectives and research methodology. This strategy addressed the ‘foundation element’ that should be incorporated in the mixed method research as proposed by Dellinger and Leech (2007).
- Provide justification for using mixed methods approach which can be referred to in Section 3.2. This strategy provided a ‘rational transparency’ for mixed method research as recommended by Caracelli and Riggini (1994).

3.5.2 Design quality

Creswell and Clark (2011), O'Cathain (2010), and Tashakkori and Teddlie (2009) highlighted the importance of design quality for mixed methods research. 'Design suitability' is one of the crucial aspects of design quality in mixed methods research (Caracelli & Riggin, 1994; O'Cathain, 2010; Tashakkori & Teddlie, 2009). To address this issue, an appropriate research design was selected based on typologies given by Creswell and Clark (2011). Multiphase design was selected due to its ability to address the research aim, objectives and questions as well as its suitability for the research paradigm and methodology (O'Cathain, 2010).

'Design transparency' is another aspect of design quality in mixed methods research (Creswell & Clark, 2007; O'Cathain, 2010). To address this issue, a detailed description of multiphase research design is provided in Section 3.2.

Caracelli and Riggin (1994), and O'Cathain (2010) suggest 'design strength' as another aspect of design quality. In relation to this, multiphase research design was used for this study which involved concurrent and sequential approaches in combining qualitative and quantitative data collection methods. The use of both qualitative and quantitative data collection methods allowed for depth and breadth of the study. Moreover, the strength of one data collection method could complement the weaknesses of the other method (O'Cathain, 2010). As shown in Figure 3.1 and 3.4, the use of multiphase research design also enabled the results of the earlier research phase to be used to develop or inform the following research phase (Creswell & Clark, 2011). By using appropriate data collection methods and iterative processes (see Figure 3.4) of development and evaluation of the model, an acceptable guidance model can be created to fulfil the research aim.

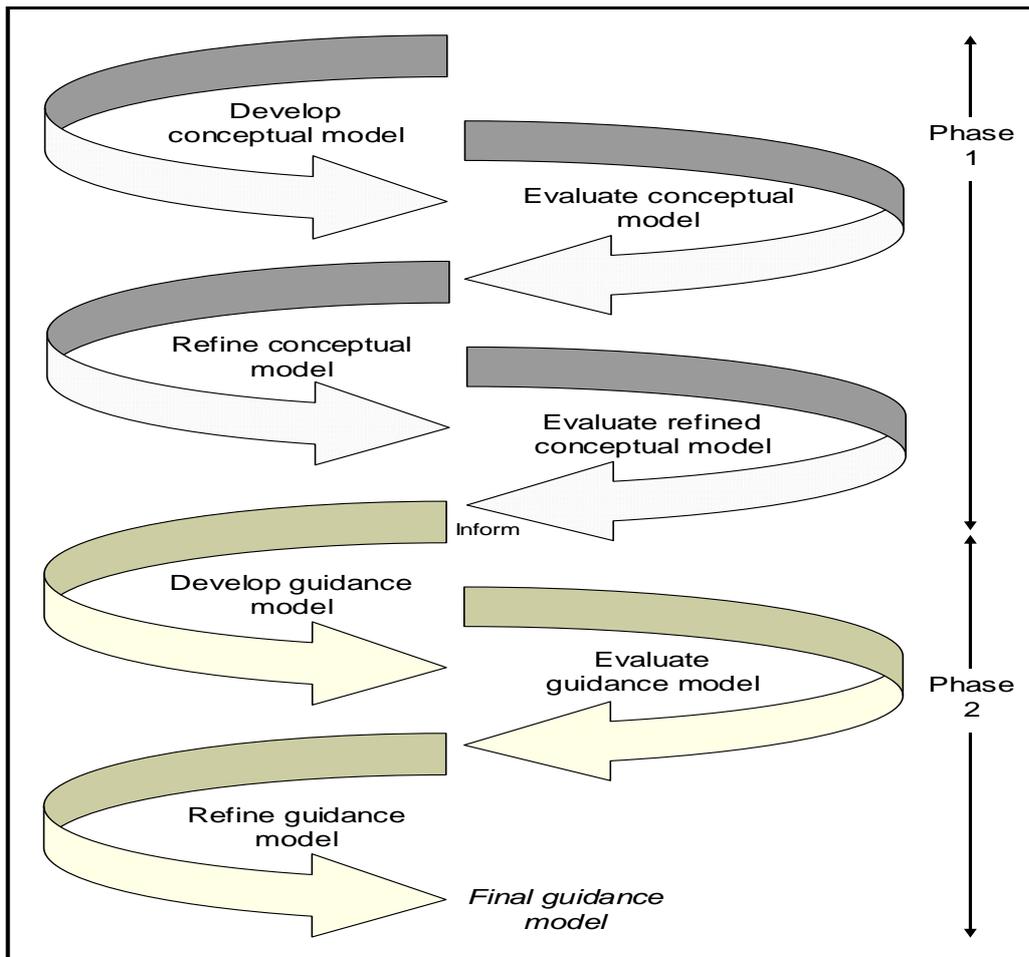


Figure 3.4: Iterative processes of developing, evaluating and refining the model for selecting improvement initiatives

3.5.3 Data quality

There are several criteria that could be considered in relation to the quality of data collection and analysis. The first criteria is 'data transparency'. To ensure data transparency, every data collection method used in this study was briefly described in Section 3.4. The planning, implementation, and findings from exploratory survey, interviews and evaluation survey are elaborated in Chapter 4, 5 and 6 (O'Cathain, 2010).

The second criteria is 'data rigour'. According to O'Cathain (2010, p. 546), 'data rigour' is related to "the extent to which [data collection] methods are implemented with rigor". Strategies used to address 'data rigour' were as follows:

- Rigorous procedures were used to develop data collection instruments which can be referred to in Chapter 4, 5 and 6 (Creswell & Clark, 2011).
- All the data collection instruments were sent to research supervisors and/or other reviewers for checking and verification prior to data collection.
- An interview protocol was prepared to ensure consistency when conducting multiple interviews.
- All the interviews were conducted by the sole researcher so that the consistency could be attained (Saunders, 2005).
- The interviews were transcribed and each transcript was then sent to the interviewees for review and possible amendment.
- Where possible, data obtained from the interviews were cross-checked with documents provided by the interviewees.
- A research record was created, managed and updated frequently. This record consists of all important information about the research which was managed using NVivo, MindManager, Microsoft Excel, Microsoft Word, Inspiration and Endnote software. Examples of information recorded include but are not limited to research data, communications with respondents, feedback obtained from respondents, data collection schedule, data collection instruments, decisions made, changes of research design, exploration and identification of research themes, and reflection upon what was happening when conducting the study (Lincoln & Guba, 1985).

The third criteria is 'sampling adequacy'. This study used an appropriate sampling technique and acceptable sample size for each data collection methods within the context of research design (O'Cathain, 2010). This issue is explained in Chapter 4, 5 and 6. Data was collected until research themes / categories became saturated. It was consistent with the nature of this study whereby qualitative research was more dominant than quantitative research.

The next criteria is 'analytic integration rigour'. O'Cathain (2010, p. 546) describes 'analytic integration rigour' as "the quality of any integration taking place at the analysis stage of a study". To address this criterion, the following strategies were carried out:

- Samples for qualitative and quantitative data collections were selected from the same population. In this case, population includes the practitioners, managers, executives, consultants and/or academics who have been involved

in the selection and/or implementation of organisational improvement initiatives. This strategy ensured that both qualitative and quantitative data can be compared and integrated (Creswell & Clark, 2011).

- Where possible, both qualitative and quantitative data were collected to address the same research objectives (Creswell & Clark, 2011). As shown in Table 3.1, both types of data were used to address the first, fourth and fifth research objectives.
- Where possible, the same investigative questions were asked to multiple respondents from different background (Creswell & Clark, 2011).
- Results from first phase of research informed the second phase of research, as depicted in Figure 3.1 and 3.4.

3.5.4 Interpretive rigour

'Interpretive rigour' is about the consideration of how the conclusions are made based on the findings of the study (O'Cathain, 2010). There are four criteria that can be used to address 'interpretive rigour'. The first criteria is 'interpretive transparency'. To address this criteria, Chapter 4 until 9 of the thesis were dedicated to explaining how the findings and inferences were made from collected data (O'Cathain, 2010).

Inferences made in this study were consistent with existing theories, concepts and/or empirical research findings related to the selection of improvement initiatives (Tashakkori & Teddlie, 2009). This strategy addresses the second criteria - 'theoretical consistency' as proposed by Dellinger and Leech (2007), O'Cathain (2010), and Tashakkori and Teddlie (2009).

'Interpretive efficacy' is the third criteria of 'interpretive rigour'. According to O'Cathain (2010, p. 547), 'interpretive efficacy' is "where the meta-inferences from the whole study adequately incorporate inferences from the qualitative and quantitative findings and inferences". Strategies used to address 'interpretive efficacy' are as follows:

- As can be seen in Figure 3.1, findings from pilot interviews, literature review and document review were inferred to guide the development of conceptual model and protocol for first stage interviews. Then, the findings from first stage interviews, literature review and document review were inferred to guide the

development of refined conceptual model and protocol for second stage interviews. Subsequently, findings from second stage interviews, literature review, document review and exploratory survey were inferred to develop a guidance model and questionnaire for evaluation survey.

- Inferences were drawn after each research phase and meta-inferences were made at the end of study (Creswell & Clark, 2011). The link between data, analysis and inferences was reviewed by the research supervisors (Innes, 2005).

Inferences and meta-inferences made in this study (refer to Chapter 9) corresponded to the research aim, objectives and questions. This strategy addresses the fourth criteria - 'interpretive correspondence' as suggested by O'Cathain (2010).

3.5.5 Inference transferability

O'Cathain (2010, p. 549) describes 'inference transferability' as "the degree to which the conclusions [and/or findings] can be applied to other entities or setting". The concepts of inference transferability for mixed methods research was highlighted in most of the literature including O'Cathain (2010), Tashakkori and Teddlie (2009), and Teddlie and Tashakkori (2003). This concept is similar to the concepts of 'transferability' for qualitative research and 'generalisability' / 'external validity' for quantitative research (O'Cathain, 2010; Tashakkori & Teddlie, 2009). The following strategies were used to address these criteria:

- A global survey was conducted at the end of the study to confirm the emerging themes derived from the research and evaluate the proposed guidance model. This approach could be able to enhance transferability of research findings.
- The proposed guidance model provides rich descriptions of typical processes involved in selecting appropriate improvement initiatives which can be replicated and adapted by other organisations according to their context.

3.6 Ethical considerations

Several main actions to ensure adequate ethical considerations for this study are listed below:

- Approval for conducting interviews and survey was obtained from Massey University Human Ethics Committee.
- Cover letter / information sheet for questionnaire and interviews stated the confidentiality of the participants' responses. The researcher used pseudonyms to replace the names of individuals and the organisation. However, absolute confidentiality cannot be guaranteed for the participants and the organisation.
- Potential respondents were given an information sheet to read and "Informed Consent Form" to sign or acknowledge if they agree to participate.
- The interviews were recorded only if the participant agreed.
- The interview questions were sent to the participants before the interview.

3.7 Conclusion of the chapter

As depicted in Figure 3.5, this chapter covered the selection of research design (Section 3.2), research procedures (Section 3.3), data collection methods (Section 3.4), ensuring quality of research (Section 3.5) and ethical considerations (Section 3.6). Section 3.2 elaborated how the selection of research design was made, which includes: (1) understanding of research aim and objectives to guide the selection of appropriate research design, (2) research paradigms, (3) research approaches, and (4) types of research design. This study used multiphase research design which was based on mixed methods research and the pragmatism paradigm.

As described in Section 3.3, the overall research procedures consisted of two main phases as follows: (1) development, evaluation and refinement of a conceptual model (to be explained in Chapter 7), and (2) development, evaluation and refinement of a guidance model (to be explained in Chapter 8).

Data collection methods employed in this study include: (1) a literature review, (2) an exploratory survey (to be explained in Chapter 4), (3) interviews (to be explained in Chapter 5), (4) a document review (some of the findings to be explained in

Chapter 5), and (5) an evaluation survey (to be explained in Chapter 6). Brief overview of the data collection methods were provided in Section 3.4.

Section 3.5 elaborated the strategies undertaken to ensure quality of research. Several domains of quality were incorporated in this study including: (1) Planning quality, (2) Design quality, (3) Data quality, (4) Interpretive rigour and (5) Inference transferability. This section also explained how the use of mixed methods and multiphase research design has improved the validity and reliability of the study. Finally, Section 3.6 explained several main actions implemented to ensure adequate ethical considerations for this study.

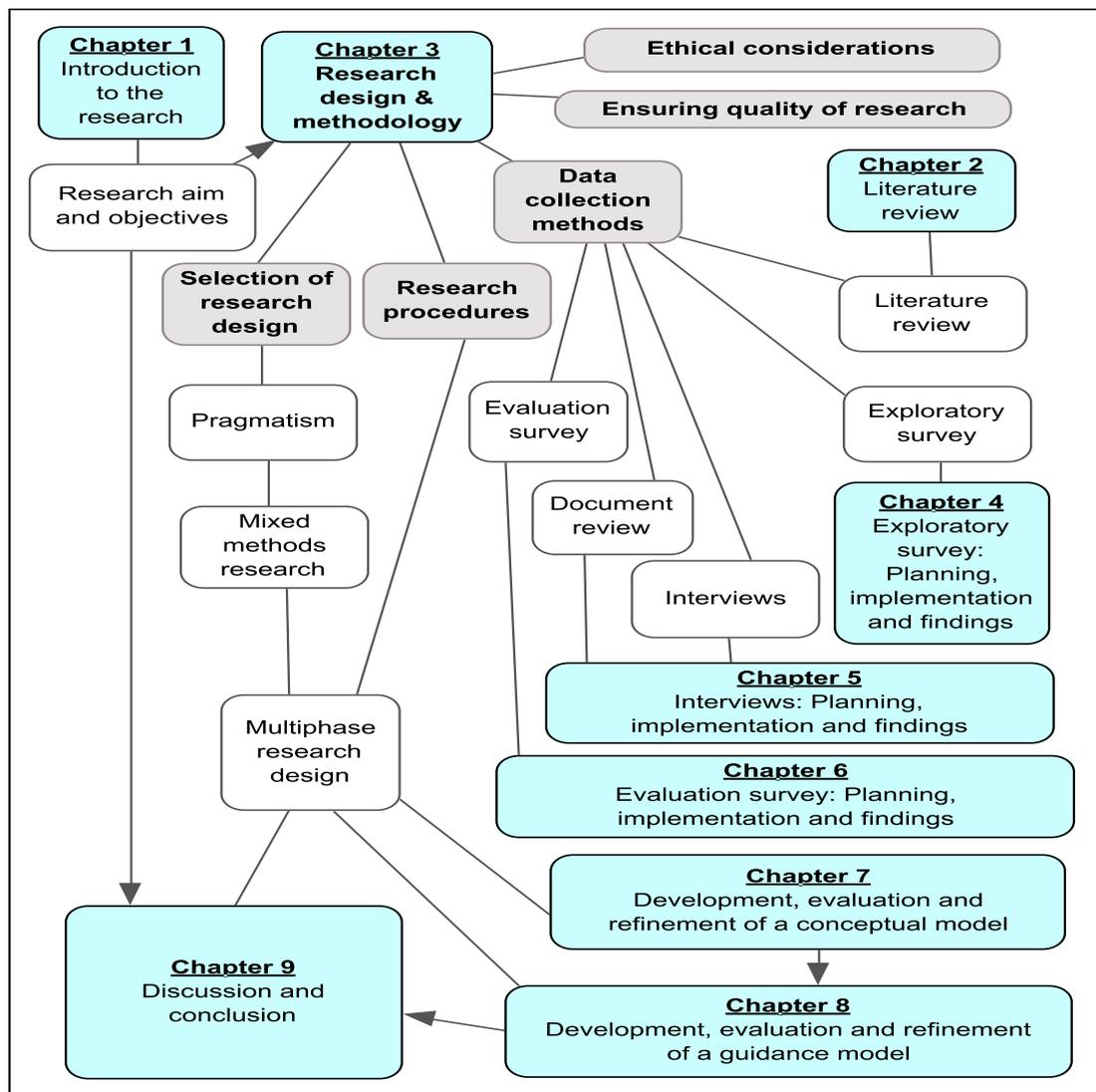


Figure 3.5: Summary of Chapter 3 and its linkages with other chapters in this thesis

Chapter 4: Exploratory Survey – Planning, Implementation and Findings

4.1 Introduction to the chapter

This chapter presents the planning, implementation and findings from the exploratory survey. It begins with an explanation on the planning and implementation of the survey. Then, it is followed by profiles of the respondents and survey findings. Finally, a conclusion for this chapter is presented.

4.2 Planning and implementation of the exploratory survey

As mentioned in Section 3.4.2, the main objectives for conducting an exploratory survey were as follows:

- To assess the importance of conducting research on the selection of organisational improvement initiatives. Although the literature reveals the significance of careful selection of improvement initiatives (see Section 1.5 in Chapter 1), this survey was designed to see if people working in the area of quality and productivity have the same agreement with the literature.
- To identify the main organisational 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.

Initially, a questionnaire was developed using Microsoft Word based on a comprehensive review on literature and several existing questionnaires such as Mann (2008a). Then, a content validation was conducted by distributing the questionnaire to seven reviewers comprising of five lecturers and two PhD candidates who have knowledge and experience on the subject matter. The reviewers had assessed the questionnaire to ensure that the content was appropriate and did not include anything that is unnecessary (Litwin, 2003). Any errors made during preparing the questionnaire were also rectified.

Subsequently, a pilot study was conducted involving two academics and seven practitioners in the area of quality management and BE. Feedback from the pilot study allowed the identification of areas or items in the questionnaire that need to be corrected or redesigned; as well as highlighted possible problems that one might encounter when using the questionnaire (Litwin, 2003).

After implementing the pilot study, a focus group was formed involving three academics, a consultant and a PhD student in the area of quality management to collectively review the design and content of the questionnaire. Based on the feedback from the content validations, pilot study and focus group, the questionnaire was revised. Subsequently, a web-based questionnaire survey was created using surveygizmo website (www.surveygizmo.com), which is one of a commercial internet survey provider. The web-based questionnaire was then piloted involving five respondents.

The final version of the web-based questionnaire can be found in Appendix 2. The questionnaire consists of an introductory page, two main sections and a request form. The introductory page described the potential respondents, purpose of the survey, expected time taken to complete the survey, voluntary consent, benefit for participating in the survey and researcher's contact information.

The first section of the questionnaire attempted to obtain general information about the respondent and respondent's organisation. At the end of first section, the respondents were asked to rate the degree of importance of conducting research on the selection of organisational improvement initiatives.

The second section of the questionnaire focused on identifying the degree of suitability in terms of where the improvement initiatives should be used according to the following areas: (1) leadership and social responsibilities, (2) strategy and policy, (3) customers, (4) processes, (5) workforce, and, (6) partnerships and resources. There are 53 main initiatives listed in this section. The respondents were not expected to answer all the listed initiatives. Instead, they were expected to answer only the initiatives which they were familiar with. At the end of Section Two, the respondents were given an opportunity to suggest other initiatives (up to 5 initiatives) that were not listed in the questionnaire and give comments concerning this section or the research in general.

A request form was provided at the end of the survey so that the respondents who were interested to receive a copy of survey findings and/or participate in a follow-up interview related to the selection of improvement initiatives could give their contact details.

As can be seen in the questionnaire (refer to Appendix 2), closed-ended and open-ended questions were used, where the respondents were requested to: (1) click at the appropriate circle given; (2) select the degree of importance and suitability based on Likert scale given; and/or (3) write the answer in the space provided. The questions were arranged sequentially in several sections according to its purposes to make it easy for the respondents to answer. In order to provide a clear instruction, a short introduction about the content and purpose for each section was provided. The respondents were also guided on how to answer the questions.

A self-selection sampling was used for this survey. The self-selection sampling is part of non-probability sampling technique, which normally occurs when the respondents decided to participate in a survey advertised through the websites or other social medias (Saunders et al., 2009). Respondents of this survey involved practitioners, managers, executives, consultants and/or academics who have a good understanding and experience on quality / organisational improvement initiatives. The reason for choosing this sample was due to the respondents' knowledge and / or experience in the implementation of business / organisational improvement initiatives. The respondents were informed about the availability of the questionnaire through:

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

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 the participants' consent to participate in this survey.

An exploratory questionnaire survey was published online using an internet survey provider (Surveygizmo). This survey was activated from June 2009 until April 2010. The responses to the survey were managed by the Surveygizmo website (an internet survey provider). After conducting the survey, the data was converted to Microsoft Excel format and a summary report was generated.

4.3 Profiles of survey respondents

Sixty (60) respondents from sixteen countries completed the on-line questionnaire. The respondents were classified by:

- Number of years the respondents have been involved in the areas related to quality, productivity and sustainability (see Figure 4.1)
- Country in which the respondents are currently working (see Figure 4.2)
- Major business activity of the respondents' organisation (see Figure 4.3)
- Sector of the respondents' organisation (see Figure 4.4)
- Approximate number of full-time employees in the respondents' organisation (see Figure 4.5)
- Whether the respondents' organisation had won any BE /quality awards (see Figure 4.6)

Most of the survey respondents have vast experiences in the areas related to quality, productivity and/or sustainability, whereby 78% of total respondents have at least five years of experiences (see Figure 4.1). As shown in Figure 4.2, this survey managed to obtain feedback from respondents working in 16 countries worldwide, which includes New Zealand, England, Singapore, India, United States of America, Australia, Malaysia, United Arab Emirates, Canada, Scotland, China, Croatia, Pakistan, Philippines, Saudi Arabia and Switzerland.

The respondents were from various business activities as shown in Figure 4.3. Half of the respondents were involved in manufacturing, education, as well as government administration and defence activities. Figure 4.4 indicates that 54% of the respondents were from private sector, 41% from public sector and the balance of 5% were from not for profit or community sector.

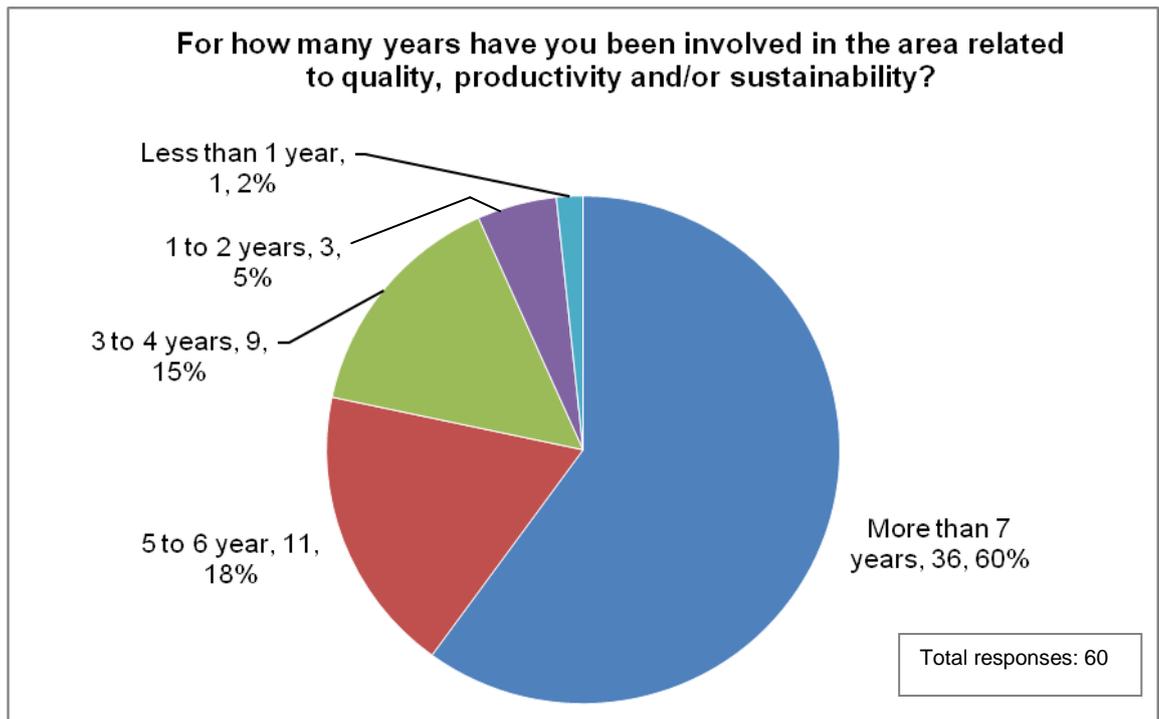


Figure 4.1: Response distribution by number of years in which the respondents have been involved in the areas related to quality, productivity and/or sustainability

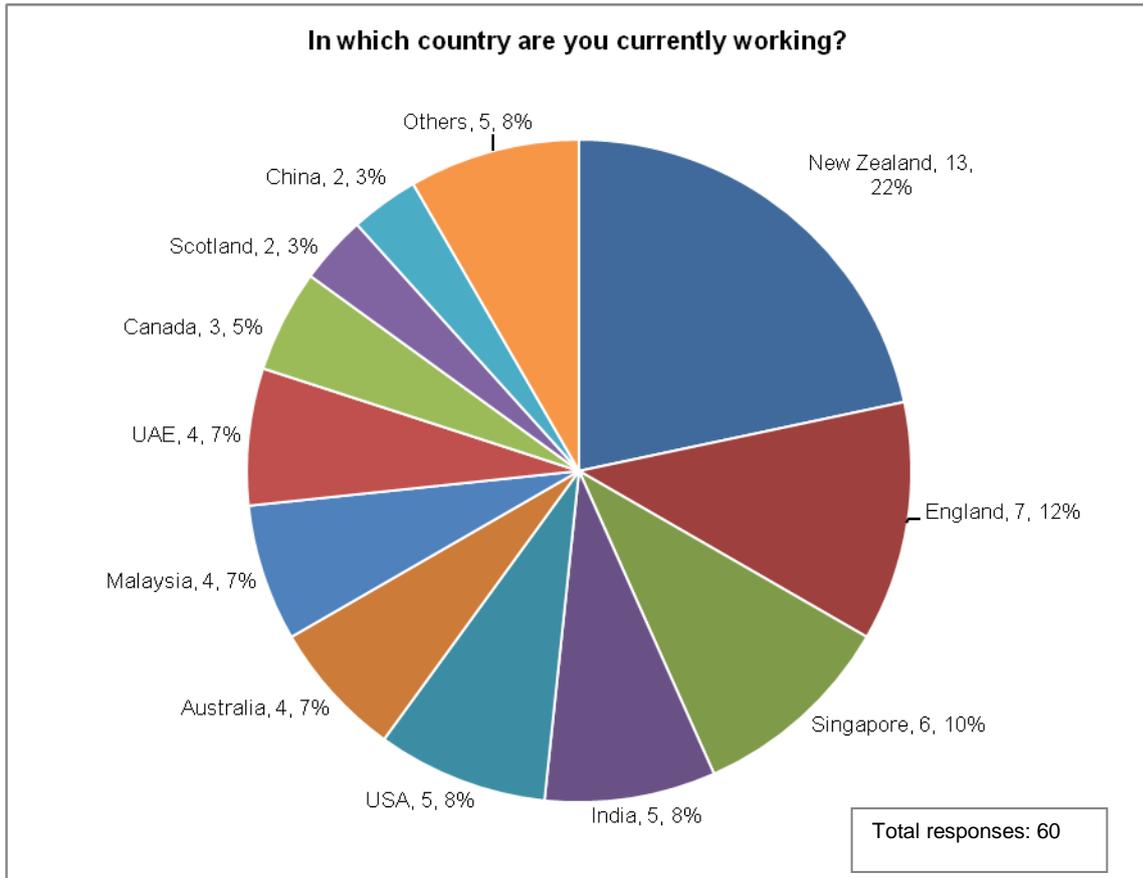


Figure 4.2: Response distribution by country in which the respondents are currently working

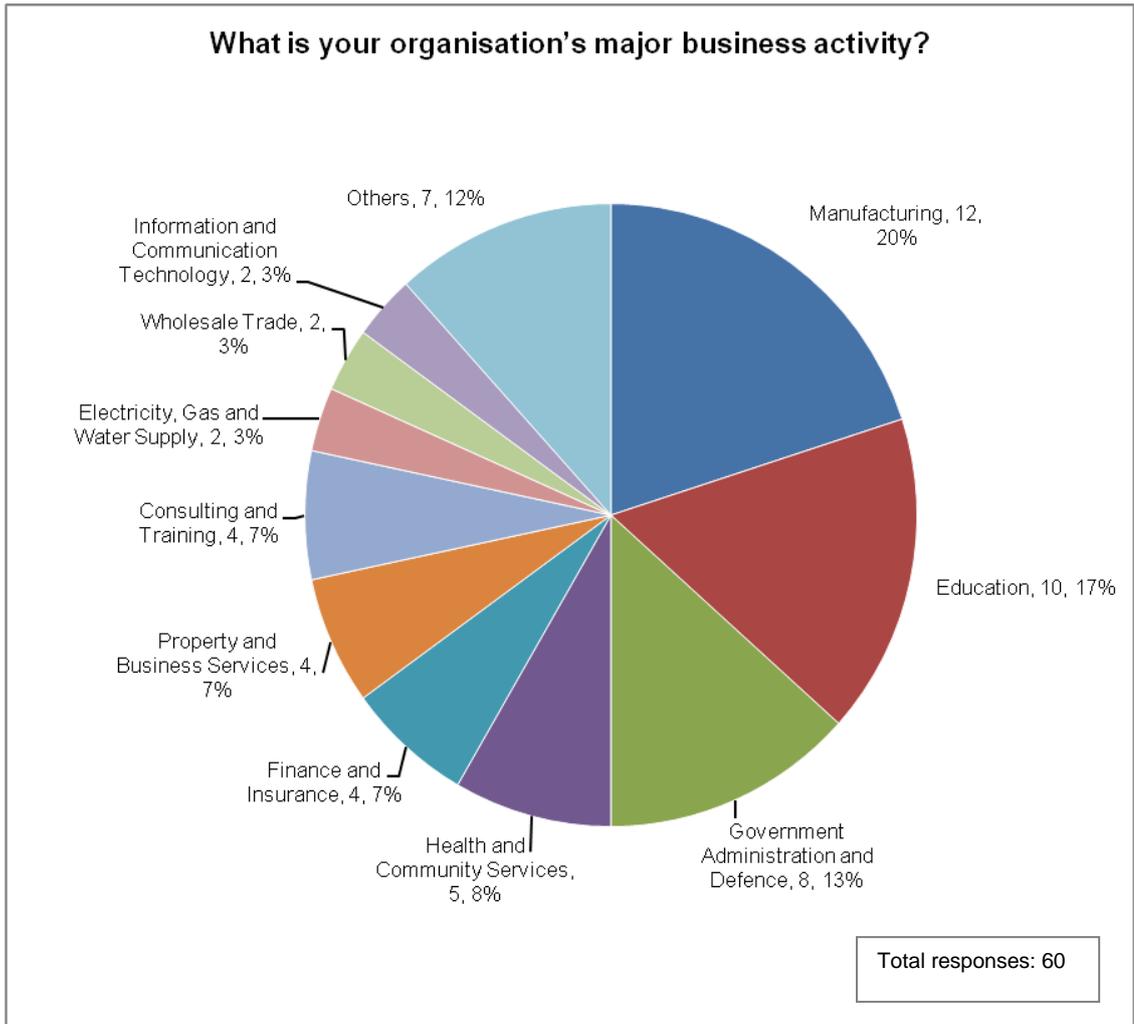


Figure 4.3: Response distribution by major business activity of the respondents' organisation

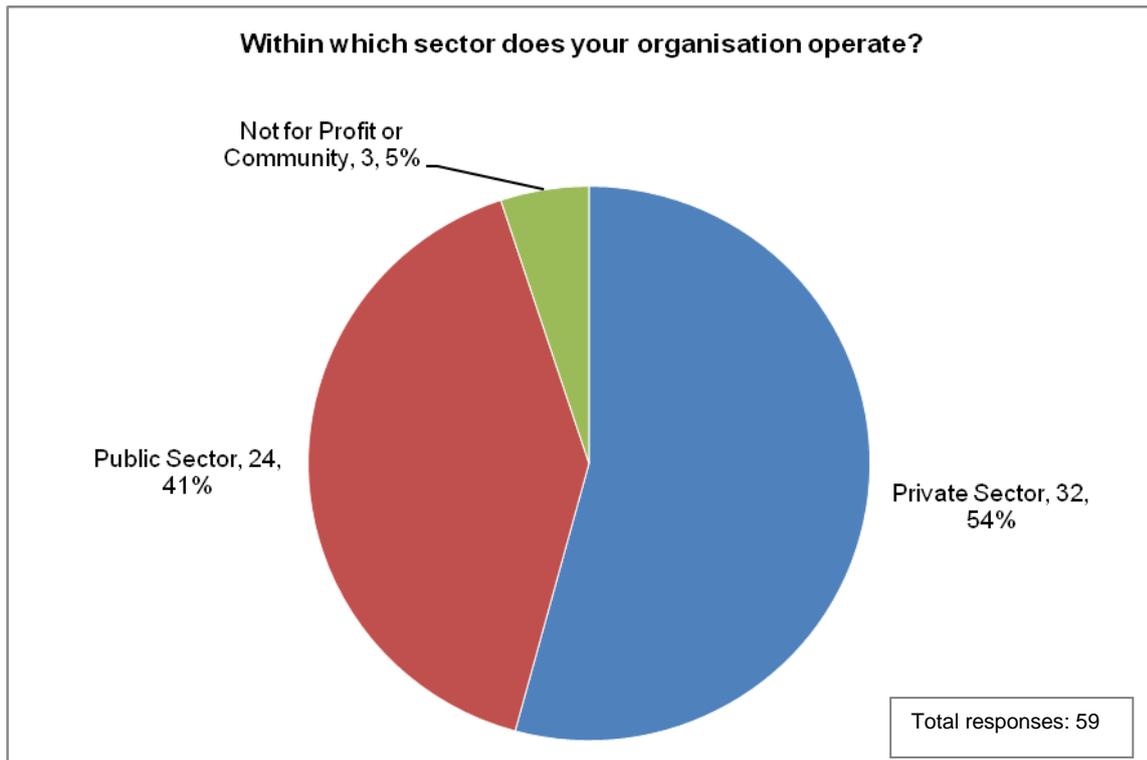


Figure 4.4: Response distribution by sector of the respondents' organisation

In terms of the approximate number of full-time employees in the respondents' organisation (see Figure 4.5), most of the respondents were from organisation that have 250 or more employees (60% or 36 respondents). Figure 4.6 shows that 25 respondents (or 43% of the total responses percentage) were from organisations that had won BE or quality award(s). This indicated that these participants were from mature organisations from the perspectives of quality and BE.

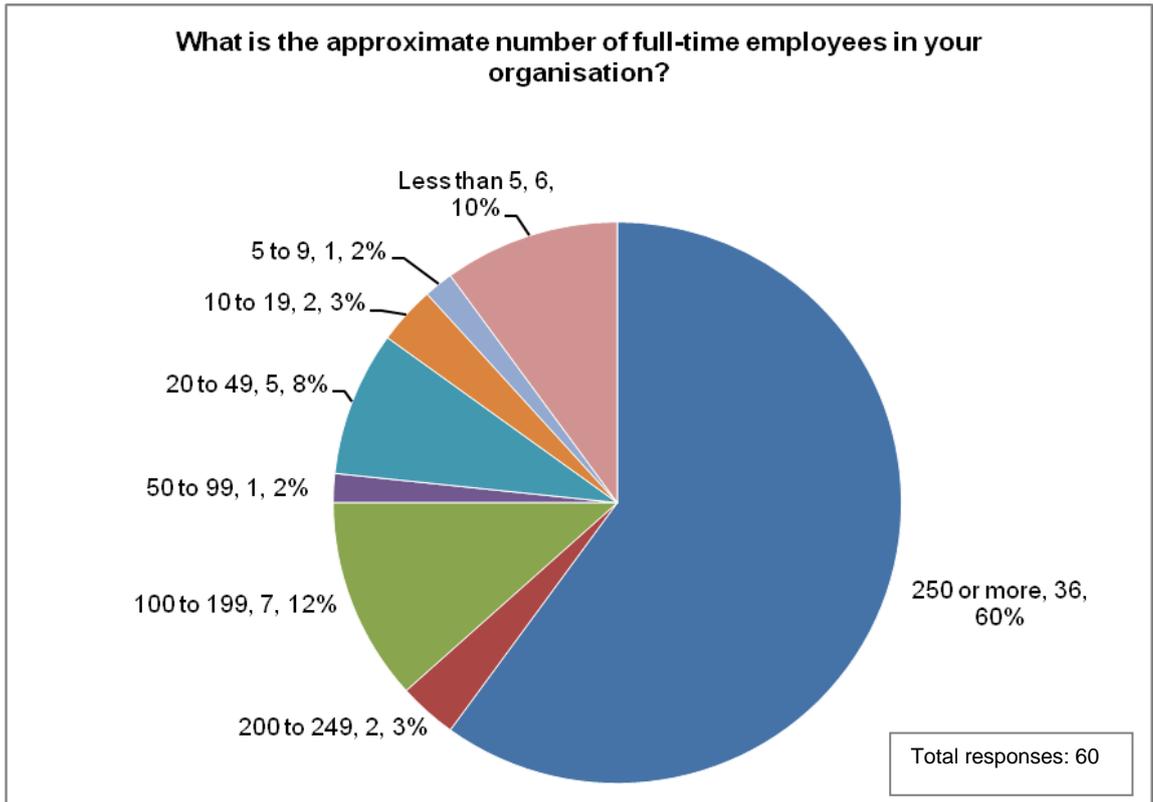


Figure 4.5: Response distribution by approximate number of full-time employees in the respondents' organisation



Figure 4.6: Response distribution by whether the respondents' organisation had won any BE /quality award(s)

4.4 Exploratory survey analysis and findings

The last question in Section 1 of the questionnaire was related to whether the respondents think that selection of suitable organisational improvement initiatives is an important area of study. Fifty-nine (59) respondents answered this question and all of them, 100%, agreed that the selection of suitable improvement initiatives is an important area of study (see Figure 4.7). Thirty respondents (51% of total responses) indicated that the study on the selection of improvement initiatives is 'extremely important', 23 respondents (39%) stated 'high importance' and the balance of six respondents (10%) indicated that the study is of 'moderate importance'.

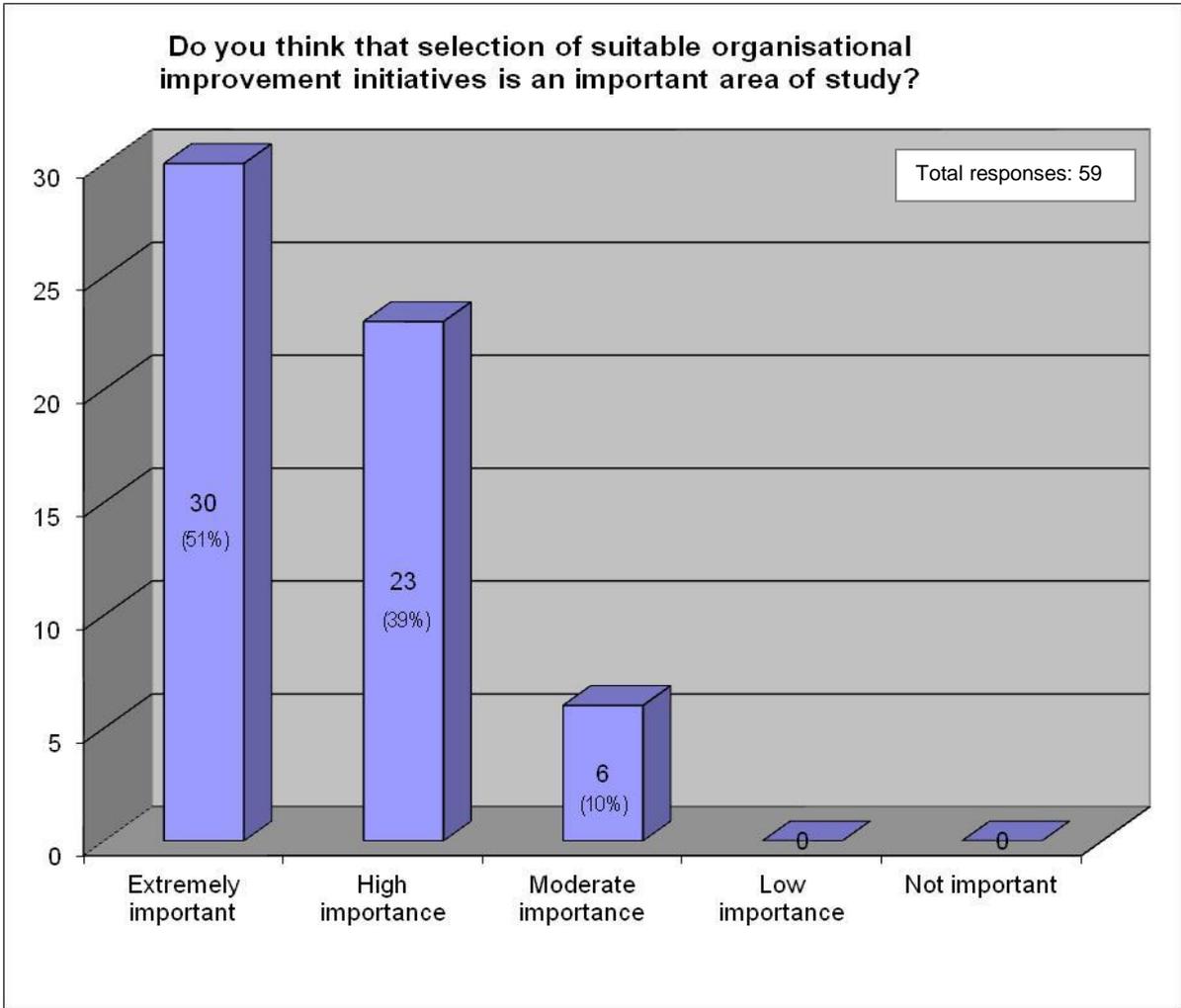


Figure 4.7: Response distribution by whether the respondents' think that selection of suitable organisational improvement initiatives is an important area of study

Section 2 of the questionnaire (see Appendix 2) asked for the respondents' opinion about the degree of suitability in terms of where the organisational improvement initiatives should be used according to the following areas:

- Leadership and social responsibilities;
- Strategy and policy;
- Customers;
- Processes;
- Workforce; and
- Partnerships and resources

There are 53 main initiatives listed in Section 2. Results of Section 2 are summarised according to the organisational improvement initiatives and areas of implementation (see Table 4.1). A six point likert scale was used to represent the degree of suitability of an initiative for each area:

- Very high suitability = 5
- High suitability = 4
- Moderate = 3
- Low suitability = 2
- Very low suitability = 1
- Not suitable = 0

Median was used for analysing the likert scale data to indicate the degree of suitability of the organisational improvement initiative for different implementation areas. Median was used because it is suitable for ordinal data and non-parametric analysis (Allen & Seaman, 2007; Jamieson, 2004).

Table 4.1: Degree of suitability in terms of where the improvement initiative should be used according to the implementation areas

Organisational improvement initiatives	Areas of implementation					
	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnership and resources
1) Asset Management	4.0	4.0	3.0	4.0	3.5	3.5
2) Balanced Scorecard	4.0	4.0	4.0	4.0	4.0	3.5
3) Benchmarking	4.0	4.0	4.0	4.0	4.0	4.0
4) Business Excellence Award application	4.0	4.0	4.0	4.0	4.0	4.0
5) Self-Assessment based on Business Excellence Model	4.0	4.0	4.0	4.0	4.0	4.0
6) Business Process Reengineering	4.0	4.0	4.0	5.0	4.0	3.0
7) Change Management	5.0	4.0	4.0	4.0	4.0	4.0
8) Communication Strategy	4.5	5.0	4.0	4.0	5.0	4.0
9) Core Competencies Development	4.0	4.0	4.0	4.0	4.5	4.0
10) Corporate Social Responsibility System	5.0	4.0	3.0	3.0	4.0	4.0
11) Customer Relationship Management	4.0	4.0	5.0	4.0	4.0	4.0
12) Customer Segmentation	4.0	4.5	5.0	3.5	3.0	3.0
13) Employee Development	4.5	4.0	4.0	4.0	4.0	3.0
14) Employee Suggestion Scheme	3.5	3.0	3.0	4.0	4.0	3.0
15) Enterprise Resource Planning	4.0	4.0	4.0	4.0	4.0	3.0
16) Environmental Management System	4.0	4.0	3.0	4.0	4.0	4.0
17) Facilities Management	4.0	3.5	3.0	4.0	4.0	4.0
18) Financial Management	4.0	4.0	3.0	4.0	3.0	3.0
19) Human Resource Planning	4.0	4.0	4.0	4.0	5.0	3.0
20) Improvement Teams	4.0	4.0	4.0	5.0	4.0	3.0

Legend:

Median	5.0	-	Very high suitability
Median	4.0 - 4.5	-	High suitability
Median	3.0 - 3.5	-	Moderate suitability
Median	2.0 - 2.5	-	Low suitability
Median	1.0 - 1.5	-	Very low suitability

Table 4.1: Degree of suitability in terms of where the improvement initiative should be used according to the implementation areas (cont.)

Organisational improvement initiatives	Areas of implementation					
	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnership and resources
21) Innovation Management	4.0	4.0	4.0	4.0	4.0	3.0
22) Knowledge Management	4.0	4.0	4.0	4.0	4.0	4.0
23) Leadership Development Programme	5.0	4.0	3.0	3.0	4.0	3.0
24) Lean Production/ Operations	4.0	4.0	4.0	5.0	4.0	4.0
25) Loyalty Management	4.0	4.0	4.5	3.0	4.0	3.0
26) Managing by Walking/ Wandering Around (MBWA)	5.0	3.0	4.0	4.0	4.0	3.0
27) Market Research	4.0	4.0	5.0	3.5	3.0	3.0
28) Mergers and/or Acquisitions	4.0	4.5	3.0	3.0	3.0	4.0
29) Mission, Vision and Values Statements	5.0	5.0	4.0	3.0	4.0	3.5
30) Mistake Proofing	3.0	4.0	3.0	5.0	4.0	4.0
31) Occupational Health and Safety Management System	5.0	4.0	3.0	4.0	5.0	3.0
32) Organisational Governance	5.0	5.0	4.0	4.0	4.0	4.0
33) Outsourcing	3.0	4.0	3.0	4.0	3.0	4.0
34) Performance Management	5.0	4.0	4.0	4.0	5.0	3.5
35) Product Life Cycle Management	3.5	4.0	4.0	5.0	4.0	4.0
36) Project Management	4.0	4.0	4.0	4.0	4.0	4.0
37) Quality Function Deployment	3.0	4.0	4.5	4.5	4.0	3.0
38) Quality Management System (QMS)	4.0	4.0	4.0	5.0	4.0	4.0
39) Rewards and Recognition System	4.0	4.0	3.0	4.0	5.0	3.5
40) Risk Management	5.0	4.0	4.0	4.5	4.0	4.0

Legend:

Median	5.0	-	Very high suitability
Median	4.0 - 4.5	-	High suitability
Median	3.0 - 3.5	-	Moderate suitability
Median	2.0 - 2.5	-	Low suitability
Median	1.0 - 1.5	-	Very low suitability

Table 4.1: Degree of suitability in terms of where the improvement initiative should be used according to the implementation areas (cont.)

Organisational improvement initiatives	Areas of implementation					
	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnership and resources
41) Business Continuity Management (BCM)	4.5	4.0	4.0	4.0	4.0	4.0
42) Shared Service Centres	4.0	4.0	3.0	4.0	4.0	3.0
43) Six Sigma	4.0	4.0	4.0	5.0	4.0	4.0
44) Statistical Process Control	3.0	3.0	4.0	5.0	4.0	3.0
45) Strategic Alliances	4.0	4.0	4.0	3.5	3.0	5.0
46) Strategic Planning	5.0	5.0	4.0	4.0	4.0	4.0
47) Strategic Execution/ Deployment	4.0	4.0	4.0	4.0	4.0	4.0
48) Service Level Agreement	4.0	3.5	4.0	4.0	4.0	5.0
49) Supplier Management	4.0	4.0	3.5	4.0	4.0	4.0
50) Supply Chain Management	4.0	4.0	4.0	4.0	4.0	5.0
51) Theory of Constraints (TOC)	3.0	3.0	3.0	4.0	3.0	3.0
52) Total Productive Maintenance	3.0	3.5	3.0	4.0	4.0	3.0
53) 5S (Industrial Housekeeping)	3.0	3.0	3.0	4.0	4.0	3.0

Legend:	Median	5.0	-	Very high suitability
	Median	4.0 - 4.5	-	High suitability
	Median	3.0 - 3.5	-	Moderate suitability
	Median	2.0 - 2.5	-	Low suitability
	Median	1.0 - 1.5	-	Very low suitability

List of organisational improvement initiatives that have a 'very high suitability' (median = 5) to be implemented for each area is summarised in Table 4.2. Most of the initiatives listed in Table 4.2 are designed to be focussed and have a direct impact on one or two areas of implementation.

Table 4.2: List of organisational improvement initiatives that have a ‘very high suitability’ (median = 5) to be implemented according to the implementation areas

Areas of implementation	Most suitable improvement initiatives (Median = 5.0)
Leadership and Social Responsibilities	<ul style="list-style-type: none"> • Change Management • Corporate Social Responsibility System • Leadership Development Programme • Managing by Walking/ Wandering Around (MBWA) • Mission, Vision and Values Statements • Occupational Health and Safety Management System • Organisational Governance • Performance Management • Risk Management • Strategic Planning
Strategy and Policy	<ul style="list-style-type: none"> • Communication Strategy • Mission, Vision and Values Statements • Organisational Governance • Strategic Planning
Customers	<ul style="list-style-type: none"> • Customer Relationship Management • Customer Segmentation • Market Research
Processes	<ul style="list-style-type: none"> • Business Process Reengineering • Improvement Teams • Lean Production/ Operations • Mistake Proofing • Product Life Cycle Management • Quality Management System (QMS) • Six Sigma • Statistical Process Control
Workforce	<ul style="list-style-type: none"> • Communication Strategy • Human Resource Planning • Occupational Health and Safety Management System • Performance Management • Rewards and Recognition System
Partnerships and Resources	<ul style="list-style-type: none"> • Strategic Alliances • Service Level Agreement • Supply Chain Management

As can be seen in Table 4.1, the improvement initiatives such as ‘Benchmarking’, ‘BE Award application’ and ‘Self-Assessment based on BE Model’ were unlikely to be rated highly for one area of implementation as they are designed for all areas and therefore the respondents may have difficulty in assigning specific areas for such initiatives.

In addition to the 53 main initiatives listed in Section 2, the respondents also suggested several other initiatives as follows:

- Succession planning
- Talent management and retention
- Employee engagement
- Living Systems Thinking (Viewing organisations as networks)
- Tipu Ake (Growing pro-active organisational behaviours)
- Cynefin Model (Understanding complexity and chaos)
- Organisational Incidents
- Economic Value Added (EVA) initiative
- Value Innovation

4.5 Conclusion of the chapter

The objectives of conducting exploratory survey were achieved. First of all, the importance of conducting research on the selection of organisational improvement initiatives was assessed. All the respondents that answered the question agreed that the selection of suitable improvement initiatives is an important area of study (see Figure 4.7). Secondly, the main organisational improvement initiatives that should be used according to the areas of implementation were identified (see Table 4.1 and 4.2). Some of the survey respondents were also selected and involved in the semi-structured interviews. The next chapter will discuss the planning, implementation and findings from the interviews.

Chapter 5: Interviews – Planning, Implementation and Findings

5.1 Introduction to the chapter

This chapter presents the planning, implementation and findings from the interviews. It begins with an explanation on the planning and implementation of the interviews. Subsequently, it is followed with the profiles of interviewees and interview findings. Finally, a conclusion for this chapter is presented.

5.2 Planning and implementation of semi-structured interviews

The main objectives of the interviews were to:

- Identify the main organisational improvement initiatives that should be used according to the areas of implementation and organisational excellence maturity. The areas of implementation are based on the common enabler criteria of major BEMs;
- Investigate the processes or steps involved in selecting improvement initiatives;
- Investigate the critical factors that should be considered in selecting improvement initiatives;
- Identify the guidance models currently available to assist in the selection of improvement initiatives;
- Evaluate several existing guidance models for selecting improvement initiatives; and
- Evaluate the proposed conceptual model for selecting improvement initiatives.

An interview protocol was prepared prior to the interviews to ensure reliability and consistency of the data collection process. At the beginning, the interview protocol was reviewed by the research supervisors and revised accordingly. Then, two pilot interviews were conducted to test the interview protocol (refer to Appendix 3) and collect initial data.

As shown in Figure 3.1, the interviews were conducted in several stages. The protocol for the first stage interviews was developed based on key themes and issues for exploration derived from a literature review, documents review and/or pilot interviews (Strauss & Corbin, 1998). A sample of the protocol for first stage interviews can be referred in Appendix 4. Findings from the first stage interviews together with literature and document review were then analysed and used for the development of the protocol for the second stage interviews (refer to Appendix 5).

Semi-structured interviews were conducted with individual participants in New Zealand, Malaysia and Singapore. Purposive sampling was used for interviews involving:

- Chief Executive Officers, Directors, General Managers, Senior Managers, Managers or Executives in the area of quality / BE, selected from organisations that have won a national Quality or BE Award. The winners of Quality or BE award are those organisations that have shown outstanding organisational practices, strategies and performance results based on assessments using proven BEMs (Adebanjo & Mann, 2008b), such as Baldrige CPE (in New Zealand), Singapore Quality Award framework (in Singapore) and Prime Minister's Quality Award Criteria (in Malaysia). The common assessment criteria for BE award in New Zealand, Singapore and Malaysia are similar involving leadership and social responsibilities, strategy and policy, customers, processes, workforce and, partnership and resources.
- Chief Executive Officers, Managers or Executives from national custodians of Quality / BE award. The national custodian of BE award in New Zealand is the NZBEF; in Malaysia is the Malaysia Productivity Corporation and Ministry of International Trade and Industry; and in Singapore is the Standards Productivity and Innovation Board Singapore (SPRING).
- Consultants specialising in quality management and BE.

According to Tashakkori and Teddlie (1998, p. 76), purposive sampling can be described as a "selection of individuals / groups based on specific questions / purposes of the research in lieu of random sampling and on the basis of information available about these individuals / groups". The reason for choosing this sample was due to their knowledge and / or experience in the selection and/or implementation of organisational improvement initiatives. This sample allowed the collection of information from both groups of people that disseminate and apply the improvement

initiatives. Consultants and national custodians of Quality / BE award can be considered as the groups that disseminate and promote the implementation of improvement initiatives. Meanwhile, the practitioners selected from organisations that have won a national Quality or BE Award represented the people who actually implement the improvement initiatives.

The interviewees were identified from public documentation of the national custodians of quality / BE award (e.g. previous application reports for quality / BE award, newsletters, websites, or training materials); suggestions from experts in the research field; and/or based on exploratory survey respondents who interested and eligible to participate in the interviews.

The interviewees were contacted in advance via telephone or email and received an information sheet as well as a consent form for recruitment. The information sheet included an invitation to participate in the study as well as the request to provide some relevant documents during the interview. Further explanation about these documents can be found in Section 3.4.4 of Chapter 3.

Interviews were conducted at a mutually arranged venue and time, with the questions being sent to the interviewees beforehand. The interviews lasted approximately one to two hours, and were audio recorded with permission from the participants. Part of the first stage interviews involved asking the interviewees to evaluate the conceptual model as well as obtaining their comments and suggestions for improvement. Before evaluating the model, the interviewees were assisted by the interviewer to understand the model. The same processes were used in second stage interviews except the interviewees were asked to evaluate the refined conceptual model (instead of conceptual model).

The interviews were transcribed into written form. Each transcript was sent to the interviewees for review and possible amendment. Data from interviews were administered, coded and analysed using the QSR NVivo Version 8.0 and 9.0 softwares. The NVivo is one of the qualitative data analysis software that provides a variety of tools that can be utilised to facilitate data analysis processes such as organising, exploring, searching, coding, linking and/or integrating the data (Lewins & Silver, 2007). This research used the concept of qualitative coding to identify categories and sub-categories. According to Lewins and Silver (2007, p. 81), "Qualitative coding is the process by which segments of data are identified as

relating to, or being an example of, a more general idea, instance, theme or category”.

The data was coded into themes, categories or ‘nodes’ and the ‘nodes’ was organised in folders (QSR International, 2010)(see Figure 5.1). The ‘nodes’ in NVivo software refers to “specific locations in the database which reference parts of documents...the node label becomes the code label” (Lewins & Silver, 2007, p. 133). Analytic techniques used in data analysis include: (1) asking questions to identify variation and connection among data, (2) making comparisons, and (3) drawing upon personal experience (Strauss & Corbin, 1998).

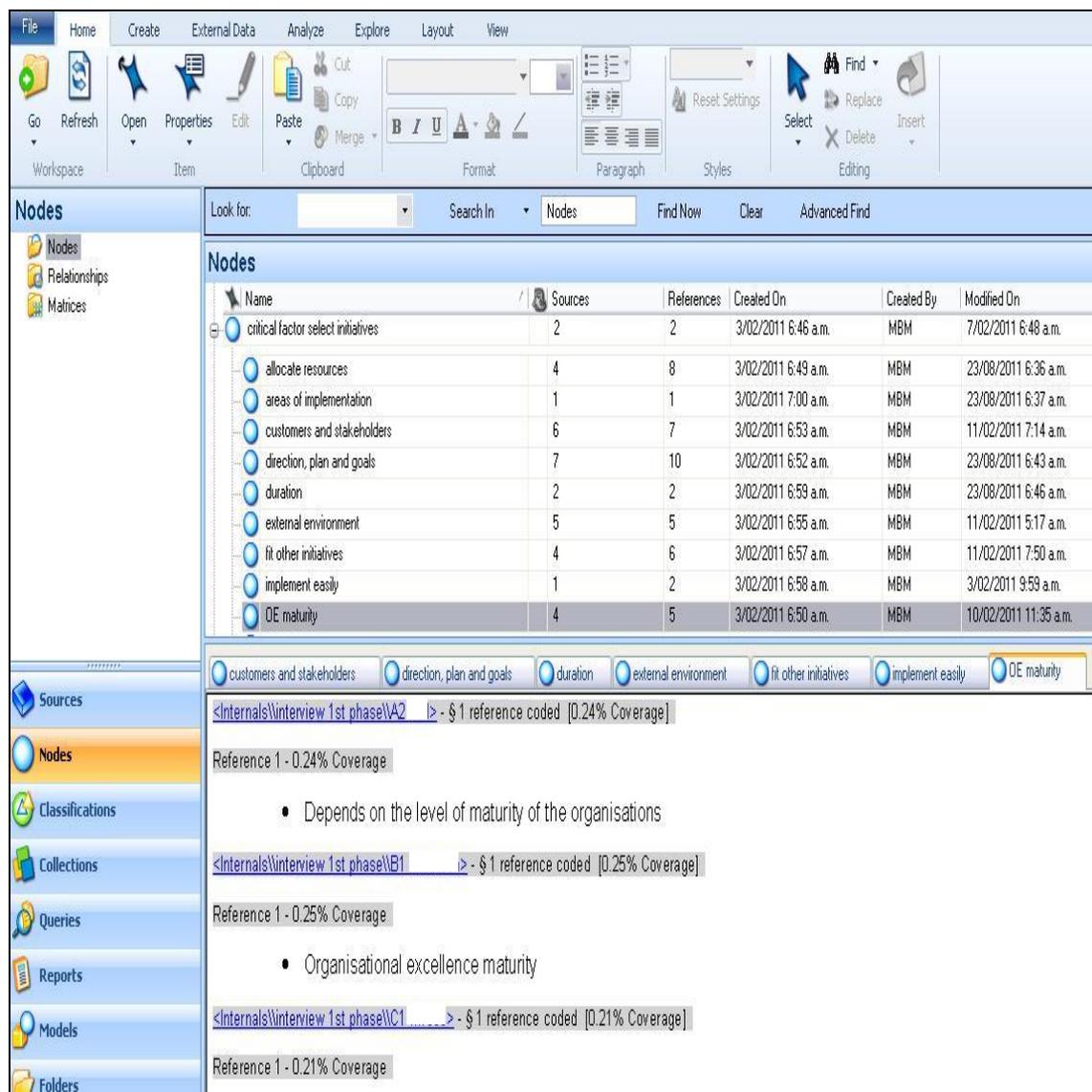


Figure 5.1: Generating and organising nodes in NVivo 9

5.3 Profiles of interviewees

In total, seventeen (17) participants were interviewed in New Zealand, Singapore and Malaysia. Table 5.1 shows the breakdown of interviews according to country, position, category, type of industry, and sector. Most of the interviewees were from Malaysia (47% of total respondents). Meanwhile, more than half of the interviewees were:

- Top management which include the Chief Executive Officer, Director or Vice President that directly involve in deciding which improvement initiatives to be adopted in their organisation (53% of total respondents).
- From award winning organisations (53% of total respondents).
- From service-based organisations (82% of total respondents).
- From private sector organisations (59% of total respondents).

Table 5.1: Breakdown of the interviewees according to country, position, category, type of industry and sector

Items		Pilot interviews* (n=2)	1 st stage interviews* (n=7)	2nd stage interviews (n=9)	Total (n=17)
Country	1.1 Malaysia	0	3	5	8
	1.2 New Zealand	2	4	0	5*
	1.3 Singapore	0	0	4	4
Position	2.1 Chief Executive Officer (CEO)/ Director / Vice President	1	4	5	9*
	2.2 General Manager / Senior Manager / Manager	1	1	3	5
	2.3 Executive	0	2	1	3
Category	3.1 Award winning organisations	1	3	5	9
	3.2 Consultants	0	2	3	5
	3.3 National Custodians of Quality / BE Award	1	2	1	3*
Type of industry	4.1 Service	2	6	7	14*
	4.2 Manufacturing and service	0	1	2	3
Sector	5.1 Private	1	3	6	10
	5.2 Public	0	3	3	6
	5.3 Not for Profit	1	1	0	1*

* One of the interviewees had participated in both pilot interviews and first stage interviews

Further details about the interviewees' profiles can be seen in Table 5.2. The interviewees were coded as follows:

- CEOs, Directors, Managers, and Executives in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A0 – A8;

- CEO, Director, and Executive from national custodians of Quality or BE Award: coded as Interviewee B1-B3; and
- Consultants specialising in quality management and BE: coded as Interviewee C1-C5.

Table 5.2: Profiles of the interviewees

No	Code	Designation	Qualification	Work experience	Remark
1	A0	Manager, BE	Tertiary qualification in marketing	Have more than 13 years work experience, especially related to marketing and business improvement initiatives	<ul style="list-style-type: none"> • Award winning organisation • New Zealand • Pilot interview
2	A1	Director	Masters degree from Cambridge University, UK	<ul style="list-style-type: none"> • Worked in quality improvement and project management areas for more than 12 years • Work experience ranges from blue chip multinationals to not-for-profits, from UK to Africa to South America to Hungary, now settled in New Zealand. 	<ul style="list-style-type: none"> • Award winning organisation • New Zealand • First stage interview
3	A2	Head of Organisational Excellence Division	<ul style="list-style-type: none"> • Bachelor of Planning • Master Business Administration (MBA) 	Spent more than 5 years within the role of Project Management, Portfolio Management, Strategic Management, BE and Performance Management.	<ul style="list-style-type: none"> • Award winning organisation • New Zealand • First stage interview
4	A3	Senior Manager, Integrated Business Management Systems	<ul style="list-style-type: none"> • Tertiary education in the area of Electrical Engineering • Certified Industrial Trainer • Certified ISO9001 auditor 	Have more than 20 years work experience, especially related to operations and quality improvement	<ul style="list-style-type: none"> • Award winning organisation • Malaysia • First stage interview
5	A4	Vice President	<ul style="list-style-type: none"> • MBA (General Management) • Diploma in Accountancy 	Have more than 23 years work experience especially related to operations and performance improvement	<ul style="list-style-type: none"> • Award winning organisation • Malaysia • Second stage interview
6	A5	Manager	Bachelor of Business Administration	Have more than 10 years work experience.	<ul style="list-style-type: none"> • Award winning organisation • Malaysia • Second stage interview
7	A6	Senior Officer, Organisation Excellence	Not known	Has been involved in the area of Quality and BE for more than 3 years	<ul style="list-style-type: none"> • Award winning organisation • Singapore • Second stage interview

Table 5.2: Profiles of the Interviewees (Cont.)

No	Code	Designation	Qualification	Work experience	Remark
8	A7	Vice President / Director, BE	<ul style="list-style-type: none"> B.Eng. (Aeronautics) MBA (General Management) 	<ul style="list-style-type: none"> An experienced Quality / BE Award Lead Assessor Technical Expert for Asia Pacific Quality Organization 5S Lead Assessor Chairman of Quality Management Technical Committee, Singapore Member Management Systems Standards Committee, Singapore Supervisory and National Assessor for People Developer Standard Senior QC Judge as well as a SQC Best Practice Network Facilitator. Previous work experiences: (1) Air force (maintenance, operations); (2) Ministry of Defence (quality and productivity improvement) 	<ul style="list-style-type: none"> Award winning organisation Singapore Second stage interview
9	A8	General Manager / Consultant, Productivity and Quality Management	B.Eng. (Industrial Engineering)	Has been involved in the area of Quality and BE for more than 24 years	<ul style="list-style-type: none"> Award winning organisation Malaysia Second stage interview
10	B1	Chief Executive Officer	Tertiary education in the area of Quality Management	<ul style="list-style-type: none"> An experienced national evaluator and team leader, with extensive experience in organisational assessments and implementing US Baldrige CPE framework. Formerly a Group Strategic Development Manager at a large financial services group 	<ul style="list-style-type: none"> National Custodian of BE Award New Zealand Pilot interview and first stage interview
11	B2	Executive	<ul style="list-style-type: none"> MBA (General Management) BA (Psychology) 	Has been involved in the area of Quality and BE for more than 8 years	<ul style="list-style-type: none"> National Custodian of BE Award Malaysia First stage interview
12	B3	Director, BE	Bachelor of Art (Hons)	Vast experience in managing the BE initiatives and Quality Award programme.	<ul style="list-style-type: none"> National Custodian of BE Award Singapore Second stage interview

Table 5.2: Profiles of the Interviewees (Cont.)

No	Code	Designation	Qualification	Work experience	Remark
13	C1	Director and principal consultant	<ul style="list-style-type: none"> • Diploma of BE • Bachelor of Engineering (Electrical) • Professional Electrical Engineer • Certified Quality Manager • Authorised BE Consultant • Authorised Green Globe 21 Consultant 	<ul style="list-style-type: none"> • Worked for the NZ and US governments and in private enterprise, prior to setting up his own consultancy firm. • More than 8 years operating business improvement coach and mentoring consultancy • Over 10 years experience in assessing companies to the Baldrige CPE • Involved in assessing over 70 companies who applied to the Ministry of Commerce Business Development Awards • Six years experience as Quality Manager of worldwide operations of internationally recognised technology based organisation • Five years experience in senior management role • 30 years experience in high technology industry 	<ul style="list-style-type: none"> • Consultant • New Zealand • First stage interview
14	C2	Consultant	BA Economy (Public Administration)	<ul style="list-style-type: none"> • Has been involved in the area of Quality and BE for more than 8 years • Has assisted many organisations on issues related to quality and productivity improvement, 	<ul style="list-style-type: none"> • Consultant • Malaysia • First stage interview
15	C3	Senior Manager / Consultant	<ul style="list-style-type: none"> • Degree in Electrical and Electronics Engineering • Degree in Business Studies • Doctorate in Quality Management 	<ul style="list-style-type: none"> • Has held senior management positions up to director level for over 25 years in the United Kingdom and East Asia • Has nine years of Public Sector working experience. • Have audited and certified over 50 companies. • Has been an advisor to governments and trade associations in China, Vietnam, Myanmar and Eastern Europe in the development of BE and quality strategies. • Has been a keynote speaker, lectured and presented papers, courses and workshops in companies, universities and at conferences in various countries. 	<ul style="list-style-type: none"> • Consultant • Singapore • Second stage interview

Table 5.2: Profiles of the Interviewees (Cont.)

No	Code	Designation	Qualification	Work experience	Remark
16	C4	Vice President / Consultant, Operations	<ul style="list-style-type: none"> • Master Science in Quality and Productivity Improvement • Bachelor of Science (Actuarial Science) • Master Black Belt Six Sigma • Certified Lean Leader • Certified Lead Auditor ISO9001 Quality Management System Standard 	Has been involved in the area of Quality and BE for more than 14 years	<ul style="list-style-type: none"> • Consultant • Malaysia • Second stage interview
17	C5	CEO, Executive Chairman and Principle Consultant	<ul style="list-style-type: none"> • Ph.D. in Statistics • Master Science in Statistics 	<ul style="list-style-type: none"> • An adjunct Professor (Quality and Productivity Improvement) at one of a well known university in Malaysia. • Formerly a Professor of Statistics, Dean of the Faculty of Mathematical Sciences, and Head of Quality Audit, Quality Management Unit at one of a well known university in Malaysia • Has assisted many organisations in the public as well as the private sectors on issues related to quality improvement, customer satisfaction measurement, key performance indicators, Training Needs Analysis and strategic planning. • Has written books and numerous articles on statistics and quality management, particularly in the areas of customer satisfaction measurement and total performance excellence. 	<ul style="list-style-type: none"> • Consultant • Malaysia • Second stage interview

5.4 Findings from the interviews

This section presents the key themes and categories emerged from the interviews, which are summarised into several areas of inquiry. Table 5.3 indicates the areas of inquiry covered in pilot interviews, first stage interviews and second stage interviews. The main findings will be discussed in Chapter 9.

Table 5.3: Areas of inquiry for each stage of interviews

Areas of inquiry	Pilot interviews (n = 2)	1 st stage interviews (n = 7)	2 nd stage interviews (n = 9)
1. Reasons for selecting suitable organisational improvement initiatives		√	√
2. Current practices of selecting the organisational improvement initiatives		√	√
3. People who normally involved in the selection of organisational improvement initiatives		√	√
4. Critical factors that should be considered when selecting suitable organisational improvement initiatives	√	√	√
5. Key steps in selecting suitable organisational improvement initiatives	√	√	√
6. Identification of the main organisational improvement initiatives that should be used according to the areas of implementation and organisational excellence maturity		√	√
7. Criteria, guidelines or models that has been used to assist in the selection of organisational improvement initiatives	√	√	√
8. Evaluation of several existing models for selecting organisational improvement initiatives		√	√
9. Expectations of a guidance model for selecting organisational improvement initiatives		√	√
10. Evaluation of the conceptual model		√	
11. Suggestions to improve the conceptual model		√	
12. Evaluation of the refined conceptual model			√
13. Suggestions to improve the refined conceptual model			√
14. Main challenges faced by organisations in selecting suitable organisational improvement initiatives		√	
15. Suggested countermeasures to overcome the challenges		√	
16. Opinion on whether the selection of suitable organisational improvement initiatives is an important area of study	√	√	√

5.4.1 Reasons for selecting suitable organisational improvement initiatives

Based on the interviews, several key themes emerged related to the reasons for the selection of organisational improvement initiatives are to:

- Ensure organisation's survival and sustainability (Interviewee A3, A7, A8, B2, C2)
- Sustain and/or improve organisational performance (Interviewee A3, B1, A5, A7)
- Create better systems (Interviewee B2, C1, C2)
- Increase productivity and/or efficiency (Interviewee C1, A5, C4)
- Increase profitability (Interviewee C1, C2, C5)
- Reduce cost (Interviewee A5, C4)
- Overcome problems that have been diagnosed (Interviewee A2, B1)
- Achieve organisational vision, mission and goals (Interviewee A2)
- Improve competitiveness (Interviewee B2)
- Improve faster than anyone else (Interviewee A1)
- Lead market segment (Interviewee A1)

5.4.2 Current practices of selecting the organisational improvement initiatives

In general, the current practice of selecting the improvement initiatives can be summarised as follows:

- Use BEM as an overarching framework for managing, filtering and/or aligning multiple organisational improvement initiatives (Interviewee A2, B1, C1, A6, B3)
- Directed by top management (top down approach) (Interviewee B2, C2, C4, A6, A7, A8)
- Conduct a meeting to brainstorm, discuss and decide suitable improvement initiatives (Interviewee A1, B2, C2, A7)
- Based on feedback and request from the customers and other stakeholders (Interviewee A1, A3)
- Based on current trend of improvement initiatives (Interviewee B2, C1, C2)

5.4.3 People who normally involved in the selection of organisational improvement initiatives

The people who are normally involved in the selection of improvement can be categorised into four categories:

- Top management, such as Managing Directors, CEOs and Directors (Interviewee A2, A3, B2, C1, C2, C4, A5, A6, A7, A8)
- Middle management, such as managers (Interviewee A2, B2, C2, A6, A8)
- Quality and/or BE Department (Interviewee B2, C1, C2)
- Quality / BE Council (Interviewee A3, A7)

5.4.4 Critical factors that should be considered when selecting suitable organisational improvement initiatives

Based on the interviews, several key themes emerged related to the critical contingency factors that should be considered when selecting appropriate organisational improvement initiatives are as follows:

- Value / benefit for implementing the initiative (e.g. based on cost benefit analysis, Return of Investment (ROI) analysis and/or payback analysis) (Interviewee A1, A2, B1, C1, A4, A5, A6, A7, A8, B3, C3, C4, C5).
- The initiative is aligned to the vision, mission and/or purpose of the organisation (Interviewee A1, A2, B2, C1, C2, A6, A7, C3).
- The initiative is aligned to the direction, strategic plan and/or goals of the organisation (Interviewee A2, B1, C1, A4, A7, A8, C3).
- The initiative fits the organisation's culture (Interviewee A1, A2, C1, A7, B3, C3, C5).
- The initiative will satisfy the requirements / expectations of the customers and other stakeholders (Interviewee A1, A3, C1, A4, A5, C3).
- The initiative is suitable for the external environment in which the organisation operates, which includes: political, economic, social, technological, legal and environmental factors (Interviewee A2, C1, A4, A7, A8).
- Capability of the workforce to introduce and implement the initiative successfully (Interviewee A3, B1, A4, A5).

- Ability to gain top management commitment and support to introduce and implement the initiative successfully (Interviewee A2, B1, C1, A5).
- Ability to allocate necessary resources to introduce and implement the initiative successfully (e.g. funding and equipment) (Interviewee A2, B1, C1, A8)
- Ability of the initiative to complement, integrate and/or support other initiatives already in place, and might be used in the future (Interviewee B1, A7, C3, C5).
- The initiative is suitable for the level of organisational excellence maturity (Interviewee A2, B1, C1, A5).
- Whether the initiative has been proven to provide value / benefit in other similar organisations (Interviewee A2, B1, A5, A7).
- The initiative fits the sector / industry in which the organisation operates (e.g. private, public or non-profit) (Interviewee A2, C5).
- The initiative fits the size of the organisation (e.g. small, medium or large) (Interviewee C2, C5).
- Duration taken to obtain the value of implementing the initiative (Interviewee A4, A7).
- Ability to implement the initiative easily in the organisation (Interviewee A1).
- Areas in which the initiative will be implemented (e.g. leadership and social responsibilities, strategy, customer focus, process management, workforce focus, partnership and resources) (Interviewee C1).

5.4.5 Key steps in selecting suitable organisational improvement initiatives

The key steps involved in selecting suitable improvement initiatives are explained in Section 7.4, 7.5.1.2, 7.5.2.4 and 8.2.

5.4.6 Main organisational improvement initiatives that should be used according to the areas of implementation and organisational excellence maturity

The main organisational improvement initiatives that should be used according to the areas of implementation and organisational excellence maturity are explained in Section 7.2, 7.3.1.2, 7.3.2.2, 7.4.4 and 7.5.2.2.

5.4.7 Criteria, guidelines or models that has been used to assist in the selection of organisational improvement initiatives

In general, the organisations can use the following criteria, guidelines and/or model to assist them in the selection of improvement initiatives:

- BE model (e.g. Baldrige CPE, bespoke model) (Interviewee A2, A3, B1, C1, A6, B3).
- Vision and mission of the organisation (Interviewee A1, A6).
- NZMED model (see Figure 2.4) (Interviewee B1)

In addition, interviewee A2 highlighted that his organisation has developed a strategic management process framework which has also been used to assist in the selection of improvement initiatives (see Figure 5.2).

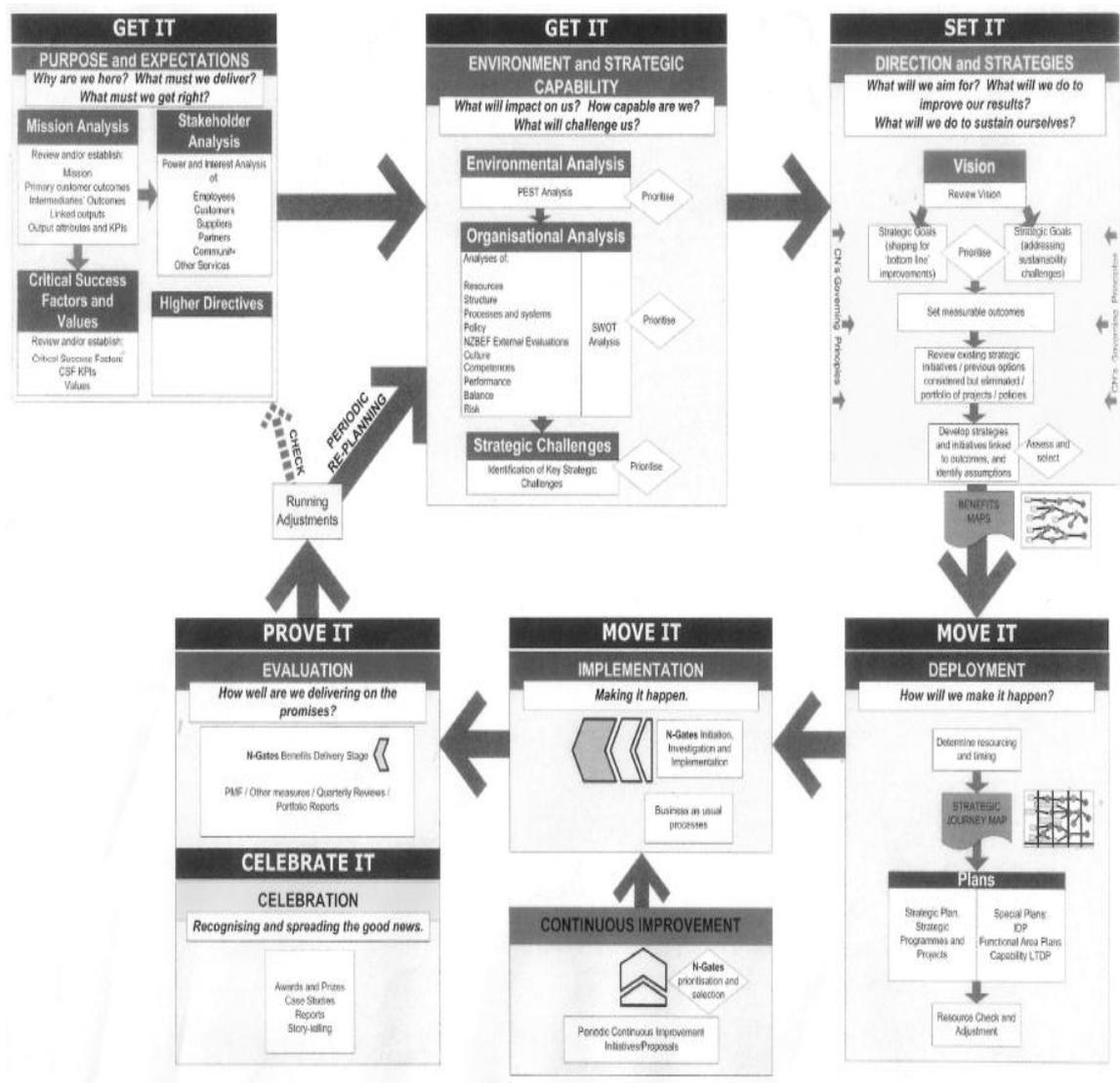


Figure 5.2: Strategic management process framework (based on document provided by Interviewee A2)

5.4.8 Evaluation of several existing models for selecting organisational improvement initiatives

The strengths, limitations, and improvement suggestions of several existing models for selecting improvement initiatives are summarised in Table 5.4.

Table 5.4: Strengths, limitations and/or improvement suggestions of several existing models for selecting organisational improvement initiatives based on feedback from interviewees

Author(s)	Strengths	Limitations / Improvement suggestions
<p>1) Thawesaeng skulthai (2007) – See Figure 2.1 and 2.2 in Chapter 2</p>	<ul style="list-style-type: none"> • Most components of the model are valid (Interviewee A2) • The model is quite feasible (Interviewee A2) • The model is quite holistic (Interviewee B2) • A thorough model (Interviewee A5) • It has the element of SWOT analysis (Interviewee C3) 	<ul style="list-style-type: none"> • Incredibly complicated (Interviewee B1) • A bit complex (Interviewee C3) • Not highly usable (Interviewee A2) • TQM have several phases. BE is a very mature state of TQM. BE is still a TQM (Interviewee A7) • Better to use 'improvement opportunities' rather than 'weaknesses' (Interviewee A7). • Should start with understanding organisational profiles. Then, conduct organisational assessment and identify improvement opportunities. An appropriate improvement initiative can be selected only after the areas for improvement have been identified (Interviewee A7). • The sequence of critical factors should be (1) Strategic fit; (2) Organisation fit; and (3) Pay-off. If the initiative does not fit the strategy, the organisation could not obtain the pay-off. Fashion setting is not an important factor (Interviewee A7). • Lack of technology and budget should be the challenge - not the barrier (Interviewee A7). • Should change the word 'fashion setting' – it gives the impression that in selecting the initiatives, the organisations should just follow the management fashions and fads (Interviewee B3).
<p>2) Saunders & Mann (2007) – See Figure 2.3 in Chapter 2</p>	<ul style="list-style-type: none"> • A comprehensive model that provides a proper guidance (Interviewee A3) • Easy to use (Interviewee A2) 	<ul style="list-style-type: none"> • Looks like prescribing what initiatives to be used. People might just follow what has been prescribed. This model should only be used as an example. Validity of this model can be argued because it depends on the context (Interviewee B3)*. • Better to use five levels of BE maturity: (1) beginning, (2) basic, (3) mature, (4) advanced, (5) role model. (Interviewee C1) • 'IT audit' is not important. Knowledge management is more important in capturing the institutional knowledge (Interviewee C1). • The mapping of initiatives should be done by each organisation for more flexibility (Interviewee A2) • Better to break down the organisational structure and governance. Should start with 'mission, vision and values', and followed by 'organisational structure', 'communication strategy', 'organisational governance' and 'corporate social responsibility' (Interviewee A7). • 'Strategic alliances' and 'scenarios' can be implemented earlier (Interviewee A7). • 'Strategic alliances' is also related to 'process management' and 'customer and market focus' (Interviewee A7). • 'Innovation new products' is also related to 'Process management' and 'Customer and market focus' (Interviewee A7). • 'Supply Chain Management' can be implemented at the earlier stage. It is a basic thing that needs to do first (Interviewee A7). • 'Customer segmentation' should be implemented before 'customer relationship management' and 'customer satisfaction' (Interviewee A7). • 'Policies and procedures' should be implemented first before 'human resource planning' (Interviewee A7). • Should include 'people engagement' under 'workforce focus' (Interviewee A7). • Lean and Total Productive Maintenance (TPM) is missing in this model (Interviewee C3)

Table 5.4: Strengths, limitations and/or improvement suggestions of several existing models for selecting organisational improvement initiatives based on feedback from interviewees (Cont.)

Author(s)	Strengths	Limitations / Improvement suggestions
3) NZMED(2006 , as cited in NZBEF, 2009) – see Figure 2.4	<ul style="list-style-type: none"> • Simple and easy to explain to other people (Interviewee A1) • A simple model (Interviewee C1) 	<ul style="list-style-type: none"> • Looks like prescribing what initiatives to be used. People might just follow what has been prescribed. This model should only be used as an example. Validity of this model can be argued because it depends on the context (Interviewee B3)*. • ‘ISO9000’ also encompasses ‘leadership’, ‘strategic planning’ and ‘human resources focus’ (Interviewee C1, A7). • The term supposed to be used is ISO9001 (not ISO9000) which reflects the Quality Management System Standard. ISO9000 is a broad umbrella (Interviewee A7). • ‘Six sigma’ is also focuses on ‘business results’ (Interviewee C1). • ‘Investors In People’ standard also has impact on ‘leadership’, ‘strategic planning’, ‘processes management’, ‘customer and market focus’ and ‘business results’ (Interviewee A7). • ‘Balance Scorecard’ should also cover ‘strategic planning’ (Interviewee A7).
4) Brown & Pemberton Planning Group Ltd (2008)	<ul style="list-style-type: none"> • Quite similar to the third model 	<ul style="list-style-type: none"> • Looks like prescribing what initiatives to be used. People might just follow what has been prescribed. This model should only be used as an example. Validity of this model can be argued because it depends on the context (Interviewee B3)*. • ‘ISO9001’ also encompasses ‘leadership’, ‘strategic planning’ and ‘workforce focus’ (Interviewee C1, A7).
5) Rimington (2007)	<ul style="list-style-type: none"> • Quite similar to the third and fourth model. • This model is specific for public service in Singapore • This model starts with the ten BE core values and followed with the seven dimensions of BE. 	<ul style="list-style-type: none"> • Looks like prescribing what initiatives to be used. People might just follow what has been prescribed. This model should only be used as an example. Validity of this model can be argued because it depends on the context (Interviewee B3)*. • TQM should not be there. BE is a very mature state of TQM (Interviewee A7). • ‘Economic value’ should be replaced with ‘Economic Value Added’ (EVA) or ‘Net Economic Value’ (NEV) (Interviewee A7). • ‘Innovation Class Award’ should be replaced with ‘Innovation Excellence Award’. There are also Singapore Innovation Class (I-Class), Singapore Service Class (S-Class) and People Developer (PD) certifications (Interviewee A7). • ‘The Distinguished Public Service Award for Organisation Excellence’ should be changed to ‘Top Public Service Award’. This is a recognition given to the public service organisations that have achieved the Singapore Quality Award and three other certifications (People Developer, Singapore Innovation Class and Singapore Service Class). It is not an assessment. It is a reward. It cannot be put at the top of this building block (Interviewee A7).

Note: * Same comment repeated because the comment made at the same time

5.4.9 Expectations of a guidance model for selecting organisational improvement initiatives

The expectations of a guidance model as perceived by the interviewees are summarised as follows:

- Simple and not complicated (Interviewee A1, B1, B2, C1, A6, A7, B3, C3, C5).
- Applicable and easy to be used (Interviewee B1, C1, C2, A4, A5, A7, C4, C5).
- Clear and easy to understand (Interviewee B2, C2, A7).
- Use step-by-step approach (Interviewee A3, A5, C4).
- Content rich (Interviewee A7).
- Has very little jargon (Interviewee A7).
- Non-prescriptive (Interviewee C3, C4).
- Should provide some examples of initiatives that can be considered (Interviewee B1).
- Should suggest areas or situations in which the initiatives are suitable to be used (Interviewee B1).
- Use software whereby the user can get more information and descriptions by clicking on the items (Interviewee A2).

5.4.10 Evaluation of the conceptual model

To be explained in Section 7.3.1.

5.4.11 Suggestions to improve the conceptual model

To be explained in Section 7.3.2.

5.4.12 Evaluation of the refined conceptual model

To be explained in Section 7.5.1.

5.4.13 Suggestions to improve the refined conceptual model

To be explained in Section 7.5.2.

5.4.14 Main challenges faced by organisations in selecting suitable organisational improvement initiatives

The main challenge faced by organisations was lack of understanding of improvement initiatives and how to select appropriate initiatives (Interviewee A2, A3, B1, B2, C1, C2, A7, A6). There is no clear guidance currently available to help organisations to select appropriate improvement initiatives (Interviewee A1, B1, C4). Even worst, interviewee A7 highlighted that many organisations are implementing improvement initiatives without knowing its main purpose. In addition, most organisations are struggling to select appropriate improvement initiatives due to a plethora of initiatives currently available in the market (Interviewee A2, C1, B3, C3, C4). Consultancy service delivery was also very fragmented. Not many consultants can offer a variety of initiatives to the organisations (Interviewee B1, C1). The next issue was the management fads and fashions (Interviewee B3, C3). Some feedback received from the interviewees related to the management fads and fashions are:

The leaders in the organisation tend to bring the initiatives on-board just because they might have read the 'book of the month'. The 'flavour of the month' might also come from the consultants. (Interviewee C3)

Consultants come out with a solution and they are very good at selling their solutions. Even when the organisation engage consultant, the staff should actively be involved in implementing the initiative. A lot of organisations leave everything to the consultant. Many of the staff might not understand the solution and why they need to use the solution given by the consultant. After that, when they want to maintain the solution, they face problems. When they

face problems to sustain the solution, then they might go to the next initiative.
(Interviewee B3)

Interviewee C2 stated that negative attitude and behaviour was another challenges faced by organisation. According to interviewee C5, “Attitude of the people is crucial for organisational excellence because attitude creates behaviour. Then, behaviour creates action. Finally, action produces results”.

It is also found that some organisations only focus on their daily business activities without much effort to improve their systems / operations. They will only realise the importance of having a proper system when their business grows bigger (Interviewee B2, C3). In addition, interviewee C1 and A5 highlighted that most SMEs have limited resources (e.g. financial, technology) for implementing improvement initiatives.

5.4.15 Suggested countermeasures to overcome the challenges

In order to overcome the challenges explained in Section 5.4.16, the interviewees have proposed the following countermeasures:

- Provide sufficient awareness, training and education on how to select and adopt appropriate improvement initiatives (Interviewee A3, C1, A5, A7).
- Search and provide more opportunities to share best practices and success stories (Interviewee B3, A1, A2, B1, A5).
- “Obtain advice and feedback from other successful organisations” (Interviewee B1).
- Conduct research on the selection of improvement initiatives and come out with a clear and useful guidance model (Interviewee B1, C1, B3).
- “Participate in the community of interest and become a member to the associations related to Quality and BE” (Interviewee A2).
- “Depending on the size of the organisation, the organisation should have a dedicated office or department (e.g. Organisation Excellence Office) that oversees and manages all issues related to the organisational improvement initiatives” (Interviewee A2).
- “Stimulate staff to change attitude, behaviour and mentality from negative to positive” (Interviewee C2).

- “Get buy-in from top management and all staff before implementing any improvement initiatives” (Interviewee C3).
- “Obtain assistance, support and/or funds from government agencies to help SMEs embark on and sustain the implementation of improvement initiatives” (Interviewee A5).
- “Should understand the ‘big picture’ and conduct organisational assessment before deciding on which improvement initiatives to be adopted” (Interviewee B1).
- “Select the right leaders and champions to embark on and sustain the implementation of improvement initiatives” (Interviewee A5)

5.4.16 Opinion on whether the selection of suitable organisational improvement initiatives is an important area of study

All the interviewees agreed that the selection of suitable organisational improvement initiatives is an important area of study.

5.5 Conclusion of the chapter

The objectives of conducting the interviews were achieved. Firstly, the main organisational improvement initiatives that should be used were identified (see Section 7.4.4). Secondly, the processes or steps involved in selecting organisational improvement initiatives were investigated (see Section 8.2). Thirdly, the critical factors that should be considered in selecting improvement initiatives were investigated (refer to Section 5.4.4). Subsequently, several existing guidance models to assist in the selection of organisational improvement initiatives were identified and evaluated (see Section 5.4.7 and 5.4.8). Finally, the proposed conceptual models for selecting organisational improvement initiatives were assessed (see Section 7.3 and 7.5).

Next step, all the interviewees were invited to participate in a survey to evaluate the proposed guidance model for selecting organisational improvement initiatives. Six interviewees completed the evaluation survey. The planning, implementation and findings from the evaluation survey are discussed in the next chapter (Chapter 6).

Chapter 6: Evaluation Survey – Planning, Implementation and Findings

6.1 Introduction to the chapter

This chapter presents the planning, implementation and findings from the evaluation survey. It begins with an explanation on the planning and implementation of the survey. Later, it is followed by the profiles of survey and survey findings. Finally, a conclusion for this chapter is presented.

6.2 Planning and implementation of the evaluation survey

The main objectives for conducting an evaluation survey were as follows:

- To evaluate the proposed guidance model in terms of design and contents; and
- To identify the levels of importance of each proposed factor that should be considered when selecting improvement initiatives.

A self-administered questionnaire survey was created using Microsoft Word document based on findings from interviews, document review and literature review. The questionnaire was reviewed by the research supervisors and revised accordingly. As shown in Appendix 6, the questionnaire consists of an introductory page and four main sections as follows:

- Introductory page: provide information about the researcher, potential respondents, purpose of the survey, expected time taken to complete the survey, voluntary consent, benefit for participating in the survey and researcher's contact information.
- Section 1: seek general information about the respondent and respondent's organisation.
- Section 2: obtain respondents' perception on the level of importance of factors that should be considered when selecting appropriate improvement initiatives.
- Section 3: request respondents to evaluate the proposed GUIDE model by indicating the degree of agreement for each statement / question related to the GUIDE model.

- Section 4: obtain respondent's opinion in terms of strengths and weaknesses of the model as well as suggestions for improvement.

Closed and open ended questions were used, where the respondents were requested to: (1) click at the appropriate box given; (2) select the degree of importance and agreement based on Likert scale given; and/or (3) write the answer in the space provided. The questions were arranged sequentially in several sections according to its purposes to make it easy for the respondents to answer. In order to provide clear instructions, a short introduction about the content and purpose for each section was provided.

Purposive sampling was used for this survey involving practitioners, managers, executives, consultants and/or academics who have been involved in the selection and/or implementation of organisational improvement initiatives. The reason for choosing this sample was due to the respondents' knowledge and / or experience in the selection and/or implementation of organisational improvement initiatives. The list of potential survey respondents is shown in Table 6.1.

Table 6.1: List of potential respondents for evaluation survey

Potential respondents	Total numbers of potential respondents
1. Interviewees participated in the semi-structured interviews (see Table 5.1 and 5.2)	17
2. Selected respondents of the exploratory survey (see Chapter 4)	31
3. Practitioners, managers, executives, consultants and/or academicians listed in the researcher database that had been involved in the selection and/or implementation of organisational improvement initiatives	23
4. Readers of the COER newsletter (October 2010) and QNewZ - Magazine of the New Zealand Organisation for Quality (NZOQ) (November-December 2010) who showed an interest to participate in the evaluation survey and had been involved in the selection and/or implementation of organisational improvement initiatives	x
	71 + x

Initially, the potential respondents were expected to be at least 71 people (see Table 6.1). The respondents were invited to participate in the survey via email. Once the respondents agreed to participate, they could download the questionnaire attached to the email, complete the survey and send the completed questionnaire to the researcher via email. The returning of the completed questionnaire was taken as

participants' consent to participate in this evaluation survey. Survey data were administered and analysed using the following softwares: (1) SPSS PASW Statistics Version 18 (for quantitative data) and (2) QSR NVivo Version 9 (for qualitative data).

6.3 Profiles of survey respondents

Based on a total of 78 questionnaires distributed, 33 questionnaires were returned which represent 42.3% response rate. As shown in Table 6.2, the subset of survey responders (33) were representative of the targeted sample invited to participate (78). Therefore, this study would unlikely to have been affected by a nonresponse bias.

Table 6.2: Distribution of the respondents and response rate

Target respondents	Number of completed questionnaires	Number of questionnaires sent	Response rate (%)
1. Interviewees participated in the semi-structured interviews (see Table 5.1 and 5.2)	6	17	35.3
2. Selected respondents of the exploratory survey (see Chapter 4)	11	31	35.5
3. Practitioners, managers, executives, consultants and/or academicians listed in the researcher database that had been involved in the selection and/or implementation of organisational improvement initiatives	12	23	52.2
4. Readers of the COER newsletter (October 2010) and QNewZ - Magazine of the New Zealand Organisation for Quality (NZOQ) (November-December 2010) who showed an interest to participate in the evaluation survey and had been involved in the selection and/or implementation of organisational improvement initiatives	4	7	57.1
Total	33	78	42.3

The survey respondents were classified by:

- Number of years the respondents have been involved in the areas related to quality, productivity and sustainability (see Figure 6.1)
- The role of the respondents in the organisation (see Figure 6.2)
- Country in which the respondents are currently based (see Figure 6.3)
- Major business activity of the respondents' organisation (see Figure 6.4)
- Whether the respondents' organisation had won any BE /quality awards (see Figure 6.5)

As shown in Figure 6.1, 79% of total respondents have at least five years of experience which indicate that most of the respondents have vast experiences in the areas related to quality, productivity and/or organisational excellence. The respondents involved people from various roles in the organisation including managers, consultants, executives / engineers, top management and academics / lecturers (see Figure 6.2). This survey managed to obtain feedback from respondents who are based in 12 countries worldwide, which includes New Zealand, Malaysia, India, Canada, United Kingdom, Singapore, Australia, Kuwait, United State of America, Chile, Saudi Arabia and Philippines (see Figure 6.3). Most of the respondents were mainly from the organisations that provide services, such as consultation and training; government administration and defence; education; national custodian of BE; banking, finance and insurance; as well as health and community services (see Figure 6.4). Figure 6.5 shows that 12 respondents (or 38% of the total responses percentage) were from organisations that had won BE or quality award(s).

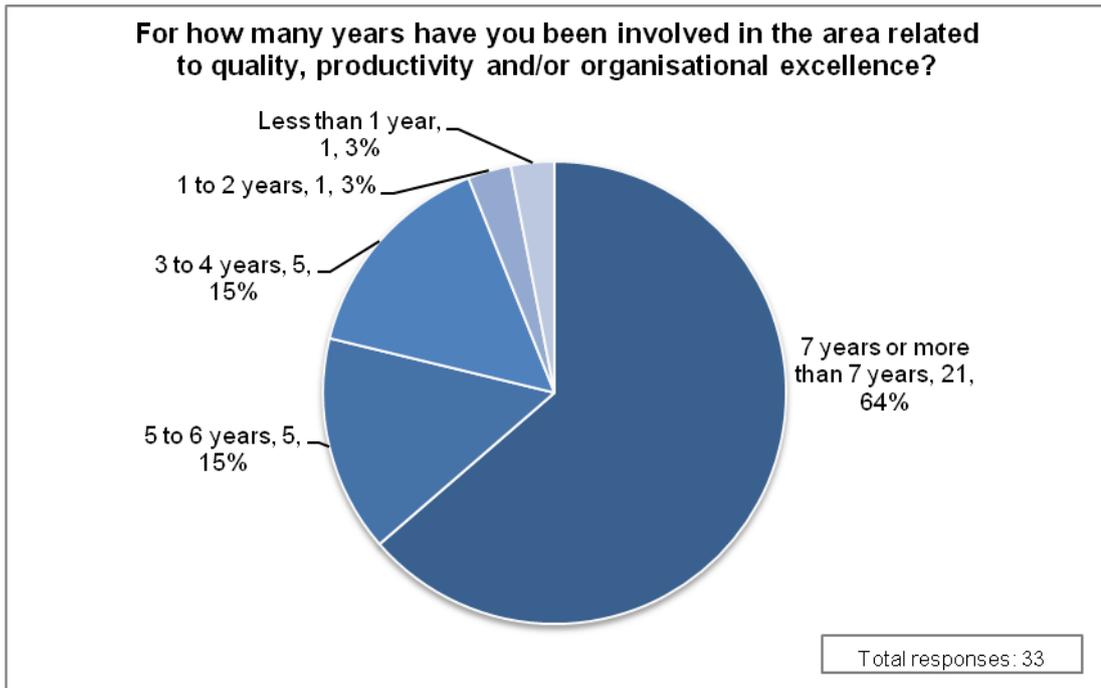


Figure 6.1: Response distribution by number of years in which the respondents have been involved in the areas related to quality, productivity and/or organisational excellence

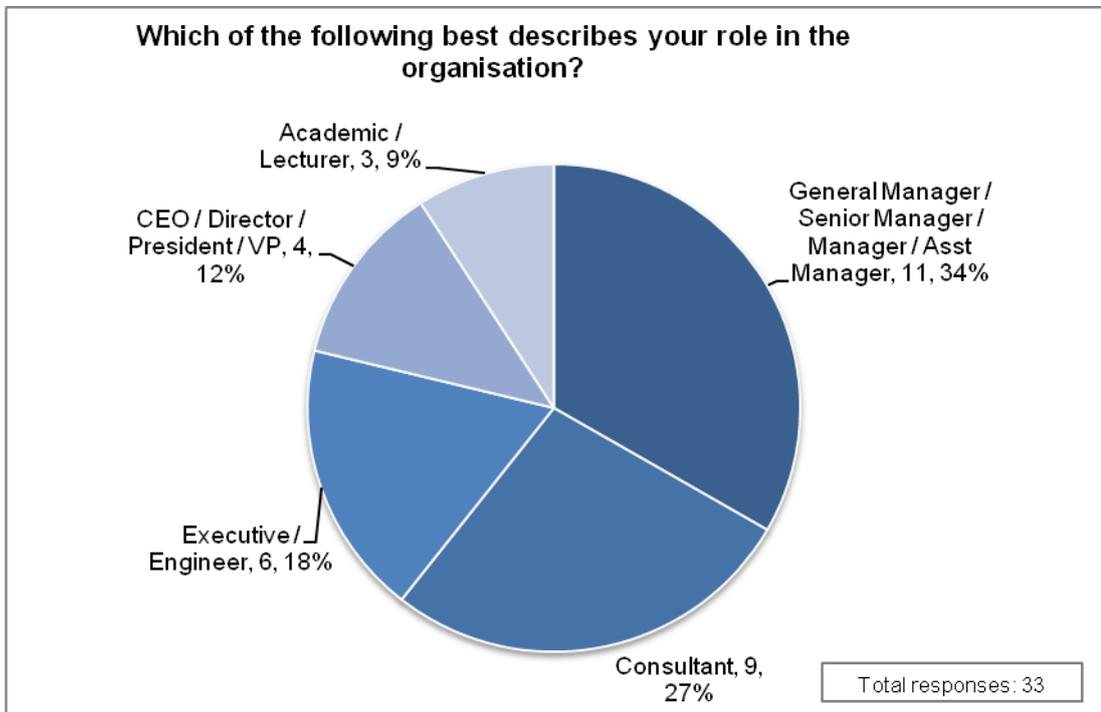


Figure 6.2: Response distribution by role of the respondents in the organisation

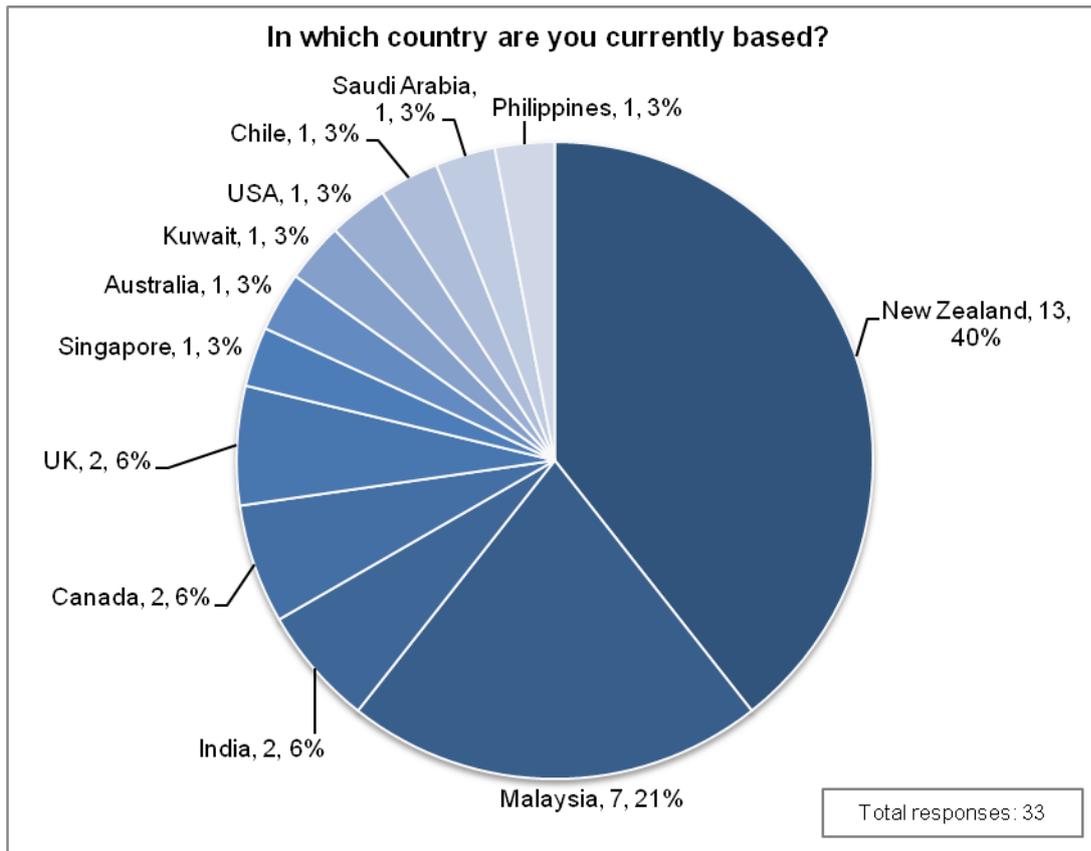


Figure 6.3: Response distribution by country in which the respondents are currently based

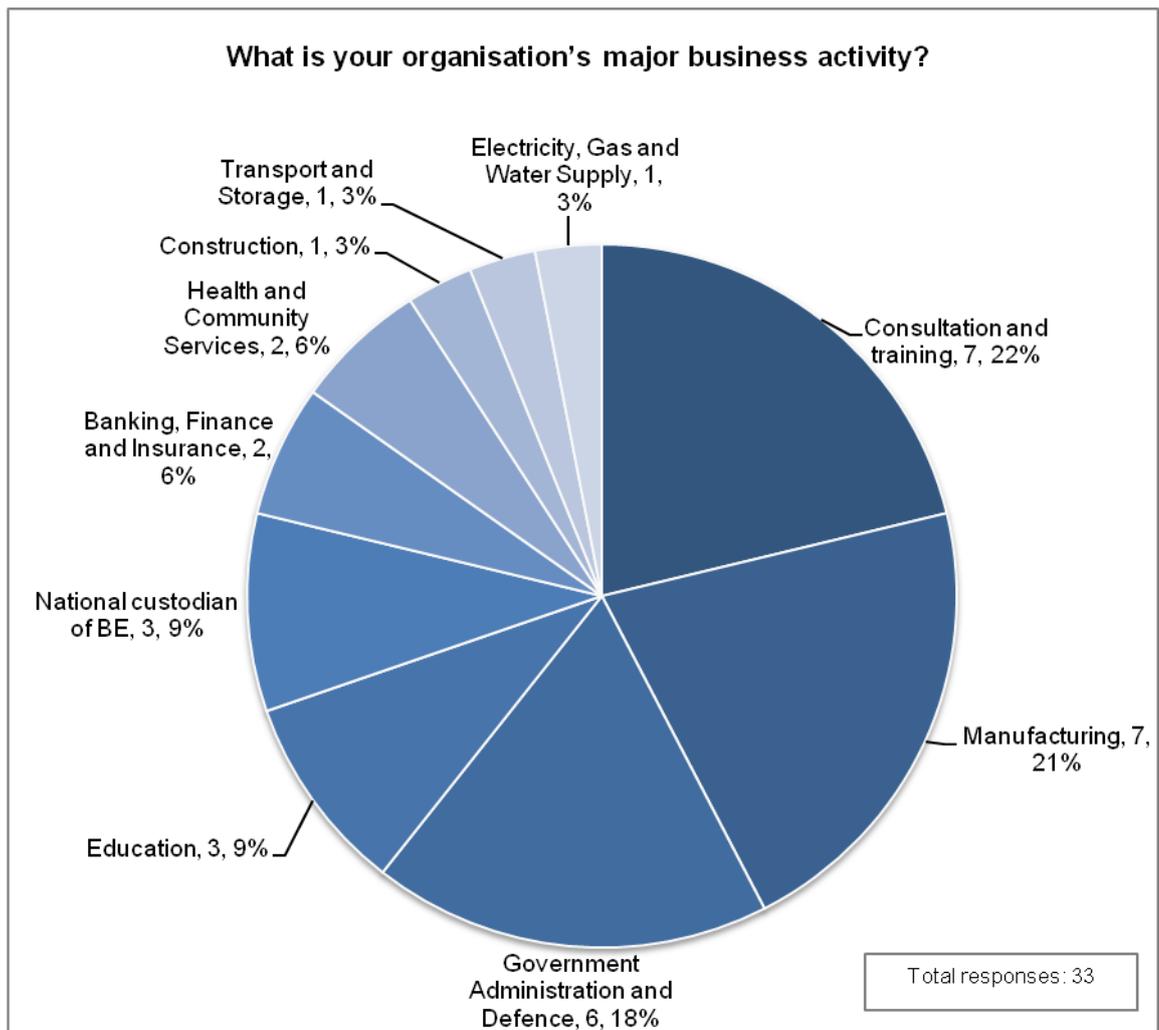


Figure 6.4: Response distribution by major business activity of the respondents' organisation

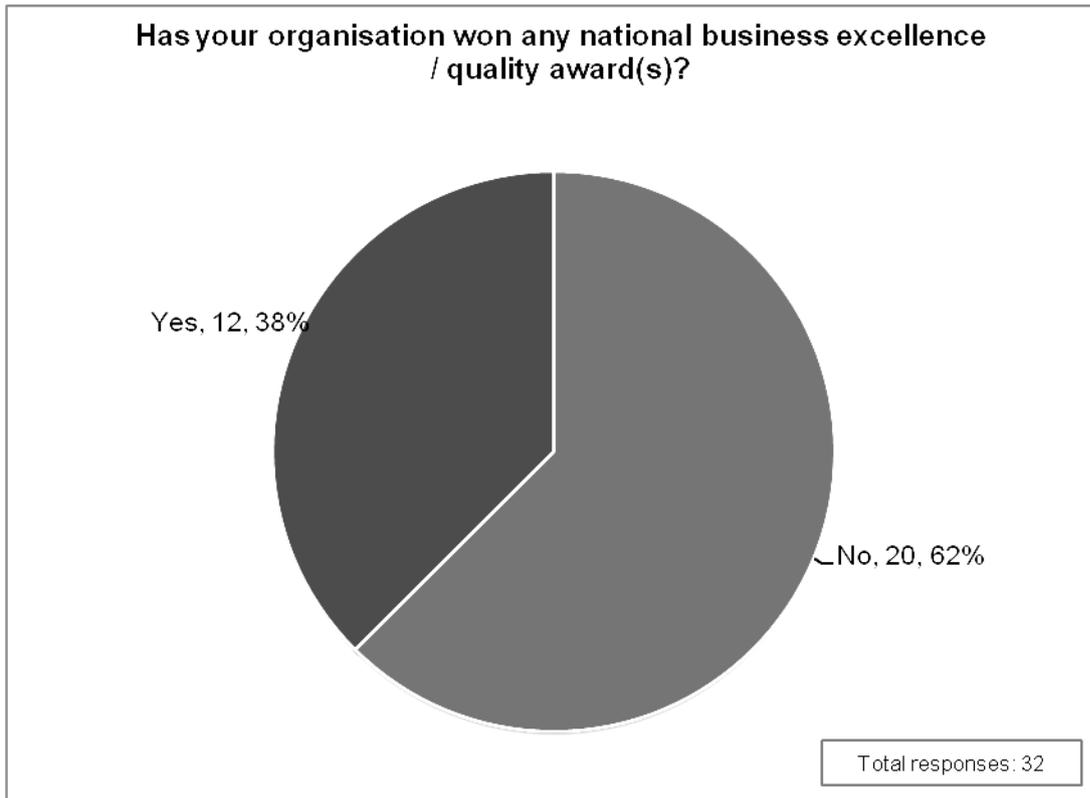


Figure 6.5: Response distribution by whether the respondents' organisation had won any BE / quality awards

6.4 Evaluation survey analysis and findings

The main findings from this survey are summarised into two areas as follows: (1) Levels of importance of each proposed factor that should be considered when selecting improvement initiatives, and (2) Evaluation of the proposed guidance model.

6.4.1 Levels of importance of each proposed factor that should be considered when selecting improvement initiatives

Section 2 of the questionnaire (see Appendix 6) asked for the respondents' perception of the levels of importance of each proposed factors that should be considered when selecting improvement initiatives. The eighteen proposed factors listed in this section were based on findings from interviews (see Chapter 5, Section 5.4.4) and a literature review. A six point likert scale was used to represent the levels of importance for each factor:

- Very high importance = 5
- High importance = 4
- Moderate importance = 3
- Low importance = 2
- Very low importance = 1
- Not important = 0

The results were summarised in Table 6.3. The median was used to analyse the likert scale data because it is suitable for ordinal data and non-parametric analysis (Allen & Seaman, 2007; Jamieson, 2004). Referring to Table 6.3, one factor was rated as 'very high importance' (Median = 5). The factor was "ability to gain top management commitment and support to introduce and implement the initiative successfully". Meanwhile, seven factors were rated as 'high importance' (Median = 4):

- The initiative is aligned to the vision, mission and/or purpose of the organisation.
- The initiative is aligned to the direction, strategic plan and/or goals of the organisation.
- The initiative will satisfy the requirements / expectations of the customers and other stakeholders.
- Ability to allocate necessary resources to introduce and implement the initiative successfully (e.g. funding and equipment).
- Capability of the workforce to introduce and implement the initiative successfully.
- The initiative fits the organisation's culture.
- Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future.

Table 6.3: Survey results on the levels of importance of each proposed factor to be considered when selecting improvement initiatives

Question & Factor	Valid	Missing	Median	Min	Max
Q2.2 Ability to gain top management commitment and support to introduce and implement the initiative successfully.	33	0	5.0	3	5
Q2.5 The initiative is aligned to the vision, mission and/or purpose of the organisation.	33	0	4.0	3	5
Q2.6 The initiative is aligned to the direction, strategic plan and/or goals of the organisation.	33	0	4.0	3	5
Q2.7 The initiative will satisfy the requirements / expectations of the customers and other stakeholders.	33	0	4.0	3	5
Q2.3 Ability to allocate necessary resources to introduce and implement the initiative successfully (e.g. funding and equipment).	33	0	4.0	2	5
Q2.1 Capability of the workforce to introduce and implement the initiative successfully.	32	1	4.0	2	5
Q2.8 The initiative fits the organisation's culture.	33	0	4.0	2	5
Q2.12 Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future.	33	0	4.0	0	5
Q2.18 Areas in which the initiative will be implemented (e.g. leadership and social responsibilities, strategy, customer focus, process management, workforce focus, partnership and resources).	12	21*	3.0	3	5
Q2.4 The initiative is suitable for the level of organisational excellence maturity.	33	0	3.0	2	5
Q2.14 Value for implementing the initiative (based on cost benefit analysis, Return of Investment (ROI) analysis and/or payback analysis).	33	0	3.0	2	5
Q2.15 Duration taken to obtain the value of implementing the initiative.	33	0	3.0	2	5
Q2.9 The initiative is suitable for the external environment in which the organisation operates, which includes: political, economic, social, technological, legal and environmental factors.	33	0	3.0	2	5
Q2.13 Ability to implement the initiative easily in the organisation.	33	0	3.0	1	4
Q2.16 Whether the initiative has been proven to provide value / benefit in other similar organisations.	33	0	3.0	1	5
Q2.10 The initiative fits the sector / industry in which the organisation operates (e.g. private, public or non-profit).	33	0	3.0	0	5
Q2.11 The initiative fits the size of the organisation (e.g. small, medium or large).	33	0	3.0	0	5
Q2.17 Popularity of the initiative (e.g. many other organisations are implementing the initiative).	33	0	2.0	0	4

* This factor was added in the questionnaire at later stage (after received 21 responses)

Legend:

- Median 5.0 : Very high importance
- Median 4.0 : High importance
- Median 3.0 : Moderate importance
- Median 2.0 : Low importance
- Median 1.0 : Very low importance

In addition to these eighteen factors, the respondents also suggested several other factors as follows:

- Ability to involve middle management staff.
- Acceptance of the people in the organisation to implement the initiative.
- Business results / outcomes.
- Workforce diversity.

All these critical factors will be further discussed in Section 9.2.4.

6.4.2 Evaluation of the proposed guidance model

To be explained in Section 8.3.

6.5 Conclusion of the chapter

The objectives of conducting the evaluation survey have been achieved. First of all, levels of importance of each critical factor for selecting improvement initiatives have been identified (see Section 6.4.1). The most critical factor that should be considered is the ability to gain top management commitment and support to introduce and implement the initiative successfully (rated as 'Very high importance' in Table 6.3). Meanwhile, seven factors were rated as 'high importance': (1) The initiative is aligned to the vision, mission and/or purpose of the organisation; (2) The initiative is aligned to the direction, strategic plan and/or goals of the organisation; (3) The initiative will satisfy the requirements / expectations of the customers and other stakeholders; (4) Ability to allocate necessary resources to introduce and implement the initiative successfully; (5) Capability of the workforce to introduce and implement the initiative successfully; (6) The initiative fits the organisation's culture; and (7) Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future. Subsequently, the design and contents of the proposed guidance model have been evaluated (see Section 8.3). The proposed guidance model is the improved version of the prior conceptual models. The next chapter will discuss the development, evaluation and refinement of a conceptual model.

Chapter 7: Development, Evaluation and Refinement of a Conceptual Model

7.1 Introduction to the chapter

This chapter explains the first phase of the research which involves the development, evaluation and refinement of a conceptual model for selecting organisational improvement initiatives (see Figure 3.1). The first phase of research was conducted between March 2009 and June 2010. This chapter begins with a description of the development of the conceptual model, which was also published in the Proceedings of International Conference on Quality, Productivity and Performance Measurement (Mohammad et al., 2009a) and later selected for publication in the Journal of Quality Measurement and Analysis (Mohammad et al., 2009b). Subsequently, the evaluation and refinement of the conceptual model is explained. The refined conceptual model was published in the Proceedings of the 40th International Conference on Computers and Industrial Engineering (Mohammad, Mann, Grigg, & Wagner, 2010a). Then, the evaluation of the refined conceptual model is explained. Finally, a conclusion for this chapter is presented.

7.2 Development of a conceptual model

The conceptual model (as shown in Figure 7.1) was developed based on a literature review, previous BE application reports and expert opinions. Expert opinions were obtained through the presentation of a paper at the New Zealand Organisation for Quality (NZOQ) Conference 2008 (Mohammad, Mann, Grigg, & Wagner, 2008), attending seminars and workshops as well as communication through email.

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

(1) Characteristics of the initiatives

Each organisation should conduct research and understand the characteristics of the relevant initiatives covering the fundamental purpose, strengths and weaknesses / limitations (Dale, 2007; Rigby & Bilodeau, 2005); ability to fit in with, complement, integrate or support other initiatives already in place, and that could 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).

(2) Commitment and support from top management

Before starting to implement any organisational improvement initiative, 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; Thawesaengkulthai, 2007).

(3) Suit with organisation's direction

It is crucial to evaluate whether the initiatives will suit the organisation's vision, mission, values and strategic plan (Thawesaengkulthai, 2007).

(4) Available resources

Each company should assess whether they have sufficient resources (such as, capabilities of the workforce and available budget) to introduce, implement and sustain the initiatives (Thawesaengkulthai, 2007).

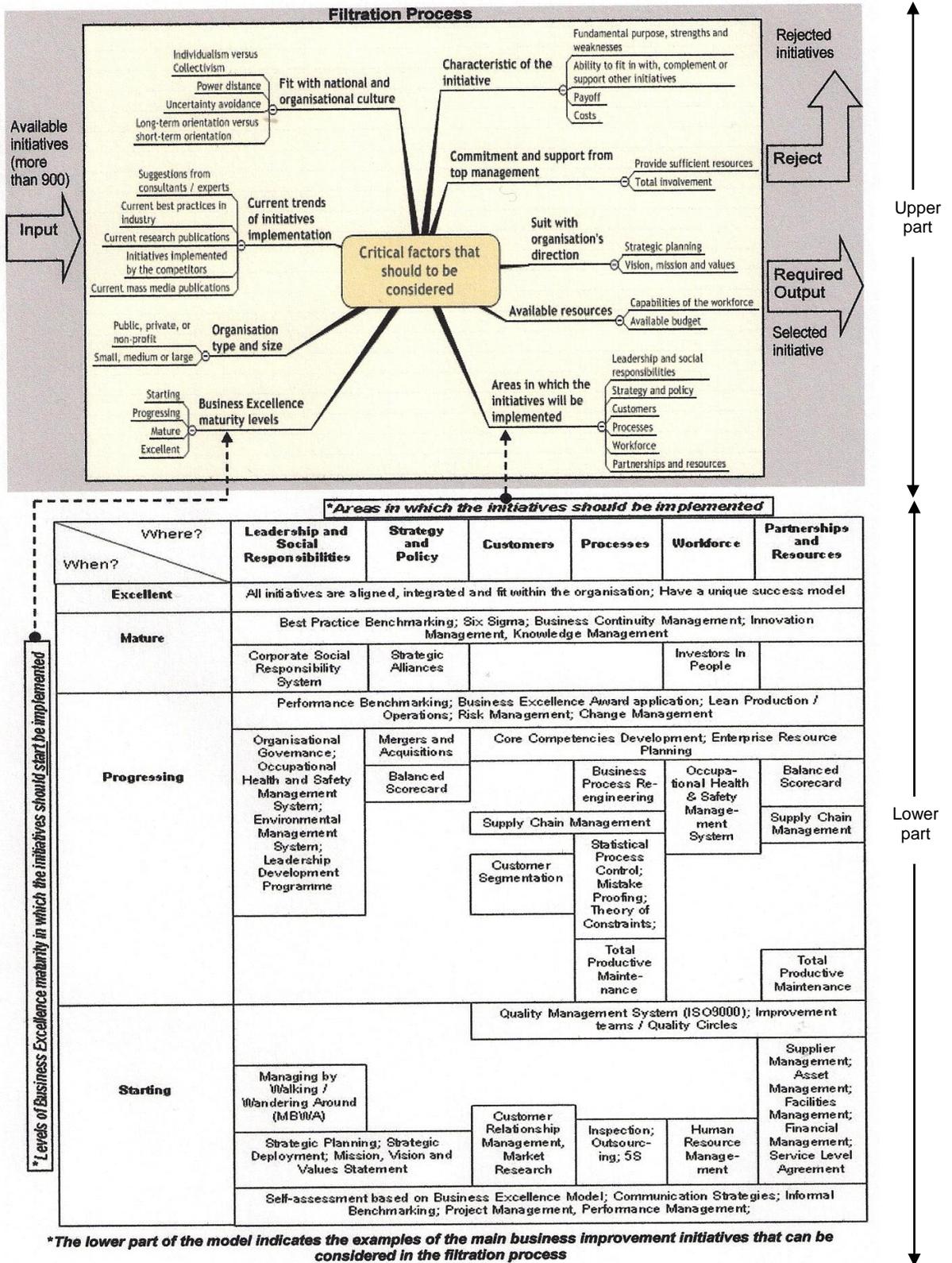


Figure 7.1: A conceptual model for selecting organisational improvement initiatives

(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). The areas 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 (Dahlgaard & Dahlgaard-Park, 2004; Mann, 2008b; 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 other 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, the 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 include 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 of these critical factors before making any decision. The required output from the filtration process should be the improvement 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 improvement initiatives according to the level of BE maturity (in which the initiatives should first start to be used) and 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 of these improvement initiatives require further consideration in the filtration process. The areas of implementation are derived from the enabler criteria of major BEMs (See Table 2.2). 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 BEM and organisational 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 7.1.

As shown in the lower part of the model in Figure 7.1, some initiatives can be used across more than one area (such as, Self-assessment based on BEM, 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 the BE journey intends to improve the processes, it can consider implementing 5S, inspection, Informal Benchmarking and Improvement Teams to address 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, SPC, BPR, Lean, Best Practice Benchmarking and Six Sigma.

Table 7.1: Descriptions of the BE maturity levels according to the areas of implementation

Areas of implementation	Levels of BE Maturity			
	Starting	Progressing	Mature	Excellent
1) Leadership and social responsibilities	Not all senior managers are committed to improve organisational performance (Dale & Lascelles, 1997, 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 implementation of 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).	Quality and organisational improvement are recognised by all managers as important elements of organisational 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 committed to implement improvement initiatives (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 are stated strategic objectives and an action plan. (NIST, 2008; Saunders & Mann, 2007)	A policy of strategy deployment is in place, "together with a robust and proactive" system (Dale & Lascelles, 1997, p.424; 2007, p.121)	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 of the importance of customer relationships and market knowledge" (Saunders & Mann, 2007, p.23).	"There is a process for capturing customer and market data and implementing performance measures for markets and customers" (Saunders & Mann, 2007, p.23)	Perceptions of key customers are "surveyed and acted upon to drive improvement action" (Dale & Lascelles, 1997, p. 426; 2007, p.123)	"There is total willingness and inherent capability to predict and respond to changing market conditions and customers' needs and requirements" (Dale & Lascelles, 1997, p. 427; 2007, p.125)
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, 1997, p.424; 2007, p.120)	"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" (Dale & Lascelles, 1997, p.424; 2007, p.121)	"Processes are efficient and responsive to customer needs. Effective cross-functional management process and achieved process-stream improvements that are measurable" (Dale & Lascelles, 1997, p.426; 2007, p.123)	"Key processes of the organisation are aligned to create common and shared objectives and to facilitate an environment conducive to improvement" (Dale & Lascelles, 1997, p.427; 2007, p.125)

Table 7.1: Descriptions of the BE maturity levels according to the areas of implementation (Cont.)

Areas of implementation	Levels of BE Maturity			
	Starting	Progressing	Mature	Excellent
5) Workforce	Workforce start to be concerned about continuous improvement (Saunders & Mann, 2007).	“A long term and company-wide education and training programme are in place. The importance of employee involvement through a variety of departmental and cross-functional teams and other means is recognized, communicated and celebrated” (Dale & Lascelles, 1997, p.424; 2007, p.121).	Each workforce is involved in implementing improvement initiatives. Quality and continuous improvement is viewed by all workforce “as a way of managing the business to satisfy and delight customers” (Dale & Lascelles, 1997, p.426; 2007, p.123)	Each workforce “is committed in an almost natural manner to seek opportunities for improvement for the mutual benefits of everyone and the business” (Dale & Lascelles, 1997, p.427; 2007, p.125)
6) Partnerships and resources	Rarely work together with suppliers / partners to add greater value to 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).

7.3 Evaluation of the conceptual model and suggestions for improvement

The conceptual model was evaluated during the first stage interviews involving seven interviewees (see Table 5.1). This section explains the evaluation of a conceptual model and suggestions for improvement. The interviewees are coded as follows:

- Directors and Senior Manager in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A1 – A3;
- Chief Executive Officer and Executive from national custodians of Quality / BE award: coded as Interviewee B1-B2; and
- Consultants specialising in quality management and BE: coded as Interviewee C1-C2.

Where possible, the findings of this section are categorised as follows:

- General comments on the design and contents of the proposed initial conceptual model
- Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity
- Contingency factors to be considered in the selection of improvement initiatives

7.3.1 Evaluation of the conceptual model

7.3.1.1 General comments on the design and contents of the proposed conceptual model

In general, the design and contents of the proposed conceptual model is acceptable. Interviewee A2 has provided the following feedback which reflects that the model is acceptable:

The upper part of the model is valid. It has all the critical factors that I can think of... the model is feasible and possible to be used...the mind map at the upper part of the model is easy to be used...the model is useful and relevant...the fundamental things are there and it is really easy to be used. (Interviewee A2)

7.3.1.2 Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity

As shown in Figure 7.1, the lower part of the conceptual model consists of the main organisational improvement initiatives to be used according to the areas of implementation and BE maturity. From the interviews, it was found that the information at the lower part of the model should be used with caution because there is no standard route map to achieve organisational excellence. Feedbacks obtained from the interviewees in the relation to the lower part of the model are:

The organisation might have the same starting point but it evolves into something different because the culture of organisation is different, people using the initiatives are different, and the business is fundamentally different. (Interviewee C1)

I would argue that the lower part of the model needs to be updated every couple of years to actually reflect the latest trend of improvement initiatives. (Interviewee A2)

Even if the BE maturity improves, the organisations can still be continuing to do the basic and fundamental initiatives which were started earlier...Project Management is not an improvement initiative. It is a methodology to manage improvement initiatives. (Interviewee B1)

7.3.1.3 Contingency factors to be considered in the selection of improvement initiatives

Contingency factors to be considered in the selection of improvement initiatives are shown at the upper part of the model. Feedbacks obtained from the interviewees related to the contingency factors are as follows:

For factor number 4 (available resources), it should be more about the capability of the resources to make improvement happen. It is less about the availability of resource but more about the capability of the resources to deliver...Should be careful about current research publication. The businesses don't really care about what happening in the academic publications. They just want to know how to improve their business...Finance not coming out here. Not strong enough. How can the organisation be funded? (Especially for start-

up businesses). It is about the organisation's ability to get cash to make improvement happen. (Interviewee C1)

Current trends of initiatives implementation are not so relevant. More work is required if we want to know the current trends of initiatives implementation. (Interviewee C2)

7.3.2 Suggestions for improvement

7.3.2.1 General comments on the design and contents of the proposed conceptual model

The main drawback of the conceptual model is that the model does not provide detailed and clear explanation of the steps / processes involved in selecting improvement initiatives. Therefore, Interviewee A1 and C2 suggested that the model should be refined to provide more explanation about the filtration / selection processes. Other suggestions obtained from the interviewees related to the overall design and contents of the model are as follows:

If you're using a software approach then you can click on the items to obtain more information. (Interviewee A1)

There should be something about organisational profile at the top of the model. We should first look that the organisational profile. Then, does it suit with the organisation's direction and purpose. (Interviewee C1)

7.3.2.2 Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity

The main flaw found related to the lower part of the conceptual model is that it does not provide the description of the improvement initiatives. In relation to this, interviewee A2 highlighted that:

There is no description linked to the initiatives listed in the lower part of the model. It is assumed that people using this model know about the characteristics of all these initiatives, but, they often don't.

Therefore, the model should be refined to provide brief explanation on the improvement initiatives, especially the main purpose of the initiatives (Interviewee A3). Other suggestion to improve the lower part of the model is as follow:

Balanced Scorecard is more about measurement, analysis and performance monitoring. Therefore, Balanced Scorecard would cover the following areas: (1) Strategic Planning, and (2) Measurement and analysis...Some of the initiatives (e.g. self assessment) should be conducted in all levels of BE maturity. (Interviewee B1)

7.3.2.3 Contingency factors to be considered in the selection of improvement initiatives

In term of contingency factors to be considered, Interviewee C1 has provided the following suggestions:

- “Should include values / benefits of using the initiatives as one of the critical factors to be considered”.
- “Factor number 3 should be changed from ‘suit with organisation’s direction’ to ‘suit with organisation’s direction and purpose’. What is important here is the organisation’s purpose”.
- “Should include the external environment in which the organisation operates (PESTLE analysis) as one of the factors to be considered”.

7.4 Refinement of the conceptual model

The conceptual model was refined based on input from the first phase interviews, literature review, and document review. In this section, the interviewees are coded as follows:

- Directors and Senior Manager in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A1 – A3;
- Chief Executive Officer and Executive from national custodians of Quality / BE award: coded as Interviewee B1-B2; and
- Consultants specialising in quality management and BE: coded as Interviewee C1-C2.

The interface of the refined conceptual model is shown in Figure 7.2, which represent the key steps involved in selecting organisational improvement initiatives. Full version of the refined conceptual model is shown in Appendix 5, Supplement 2 (page A5.8 – A5.16). The full model consists of five appendices which are linked to the interface of the refined conceptual:

- Appendix A: Brief description of the areas for improvement (page A5.9). This appendix is quite similar to the information given in Table 2.3.
- Appendix B: Examples of the main improvement initiatives according to the areas of implementation and levels of BE maturity (page A5.10). This appendix is identical to the lower part of the initial conceptual model (see Figure 7.1).
- Appendix C: Brief description of the 53 main improvement initiatives widely used by the organisations (page A5.11 – A5.13).
- Appendix D: Descriptions of the BE maturity levels (page A5.14 – A5.16). This appendix is mainly based on information provided in Table 7.1.

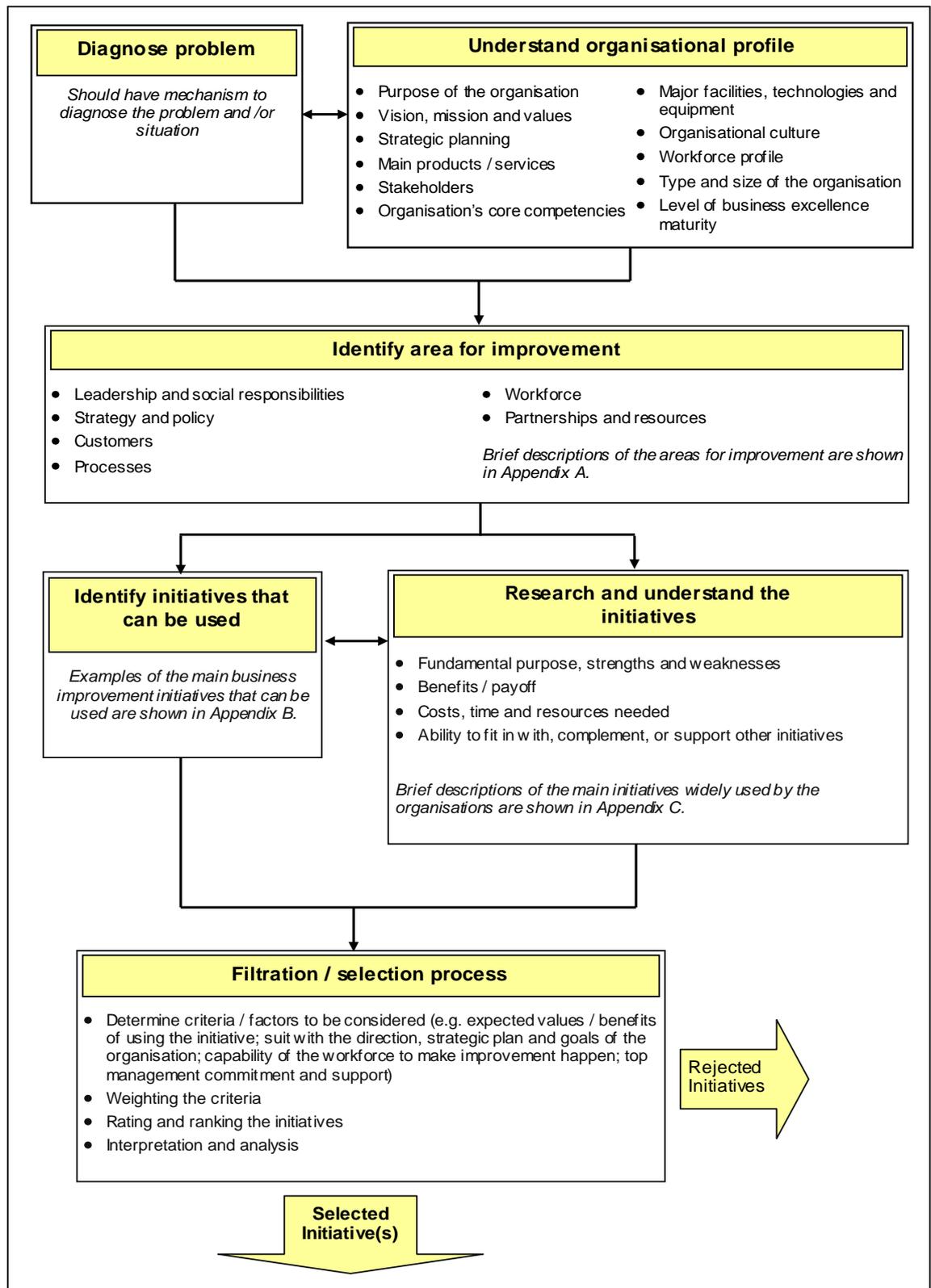


Figure 7.2: Overview of the refined conceptual model for selecting organisational improvement initiatives

The interface of the refined conceptual focuses on the steps to select suitable improvement initiatives as follows:

- Diagnose problem
- Understand organisational profile
- Identify area for improvement (Link to Appendix A)
- Identify initiatives that can be used (Link to Appendix B)
- Research and understand the initiative (Link to Appendix C)
- Filtration / selection process

As shown in Figure 7.2, the problems should be diagnosed, the organisational profile should be understood and the area for improvement should be identified prior to identifying, understanding and selecting the appropriate initiative for the situation. The following sub-sections explain the proposed steps involved in selecting organisational improvement initiatives.

7.4.1 Diagnose problem

The organisation should have mechanism to diagnose the problem and/or situation. An example of tool that can be used to diagnose the situation is self-assessment based on established BE Model such as, Baldrige CPE and EFQM Excellence Model (All interviewees).

7.4.2 Understand organisational profile

The elements of the organisational profile that should be understood are as follows:

- Purpose of the organisation (Interviewee A2 and C1)
- Vision, mission and values (Interviewee B2 and C2) (NIST, 2008)
- Strategic planning (Interviewee A2 and C1) (NIST, 2008)
- Main products / services (NIST, 2008)
- Stakeholders (NIST, 2008)
- Organisation's core competencies (NIST, 2008)
- Major facilities, technologies and equipment (NIST, 2008)
- Organisational culture (Interviewee C1, A1 and A2)
- Workforce profile (NIST, 2008)

- Type and size of the organisation (Interviewee A2)(NIST, 2008)
- Level of BE maturity (Interviewee B1 and C1)

7.4.3 Identify area for improvement

From the self-assessment, strengths and opportunities for improvement can be identified (All interviewees). Get a team to agree on what the improvement areas are and what they want to focus on (Interviewee A1, B2, and C1). Areas for improvement can generally be segregated as follows: leadership and social responsibilities; strategy and policy; customers; processes; workforce; and, partnerships and resources (see Table 2.3).

7.4.4 Identify initiatives that can be used

Examples of the main improvement initiatives that can be used by the organisations are provided at the lower part of the initial conceptual model (see Figure 7.1). In the full version of the refined conceptual model, the examples of the main initiatives are shown in Appendix B, page A5.10.

7.4.5 Research and understand the initiative

The elements of improvement initiatives that should be understood are listed below:

- Fundamental purpose, strengths and weaknesses of the improvement initiatives (Interviewee B1) (Dale, 2007; Rigby & Bilodeau, 2005)
- Expected benefits to an organisation that successfully implements the initiatives (Interviewee C1) (Dale, 2007; Thawesaengkulthai & Tannock, 2008b)
- Expected costs, time and resources needed to introduce and implement the initiatives successfully (Interviewee B1 and A3) (Dale, 2007)
- Ability to fit in with, complement, integrate or support other initiatives already in place, and could be used in the future (Interviewee A1, B1 and C1) (Dale, 2007).

7.4.6 Filtration / selection process

The filtration / selection process involves:

- Determine criteria / factors to be considered in the selection process (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a). Examples of the factors are summarised in Section 5.4.4.
- Weighting the criteria (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Rating and ranking the initiatives (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).
- Interpretation and analysis (Thawesaengkulthai, 2007; Thawesaengkulthai & Tannock, 2008a).

The expected output from this selection process should be the improvement initiative(s) that will fit within the organisation. Other initiatives will be rejected.

7.5 Evaluation of the refined conceptual model and suggestions for improvement

The refined conceptual model was evaluated during the second stage interviews involving nine interviewees (see Table 5.1 and 5.3). This section explains the evaluation of the refined conceptual model and suggestions for improvement. The interviewees are coded as follows:

- Directors, Managers, and Executives in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A4 – A8;
- Director from national custodians of Quality or BE Award: coded as Interviewee B3; and
- Consultants specialising in quality management and BE: coded as Interviewee C3-C5.

Where possible, the findings of this section are categorised as follows:

- General comments on the design and contents of the proposed initial conceptual model
- Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity
- Contingency factors to be considered in the selection of improvement initiatives
- Steps involved in the selection of improvement initiatives

7.5.1 Evaluation of the refined conceptual model

7.5.1.1 General comments on the design and contents of the refined conceptual model

Overall, the model is considered as acceptable. In relation to this, Interviewee B3 stated that: “the model is valid and meets its purpose...it is feasible and possible to be used”.

7.5.1.2 Steps involved in the selection of improvement initiatives

The main issue found related to the steps involved in the selection of improvement initiatives is the sequence of the steps. Interviewee A6 asked the following question: “Which one should come first? - ‘Identify initiatives’ or ‘research and understand initiatives?’” (Interviewee A6).

7.5.2 Suggestions for improvement

7.5.2.1 General comments on the design and contents of the refined conceptual model

In term of the design and contents of the model, Interviewee C3 provided the following suggestions:

Should start with Mission, Vision and Values...should have assurance and improvement elements...should have sensing and scanning elements...should explain all the terminologies used.

7.5.2.2 Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity

Appendix B of the refined conceptual model (page A5.10) shows the examples of the main organisational improvement initiatives to be used according to areas of implementation and levels of BE maturity. Interviewee C3 and C5 strongly suggested that the appendix should only focus on few vital main initiatives that are widely used and have impact to the organisations. In addition, Interviewee A6 recommended that: "For 'Customers' area, it should start with Customer Segmentation, followed by Customer Relationship Management". Interviewee C3 gave a long list of suggestions as follows:

- "Business Continuity Management (BCM) can be put at the lower level. The BCM is essential. It is an emergency preparedness. It is quite fundamental. We can put the BCM in the progressing stage"
- "Enterprise Risk Management (ERM) looks at situation in a more holistic way. It looks at the things like talent management, leadership succession planning, and use of innovation. We can put ERM in the progressing stage"
- "Total Productive Maintenance (TPM) should also cover the 'workforce' area. Therefore, the TPM covers 'Processes', 'Workforce' and 'Partnerships and Resources'"
- "It can be argued that ISO9000 also covers 'Leadership and Social Responsibility' and 'Strategy and Policy'"
- "Scenario Planning should be included under the Strategic Planning"

- “Change term excellent to world class / role model”
- “Should categorise the initiatives as follows: (1) must have; (2) good to have; (3) nice to have. Generally, the initiatives in the ‘Starting’ stage are the ‘must have’ initiatives. Due to the changes of standards / improvement initiatives and customers requirement in the future – today ‘good to have’ might become tomorrow ‘must have’. Next year ‘nice to have’ might be the ‘good to have’. The world is changing. In hospitals, safety and health standards are a ‘must have’. Balance Scorecard now becomes mandatory to many organisations”
- “Knowledge Management (KM) is a very important initiative. It is part of your data management system that you need. It can be put in the ‘starting’ stage. KM can be divided into two main levels – just like Benchmarking (informal and formal / best practice benchmarking). Maybe we can call it as: (1) fundamental knowledge management which involved data gathering – for ‘starting’ stage; and (2) knowledge management which involved innovation, creativity and invention – for ‘progressing / mature’ stage”
- “Innovation management – should involve Intellectual Properties (e.g. patents)”.

7.5.2.3 Contingency factors to be considered in the selection of improvement initiatives

As for the contingency factors, Interviewee A8 and B3 suggested to add another factor which is to understand the external environment (PESTLE analysis).

7.5.2.4 Steps involved in the selection of improvement initiatives

As shown in Figure 7.2, the refined model focuses in the steps involved in the selection of improvement initiatives. In relation to this, several suggestions given by the other interviewees are listed as follows

- “The steps should be: (1) Understand organisational profile; (2) Assess organisation using BE framework; (3) Identify area for improvement - according to the main elements of BE framework; (4) conduct research to understand what initiatives can be adopted to close the gap; (5) look how the initiatives can be integrated and fit into the culture, people and business; (6)

Filtration process to select the most suitable initiative for implementation; and (7) Roll out plan. In short, the steps are: (1) know who you are; (2) do the assessment; (3) identify area for improvement; (4) identify the initiatives to be adopted; and (5) roll out plan” (Interviewee A7).

- “Examples of mechanism that can be used to diagnose problem are seven basic QC tools, SWOT analysis, external and internal survey, and self-assessment” (Interviewee A5).
- Should explain the steps involved in the filtration / selection process (e.g. process flow) (Interviewee A5, C4)
- “Should explain the strengths, limitations and timeframe needed to implement the initiative successfully” (Interviewee A6).
- Should state the people to be involved / in-charged for each step (Interviewee A7, C4).
- “Change diagnose problem to diagnose opportunities” (Interviewee A8)
- “The trigger to do something is when the people are aware that they are facing certain challenges or facing some performance issues. The first step should be awareness of the challenge or performance issue (e.g. we face big quality problem, we don’t know how well we are performing compared to others, our competitors are better than us and getting more recognition). Once they got the awareness, then they make decision whether to diagnose the problems / situation and/or conduct organisational assessment” (Interviewee B3).
- “Should identify both strengths and opportunities for improvement. Sometime, the initiatives can be used to further improve the performance of our strengths. So, it is not only areas for improvement” (Interviewee B3).
- “Proposed steps: (1) Establish the right culture for improvement; (2) Identify the needs for change / improvement; (3) Diagnose the situation / symptoms – involve root cause analysis. Like a doctor, we must diagnose the symptoms first before we can prescribe the medicine; (4) Identify and filter several relevant main improvement initiatives; (5) Conduct cost benefit analysis / Return of Investment (ROI) / payback analysis; (6) Select the right initiative” (Interviewee C3).

7.6 Conclusion of the chapter

The proposed 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 that should be implemented to improve performance according to the level of BE maturity and areas of implementation (see Figure 7.1). The feedback obtained from the evaluation process (see Section 7.3) was used to refine the conceptual model. The refined conceptual model focuses on the steps to select suitable improvement initiatives, which provide a structured process in making a rational decision (see Figure 7.2). The feedback obtained from the evaluation process (see Section 7.5) was then used to develop the guidance model which will be discussed in the next chapter.

Chapter 8: Development, Evaluation and Refinement of a Guidance Model

8.1 Introduction to the chapter

This chapter explains the second phase of the research which involves the development, evaluation and refinement of a guidance model for selecting organisational improvement initiatives (see Figure 3.1). The second phase of research was conducted between July 2010 and December 2011. This chapter begins with a description of the development of the guidance model, which has also been published in the Proceedings of the 15th International Conference on ISO and TQM (Mohammad et al., 2011b). Subsequently, the evaluation of the model and suggestions for improvement are explained. This is followed by the refinement of the model. Finally, a conclusion for this chapter is presented.

8.2 Development of a guidance model

This section explains how a guidance model was developed based on input from several interviews, an exploratory survey, a literature review, and a document review. In this section, the interviewees are coded as follows:

- CEOs, Directors, Managers, and Executives in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A1 – A8;
- CEO, Director, and Executive from national custodians of Quality or BE Award: coded as Interviewee B1-B3; and
- Consultants specialising in quality management and BE: coded as Interviewee C1-C5.

The interface of the proposed multilayer guidance model is shown in Figure 8.1. The full version of the model is shown in Appendix 7. The full model consists of a cover page, an introduction section, an overview of the model, descriptions of each step and appendices as follows:

- Appendix A: Example of the main areas for improvement based on the enabler criteria of major BEMs (page A7.9).
- Appendix B: Example of the pathway / roadmap to organisational excellence (page A7.10).
- Appendix C: Proposed decision / selection criteria (page A7.11).
- Appendix D: Example of the proposed decision matrix for selecting appropriate organisational improvement initiative (page A7.12).
- Appendix E: Brief descriptions of the 35 main organisational improvement initiatives widely used by the organisations (page A7.13 – A7.14).

This model is an improved version of the refined conceptual model (see Section 7.4). It was named using the acronym of 'GUIDE' which reflects the five key steps to select improvement initiatives:

- Goal setting (G)
- Understand organisational context (U)
- Identify relevant organisational improvement initiatives (I)
- Decide appropriate initiative (D)
- Evaluate the decision (E)

As can be seen in Figure 8.1, the users can click on each designated box (labelled 'click here') to obtain more information about the steps to be taken. The following sub-sections explain the proposed steps involved in selecting organisational improvement initiatives.

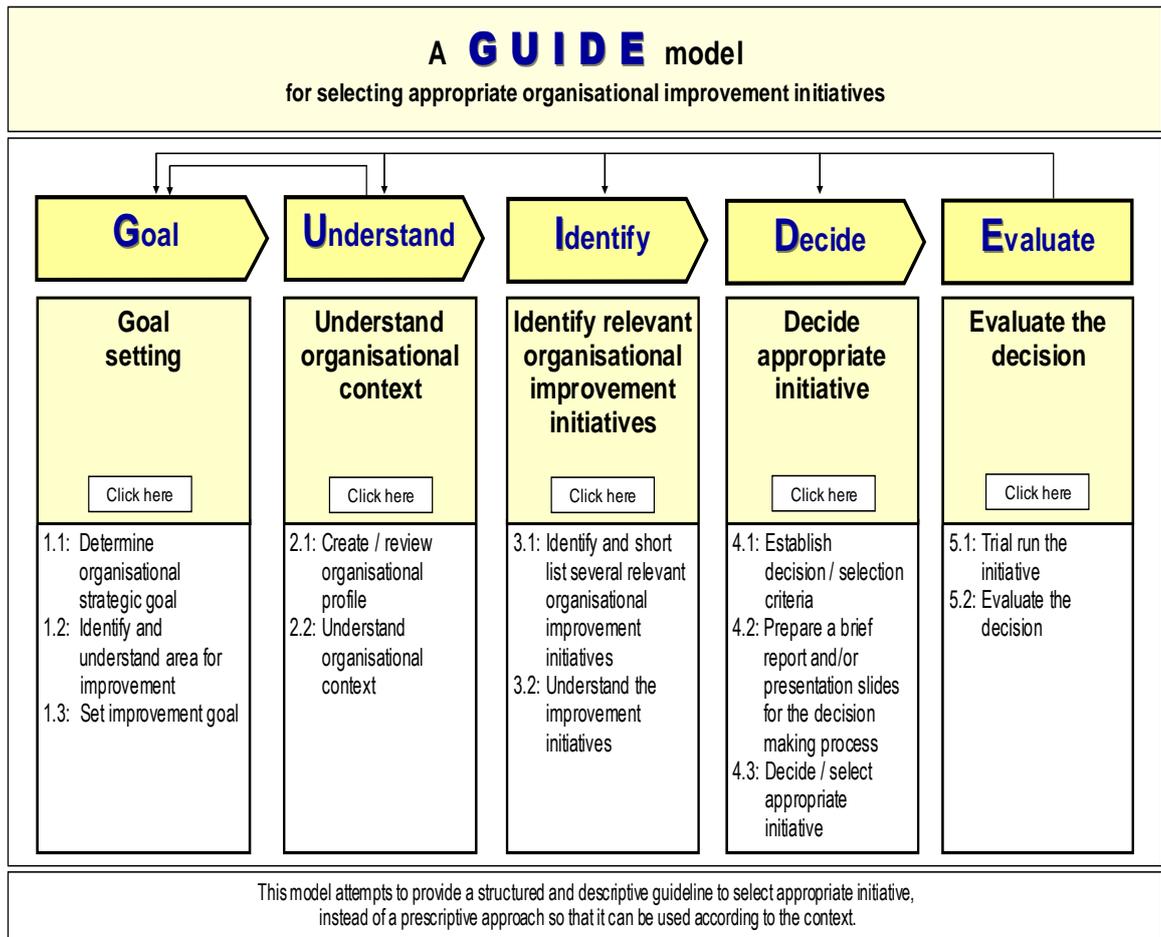


Figure 8.1: Overview of the guidance model for selecting organisational improvement initiatives

8.2.1 Goal setting (Goal – G)

8.2.1.1 Determine organisational strategic goal(s)

Organisational strategic goal(s) can be determined based on:

- Organisational desired future state. Determine where the organisation wants to be (Interviewee A8).
- Gap analysis (Interviewee A5, B2, and C2). Identify realistic gaps between where the organisation wants to be and where it is now (Interviewee A3). Examples of tools that can be used for gap analysis are: (1) organisational assessment based on established BEM such as, Baldrige CPE and EFQM

Excellence Model (Interviewee A7, B1, and C1); (2) benchmarking; (3) SWOT analysis (Interviewee A3); (4) Internal and external customer survey (Interviewee A1 and A5); (5) business performance review (Interviewee A3 and C4).

8.2.1.2 Identify and understand area for improvement in order to achieve organisational strategic goal

The proposed steps to identify and understand area for improvement are as follows:

- Areas for improvement can be categorised based on the enabler criteria of BEMs. Appendix A of the full version of GUIDE model (see page A7.9) provides the description of the areas for improvement together with the core values and concepts of BE. The description of the areas for improvement is based on information in Table 2.3.
- Get a team to consider all possible areas for improvement and priorities, and decide on the improvement area that is important to focus on (Interviewee A1, B2 and C1).
- Identify stakeholders (e.g. employees, customers, suppliers) and resources involved in the area of improvement.
- Identify inputs, processes and outputs involved in the area of improvement.
- Diagnose and analyse the situation using a team-based approach (Interviewee A3, A7, B1, C1 and C3). Reflect on what has been done in the past to address the situation. It is about reflection and learning (Interviewee C3). Identify possible root causes of the situation (Interviewee B1 and C3).

8.2.1.3 Set improvement goal to address the area of improvement

Performance measures should be defined prior to setting the improvement goal (Interviewee C2). Subsequently, current performance and expected future performance should be identified (Interviewee B2).

8.2.2 Understand organisational context (Understand – U)

8.2.2.1 Create, review, and/or understand organisational profile

Elements of the organisational profile / context that should be created, reviewed and/or understood include but are not limited to:

- Vision, mission and values (Interviewee A1, B2, C2, A6, C3) (NIST, 2008).
- Purpose of the organisation (Interviewee A2, B1, C1, A4, A7, and A8)(NIST, 2008).
- Direction, strategic plan and goals of the organisation (Interviewee A2, B1, C1, A4, A7, and A8)(NIST, 2008).
- Profile of customers, employees, partners, suppliers and/or other stakeholders of the organisation (Interviewee A2 and A7)(NIST, 2008).
- Requirements and expectations of customers and other stakeholders (Interviewee A1, A3, A4, A5, C1 and C3)(NIST, 2008).
- Level of organisational excellence maturity (Interviewee A2, A5, B1, and C1).
- Main resources of the organisation, such as facilities, technologies, and equipment (Interviewee A2)(NIST, 2008).
- Challenges faced by the organisation (Interviewee A7)(NIST, 2008).
- Core competencies of the organisation (NIST, 2008).
- External environment in which the organisation operates, which includes: political, economic, social, technological, legal and environmental factors (Interviewee A2, A8, B3, and C1).
- Organisational and/or national culture (Interviewee A2 and C5).
- Main products / services provided (NIST, 2008).
- Core processes in the organisation (NIST, 2008).
- Type and size of the organisation (Interviewee A2)(NIST, 2008).
- Relationships and dependencies between the sub-systems within the organisation (Gharajedaghi, 2006).

8.2.3 Identify relevant organisational improvement initiatives (Identify – I)

8.2.3.1 Identify and shortlist several relevant organisational improvement initiatives

Several relevant improvement initiatives can be identified based on:

- Discussion with consultants / experts (Interviewee A2 and C3).
- Discussion and experience sharing with various people from other organisations (Interviewee A2).
- Latest publications from management and industrial gurus (Interviewee B1).
- Requirements and/or expectations of the customers and/or other stakeholders (Interviewee A1, A3, A4, A5, C1 and C3).
- Findings from academic and practitioner research (Interviewee A2 and C3).
- Best practice in the industry (Interviewee A5).

Examples of the main initiatives that can be considered are provided in Appendix B of the full GUIDE model (see page A7.10). This appendix is a revised version of the lower part of the initial conceptual model (see Figure 7.1). Brief descriptions of the 35 main improvement initiatives listed in Appendix B can be referred in Appendix E of the full GUIDE model (page A7.13 – A7.14).

8.2.3.2 Understand the improvement initiatives

Elements of the initiatives that should be understood include but are not limited to:

- Fundamental purpose, strengths and weaknesses of the initiatives (Interviewee A2, A7, B1, B3, C1, C4 and C5) (Dale, 2007; Rigby & Bilodeau, 2005).
- Expected value or payoff for implementing the initiatives successfully (Interviewee A2, A8, B3, C1 and C3) (Dale, 2007; Thawesaengskulthai & Tannock, 2008b).

- Expected costs, time and resources needed to introduce and implement the initiatives successfully (Interviewee B1 and B3) (Dale, 2007).
- Ability to fit in with, integrate or support other initiatives already in place, and might be used in the future (Interviewee A7, B1, C3 and C5)(Dale, 2007).
- All the ramifications of implementing the initiatives (Interviewee B1).

It would be better if the organisation could conduct cost benefits analysis, risk analysis, Return of Investment (ROI) analysis and/or payback analysis for each initiative that has been shortlisted for selection.

8.2.4 Decide on the appropriate initiative (Decide – D)

8.2.4.1 Establish decision / selection criteria

Establish decision / selection criteria through meeting, workshop and/or brainstorming session. Examples of the selection criteria are presented in Table 8.1 and included in the Appendix C of the full GUIDE model (see page A7.11). All these criteria are based on the contingency factors for selecting improvement initiatives which are explained in Section 2.3.2 and 5.4.4.

Table 8.1: Proposed Decision / Selection Criteria

Main criteria	Sub-criteria
<p>1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?</p>	<ul style="list-style-type: none"> • Capability of the workforce to introduce and implement the initiatives successfully (Interviewee A3, A4, A5, B1) (NIST, 2010; Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a). • Ability to gain top management commitment and support (Interviewee A2, A5, B1, C1)(Benson et al., 1991; Saunders & Mann, 2007; Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a). • Ability to allocate necessary resources to introduce and implement the initiatives successfully, such as funding and equipment (Interviewee A2, A8, B1, C1) (Dale, 2007). • Suit with the level of organisational excellence maturity (Interviewee A2, A5, B1, C1) (Dahlgard & Dahlgard-Park, 2004; NIST, 2010).
<p>2. Organisation fit: Can the initiative fit within the organisational context?</p>	<ul style="list-style-type: none"> • Suit with the purpose of the organisation (Interviewee A2, C1). • Suit with the requirements / expectations of the customers and other stakeholders (Interviewee A1, A3, A4, A5, C1, C3). • Suit with the organisational culture (Interviewee A1, A2, A7, B3, C1, C3, C5) (Sousa & Voss, 2008; Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a). • Suit with the external environment in which the organisations operate, which includes: political, economic, social, technological, legal and environmental factors (Interviewee A2, A4, A7, A8, C1) (Capon, 2004). • Suit with the type (e.g. private, public or non-profit) and size (e.g. small, medium or large) of organisations (Interviewee A2, C2, C5) (Benson, et al., 1991; Dahlgard & Dahlgard-Park, 2004; NIST, 2010; Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a).
<p>3. Strategic alignment: Can the initiative be aligned with the organisation's strategy?</p>	<ul style="list-style-type: none"> • Align with the vision, mission and/or policy of the organisation (Interviewee A1, B2, C2, A6, C3) (Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a). • Align with the direction, strategic plan and/or goals of the organisation (Interviewee A2, B1, C1, A4, A7, A8, C3) (Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a).
<p>4. Compatibility: Can the initiative work successfully with other initiatives already in place and might be used in the future?</p>	<ul style="list-style-type: none"> • Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future (Dale, 2007)(Interviewee A7, B1, C3, C5). • Ability to implement the initiative easily in the organisation without much intervention (Interviewee A1).
<p>5. Value / benefit: Can the initiative add value to the organisation?</p>	<ul style="list-style-type: none"> • Value / payback for implementing the initiatives (Interviewee A1, A2, A4, A5, A6, A7, A8, B1, B3, C1, C3, C4, C5) (Thawesaengskulthai, 2007; Thawesaengskulthai & Tannock, 2008a, 2008b). • Duration taken to obtain the value of implementing the initiative (Interviewee A4, A7). • Whether the initiative has been proven to provide values / benefits in other similar organisations (Interviewee A2, A5, A7, B1).

8.2.4.2 Prepare a brief report and/or presentation slides for the decision making process

Contents of the report and/or presentation slides include but are not limited to:

- Background of the situation (Interviewee A3, A7, B1, C1 and C3).
- Rationale for selecting and/or implementing the improvement initiatives (Interviewee B1 and C3).
- Main purposes of the improvement initiatives (Interviewee A2, A7, B1, B3, C1, C4 and C5).
- Values / benefits for implementing the initiatives (Interviewee A2, A6, A8, B3, C1 and C3).
- Costs and other resources required to implement the initiatives (Interviewee A2, B1 and B3).
- Assessment of the impact of implementing the initiative, such as Cost Benefit Analysis (Interviewee A8)
- List of employees, customers, suppliers and other stakeholders involved (Interviewee A7).
- Trial run and/or implementation plan (Interviewee A7).
- Possible challenges / barriers and proposed countermeasures.
- Decision / selection criteria (Interviewee A7, B3, C3 and C4).
- Decision matrix that can be used to assist the selection of an appropriate initiative (Thawesaengskulthai & Tannock, 2008a). An example of the decision matrix is provided in the Appendix D of the full GUIDE model (see page A7.12).

8.2.4.3 Decide / select an appropriate initiative

The proposed steps to decide / select an appropriate initiative are as follows:

- Discuss the contents of the report / slides prepared in the previous step (refer to item 8.3.4.2) (Interviewee A3, A7 and C4).

- Use a team-based approach in deciding / selecting appropriate initiative through meeting, workshop and/or brainstorming session (Interviewee A1). Consult and involve the people who are going to implement and/or use the initiative (Interviewee A7).
- Complete the decision matrix prepared in the earlier step (refer to item 8.2.4.2). This includes weighting the criteria, rating and ranking the initiatives as well as interpretation and analysis (Thawesaengskulthai & Tannock, 2008a).
- Decide / select the appropriate initiative (All interviewees). Expected outcome from this decision / selection process should be the appropriate initiative for the organisation. Other shortlisted initiatives will be rejected.

8.2.5 Evaluate the decision (Evaluate – E)

8.2.5.1 Trial run the initiative

To evaluate the decision that has been made and reduce the risk of failure, it is better for the organisation to conduct a trial run before fully implementing the initiative (Snow & Phillips, 2008). The proposed steps to conduct the trial run of the initiative are as follows:

- Get approval and buy-in from top management. Convince and educate the top management so that they are very clear on why the organisation needs to implement the initiative (Interviewee A7).
- Roll-out appropriate plan for trial run of the initiative (Interviewee A7).
- Introduce the initiative in the selected organisational unit for the trial run. Engage all related people at different levels of the organisational unit. Create awareness and provide training to ensure all related leaders and employees have sufficient levels of understanding and are ready to embark on this initiative (Interviewee A7).
- Customise, adopt and/or adapt the initiative to fit the situation (Interviewee A7).
- Monitor the trial-run of the initiative (Interviewee A7 and A8).

8.2.5.2 Evaluate the decision

The proposed steps to evaluate the decision are as follows:

- Measure the performance / impact of the initiative to the organisation. Check whether the initiative would be able to help organisation achieve the improvement goal established earlier (refer to item 8.2.1.3) (Interviewee A7 and A8).
- Evaluate the decision that has been made based on the trial run of the initiative. If the trial run of the initiative is successful, then continue implementing it. This situation indicates that the organisation is ready to fully implement the decision.
- If the trial run of the initiative is not successful, then diagnose the root cause of the failure. If the root cause is due to an inappropriate decision taken, then return to an earlier phase of the overall selection / decision process ('Goal', 'Understand', 'Identify' and/or 'Decide' phase).

8.3 Evaluation of the guidance model

The proposed guidance model was assessed during the evaluation survey involving 33 respondents (See Section 6.3). As can be seen in Appendix 6, there are two sections of the questionnaire that relate to the evaluation of the proposed GUIDE model:

- Section 3: Request respondents to evaluate the proposed GUIDE model by indicating the degree of agreement for each statement / question related to the GUIDE model (page A6.4).
- Section 4: Obtain respondent's opinion in terms of strengths and weaknesses of the model as well as suggestions for improvement (page A6.5).

In this section, the main findings from the evaluation survey are summarised into two areas:

- Degree of agreement for each statement / question related to the GUIDE model
- Strengths, weaknesses and suggestion for improvement.

8.3.1 Degree of agreement for each statement / question related to the GUIDE model

In the questionnaire, two statements and ten questions were asked related to the proposed GUIDE model:

- The Introduction Section to the GUIDE Model is written clearly and easy to understand (See Figure 8.2).
- The GUIDE model is presented clearly and easy to understand (See Figure 8.3).
- Do you agree with the steps and content of the 'G - Goal Setting' section? (See Figure 8.4).
- Do you agree with the steps and content of the 'U – Understand organisational context' section? (See Figure 8.5).
- Do you agree with the steps and content of the 'I – Identify relevant organisational improvement initiatives' section? (See Figure 8.6).
- Do you agree with the steps and content of the 'D – Decide appropriate initiative' section? (See Figure 8.7).
- Do you agree with the steps and content of the 'E – Evaluate the decision' section? (See Figure 8.8).
- Do you agree that the model is useful for quality and/or organisational improvement consultants? (See Figure 8.9).
- Do you agree that the model is useful for quality and/or organisational improvement practitioners? (See Figure 8.10).
- Do you agree that the model is useful for Small and Medium Sized Enterprises (SMEs)? (See Figure 8.11).
- Do you agree that the model is useful for academics? (See Figure 8.12).
- Do you agree that the model is useful for organisations in general? (See Figure 8.13).

As can be seen in Figure 8.2, 27 respondents (87.1% of total responses) either strongly agreed or agreed that the Introduction Section to the GUIDE model is written clearly and easy to understand. Only one respondent disagreed with the statement and the respective respondent suggested that the introduction should highlight the intended audience, purpose and critical points (Respondent 28).

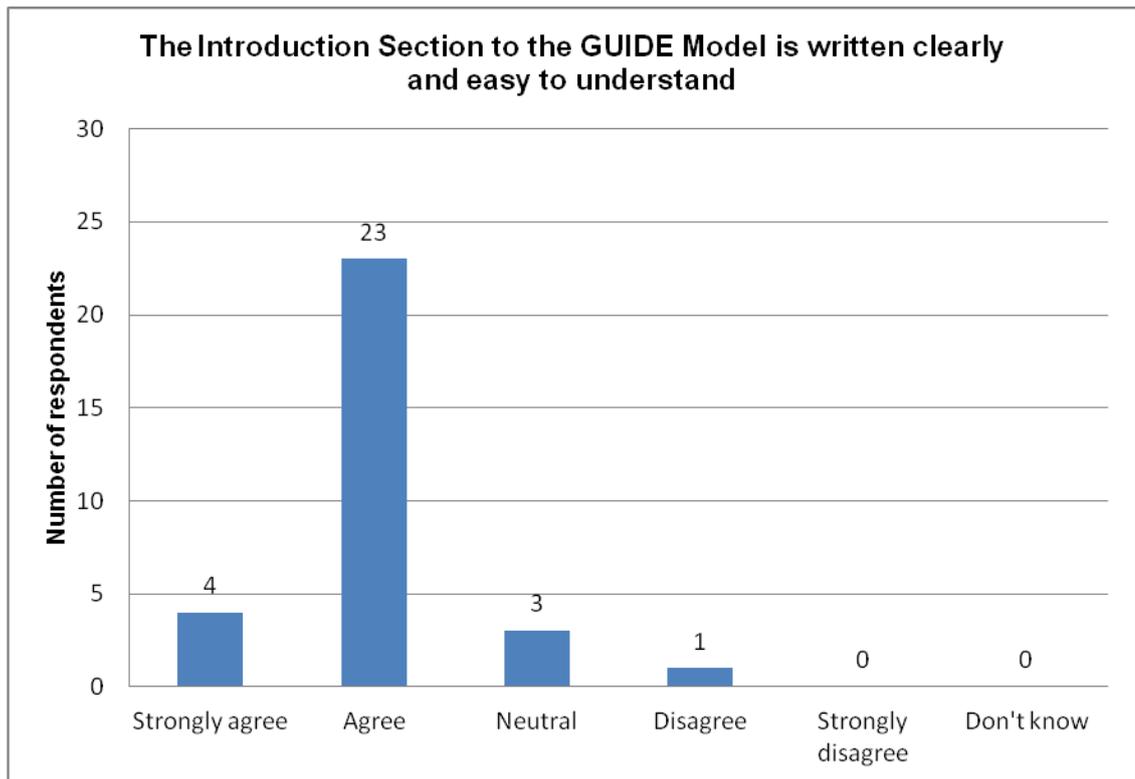


Figure 8.2: Response distribution by whether the respondents' think that the Introduction Section to the GUIDE Model is written clearly and easy to understand (Total responses = 31)

Subsequently, Figure 8.3 shows that almost all respondents either strongly agreed or agreed that the GUIDE model is presented clearly and easy to understand (30 respondents or 96.8% of total responses). None of the respondents disagreed or strongly disagreed.

The respondents were then asked to evaluate the steps and contents of each of the five main sections of the GUIDE model. Twenty one respondents (67.7% of total responses) either strongly agreed or agreed with the steps and contents of the 'Goal setting - G' section (see Figure 8.4). The three respondents who disagreed made the following comments:

- "Elements of 'G' need to incorporate parts of section 'U'. Having them separate is confusing and may require an amount of rework if you undertake them in the sequence given" (Respondent 6)
- "Would have thought strategy and strategic goals would already be identified...if not then no other improvement initiative should be considered until a process for developing and effectively implementing the strategy is deployed" (Respondent 21).

- “Seems like the Gap analysis portion should be under 1.2 as a part of identifying areas for improvement...I believe it is critical to have data (trends, and/or competitor, and/or benchmark) to set expected future performance... Final bullet, identifying current performance should be a part of 1.2” (Respondent 27).

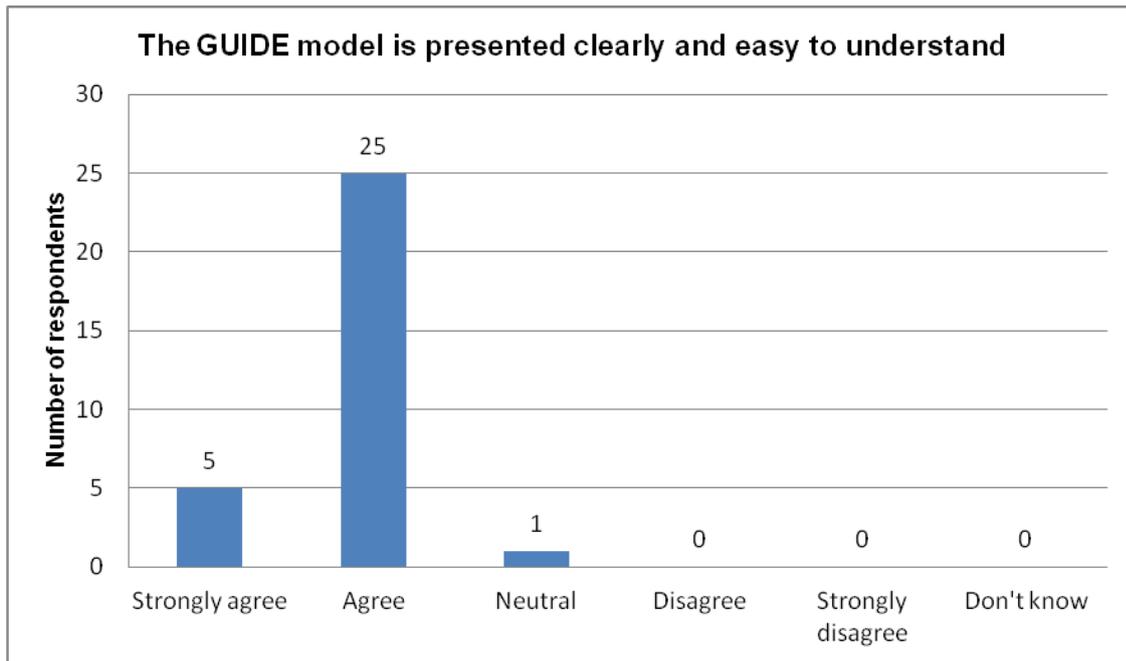


Figure 8.3: Response distribution by whether the respondents' think that the GUIDE model is presented clearly and easy to understand (Total responses = 31)

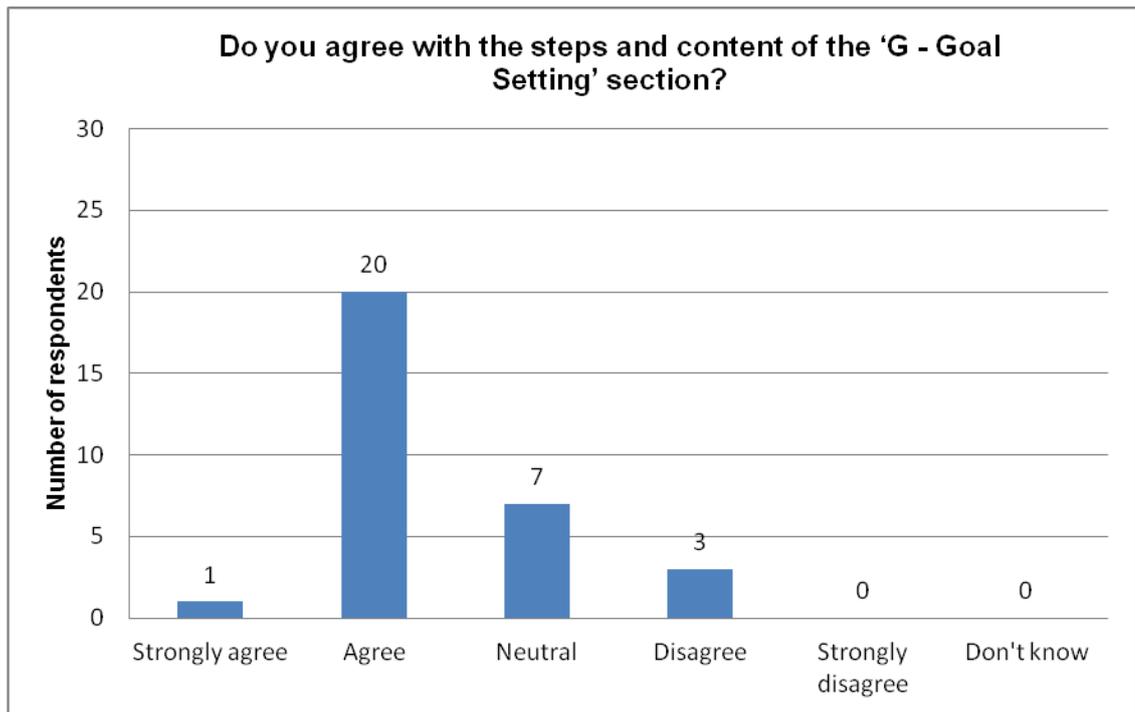


Figure 8.4: Response distribution by the level of agreement of the respondents with the steps and content of the 'G - Goal Setting' section (Total responses = 31)

As shown in Figure 8.5, 24 respondents (80% of total responses) either strongly agreed or agreed with the steps and contents of the 'Understand organisational context – U' section. Two respondents disagreed due to the following reasons:

- “Two steps are listed along with one description. Resolve this by having one or two steps” (Respondent 5).
- “Elements of 'G' need to incorporate parts of section 'U'. Having them separate is confusing and may require an amount of rework if you undertake them in the sequence given” (Respondent 6)

With regards to the 'Identify relevant improvement initiative – I' section, 27 respondents (90% of total responses) either strongly agreed or agreed with the steps and contents (see Figure 8.6). Only one respondent disagreed and asked whether this section should be part of section 1.2 of the GUIDE model (identify and understand area for improvement).

Figure 8.7 shows that 23 respondents (74.2% of total responses) either strongly agreed or agreed with the steps and contents of the 'Decide appropriate initiative – D' section. Only one respondent disagreed and highlighted that it may not always be possible to quantify the decision accurately (Respondent 28).

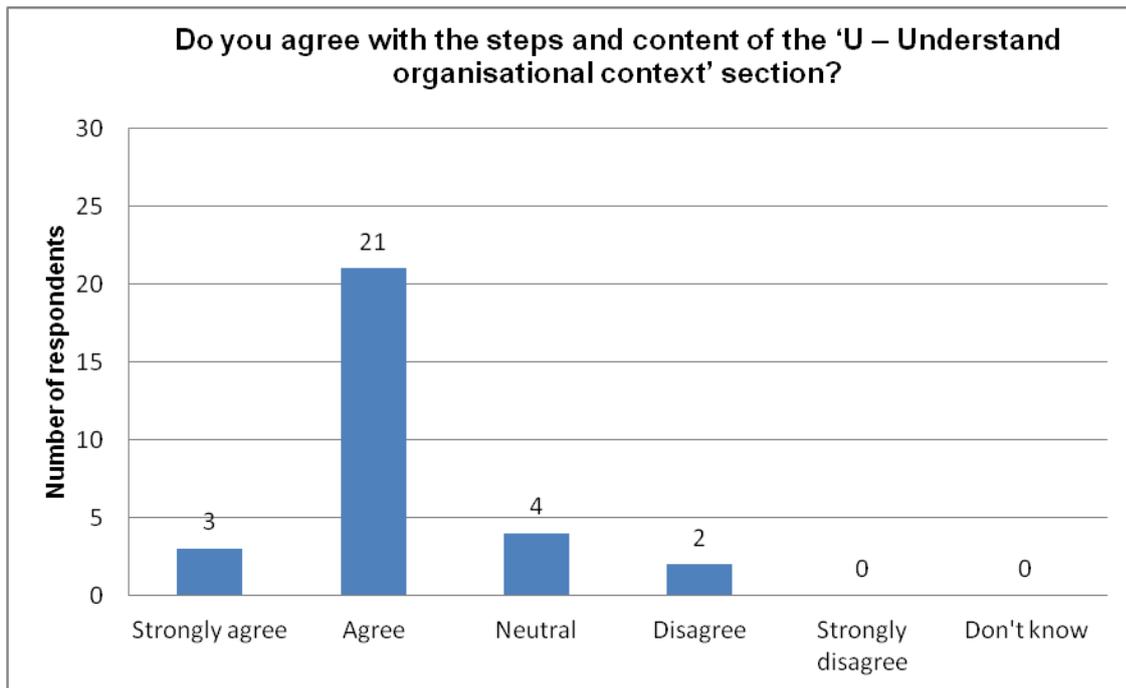


Figure 8.5: Response distribution by the level of agreement of the respondents with the steps and content of the 'U – Understand organisational context' section (Total responses = 30)

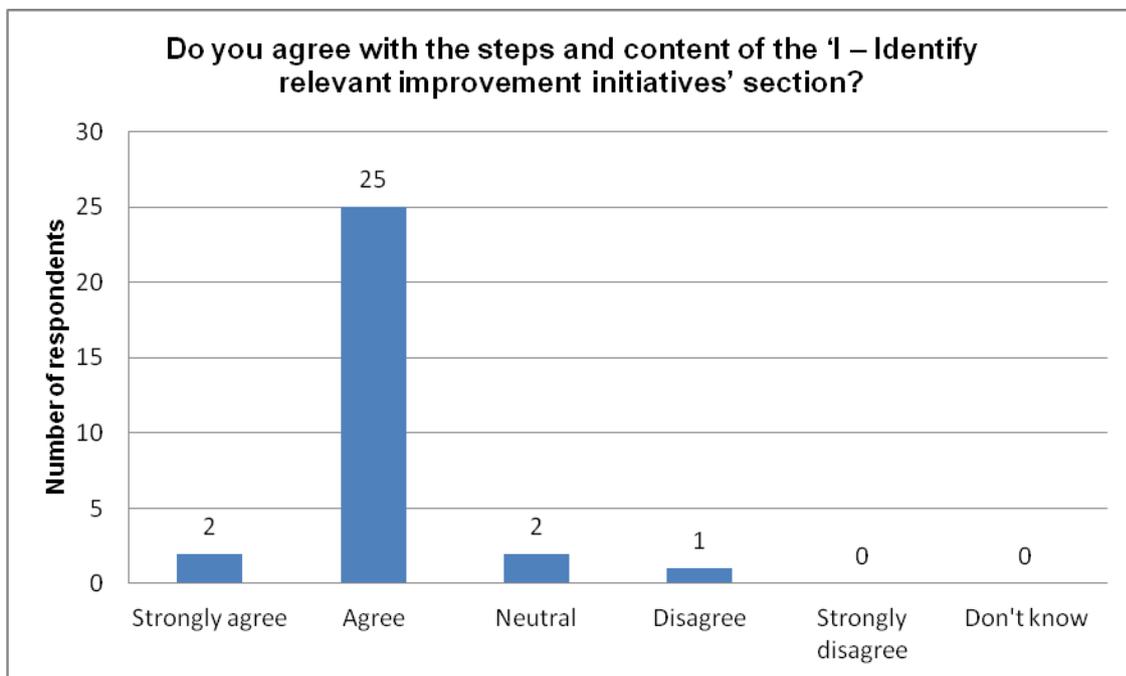


Figure 8.6: Response distribution by the level of agreement of the respondents with the steps and content of the 'I – Identify relevant organisational improvement initiatives' section (Total responses = 30)

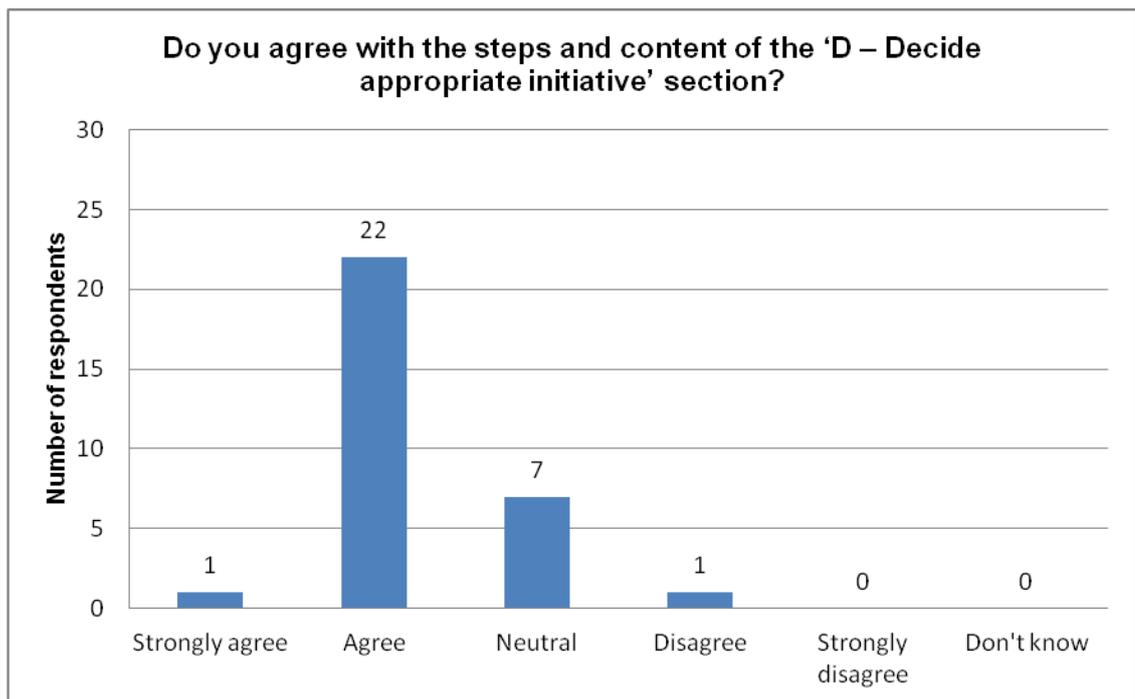


Figure 8.7: Response distribution by the level of agreement of the respondents with the steps and content of the 'D – Decide appropriate initiative' section (Total responses = 31)

For the 'Evaluate the decision – E' section, 23 respondents (74.2% of total responses) either strongly agreed or agreed with the steps and contents (see Figure 8.8). Three respondents disagreed and provided the following comments:

- “If the initiative is researched and prioritised well in the 'D' stage, it will make section 'E' redundant and potential waste resources or miss out on an opportunity” (Respondent 6).
- “Trial run should be before decision making and after recommendation. Evaluation should be after the actual implementation” (Respondent 29).
- “Buy in from top management is critical for large initiatives but not necessarily so for smaller ones. In some cases it might actually be better to run the pilot before trying to sell it to top management. No guidance on adjusting the initiative based on performance and feedback from participants. This section just stated to go back to identifying new / different initiative” (Respondent 27).

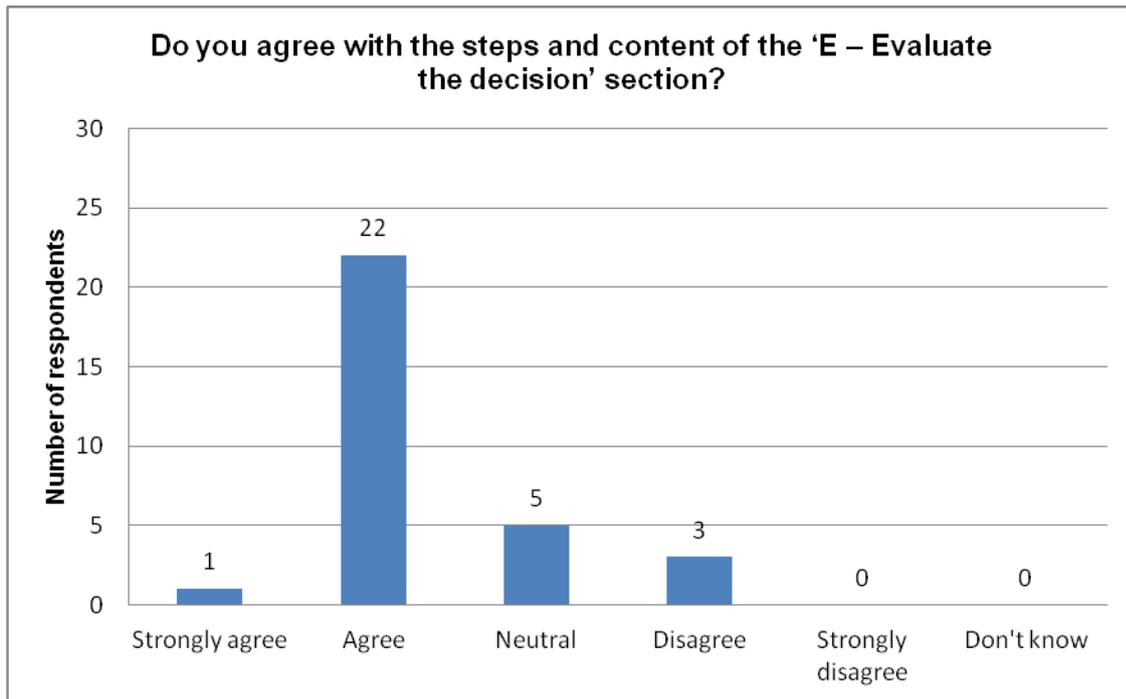


Figure 8.8: Response distribution by the level of agreement of the respondents with the steps and content of the 'E – Evaluate the decision' section (Total responses = 31)

Figure 8.9 indicates that 24 respondents (77.4 % of total responses) either strongly agreed or agreed that the GUIDE model is useful for quality and/or organisational improvement consultants.

In terms of whether the GUIDE model is useful for quality and/or organisational improvement practitioners, 83.9% of total responses (26 respondents) either strongly agreed or agreed (see Figure 8.10). One respondent disagreed and highlighted that the model is generic, and lacks of focus and clarity in relation to implementation (Respondent 2).

As can be seen in Figure 8.11, 17 respondents (54.8% of total responses) either strongly agreed or agreed that the model is useful for Small and Medium Sized Enterprises (SMEs). Two respondents disagreed because they thought that the model seemed to be quite complicated or too detailed for SMEs (Respondent 4 and 32).

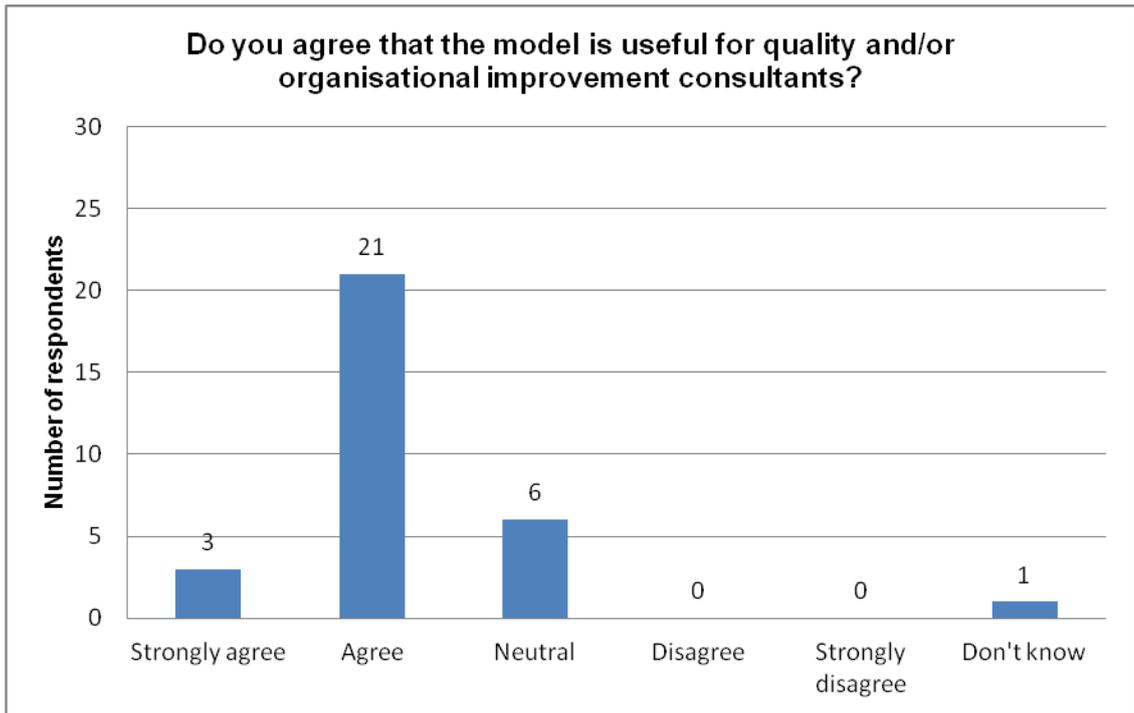


Figure 8.9: Response distribution by whether the respondents' think that the model is useful for quality and/or organisational improvement consultants (Total responses = 31)

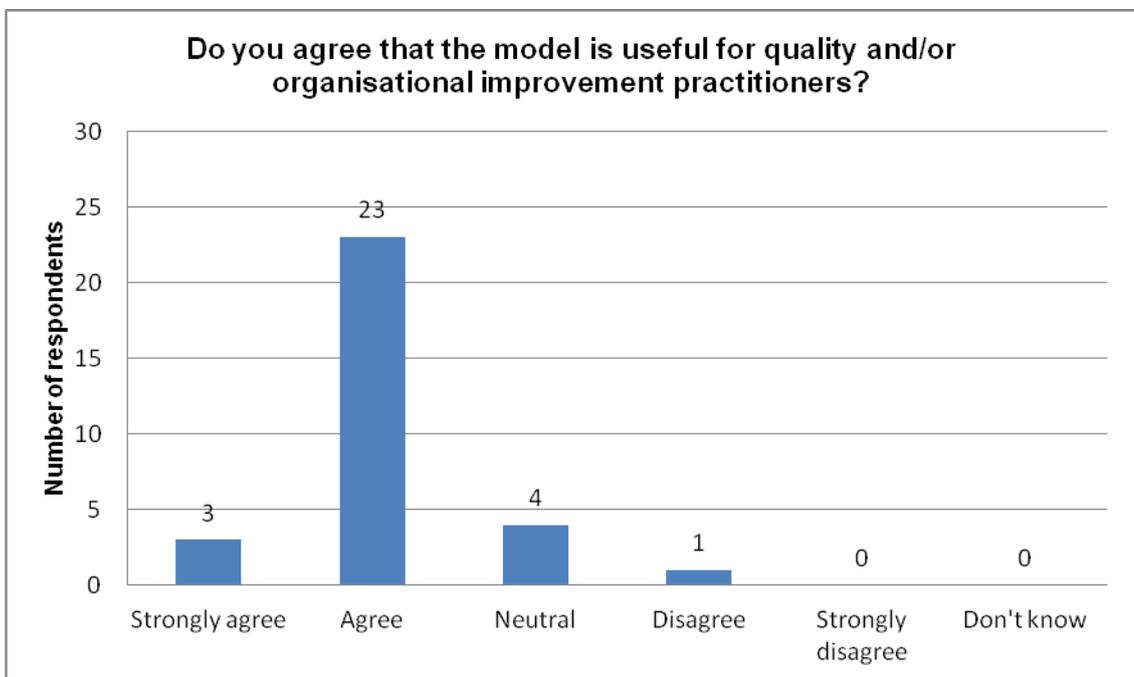


Figure 8.10: Response distribution by whether the respondents' think that the model is useful for quality and/or organisational improvement practitioners (Total responses = 31)

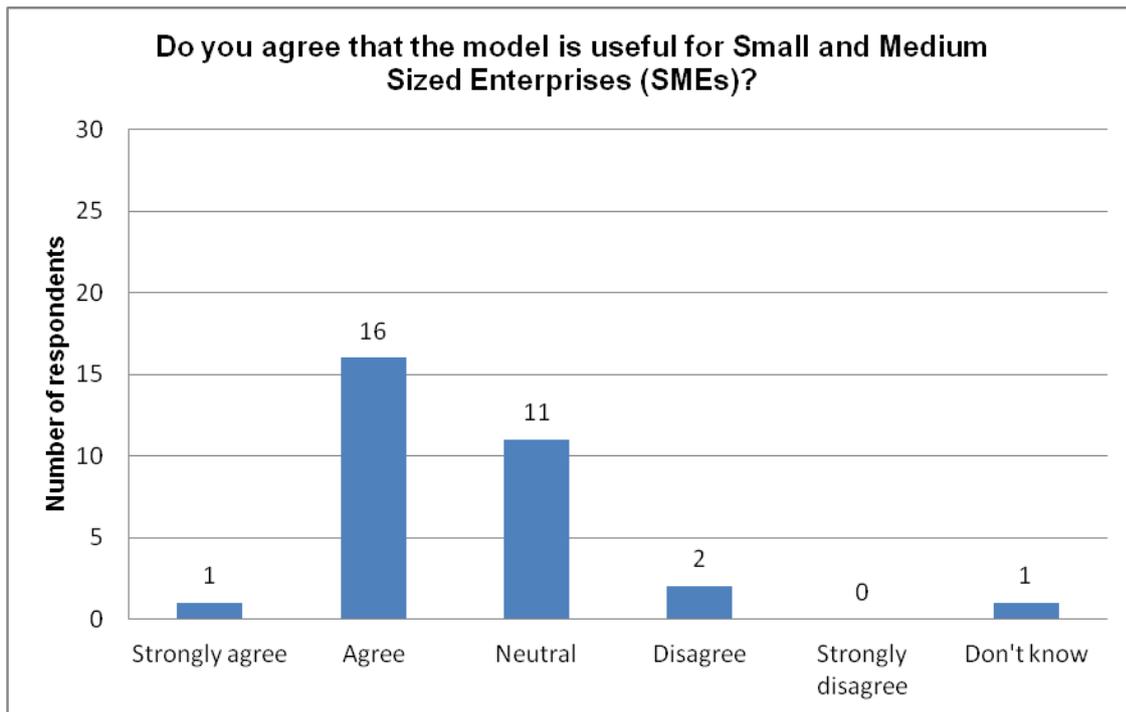


Figure 8.11: Response distribution by whether the respondents' think that the model is useful for Small and Medium Sized Enterprises (SMEs) (Total responses = 31)

Figure 8.12 shows that none of the respondents either disagreed or strongly disagreed that the model is useful for academics. Forty two percent of total responses (13 respondents) strongly agreed or agreed. The balance of 58% percent (18 respondents) was either neutral or did not know due to the fact that most of the respondents were practitioners or consultants (see Figure 6.2). Only three respondents were the academics.

The final question asked whether the respondents agreed that the model is useful for organisations in general. Twenty-two respondents (70.9% of total responses) either strongly agreed or agreed (see Figure 8.13). Only one respondent disagreed and provided a comment that the model lacks of focus and has less clarity in relation to the implementation (Respondent 2).

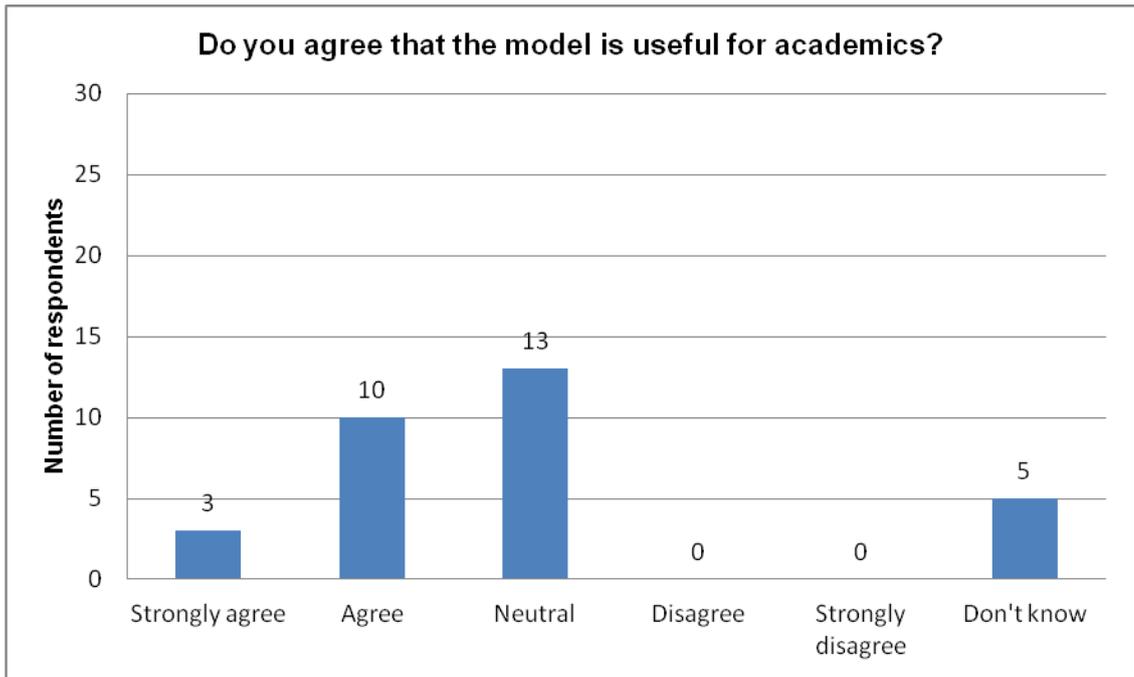


Figure 8.12: Response distribution by whether the respondents' think that the model is useful for academics (Total responses = 31)

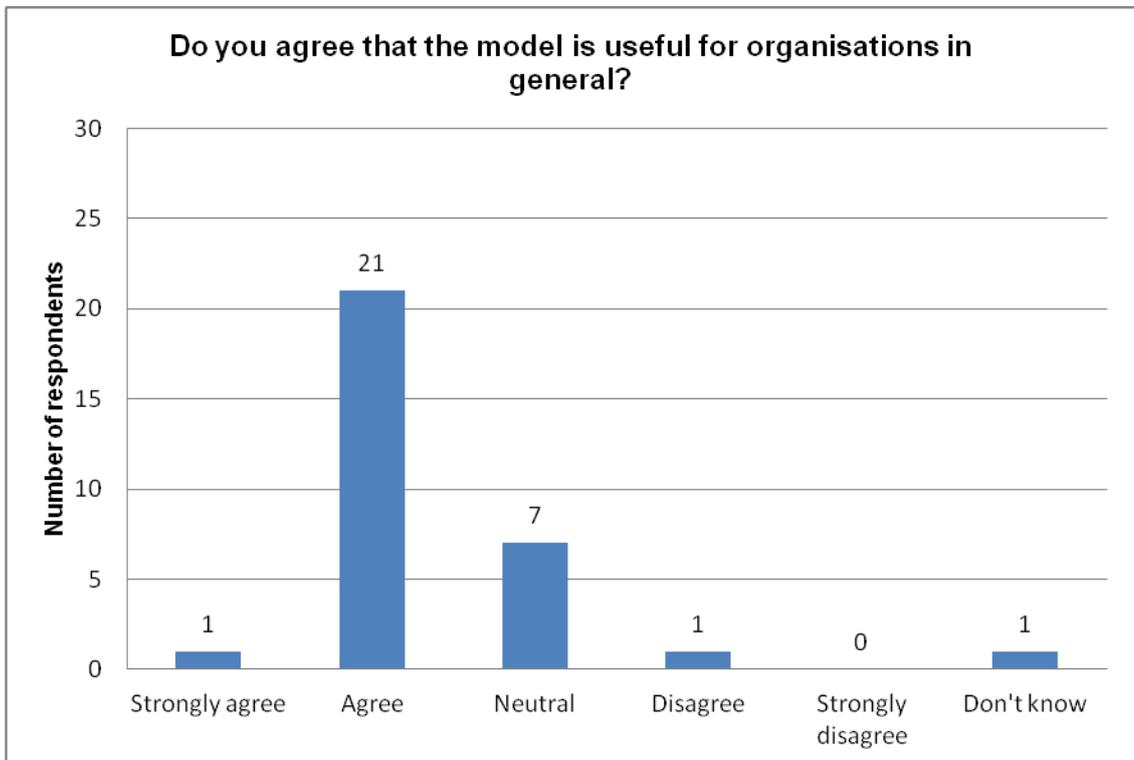


Figure 8.13: Response distribution by whether the respondents' think that the model is useful for organisations in general (Total responses: 31)

8.3.2 Strengths, weaknesses and suggestions for improvement

This section explains the findings of the last part of evaluation survey covering the strengths, weaknesses and suggestions for improvement. The findings of this section are categorised as follows:

- Overall design and contents of the proposed guidance model
- Introduction section
- Steps involved in the selection of improvement initiatives
- Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity
- Contingency factors to be considered in the selection of improvement initiatives

8.3.2.1 Overall design and contents of the proposed guidance model

Overall, the design and contents of the guidance model is acceptable. The feedbacks received from the respondents are listed as follows:

- “Good for training quality teams...useful in classes to help make inexperienced students aware of real life situations” (Respondent 1).
- “Provides generic and comprehensive advice on how to take the journey of operational excellence” (Respondent 2).
- “The GUIDE model is aligned to most BE Models. It is a good model” (Respondent 3).
- “Well set out in a logical format – easy to follow process” (Respondent 4).
- “Some very useful ideas and starters. This area is very complex and you are commended in making a start in rationalising all of the ideas into a simplified model that has the potential to become a useful reference tool” (Respondent 6).
- “Structured approach to enable sound evaluation of various improvement initiatives that are competing for the 'go ahead' in an organisation” (Respondent 7).
- “Relatively simple and clear. Easy to understand” (Respondent 10).
- “The proposed model provides an alternative to the existing models and is relatively user-friendly, which is good for new users” (Respondent 11).

- “The model is easy to understand. With some degree of commitment from top management and the people in an organisation, the model can be a catalyst for improvement in the performance of the organisation” (Respondent 13).
- “Very clear guideline, particularly useful for organisations that are still new to quality and BE” (Respondent 14).
- “The GUIDE model is the one I would like to use for teaching and training the facilitators in our organisation. The appendix documents are also very useful” (Respondent 15).
- “Simple and practical for use. It follows the well-known steps of PDCA” (Respondent 20).
- “Concise, simple and easy to understand” (Respondent 21).
- “Well thought out from an academic perspective” (Respondent 22).
- “Systematic” (Respondent 23).
- “Simple to understand and well structured. In short, it looks to be a fairly comprehensive model” (Respondent 25).
- “Helping organisations realise the importance of systematically evaluating and improving their organisation based on an understanding of their purpose/vision/context and the results/data they have achieved is very valuable. Language/word choice is generally good. You are using words that most people will understand and not relying on too much jargon” (Respondent 27).
- “A logical progression of actions” (Respondent 30).

However, the guidance model is non-prescriptive and does not explain in detailed on how to implement each step (Respondent 3, 4, and 5). In addition, Respondent 3 highlighted that, “this model in its current form would require intervention from specialists”. As stated in the interface of the model (see Figure 8.1), this model is meant to be non-prescriptive so that it can be used according to the context. But, it can be further improved by providing more explanation on how to implement each step of the selection process. Furthermore, Respondent 27 suggested that this model should be piloted in the ‘real-world’ organisations.

8.3.2.2 Introduction section

Part of the full guidance model consists of an introduction section (see Appendix A7, page A7.2). The introduction section comprises of a diagram that shows that in the journey towards achieving organisational excellence, many organisations face the problem to select the appropriate improvement initiative according to the context. In relation to this introduction diagram, Respondent 15 provided the following feedback:

The introduction diagram is most useful and we are keen to adapt this diagram to our organisational requirements and put it onto our webpage and intranet as it is easy to read and clearly demonstrates where performance excellence lies.

Respondent 15 also had adapted this introduction diagram in her organisation by modifying some of the contents to suit her organisation's needs and requirements. Positive response was received from the use of this introduction diagram in her organisation.

Although the content of the introduction diagram is very useful, it is found to be a bit wordy (Respondent 14 and 15). Therefore, this diagram will be improved by removing unnecessary words.

8.3.2.3 Steps involved in the selection of improvement initiatives

As shown in Figure 8.1, the interface of the guidance model is based on the five main steps that should be conducted in selecting improvement initiatives. Feedbacks received regarding these steps are:

- “Five clear steps. Very useful academic instrument” (Respondent 5).
- “The model provides clear steps and descriptions of items that need to be considered in the selection process” (Respondent 31).
- “The model provides a clear step by step process” (Respondent 33).
- “The model can help people engaged in improvement initiatives to develop a proposal supported by facts and/or other sound basis for the initiative. Relative to the scoring system, it is good when an

initiative is supported by quantified evaluation since this would make decision-making much easier to do. It could also become a strong basis for obtaining management support. Under the section Decide (4) , I found that the approach presented in 4.2 can be very useful in making proposals pertaining to problem-solving activities or improvement initiatives” (Respondent 32)

However there are several issues encountered in relation to these steps which are listed as follows:

- ‘Understand organisational context’ (U) normally occurs before ‘Goal setting’ (G) (Respondent 10 and 23).
- “Goal (G) and Understand (U) stages can be combined” (Respondent 20).
- “For step 5.2 – it should include evaluate and improve GUIDE process” (Respondent 5).
- “Before anyone could engage in identifying improvement initiatives where one would be utilizing the company's time, money and effort, is it not important to first obtain top management's approval and support from the start? Why is this placed at 5.1 when a trial run is already started?” (Respondent 32).
- “Either I missed it or there was really no mention about consideration of workforce diversity in the portion on understanding organisational context?” (Respondent 32).

Based on these feedbacks, the steps for selecting improvement initiatives were refined. The refined steps can be seen in Section 8.4.

8.3.2.4 Main organisational improvement initiatives to be used according to the areas of implementation and BE maturity

Appendix B of the full GUIDE model (page A7.10) shows 35 main initiatives that can be used to improve organisational performance according to the areas of implementation and levels of BE maturity. The framework presented in Appendix B can also be used as one of the pathway / roadmap to organisational excellence. Brief descriptions of these initiatives are shown in Appendix E (page A7.13 – A7.14) Feedback received from Respondent 12 indicates that this information is very useful

because it helps organisations to narrow down the selection of initiatives by focussing on a few vital initiatives. However, Respondent 30 argued that:

Some of the initiatives in Appendix B and E are not really discrete improvement initiatives in the context of organisational excellence. They are business as usual elements, such as financial management, and asset management. These initiatives are fundamental business processes and functions.

Considering this feedback, the initiatives that are not really improvement initiatives will be taken out from the framework, which include the financial management and asset management.

8.3.2.5 Contingency factors to be considered in the selection of improvement initiatives

Appendix C of the full GUIDE model (see page A7.11) provides a list of the criteria to be used in the selection of improvement initiatives. Meanwhile, Appendix D (see page A7.12) shows an example of decision matrix based on the criteria given in Appendix C. All these criteria are the contingency factors to be considered in the selection of improvement initiatives. Respondent 9 found that these criteria are the most interesting part of the GUIDE model. On the other hand, Respondent 27 found that these criteria:

Have a lot of overlaps in both the Main Criteria (specifically Organisational Fit, Strategic Alignment, and Compatibility) and in the Sub-criteria (sub bullets under Strategic Alignment should already be in alignment and breaking apart creates an artificial distinction in the scoring methodology. Also the sub bullets under Compatibility are not substantially different from one-another and again creating an artificial distinction in scoring.

To avoid the overlaps, the main criteria are reduced from five criteria to three criteria: (1) Feasibility; (2) Organisation fit; and (3) Value / benefit (see Table 8.4). The overall refinement of the guidance model is explained in the next section.

8.4 Refinement of the guidance model

This section explains how the guidance model was refined based on input from the evaluation survey, literature review, and document review. In this section, the interviewees are coded as follows:

- CEOs, Directors, Managers, and Executives in the area of quality / BE, selected from organisations that have won a national Quality or BE Award: coded as Interviewee A1 – A8;
- CEO, Director, and Executive from national custodians of Quality or BE Award: coded as Interviewee B1-B3; and
- Consultants specialising in quality management and BE: coded as Interviewee C1-C5.

Meanwhile, the evaluation survey respondents are coded as Respondent 1 – 33.

The interface of the refined guidance model is shown in Figure 8.14. Similar to the initial guidance model, the refined guidance model was also named using the acronym 'GUIDE' which reflects the five key steps to select improvement initiatives:

- Goal setting (G)
- Understand relevant improvement initiatives (U)
- Identify decision criteria (I)
- Decide on the appropriate initiative (D)
- Evaluate the decision (E)

As can be seen in Figure 8.14, the users can click on each designated box (labelled 'click here') to obtain more information about the steps to be taken. Comparison of the earlier model and the refined (final) model will be explained at the end of this section. The following sub-sections describe the proposed steps to select organisational improvement initiatives.

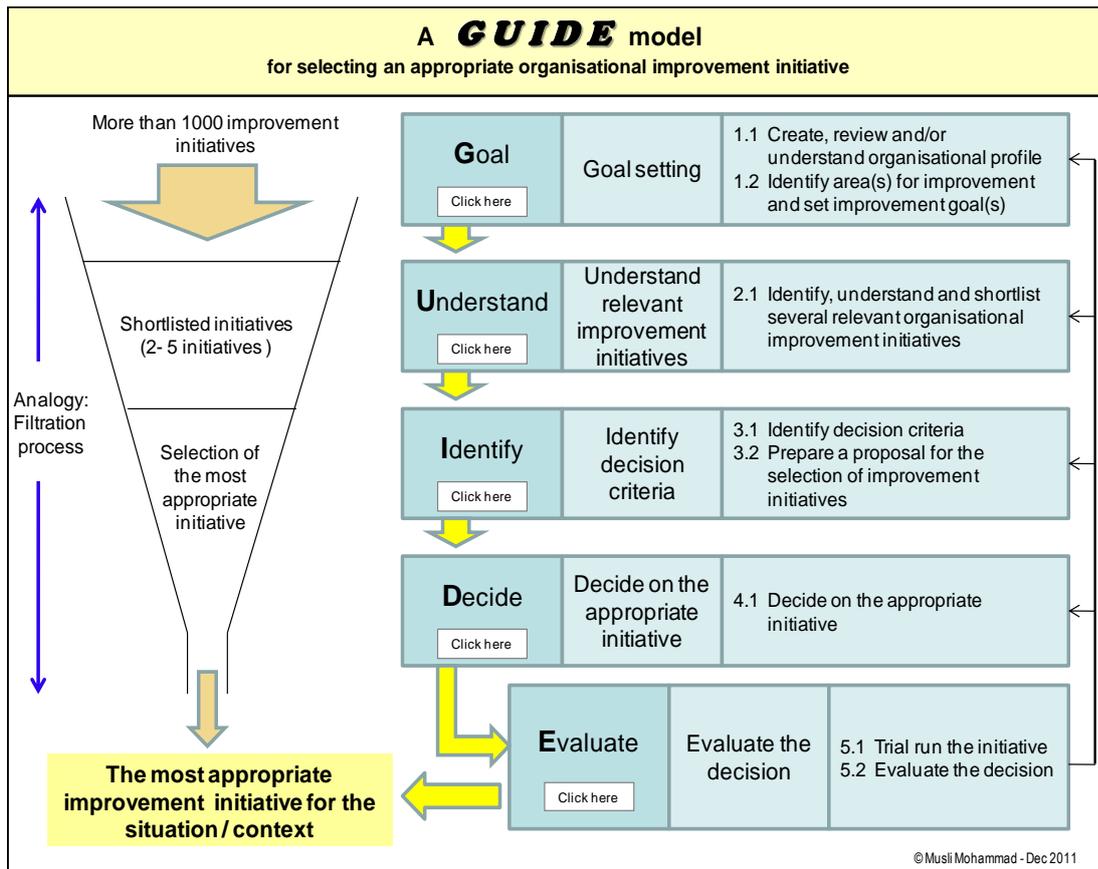


Figure 8.14: Interface of the refined (final) guidance model for selecting organisational improvement initiatives

Step 1: Goal setting

Step 1.1: Create, review and/or understand organisational profile

It is important to understand organisational profile / context in order to make an informed decision on which improvement initiative would best suit the situation (Interviewee A7, B1, B3 and C1). The organisational profile summarises the main organisational characteristics and provides the context for the way the organisation operates (NIST, 2010). Proposed contents of the organisational profile that should be created, reviewed and/or understood include but are not limited to:

- Purpose, vision, mission and values of the organisation (Interviewee A1, A2, A6, A7, B2, C1, C2, and C3) (NIST, 2010).
- Direction, strategic plan and goals of the organisation (Interviewee A2, B1, C1, A4, A7, and A8)(NIST, 2010).

- Main products and/or services that the organisation offers in the marketplace (NIST, 2010).
- Main assets of the organisation, such as facilities, technologies, and equipment (Interviewee A2)(NIST, 2010).
- Workforce profile, such as workforce groups and segments, workforce education levels, and workforce and job diversity (Interviewee A2 and A7; Respondent 32)(NIST, 2010).
- Regulatory requirements under which the organisation operates, such as occupational health and safety regulations, and environmental, financial and product regulations (Respondent 8)(NIST, 2010).
- Profile of customers, partners, suppliers and/or other stakeholders of the organisation, such as key market segments and stakeholder groups, key requirements and expectations, and key mechanisms for communicating with them (Interviewee A1, A2, A3, A5, A7, C1 and C3)(NIST, 2010).
- Structure, type and size of the organisation (Interviewee A2)(NIST, 2010).
- Organisation's competitive environment, such as the number and type of competitors, and key available sources of comparative and competitive data from within and outside industry (NIST, 2010).
- Organisation's key strategic challenges and advantages (Interviewee A7)(NIST, 2010).
- Level of BE maturity (Interviewee A2, A5, B1, and C1).

Step 1.2: Identify area(s) for improvement and set improvement goal(s)

The proposed steps to identify area(s) for improvement and set improvement goal(s) are as follows:

- Identify area(s) for improvement based on the organisation's desired future state or gap analysis. Examples of tools that can be used for gap analysis are:
 - (1) Organisational assessment based on established BEMs, such as Baldrige CPE and EFQM Excellence Model (Interviewee A3, B1, B3, C1, A7);
 - (2) Benchmarking (Interviewee C3);
 - (3) Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis (Interviewee A3);
 - (4) Internal and external customer survey (Interviewee A1, C4);
 - (5) Business performance review (Interviewee C4).
- Areas for improvement can be categorised based on the enabler criteria of BEMs. Examples of the main areas for improvement based on the enabler criteria of major BEMs include: (1) leadership and social responsibilities, (2) strategy, (3) customer focus, (4) process management, (5) workforce focus, and (6) Partnership and resources.
- Consider all possible areas for improvement and priorities, and decide on the improvement area that is important to focus on (Interviewee A1, B2 and C1).
- Identify stakeholders (e.g. employees, customers, suppliers) and resources involved in the area of improvement. Get buy-in and involvement from them.
- Get buy-in and support from top management (Respondent 32).
- Identify inputs, processes and outputs involved in the area of improvement.
- Diagnose and analyse the situation (Interviewee A3, A7, B1, C1 and C3). Identify possible root causes of the situation (Interviewee B1 and C3).
- Define performance measures (Interviewee C2).
- Identify current performance based on available data (Interviewee C2, Respondent 27).
- Set improvement goal(s) based on available data (Interviewee C2, Respondent 27).

Step 2: Understand relevant improvement initiatives

Step 2.1: Identify, understand and shortlist several relevant organisational improvement initiatives

The proposed steps to identify, understand and shortlist several relevant improvement initiatives are listed below:

- Several relevant improvement initiatives can be identified based on:
 - Discussion with consultants / experts (Interviewee A2 and C3).
 - Discussion and experience sharing with various people from other organisations (Interviewee A2).
 - Latest publications from management and industrial gurus (Interviewee B1).
 - Requirements and/or expectations of the customers and/or other stakeholders (Interviewee A1, A3, A4, A5, C1 and C3).
 - Findings from academic and practitioner research (Interviewee A2 and C3).
 - Industry best practice (Interviewee A5).
 - Attending related training / conference / workshop.
- Examples of the most common initiatives that can be considered are shown in Figure 8.15.
- All improvement initiatives can fit within the BEMs. The BEMs can be used as an overarching framework for managing, aligning and/or integrating multiple initiatives within an organisation (Interviewee A7) (See Figure 8.15).
- Do not restrict searching to the initiatives that are available in the marketplace or academia. In identifying relevant initiatives, we can end up by inventing a bespoke initiative, especially in the organisations at the high level of BE maturity (Interviewee A2).
- Elements of the initiatives that should be understood include but are not limited to:
 - Fundamental purpose, strengths and weaknesses of the initiatives (Interviewee A2, A7, B1, B3, C1, C4 and C5).

- Expected financial and non-financial benefit for implementing the initiatives successfully (Interviewee A2, A8, B3, C1 and C3).
- Expected cost, time and resources (e.g. workforce, infrastructure, equipment and training) needed to introduce and implement the initiatives successfully (Interviewee B1 and B3).
- Whether the initiative is compatible with other initiatives currently being used and will be used in the future (Interviewee A7, B1, C3 and C5)(Dale, 2007).
- All the potential ramifications of implementing the initiatives (Interviewee B1).
- Where possible, conduct cost benefit analysis for each initiative that has been shortlisted for selection (Interviewee A4, A7, A8, C3, C5). Possible cost and benefit of implementing a particular improvement initiative can be estimated using industry data. This information can be obtained from the experts of a particular initiative, related research organisations and / or relevant research publications (Paropkari, 2011).

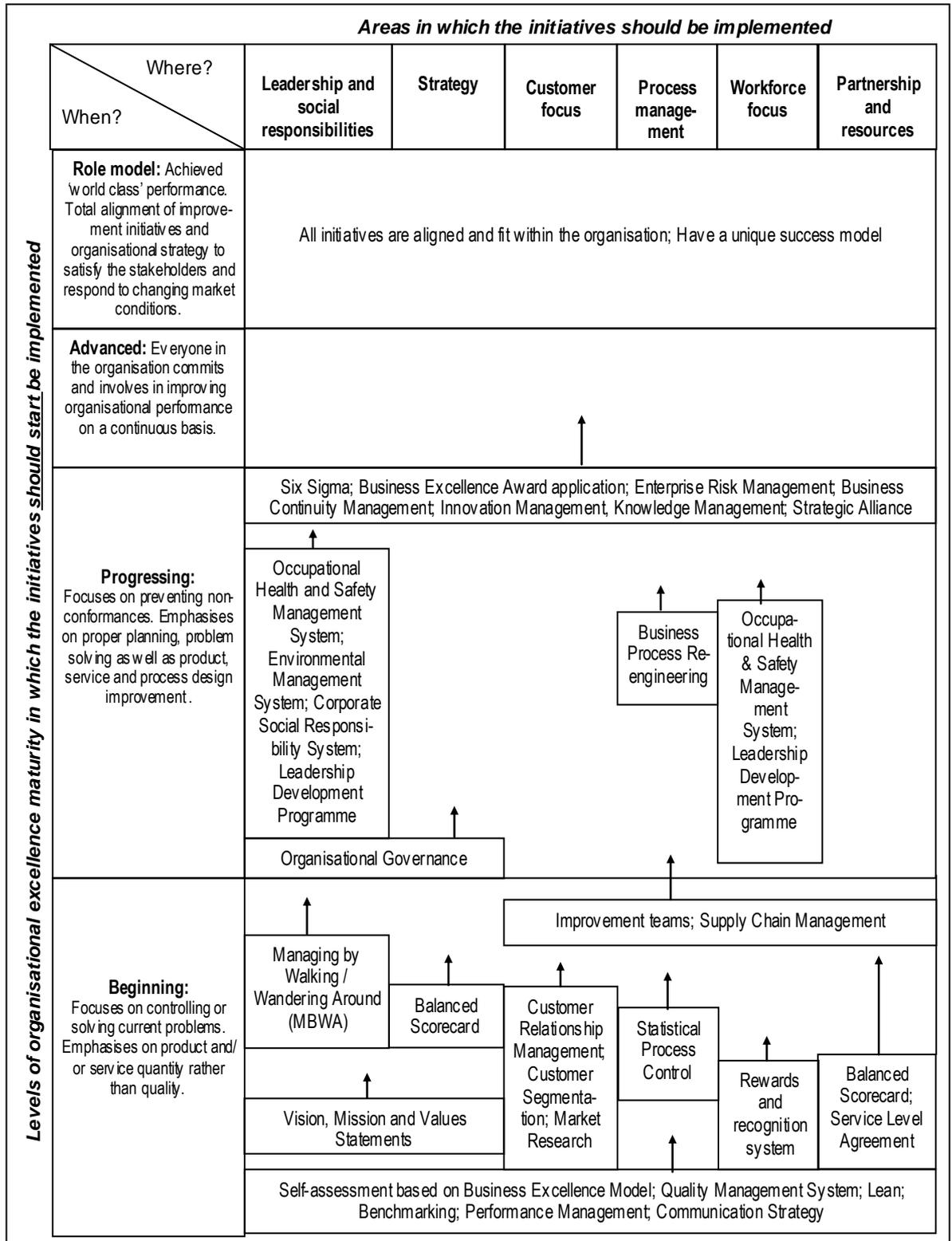


Figure 8.15: A framework showing 30 main initiatives that can be implemented to improve organisational performance according to the common enabling criteria of BEMs and levels of BE maturity.

Figure 8.15 shows the 30 main initiatives which can be implemented to improve organisational performance according to the areas of implementation and levels of BE maturity. The areas of implementation are derived from the common enabler criteria of BEMs as shown in Table 2.2 and 2.3. The stages of BE maturity are classified into four levels: (1) Beginning, (2) Progressing, (3) Advanced and (4) Role Model. A brief explanation of each level of BE maturity is summarised in Table 8.2. The areas in which the initiatives will be implemented and the levels of BE maturity are some of the contextual factors that should be considered when selecting appropriate improvement initiatives (Mohammad et al., 2009a, 2009b; NIST, 2010; Saunders & Mann, 2007). Brief descriptions of the 30 improvement initiatives are shown in Table 8.3.

Table 8.2: Brief explanations of the levels of BE maturity

Levels of BE maturity	Description
1. Beginning	<ul style="list-style-type: none"> • Focuses on controlling or solving current problems (Dale & Lascelles, 1997, 2007). • Emphasises on product and/or service quantity rather than quality (Dale & Lascelles, 1997, 2007).
2. Progressing	<ul style="list-style-type: none"> • Focuses on preventing non-conformances (Dale, Van der Wiele, & Van Iwaarden, 2007b). • Emphasises on proper planning, problem solving as well as product, service and process design improvement (Dale et al., 2007b).
3. Advanced	<ul style="list-style-type: none"> • Everyone in the organisation commits and involves in improving organisational performance on a continuous basis to achieve the vision and mission of the organisation and satisfy stakeholders' expectations (Dale et al., 2007b).
4. Role Model	<ul style="list-style-type: none"> • Achieved "world-class" performance (Dale & Lascelles, 1997, p.426; 2007, pp.124-125). • Total alignment of improvement initiatives and organisational strategy to satisfy the stakeholders and respond to changing market conditions (Dale & Lascelles, 1997; 2007). • Has developed and applied "a unique success model" (Dale & Lascelles, 1997, p.426; 2007, p.124).

Table 8.3: Brief descriptions of the 30 main organisational improvement initiatives widely used by organisations

Initiatives (approaches, systems, or techniques)
1) Balanced Scorecard: “Translates Mission and Vision Statements into a comprehensive set of objectives and performance measures that can be quantified and appraised” (Rigby, 2007, p. 12). “It provides a framework for setting a performance measurement framework centred on four ‘perspectives’, Financial, Customer, Internal Business Process and Innovation, Learning and Growth” (CEHE, 2003, p. 8).
2) Benchmarking: A structured process for “identifying and implementing best or better practices” (Adebanjo & Mann, 2008c, p. 1). “The goal of benchmarking is to find “secrets of success” and then adapt and improve them for [our] own application” (Goetsch & Davis, 2006, p. 672).
3) Business Continuity Management (BCM): “Provides the availability of processes and resources in order to ensure the continued achievement of critical objectives... prevent an emerging crisis from becoming an organisational and personal disaster” (Standards Australia / New Zealand, 2004, pp. 3-4). It involves risk identification and assessment, business impact assessment and analysis, development of business continuity plan, training and testing of business continuity plan (Standards Australia / New Zealand, 2004).
4) Business Excellence Award application: Applying for Business Excellence Award, such as EFQM Excellence Award, Malcolm Baldrige National Quality Awards, or any other national business excellence awards (Mann, Abbas, & Kohl, 2010).
5) Business Process Reengineering (BPR): “Fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed” (Hammer, 1990, as cited in Ricondo & Viles, 2005, p. 332). It uses several techniques such as change management, process measurement, and information technology (Ricondo & Viles, 2005).
6) Communication Strategy: Having appropriate channels of communication, such as weekly and/or monthly report, business review meeting, internet, intranet, newsletter, employee forums and information centre (NZAS, 2007; Sharp HealthCare, 2007)
7) Corporate Social Responsibility (CSR) System: “System designed to measure, apply, assess, and report organisational efforts to integrate CSR...into all operations” (Mann et al., 2010, p. 36). It is a “commitment of [organisations] to behave socially and environmentally responsible while striving for their economic goals” (Zink & Steimle, 2000, p. 150).
8) Customer Relationship Management (CRM): “A process...to understand the customer groups and respond quickly...to shifting customer desires...Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle...CRM data also provide companies with important new insights into customers’ needs and behaviours, allowing organisations to tailor products / services to targeted customer segments” (Rigby, 2007, p. 26).
9) Customer Segmentation: “Subdivision of a market into discrete customer groups that share similar characteristics” (Rigby, 2007, p. 28).
10) Environmental Management System (EMS): “Organisation’s system for protecting the natural environment (e.g. air, land, sea, waterways) from the effects of their processes and outputs” (BPIR, 2009). For example, develop environmental policy, compliance to ISO14000, briefing and campaign.
11) Improvement Teams (including Quality Circles): A team that is formed to make improvement on the workplace and/or processes. “[It] can comprise members of a single department, be cross-functional, and include representatives of either or both customers and suppliers...Membership can be voluntary or mandatory” (Dale, van der Wiele, & van Iwaarden, 2007c, p. 515).
12) Innovation Management: “Managing how to create, exchange, evolve and apply innovative ideas to produce products and provide services for the success of an organisation” (BPIR, 2009).
13) Knowledge Management: Method to “acquire and share intellectual assets. It increases the generation of useful, actionable and meaningful information and seeks to increase both individual and team learning” (Rigby, 2007, p. 32).
14) Leadership Development Programme: Programme to develop leaders, such as experience sharing, leadership training, and apprenticeship (Sharp HealthCare, 2007; NZAS, 2007)
15) Lean: Improvement approach that “focuses on removing waste and improving flow” (Nave, 2002, p. 75). “It requires a very clear focus on the value element of all products and services and a thorough understanding of the detailed operations of the business processes” (Bendell, 2005, p. 972). The example of tools and techniques used are Kanban, Value Stream Mapping, Takt Time, and visual control (Ricondo & Viles, 2005).

Table 8.3: Brief descriptions of the 30 main organisational improvement initiatives widely used by organisations (Cont.)

Initiatives (approaches, systems, or techniques)
16) Managing by Walking / Wandering Around (MBWA): "Listening, empathising and staying in touch" with the stakeholders (e.g. customers, suppliers, and workforce) and taking necessary action to improve the situations (Peters & Austin, 1985, p. 7).
17) Market Research: "[Helps] to ensure that there will be a demand for the product/service and that the requirements of the customer will be met" (Mann & Kehoe, 1994, p. 55). It can include experiments, surveys, product tests, advertising tests, promotion tests, motivational research, strategy research, customer-satisfaction monitoring and many other techniques (BPIR, 2009).
18) Vision, Mission and Values Statements: "Brief statements of the [vision, mission and values] of an organisation, with the intention of keeping employees aware of the organisation's direction" (Mann et al., 2010, p. 36).
19) Occupational Health and Safety Management System (OHSMS): "Helps to ensure the well being of staff and to comply with government regulations" (BPIR, 2009). Examples are: develop health and safety policy, compliance to OHSAS18000, briefing, campaign, Health and Safety Committee, and Emergency Response Team.
20) Organisational Governance: Involves "accountability for management's actions...transparency in operations...independence in internal and external audits... protection of stakeholder and stockholder interests (NIST, 2010, p.8).
21) Performance Management (PM): "A systematic approach directed towards organisational performance improvement through the alignment of individual performance with organisational goals...align an employee's individual goals with the organisation's objectives, mission, and vision... require the development of sound job descriptions, clear accountabilities, and growing employee competency levels" (Crawford, 2007, p. 1). Examples of techniques used are 360 degree feedback, continuous feedback and online evaluation (Crawford, 2007).
22) Quality Management System (QMS): "[A] management system to direct and control an organisation with regard to quality" (International Organisation for Standardisation [ISO], 2000, p.22). It includes a quality policy, quality manual, quality objectives, procedures, records and/or compliance to quality standards, such as ISO9000, ISO/TS 16949, ISO 13485, and ISO/TS 29001 (Goetsch & Davis, 2006)
23) Rewards and Recognition System: Formal system to recognise achievements of individual, group, unit and organisation (Mann & Kehoe, 1994).
24) Risk Management (Crisis Management): "Process whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities" (Institute of Risk Management [IRM], Association of Insurance and Risk Managers [AIRMIC], & National Forum for Risk Management in the Public Sector [ALARM], 2002, p.2).
25) Self-Assessment based on Business Excellence Model: "A comprehensive, systematic and regular review of an organisation's activities and results referenced against the [Business Excellence Model, such as Baldrige Criteria for Performance Excellence and EFQM Excellence Award]" (EFQM, 2003, p.9).
26) Service Level Agreement (SLA): "A performance agreement (contract) between a service or product provider and a customer...The contract specifies the terms of the supplier's responsibility to the customer (usually in measurable terms), what services or products the provider will deliver, and the quality measures and indicators that must be met" (BPIR, 2009).
27) Six Sigma: "A business improvement approach... [to reduce variation and] eliminate causes of defects and errors in...processes by focusing on outputs that are critical to customers and a clear financial return for the organisation" (Evans, 2008, p. 92). Examples of tools and techniques used are Measurement System Analysis, Design of Experiments, Kano Analysis, Process Mapping, Failure Mode and Effect Analysis, and Robust Design (Ricondo & Viles, 2005; Yang, 2004).
28) Strategic Alliances: "Agreements between organisations in which each commits resources to achieve a common set of objectives" (Rigby, 2007, p. 54).
29) Statistical Process Control (SPC): "A statistical method to eliminate the special causes of process variation and to establish and maintain consistency in the process which enabling process improvement" (Goetsch & Davis, 2006, p. 590). The examples of tools widely used are control chart, acceptance sampling, and process capability analysis (Grigg & Walls, 1999).
30) Supply Chain Management (Supply Chain Integration): "Synchronises the efforts of all parties [e.g. suppliers, manufacturers, distributors] involved in meeting a customer's needs...forges much closer relationships among all links in the value chain in order to deliver the right products to the right places at the right times for the right costs" (Rigby, 2007, p. 58).

Referring to Figure 8.15, some improvement initiatives are designed to focus one area of implementation, for instance Statistical Process Control (Process Management), Customer Relationship Management (Customer focus), and Managing by Walking / Wandering Around (Leadership and social responsibilities). On the other hand, there are also some initiatives that can be used across more than one area such as, Self-assessment based on BEM, Benchmarking, Quality Management System, and Knowledge Management.

The upward arrow across the BE maturity levels indicates that the implementation of initiatives in the designated box can be continued concurrent with improvement in levels of BE maturity. For each area of implementation, there are examples of the main initiatives that should be used first based on the level of BE maturity. If an organisation is at the beginning stage of BE journey and intends to improve its processes, it can consider implementing a Statistical Process Control, Quality Management System, Benchmarking and Improvement Teams to tackle the easier and less complicated issues. When their level of BE maturity increases, they can continue using the existing initiatives (shown as arrows moving upward in Figure 8.15). Alternatively, they can consider switching to more sophisticated initiatives such as, Business Process Reengineering and Six Sigma.

This framework shows how multiple improvement initiatives can fit within the common enabling criteria of BEMs. Therefore, a BEM can be used as an overarching framework for managing and/or aligning multiple initiatives within the organisation. Moreover, this framework also shows a pathway / roadmap to organisational excellence and highlights the examples of the main improvement initiatives that can be considered on the journey towards organisational excellence. This feature can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas of implementation and BE maturity.

In general, when the organisations have achieved the 'role model' level of maturity, all the initiatives implemented are aligned, integrated and fit within the organisations. These organisations normally have a unique success model embedded with their culture of excellence. Most of the organisations at this level of maturity are able to invent their own organisational improvement initiatives tailored specifically to the culture, characteristics and nature of their organisations. World class organisations such as Toyota and Motorola have invented their own bespoke improvement

initiatives known as Lean and Six Sigma, which are currently being used by many other organisations all over the world.

However, this framework should be used with caution because it only shows one of the pathways to organisational excellence and only highlights two of the contextual factors, which are the: (1) levels of BE maturity; and (2) areas of implementation. This framework serves as a guide as there is no standard path that every organisation should follow. There is no one size to fit all. Therefore, practitioners, consultants and/or academics should try to understand all the relevant improvement initiatives, the organisational profiles as well as the critical contextual factors to help them make an informed decision in selecting, adapting and adopting the most appropriate improvement initiative for a given context or situation (Jackson, 2000; Ricondo & Viles, 2005)

Step 3: Identify decision criteria

Step 3.1: Identify decision criteria

Identify decision / selection criteria through meeting, workshop and/or brainstorming session (Interviewee A7, C3 and C4). Example of a proposed decision / selection criteria is shown in Table 8.4. The criteria listed in Table 8.4 are mainly based on information in Table 8.1 with some minor revisions to address redundancies of the main criteria as highlighted by Respondent 27 (see Section 8.3.2.5).

Table 8.4: Proposed criteria for the selection of organisational improvement initiatives

Main criteria	Sub-criteria
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	1.1 Ability to gain top management commitment and support 1.2 Ability to allocate necessary resources (e.g. funding, equipment and infrastructure) 1.3 Capability of the workforce
2. Organisation fit: Can the initiative fit within the organisational context?	2.1 Align with the vision, mission and/or purpose of the organisation 2.2 Align with the direction, strategic plan and/or goals of the organisation 2.3 Suit with the requirements / expectations of the customers and other stakeholders 2.4 Suit with the organisation's culture 2.5 Suit with the areas in which the initiative will be implemented 2.6 Suit with the level of organisational excellence maturity 2.7 Compatible with other initiatives currently being used and will be used in the future 2.8 Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental) 2.9 Ability to implement the initiative easily in the organisation without much intervention 2.10 Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit) 2.11 Suit with the size of the organisation (e.g. small, medium or large).
3. Value / benefit: Can the initiative add value to the organisation?	3.1 Value for implementing the initiatives (e.g. based on cost benefit analysis) 3.2 Duration taken to obtain the value of implementing the initiative 3.3 The initiative has been proven to provide value in other similar organisations

Step 3.2: Prepare a proposal for the selection of improvement initiatives

A proposal for the selection of improvement initiatives should be prepared (Interviewee A3, A7 and C4). This proposal can be in a form of report and/or presentation slides supported with facts and/or other sound basis for selecting the initiatives. This proposal can also be used to obtain support and commitment from top management (Respondent 32). Proposed contents of the proposal are summarised in Table 8.5.

Table 8.5: Proposed contents of the proposal for selecting organisational improvement initiatives

No	Main content	Sub-content	Remarks
1	Background of the situation	<ul style="list-style-type: none"> Issues faced by the organisation and the reasons for initiating an improvement initiative (e.g. due to strategic reasons, competitive issues or process problems) Improvement area to focus on (e.g. leadership and social responsibilities, customer focus, or strategy) Inputs, processes and outputs involved in the area of improvement. 	Based on Step 1 (Goal setting - G)
2	Stakeholders involved	<ul style="list-style-type: none"> List of employees, customers, suppliers and other stakeholders involved 	
3	Current performance and expected future performance	<ul style="list-style-type: none"> Performance measures (e.g. defect levels, complaint levels, product cost, cycle time, delivery time, response time, customer satisfaction) Current performance Expected future performance 	
4	Description of the shortlisted initiatives (2-5 initiatives)	<ul style="list-style-type: none"> Brief description of the shortlisted initiatives by providing the following information: <ul style="list-style-type: none"> Main purpose, strengths and/or limitations of the initiatives; Financial and/or non-financial benefit of implementing the initiatives (e.g. reduce waste, increase productivity, reduce operation cost, reduce customer complaint, improve communication, increase in revenue); Costs of implementing the initiatives (labour cost, consulting fee, administrative expenses, training cost, equipment cost); and/or Whether the initiative is compatible with other initiatives currently being used and will be used in the future. Where possible, conduct cost benefit analysis for each initiative that has been shortlisted for selection. 	Based on Step 2 (Understand relevant improvement initiatives – U)
5	Decision / selection criteria	<ul style="list-style-type: none"> Criteria for selecting the initiatives. Examples of the criteria can be seen in Table 8.4. Decision matrix for selecting the improvement initiatives. An example of the decision matrix is shown in Table 8.6. 	Based on Step 3 (Identify decision criteria – I)

Table 8.6: Proposed decision matrix for selecting appropriate organisational improvement initiatives

Column M	Column W	Column S		Column I	A1	IA1	A2	IA2	A3	IA3	
Main criteria	Weight (0-1)	No	Sub-criteria	Importance (0-100)	Initiative 1 (A1)		Initiative 2 (A2)		Initiative (A3)		
	Total weight = 1.0			Score (1-5)	Weighted Score	Score (1-5)	Weighted Score	Score (1-5)	Weighted Score		
				I	A1	I x A1	A2	I x A2	A3	I x A3	
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?		1	Ability to gain top management commitment and support								
		2	Ability to allocate necessary resources (e.g. funding, equipment)								
		3	Capability of the workforce								
		Total score for feasibility (M1)									
		Total weighted score for feasibility (WM1)									
2. Organisation fit: Can the initiative fit within the organisational context?		1	Align with the vision, mission and/or purpose of the organisation								
		2	Align with the direction, strategic plan and/or goals of the organisation								
		3	Suit with the requirements / expectations of the customers and other stakeholders								
		4	Suit with the organisation's culture								
		5	Suit with the areas in which the initiative will be implemented								
		6	Suit with the level of organisational excellence maturity								
		7	Compatible with other initiatives currently being used and will be used in the future								
		8	Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental)								
		9	Ability to implement the initiative easily in the organisation without much intervention								
		10	Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit)								
		11	Suit with the size of the organisation (e.g. small, medium or large).								
		Total score for organisation fit (M2)									
		Total weighted score for organisation fit (WM2)									
3. Value / benefit: Can the initiative add value to the organisation?		1	Value of implementing the initiative (e.g. based on cost benefit analysis)								
		2	Duration taken to obtain the value of implementing the initiative								
		3	The initiative has been proven to provide value in other similar organisations								
		Total value / benefit (M3)									
		Total weighted score for value/benefit (WM3)									
Overall weighted score (WM1 + WM2 + WM3)											
Rank											

Step 4: Decide on the appropriate initiative

Step 4.1: Decide on the appropriate initiative

The proposed steps for deciding on the appropriate initiative are listed as follows:

- Use team based approach in deciding / selecting appropriate initiative through meetings, workshops and/or brainstorming sessions (Interviewee A1).
- Invite appropriate people to be involved in the decision making process.
- Consult and involve the people who are going to implement and/or use the initiative (Interviewee A7).
- Discuss the contents of the proposal prepared in the previous step (refer to step 3.2).
- Complete the decision matrix prepared in the earlier step (see Table 8.6). Referring to Table 8.7, the steps to complete the decision matrix are as follows:
 - 1) Discuss and make a collective agreement on the main criteria (Column M) and sub-criteria (Column S) for selecting improvement initiatives.
 - 2) Discuss and make a collective agreement on the shortlisted initiatives for selection. For this example, there are 3 alternatives or initiatives (A1 – A3).
 - 3) Weight each main criteria by completing Column W. Total weight value is 1.0 and the value for each main criteria must be between 0 to 1.
 - 4) Complete Column I (Importance of each sub-criteria). The value for each main sub-criteria must be between 0 to 100.
 - 5) Complete the score for each alternative or initiative (see Column A1, A2 and A3). The score for each alternative must be between 1 to 5.
 - 6) Calculate the weighted score for each sub-criteria by multiplying the importance score for each sub-criteria (Column I) with the score for each alternative (Column A1, A2 and A3). For example, the weighted score for the sub-criteria 'Ability to gain top management commitment and support' in relation to the first initiative is 360 (90 x 4).
 - 7) Calculate the total score for each main criteria by adding the results from the previous step. For example, the total score for the first main criteria (feasibility) in relation to the first initiative is 880 (360 + 340 + 180). The results for this step are shown in row M1, M2 and M3.

- 8) Calculate the total weighted score for each main criteria by multiplying the weightage score for each main criteria (Column W) with the results from the previous step. For example, the total weighted score for the first main criteria (feasibility) in relation to the first initiative is 440 (880×0.5). The results for this step are shown in row WM1, WM2 and WM3.
- 9) Calculate the overall weighted score for each initiative by adding the results shown in WM1, WM2 and WM3. For example, the overall weighted score for initiative 1 is 922 ($440 + 402 + 80$).
- 10) Rank the overall weighted score of the shortlisted initiatives according to ascending order. For this case, the first rank is the initiative 1 because it has the highest score.
- 11) Select the first rank initiative. For this case, select initiative 1.

In practice, the decision makers need only to go through step one until five. Calculation in step six until eleven will be computed automatically in the Microsoft Excel document.

- Decide / select an appropriate initiative (All interviewees).
- Expected outcome from this decision / selection process should be the appropriate initiative for the organisation. Other shortlisted initiatives will be rejected.
- Get approval and buy-in from top management. Convince and educate top management so that they are very clear why the organisation needs to implement the initiative (Interviewee A7, Respondent 32).

Table 8.7: Example of the completed decision matrix for selecting an appropriate organisational improvement initiative

Column M	Column W		Column S	Column I	A1	IA1	A2	IA2	A3	IA3
Main criteria	Weight (0-1)	No	Sub-criteria	Importance (0-100)	Initiative 1 (A1)		Initiative 2 (A2)		Initiative (A3)	
					Score (1-5)	Weighted Score	Score (1-5)	Weighted Score	Score (1-5)	Weighted Score
	Total weight = 1.0			I	A1	I x A1	A2	I x A2	A3	I x A3
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	0.5	1	Ability to gain top management commitment and support	90	4	360	4	360	2	180
		2	Ability to allocate necessary resources (e.g. funding, equipment)	85	4	340	2	170	3	255
		3	Capability of the workforce	60	3	180	3	180	3	180
		Total score for feasibility (M1)				880		710		615
		Total weighted score for feasibility (WM1)				440		355		307.5
2. Organisation fit: Can the initiative fit within the organisational context?	0.3	1	Align with the vision, mission and/or purpose of the organisation	20	3	60	5	100	1	20
		2	Align with the direction, strategic plan and/or goals of the organisation	50	2	100	3	150	2	100
		3	Suit with the requirements / expectations of the customers and other stakeholders	80	4	320	3	240	2	160
		4	Suit with the organisation's culture	50	3	150	3	150	3	150
		5	Suit with the areas in which the initiative will be implemented	50	2	100	3	150	2	100
		6	Suit with the level of organisational excellence maturity	25	2	50	2	50	4	100
		7	Compatible with other initiatives currently being used and will be used in the future	20	3	60	4	80	2	40
		8	Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental)	20	3	60	2	40	3	60
		9	Ability to implement the initiative easily in the organisation without much intervention	20	4	80	1	20	3	60
		10	Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit)	60	4	240	4	240	2	120
		11	Suit with the size of the organisation (e.g. small, medium or large).	40	3	120	4	160	3	120
		Total score for organisation fit (M2)				1340		1380		1030
Total weighted score for organisation fit (WM2)				402		414		309		
3. Value / benefit: Can the initiative add value to the organisation?	0.2	1	Value of implementing the initiative (e.g. based on cost benefit analysis)	60	5	300	3	180	2	120
		2	Duration taken to obtain the value of implementing the initiative	20	2	40	3	60	3	60
		3	The initiative has been proven to provide value in other similar organisations	20	3	60	3	60	4	80
		Total value / benefit (M3)				400		300		260
		Total weighted score for value/benefit (WM3)				80		60		52
Overall weighted score (WM1 + WM2 + WM3)						922		829		668.5
Rank						1		2		3

Step 5: Evaluate the decision

Step 5.1: Trial run the initiative

To evaluate the decision that has been made and reduce the risk of failure, it is better for the organisation to conduct a trial run before fully implementing the initiative (Snow & Phillips, 2008). The trial run and/or implementation of the initiatives are not always easy and direct process. In most cases, it may require a transition period and sometimes, it may cause a decline in performance prior to achieve a better result (Hayes et al., 2005). The proposed steps to conduct trial run of the initiative are as follows:

- Roll out appropriate plan for the trial run of the initiative (Interviewee A7).
- Select and train the right people and teams to execute the trial run of the initiative.
- Introduce the initiative at the selected organisational unit for trial run. Engage all related people at different levels of organisational unit. Create awareness and provide training to ensure all related leaders and employees have sufficient level of understanding and ready to embark on this selected initiative (Interviewee A7). All the related people should understand:
 - (1) What is the initiative?
 - (2) Why are they doing it?
 - (3) What are the benefits of doing it?
 - (4) How to link the initiative to their job?
 - (5) What are they supposed to do?
 - (6) How they can balance the implementation of initiative with their daily job?
- Customise, adopt and/or adapt the initiative to fit the situation (Interviewee A7).
- Monitor the trial-run of the initiative (Interviewee A7 and A8).
- People in the organisation should have the right attitude and behaviour towards excellence, otherwise any good initiatives implemented in the organisation will be unlikely to succeed (Interviewee A7).

Step 5.2: Evaluate the decision

The proposed steps to evaluate the decision are as follows:

- Evaluate the impact of the initiative to the organisation. Check whether the initiative would be able to help the organisation to achieve the improvement goal(s) established earlier in Step 1.2 (Interviewee A7 and A8).
- Evaluate the decision that has been made.
- If the trial run of the initiative is successful, then continue implementing it. This situation indicates that the organisation is ready to fully implement the decision.
- If the trial run of the initiative is not successful, then diagnose the root cause of the failure. If the root cause is due to an inappropriate decision taken, then return to earlier phases of the overall selection / decision process ('Goal', 'Understand', 'Identify' and/or 'Decide' phase).
- Evaluate and improve the process of selecting the improvement initiative (Respondent 5).

The full version of the refined guidance model is shown in Appendix 8. The full model consists of a cover page, an introduction section, a brief explanation of the GUIDE model, an interface of the GUIDE model, descriptions of each step and several supplements. Comparisons of the initial and refined (final) GUIDE model are presented in Table 8.8. New features included in the refined model are as follows:

- Brief explanation of the GUIDE model (e.g. what is GUIDE?, interesting features of GUIDE model) – see Appendix 8, page A8.3.
- More descriptions on the framework that shows the main initiatives to be used according to areas of implementation and BE maturity (See Supplement C, page A8.12 – A8.13).
- Proposed contents of the proposal for the selection of improvement initiatives (See Supplement E, page A8.15).
- Steps to complete the decision matrix (See Supplement G, page A8.17 – A8.18).

Table 8.8: Comparisons of the initial and refined (final) guidance model for selecting organisational improvement initiatives

Items	Initial guidance model		Refined (final) guidance model	
1. Interface of GUIDE model	Five key steps to select organisational improvement initiatives		<ul style="list-style-type: none"> Five key steps to select organisational improvement initiatives Filtration process as an analogy for selecting an appropriate improvement initiative 	
2. Key steps (GUIDE)	Goal setting (G)	<ul style="list-style-type: none"> Determine organisational strategic goal Identify and understand area for improvement Set improvement goal 	Goal setting (G)	<ul style="list-style-type: none"> Create, review and/or understand organisational profile Identify area(s) for improvement and set improvement goal(s)
	Understand organisational context (U)	<ul style="list-style-type: none"> Create / review organisational profile Understand organisational context 	Understand relevant improvement initiatives (U)	<ul style="list-style-type: none"> Identify, understand and shortlist several relevant organisational improvement initiatives
	Identify relevant improvement initiatives (I)	<ul style="list-style-type: none"> Identify and shortlist several relevant organisational improvement initiatives Understand the improvement initiatives 	Identify decision criteria (I)	<ul style="list-style-type: none"> Identify decision criteria Prepare a proposal for the selection of improvement initiatives
	Decide appropriate initiative (D)	<ul style="list-style-type: none"> Establish decision / selection criteria Prepare a brief report and/or presentation slides for the decision making process Decide / select an appropriate initiative 	Decide on the appropriate initiative (D)	<ul style="list-style-type: none"> Decide on the appropriate initiative
	Evaluate the decision (E)	<ul style="list-style-type: none"> Trial run the initiative Evaluate the decision 	Evaluate the decision (E)	<ul style="list-style-type: none"> Trial run the initiative Evaluate the decision
3. Supplement / Appendix	<ul style="list-style-type: none"> Appendix A: Example of the main areas for improvement based on the enablers criteria of major BEMs Appendix B: Example of the pathway / roadmap to organisational excellence Appendix C: Proposed decision / selection criteria Appendix D: Example of the proposed decision matrix for selecting appropriate improvement initiative Appendix E: Brief descriptions of the 35 main improvement initiatives widely used by organisations 		<ul style="list-style-type: none"> Supplement A: Proposed contents of the organisational profile that should be created, reviewed and/or understood Supplement B: Example of the main areas for improvement based on the enabler criteria of major BEMs Supplement C: A framework showing some examples of the main initiatives to implement to improve organisational performance according to the areas of implementation and levels of BE maturity. Supplement D: Proposed decision criteria for the selection of improvement initiatives Supplement E: Proposed contents of the proposal for selecting improvement initiatives Supplement F: Proposed decision matrix for selecting appropriate improvement initiative Supplement G: Steps to complete the decision matrix Supplement H: Brief descriptions of the 30 main improvement initiatives widely used by organisations 	

The boundaries and assumptions for application of the GUIDE model are as follows:

- The GUIDE model only provides a descriptive guideline on how to select appropriate initiative. It does not prescribe a specific improvement initiative to be used by organisations.
- The GUIDE model is targeted to be used by organisations on the journey towards BE. The contents of the GUIDE Model are aligned with the BEMs.
- The people involved in the selection of organisational improvement initiatives should have a basic understanding of organisational improvement, organisational profiles, organisational improvement initiatives, and BEMs.

8.5 Conclusion of the chapter

This chapter has discussed the development, evaluation and refinement of a guidance model. The proposed guidance model focuses on the five key steps to select suitable improvement initiatives, which was named using the acronym 'GUIDE' (see Section 8.2). In general, the proposed model can be considered as an acceptable model because none of the respondents strongly disagreed with any part or contents of the model (see Section 8.3.1). The strengths of the model have been described in Section 8.3.2. There were only some minor disagreements, weaknesses and areas for improvement which served as opportunities for refining the model (see Section 8.3.2). Subsequently, the guidance model was refined (see Section 8.4). The refined guidance model was also named using the acronym 'GUIDE'. The comparisons between the initial and refined guidance model are presented in Table 8.8. The next chapter will explain the summary of research findings, contributions and limitations of the research, and areas for future research.

Chapter 9: Discussion and Conclusion

9.1 Introduction to the chapter

This chapter concludes the research project by discussing the summary of the main research findings, contributions of the research, limitations of the research and suggestions for future research.

9.2 Summary of the main research findings in relation to the research aim and objectives

This section discusses the main findings in relation to the research aim, objectives and questions. Linkages between research problem, aim, objectives, data collection methods and sources of data are summarised in Figure 9.1. A literature review, a document review, several semi-structured interviews, an on-line exploratory survey and an evaluation survey were conducted to fulfil the research aim and objectives (see Figure 9.1).

9.2.1 Main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity

This sub-section explains how this research addresses the first objective, which is to identify the main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity. The links between this sub-section and other sections in this thesis are summarised in Figure 9.2.

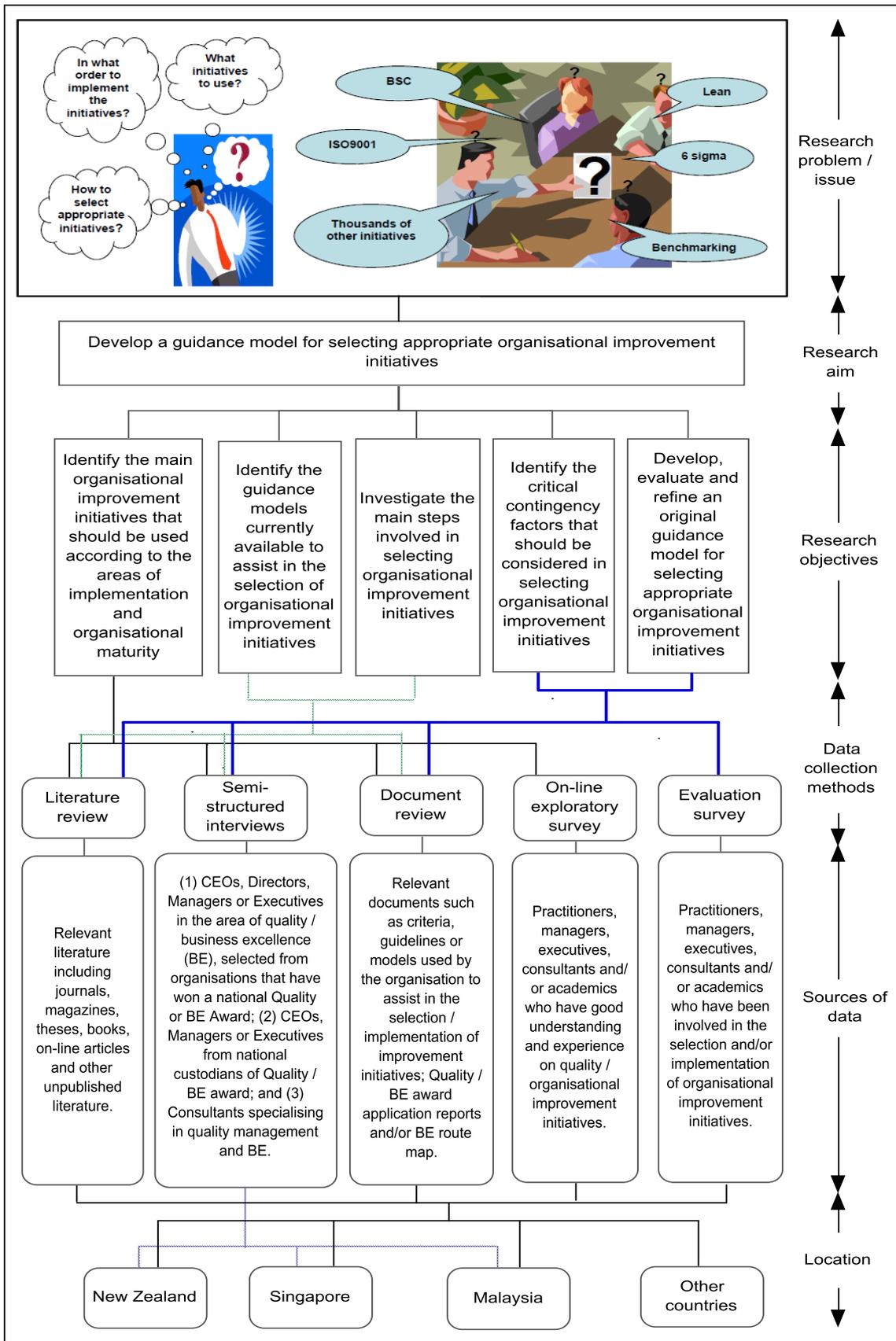


Figure 9.1: Linkages between research problem / issue, aim, objectives, data collection methods and sources of data

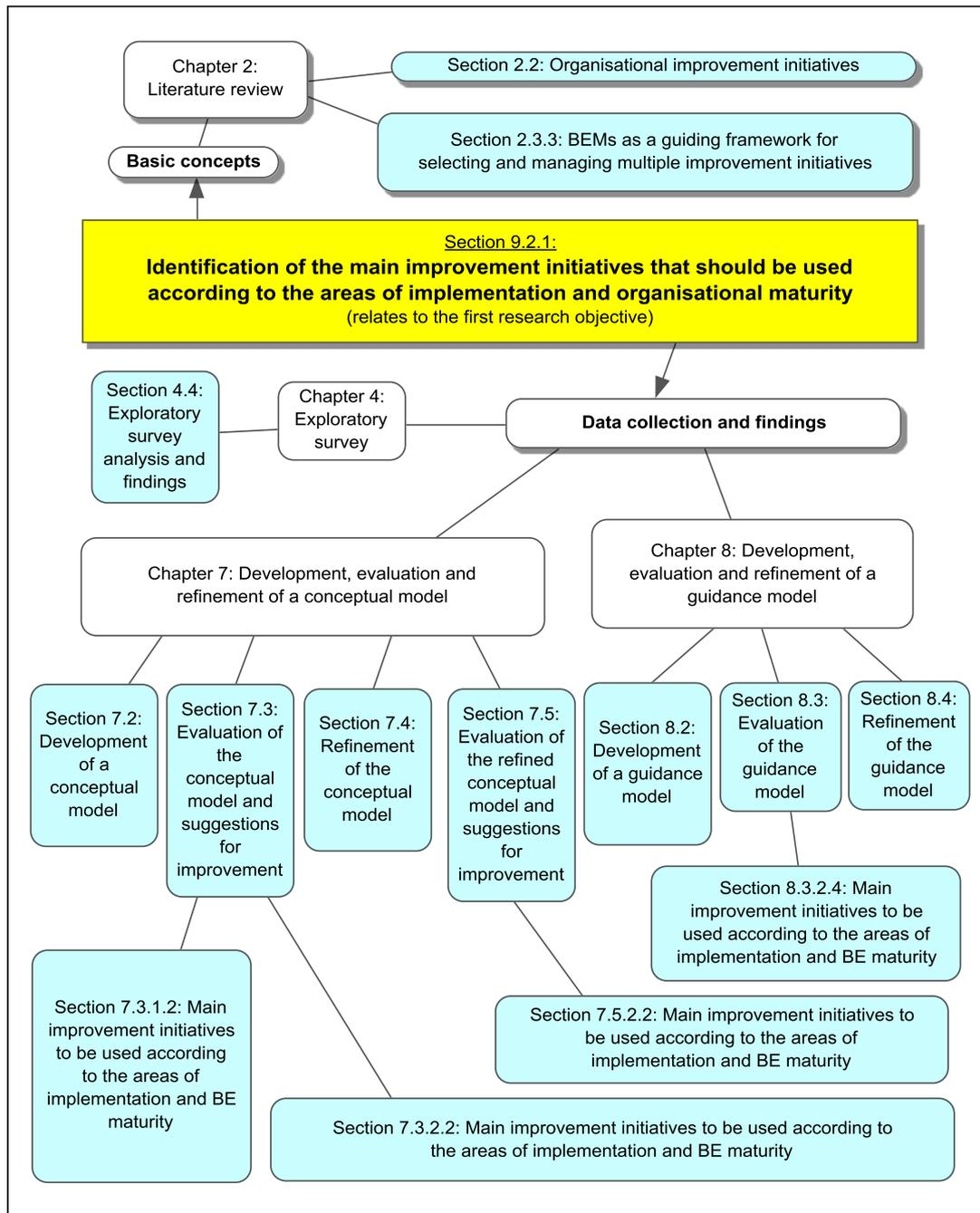


Figure 9.2: The links between sub-section 9.2.1 and other sections in this thesis

To address the first research objective, a framework was developed highlighting 30 most commonly used improvement initiatives according to the areas of implementation and levels of BE maturity (See Figure 8.15). These 30 initiatives were identified and filtered from a literature review (Mann, 2008b; Rigby, 2007; Zhang, 2000), previous Quality / BE award application reports (such as, New Zealand Aluminium Smelters [NZAS], 2007; Sharp HealthCare, 2007), previous surveys on the popularity and use of improvement initiatives (Cullen et al., 2004;

Mann et al., 2010; Rigby & Bilodeau, 2007; Weiler, 2004), several existing frameworks (Brown & Pemberton Planning Group Ltd, 2008; Saunders & Mann, 2007), interviews and surveys. Figure 9.3 shows the filtration processes involved in the identification of the main improvement initiatives widely used by organisations. The final framework shown in Figure 8.15 has been incorporated in the final guidance model for selecting improvement initiatives (See Appendix 8, page A8.12 – A8.13).

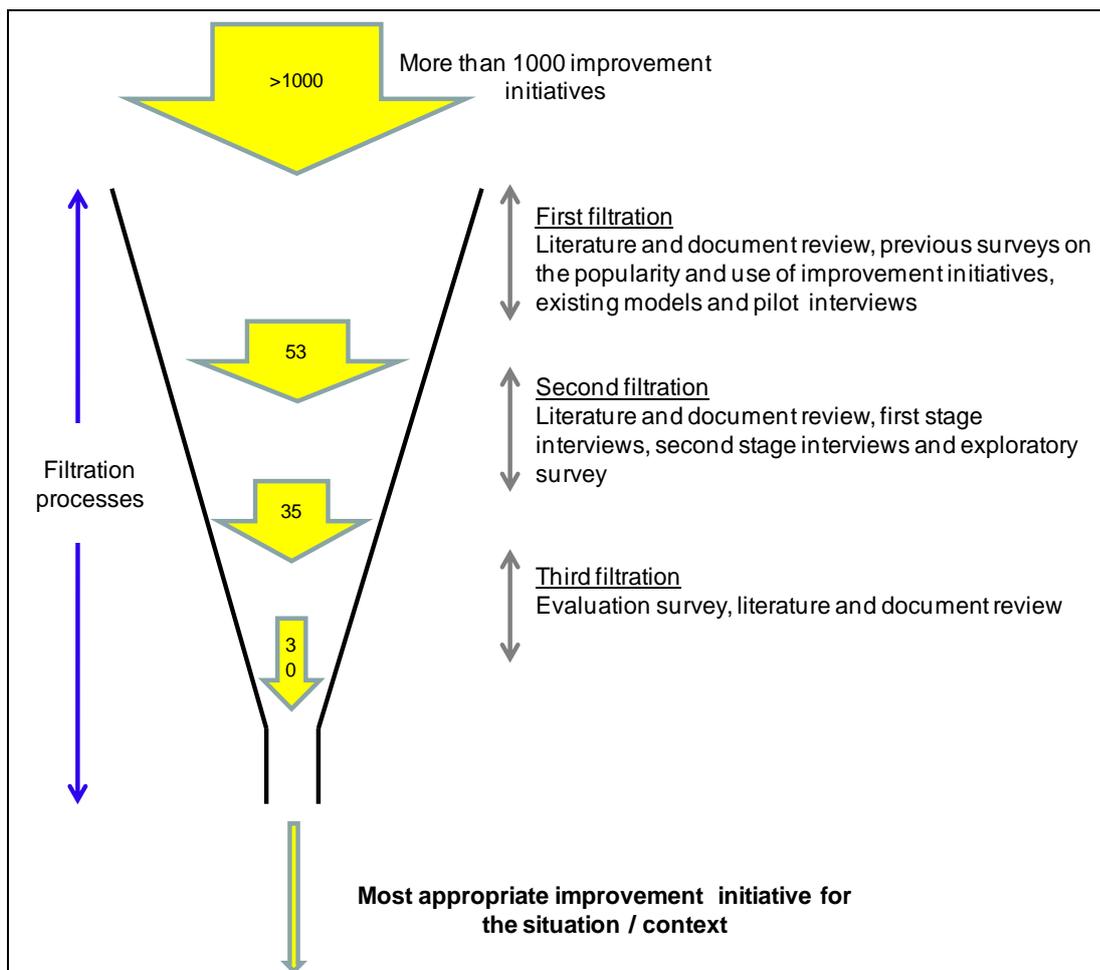


Figure 9.3: Filtration processes involved in the identification of the main improvement initiatives widely used by organisations.

As shown in Figure 9.4, three processes were involved in the development of the final framework (see Figure 8.15):

- Development of an initial framework (Output = Initial framework)
- Evaluation and refinement of the initial framework (Output = Revised framework)

- Evaluation and refinement of the revised framework (Output = Final framework)

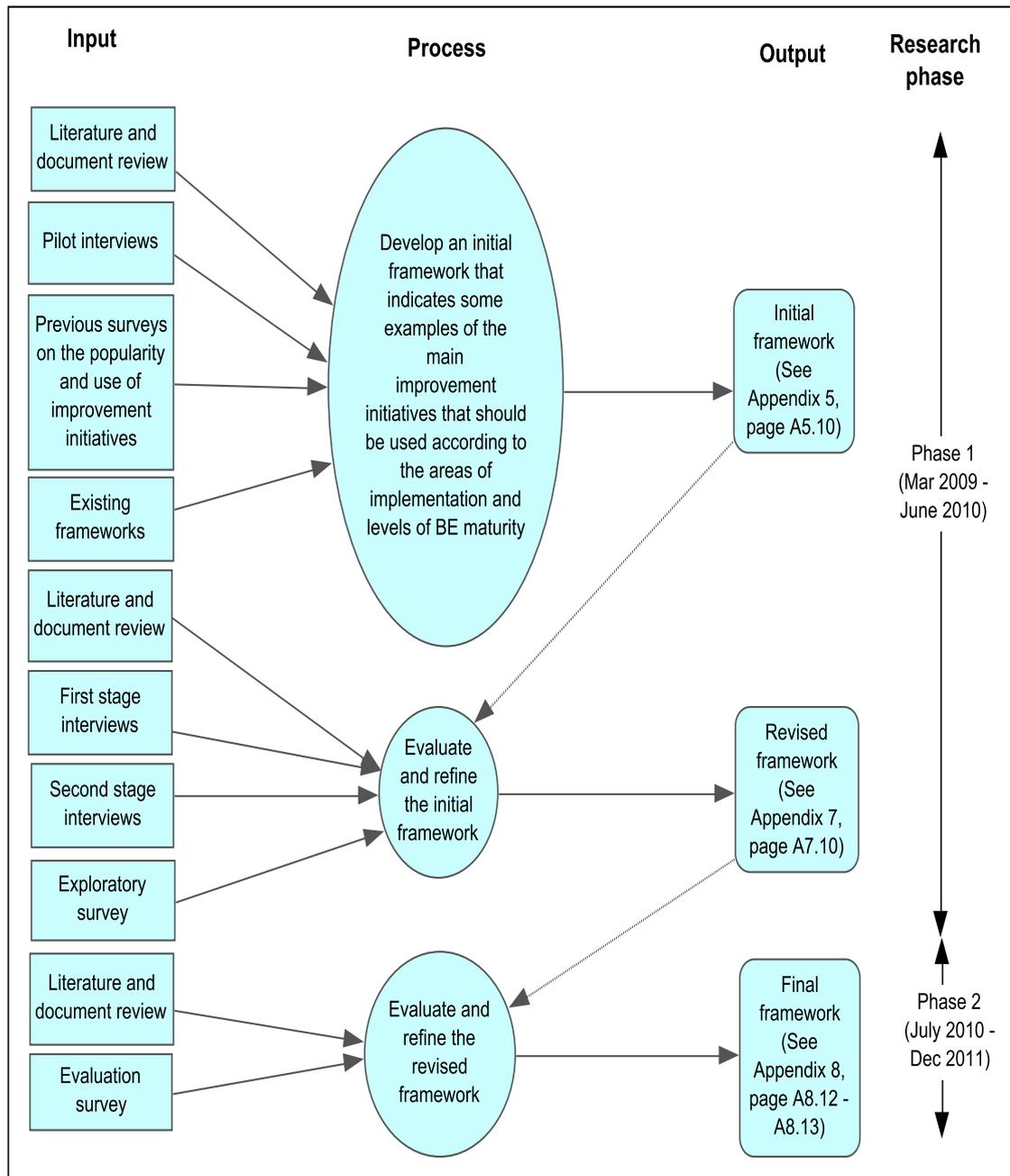


Figure 9.4: Processes involved in the development of a framework that indicates the main organisational improvement initiatives to be used according to the areas of implementation and BE maturity

The findings from the earlier process were used to develop or inform the following process. Therefore, the development of the final framework was actually based on refinement of the revised and initial frameworks.

The initial framework was developed based on the input from literature and document review, pilot interviews, previous surveys on the popularity and use of improvement initiatives, and several existing frameworks. The initial framework highlighted 53 main initiatives that could be used in the six areas of implementation and four levels of BE maturity. The initial framework was incorporated at the lower part of the conceptual model for selecting improvement initiatives (see Figure 7.1). As for the refined conceptual model for selecting improvement initiative, this initial framework was included as part of the fourth step – ‘Identify initiatives that can be used’ (see Section 7.4.4). This framework was evaluated during the first and second stage interviews. During the first stage interviews, the initial framework was included in Supplement 6 of the interview protocol (see Appendix 4, page A4.17). As for the second stage interviews, the framework was included in the Appendix B of the interview protocol (see Appendix 5, page A5.10). Feedback obtained during the evaluation of this framework is explained in Section 7.3.1.2, 7.3.2.2 and 7.5.2.2.

The revised framework was developed based on refinement of the initial framework. The revised framework was incorporated in the proposed guidance model for selecting improvement initiatives as part of the third step – ‘Identify relevant organisational improvement initiatives’ (See Appendix 7, page A7.10). This framework shows the 35 main initiatives which can be used for the six areas of implementation and four levels of BE maturity. The framework was published in the International Journal of TQM and BE (Mohammad et al., 2011a). Feedback obtained during the evaluation of this framework is explained in Section 8.3.2.4.

As shown in Table 3.1 and Figure 9.5, completion of the first research objective was achieved by addressing the three research questions:

- What are the main organisational improvement initiatives widely used by organisations?
- What is the degree of suitability in terms of where the organisational improvement initiatives should be used according to the areas of implementation?
- What are the main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity?

The first research question has been addressed by Figure 8.15 and Table 8.3. Figure 8.15 highlights 30 main initiatives that could be implemented to improve organisational performance according to the common enabling criteria of BEMs and levels of BE maturity. Meanwhile, Table 8.3 provides a brief description of the 30 main initiatives listed in Figure 8.15. Subsequently, the answer to the second research question can be referred in Table 4.1. Table 4.1 summarises the degree of suitability in terms of where the improvement initiatives should be used according to the six areas of implementation. Finally, it is apparent that the framework shown in Figure 8.15 has addressed the third research question for this section and at the same time reflects the first research objective, which is to identify the main improvement initiatives that should be used according to the areas of implementation and organisational maturity. The framework shown in Figure 8.15 has been included in the final guidance model for selecting improvement initiatives as part of the second step – ‘Understand relevant improvement initiatives’ (See Appendix 8 – Supplement C, page A8.12 – A8.13).

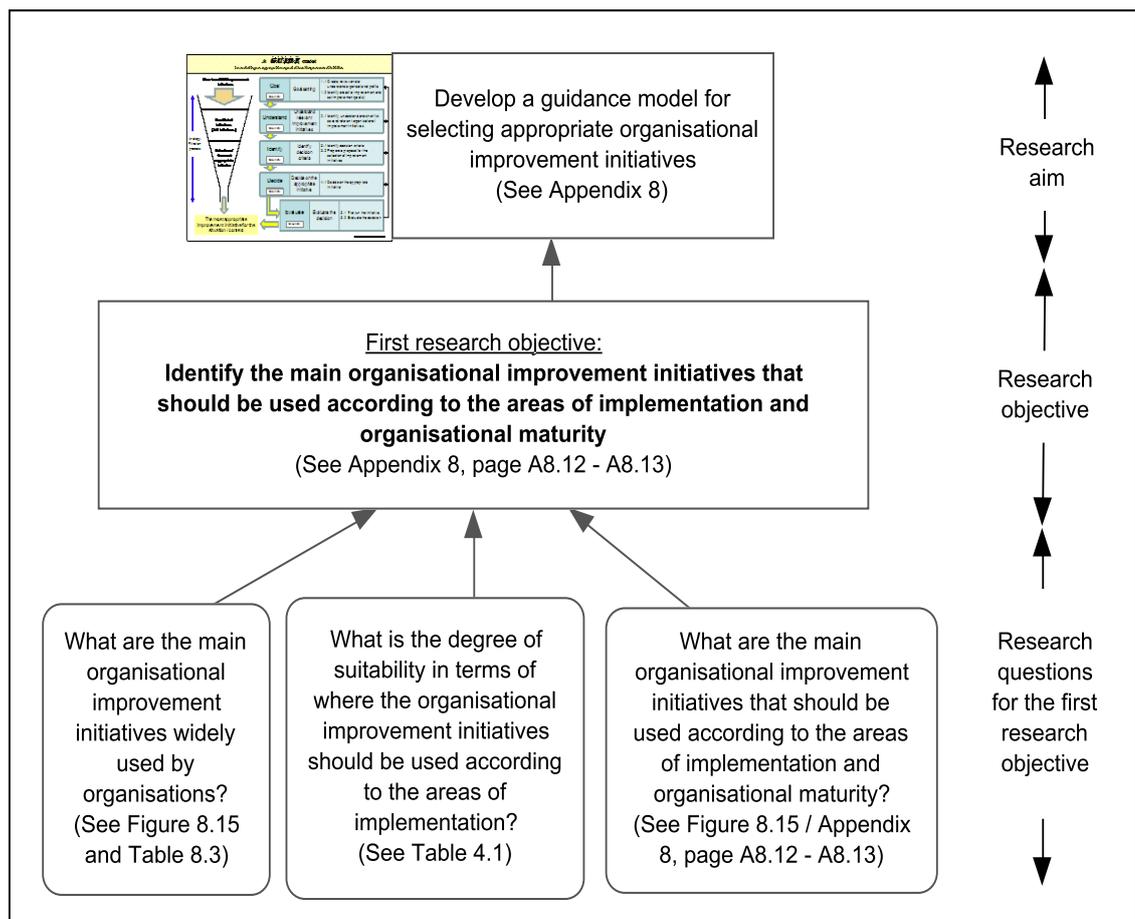


Figure 9.5: The links between the research aim, first research objective and research questions for the first research objective

9.2.2 Guidance model currently available to assist in the selection of organisational improvement initiatives

This sub-section explains how this research addresses the second objective to identify the guidance models currently available to assist in the selection of organisational improvement initiatives. The links between this sub-section and other sections in this thesis are summarised in Figure 9.6.

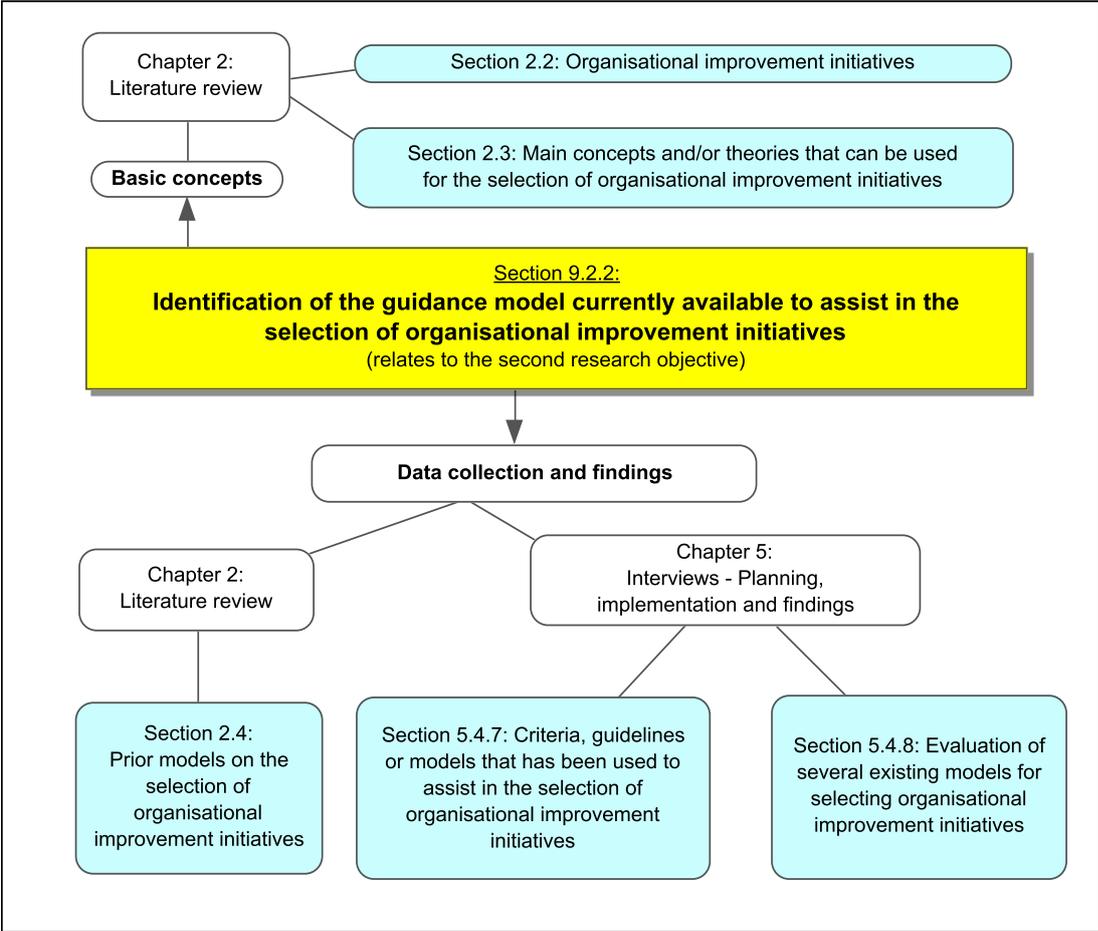


Figure 9.6: The links between Section 9.2.2 and other sections in this thesis

As shown in Table 3.1 and Figure 9.7, there are two research questions related to this objective:

- 1) What are the guidance models currently available to assist in the selection of organisational improvement initiatives?
- 2) What are the strengths and limitations of the existing guidance models?

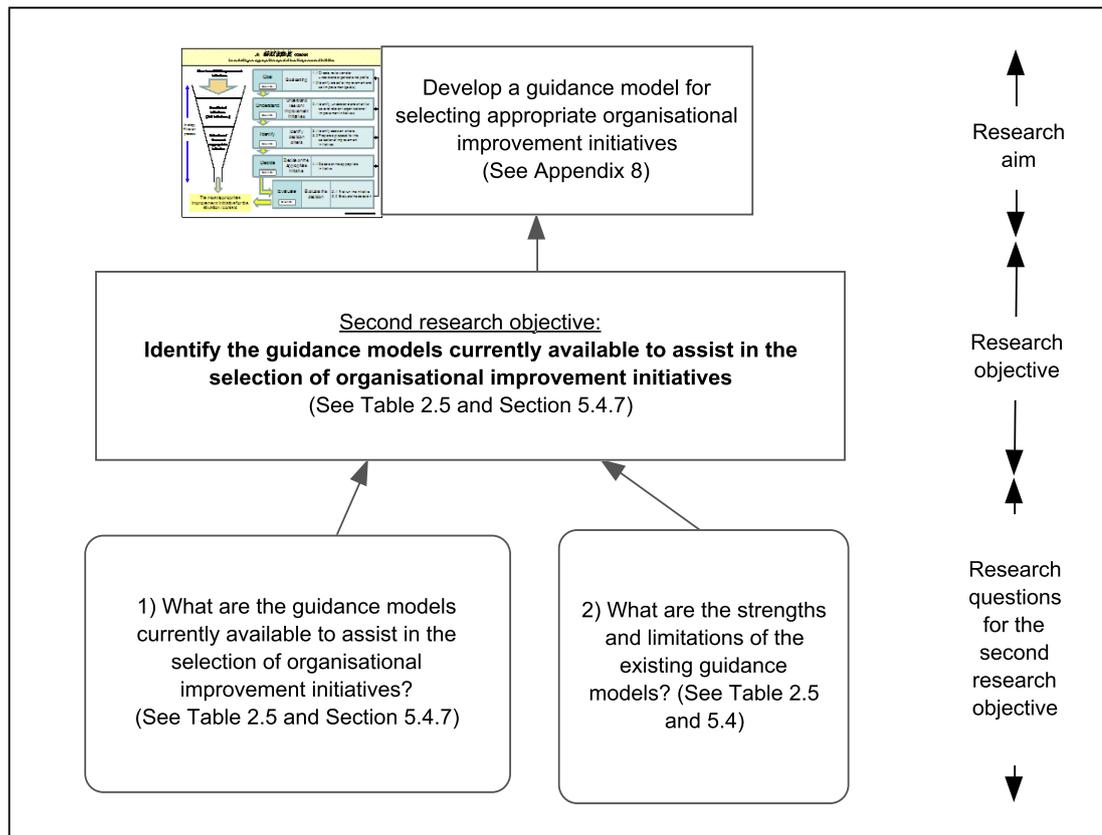


Figure 9.7: The links between the research aim, second research objective and research questions for the second research objective

To address the second research objective and the first research question related to the second objective, the existing criteria, guidelines or models (presented in Table 2.5 and Section 5.4.7) are listed below:

- 1) Thawesaengskulthai (2007) – See Figure 2.1 and 2.2
- 2) Saunders and Mann (2007) – See Figure 2.3
- 3) NZMED (2006, as cited in NZBEF, 2009) – See Figure 2.4
- 4) Brown and Pemberton Planning Group Ltd (2008) – See Figure 2.5
- 5) Rimington (2007) – See Figure 2.6
- 6) Bendell (2005) – See Figure 2.7 and 2.8
- 7) Radziwill, et al.(2008) – See Figure 2.9
- 8) Strategic management process framework developed specific for an organisation - See Figure 5.2.
- 9) BEMs (such as Baldrige CPE, or national BE award model)
- 10) Vision and mission of the organisation

Items number 1 until 7 are the guidance models specifically developed to assist in the selection of improvement initiatives. In contrast, items number 8 until 10 can be used only as general guidelines for selecting organisational improvement initiatives. Recently, Wieleman (2011) has developed a guidance model for consulting firms. His research was conducted at one of the consulting firm in India named 'Infosys Technologies Limited'. As can be seen in Figure 9.8, Wieleman's (2011) model consists of the following seven steps:

- 1) Triggers to start;
- 2) Define;
- 3) Set the preconditions for improvement;
- 4) Understand the environment;
- 5) Identify relevant business improvement (BI) methods;
- 6) Decide to apply the appropriate business improvement method(s); and
- 7) Evaluate the effectiveness of the decision.

The last four steps (step 4 - 7) of the model were mainly based on the author's initial GUIDE model (Mohammad et al., 2010b, 2011b) which has been explained in Section 8.2. In addition, Wieleman's (2011) model was also developed based on the Thawesaengskulthai's (2007) model, Infosys Technologies Limited model and interviews results.

In general, the key characteristics and/or contents of the guidance models currently available for selecting improvement initiatives can be categorised as follows:

- 1) Provide descriptive steps / processes involved in selecting improvement initiatives (Thawesaengskulthai, 2007; Wieleman, 2011).
- 2) Suggest several critical factors / criteria to be considered in selecting improvement initiatives (Thawesaengskulthai, 2007; Wieleman, 2011).
- 3) Provide examples of initiatives to be used according to the enabling criteria of BEMs, core values and concepts of BEMs, and/or BE maturity levels (Brown & Pemberton Planning Group Ltd, 2008; NZMED [2006, as cited in NZBEF, 2009]; Rimington, 2007; Saunders & Mann, 2007).
- 4) Provide a decision tree on the selection of several improvement initiatives (Bendell, 2005; Radziwill et al., 2008).

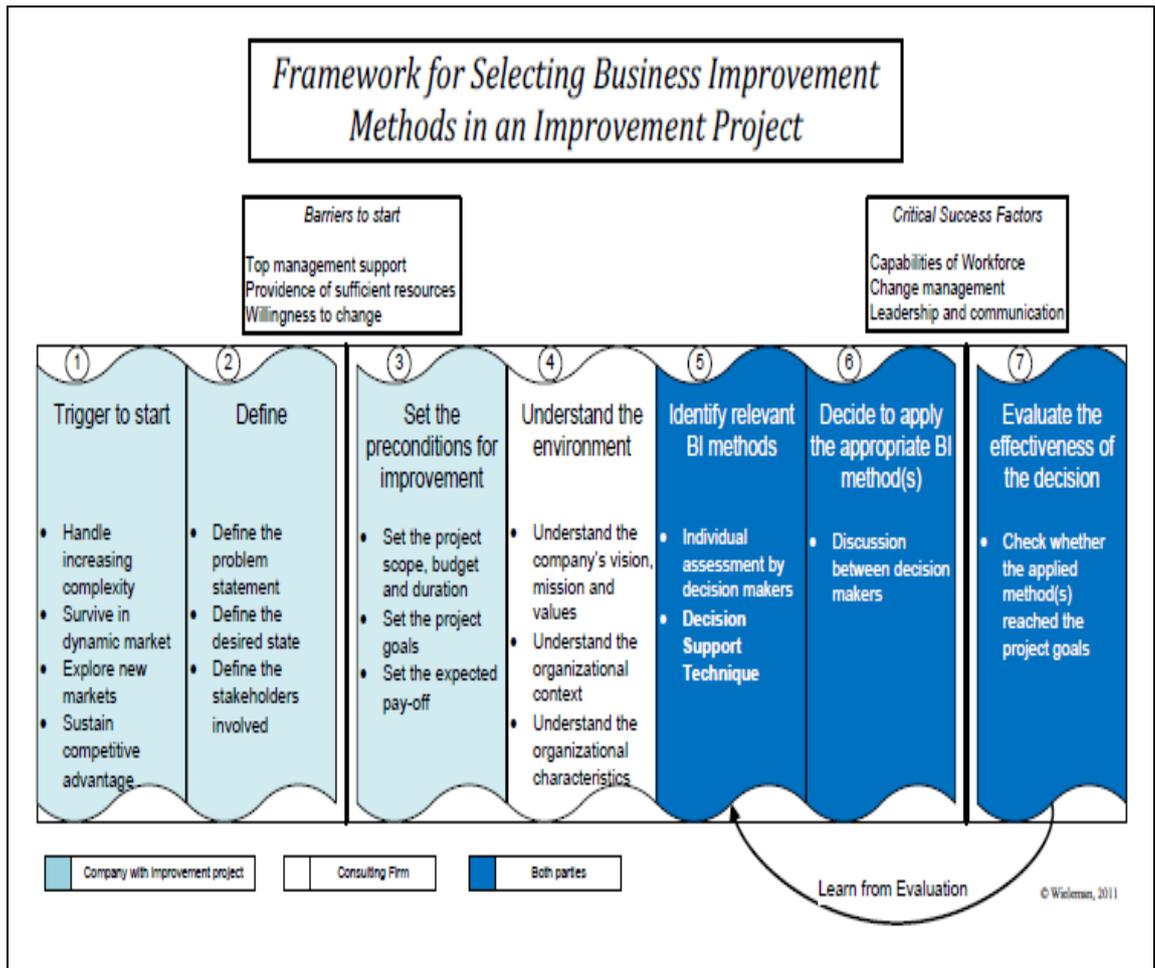


Figure 9.8: A business improvement initiative selection model for consulting firms (Wieleman, 2011)

However, none of the previous models have explicitly aligned the selection processes with the BEMs although there is a demand for this alignment from the users and administrators of BEMs. The BEMs are used in at least 83 countries worldwide (See Section 2.3.3 and Appendix 1). The main purpose of the BEMs is to serve as assessment models and therefore they do not provide clear guidance on how to select improvement initiatives. This shortcoming is used as the main basis for the development of an original guidance model for selecting improvement initiatives which will be discussed in Section 9.2.5. The originality of the proposed guidance model will be elaborated in Section 9.3.

Subsequently, the answer to the second question of the second research objective can be referred to in Table 2.5 and Table 5.4. Table 2.5 provides the strengths and limitations of the seven prior models that can be used to assist in the selection of improvement initiatives based on the perspective of the author of this thesis.

Meanwhile, Table 5.4 provides the strengths and limitations of five existing guidance models based on feedback from interviewees. The strengths and limitations of these existing models were used as an input for the development of a new guidance model for selecting improvement initiatives.

9.2.3 Main steps to select improvement initiatives

This sub-section discusses how this research addresses the third objective to investigate the main steps involved in selecting organisational improvement initiatives. The links between this sub-section and other sections in this thesis are summarised in Figure 9.9. As explained in the scope of research (see Figure 1.1 in Section 1.4), this research focuses on the decision making process in selecting improvement initiatives. This research does not cover the trigger for improving organisational performance, the process for adopting and adapting the improvement initiatives, and the process of monitoring and sustaining the full implementation of the initiatives.

Based on a literature review, a document review, interviews and an evaluation survey, a final framework showing a five steps approach in selecting improvement initiatives has been developed as shown in Figure 9.10. The proposed five main steps to select improvement initiatives are: (1) Goal setting, (2) Understand relevant improvement initiatives, (3) Identify decision criteria, (4) Decide on the appropriate initiative, and (5) Evaluate the decision. It is apparent that the framework shown in Figure 9.10 has addressed the third research objective and its research question (see Table 3.1 and Figure 9.11). This framework was incorporated as an interface for the revised (final) guidance model (see Figure 8.14 / Appendix 8, page A8.4).

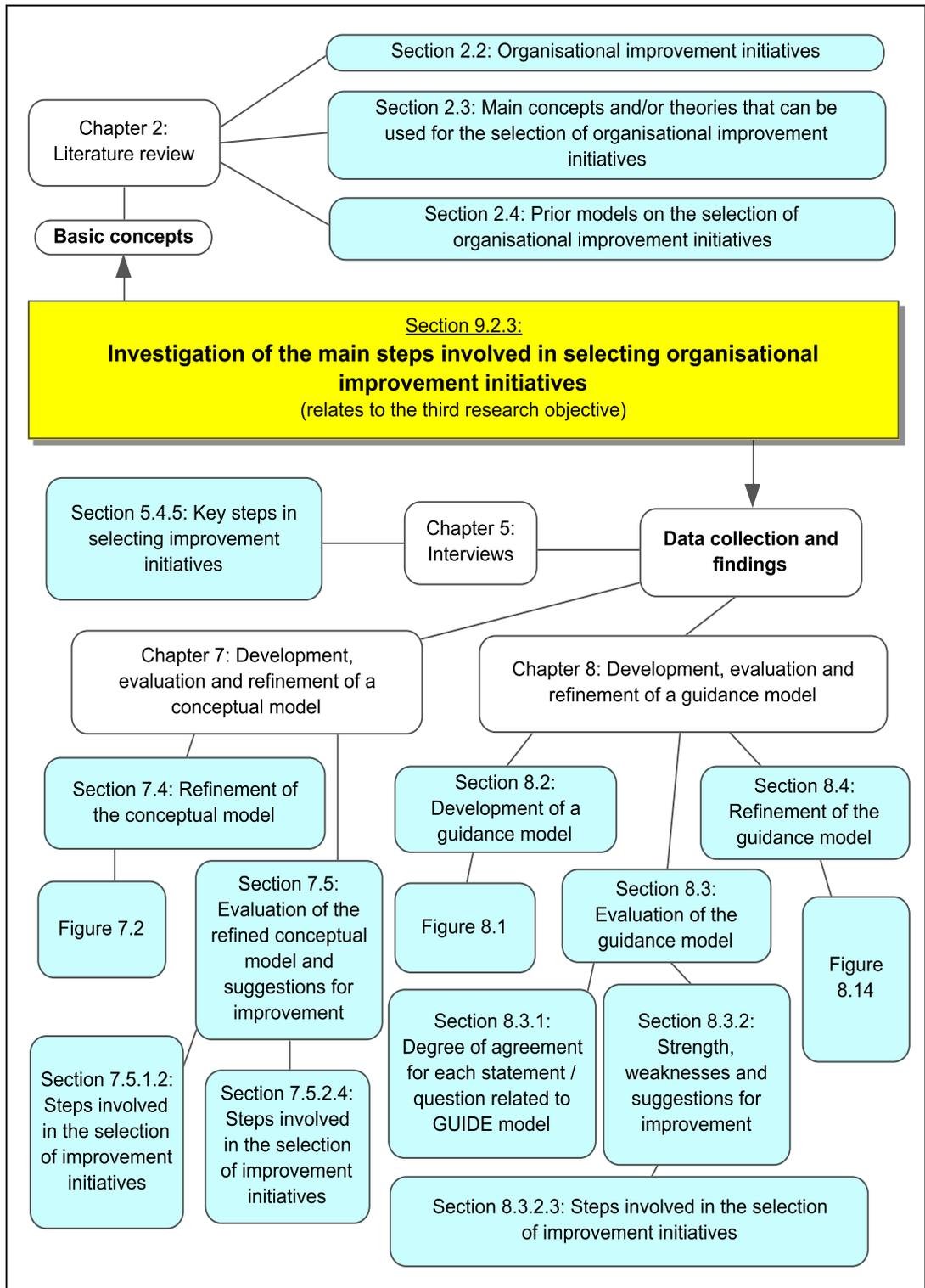


Figure 9.9: The links between Section 9.2.3 and other sections in this thesis

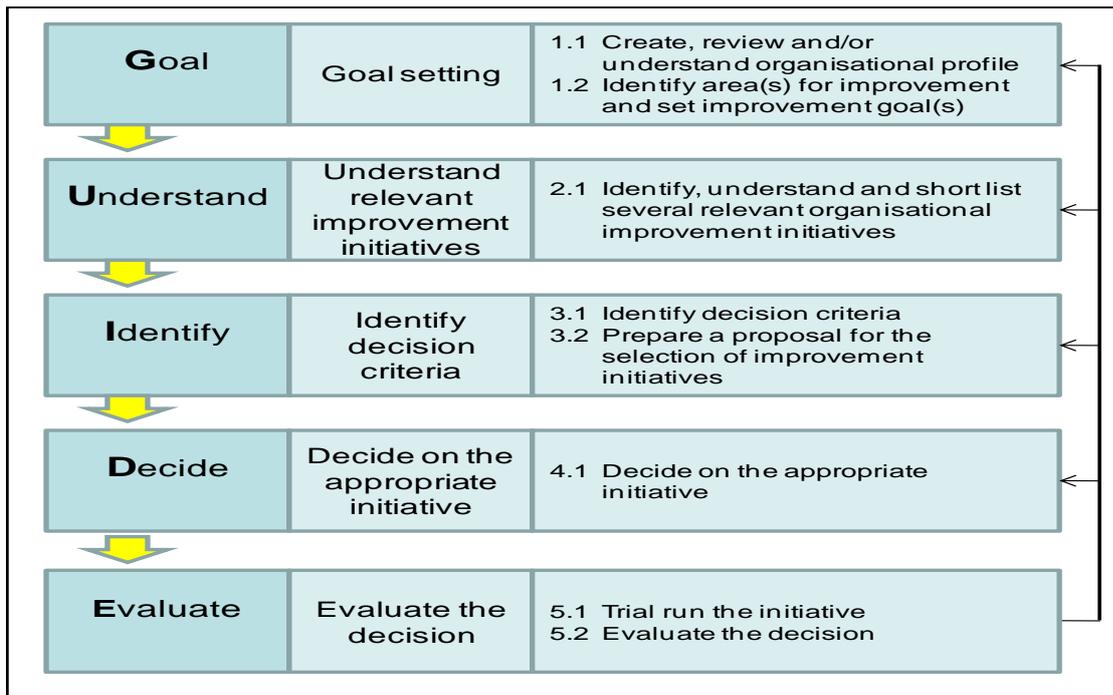


Figure 9.10: A framework showing several main steps involved in the selection of improvement initiatives

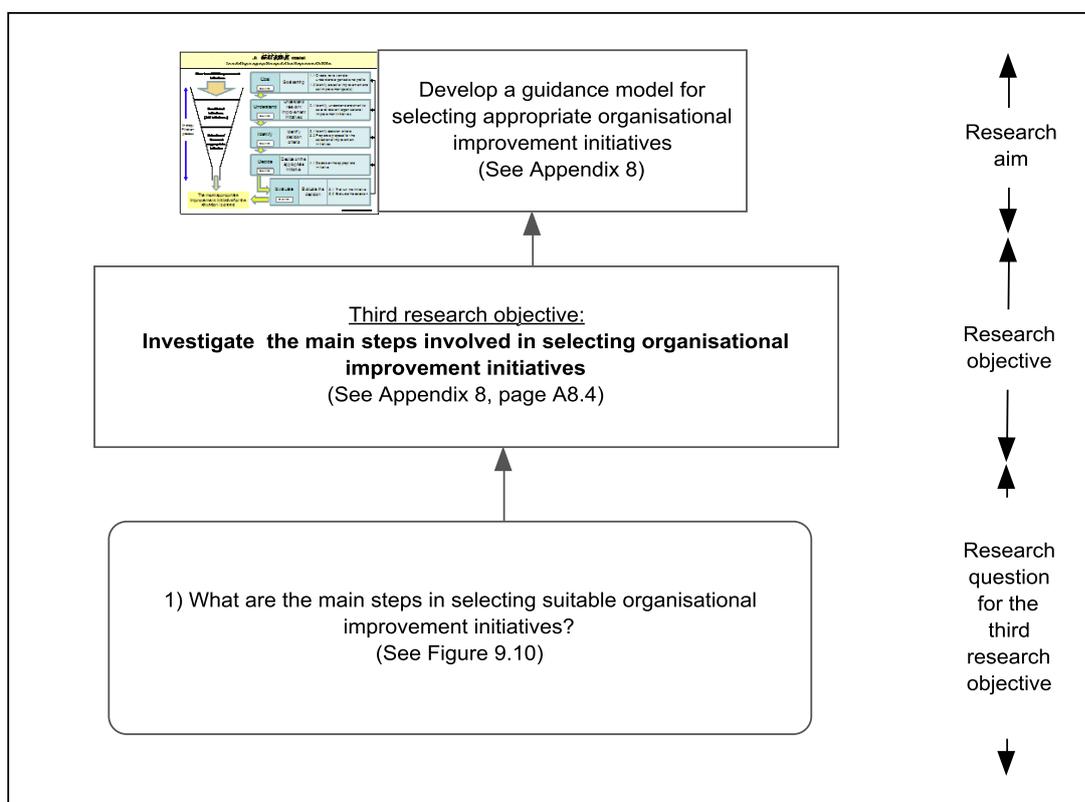


Figure 9.11: The links between the research aim, third research objective and research question for the third research objective

As shown in Figure 9.12, three processes were involved in the development of the final framework (see Figure 9.10):

- Development of an initial framework (Output = Initial framework)
- Evaluation and refinement of the initial framework (Output = Revised framework)
- Evaluation and refinement of the revised framework (Output = Final framework)

The findings from the earlier process were used to develop or inform the following process. Therefore, the final framework was a revised version of the two earlier frameworks.

The initial framework was developed based on the input from a literature and document review, pilot interviews, first stage interviews and several existing frameworks. The initial framework was incorporated as an interface for the refined conceptual model for selecting improvement initiatives (see Figure 7.2). The initial framework consists of six main steps for selecting initiatives: (1) Diagnose problem, (2) Understand organisational profile, (3) Identify area for improvement, (4) Identify initiatives that can be used, (5) Research and understand the initiative, and (6) Filtration / selection process. This framework was evaluated during the second stage interviews. Feedback obtained during the evaluation of this framework is explained in Section 7.5.1.2 and 7.5.2.4

The revised framework was developed based on a refinement of the initial framework. This revised framework was then incorporated as an interface for the guidance model for selecting improvement initiatives (see Figure 8.1). This framework consists of five main steps: (1) Goal setting, (2) Understand organisational context, (3) Identify relevant organisational improvement initiatives, (4) Decide appropriate initiative, and (5) Evaluate the decision. This framework was later assessed during the evaluation survey. Feedback obtained during the assessment of this framework is explained in Section 8.3.1 and 8.3.2.3.

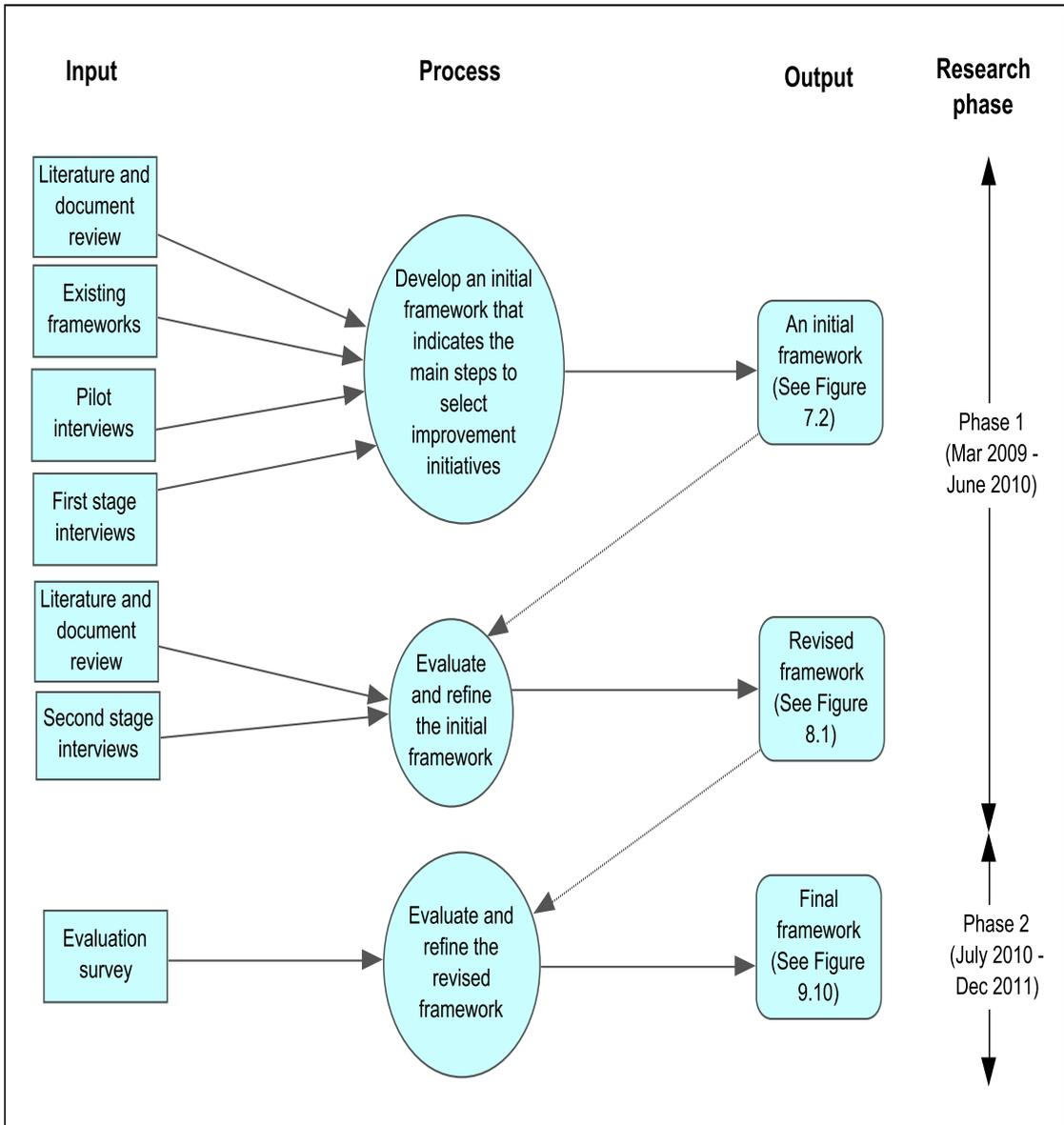


Figure 9.12: Processes involved in the development of a framework that indicates the main steps to select improvement initiatives

9.2.4 Critical contingency factors to be considered in the selection of improvement initiatives

This section explains how this research addresses the fourth objective, which is to identify the critical contingency factors that should be considered in selecting organisational improvement initiatives. The links of this section with other sections in this thesis are summarised in Figure 9.13.

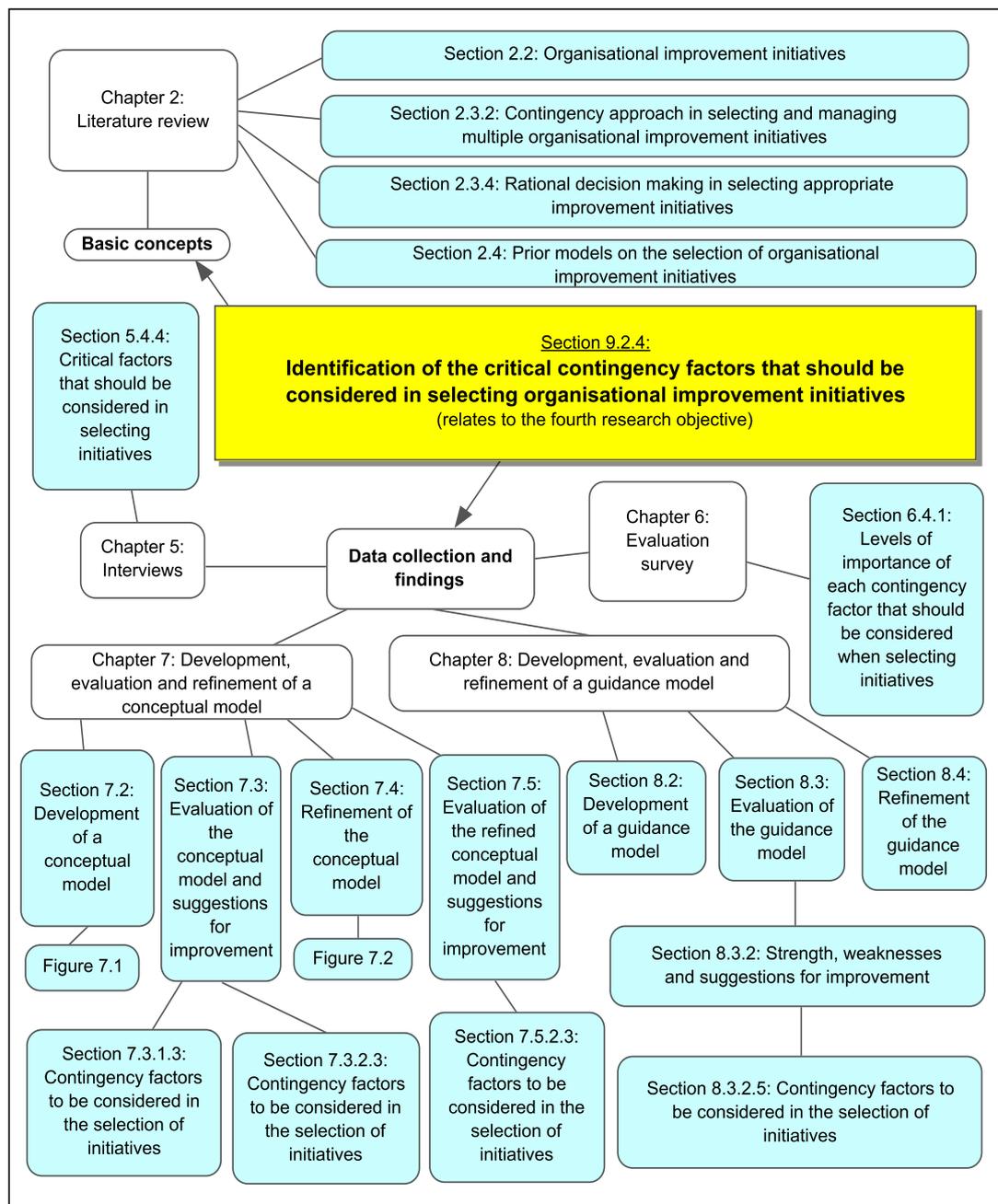


Figure 9.13: The links of Section 9.2.4 with other sections in this thesis

As shown in Table 3.1 and Figure 9.14, completion of the fourth research objective was achieved by addressing the two following research questions:

- What are the contingency factors that should be considered when selecting organisational improvement initiatives?
- What is the level of importance of each contingency factor that should be considered when selecting organisational improvement initiatives?

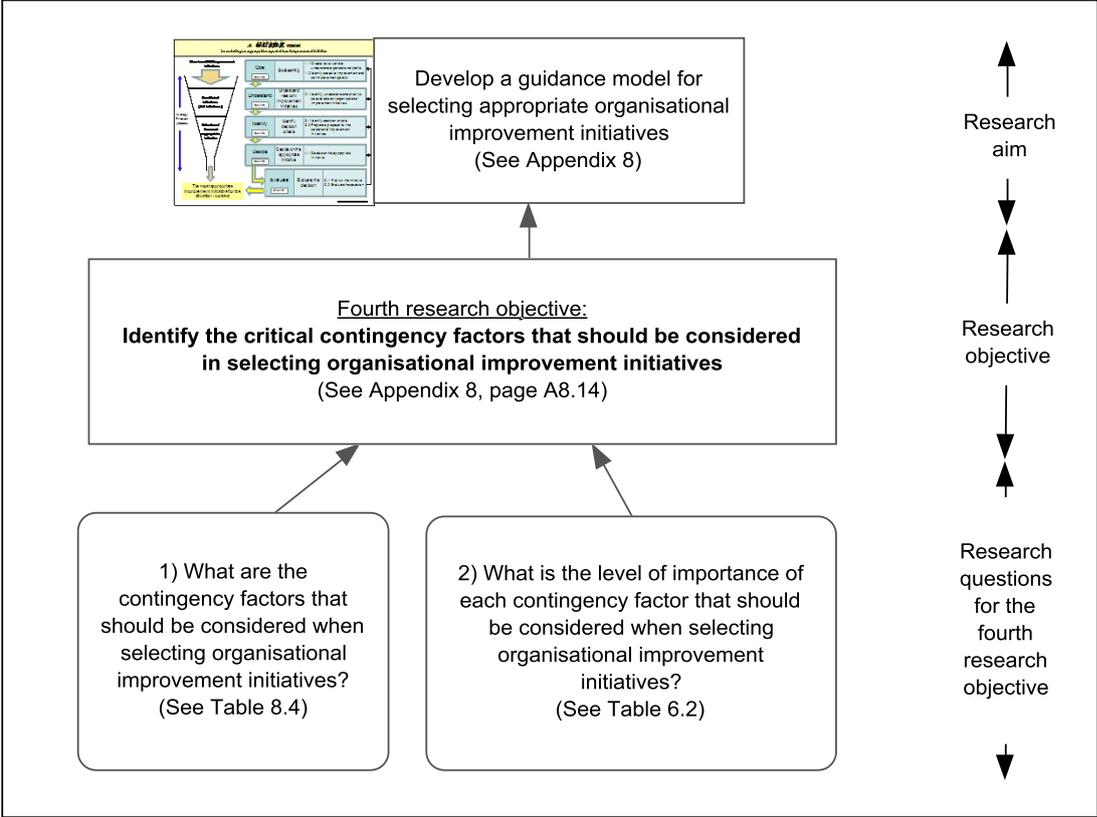


Figure 9.14: The links between the research aim, fourth research objective and research questions for the fourth research objective

Literature review and interviews were conducted to address the first research question of the fourth research objective. Based on data collection, numerous factors have been identified which can be seen in Section 5.4.4, 6.4.1, 7.3.1.3, 7.3.2.3, 7.5.2.3 and 8.3.2.5. Seventeen factors were found to be critical:

- 1) Ability to gain top management commitment and support to introduce and implement the initiative successfully.
- 2) The initiative is aligned to the vision, mission and/or purpose of the organisation.

- 3) The initiative is aligned to the direction, strategic plan and/or goals of the organisation.
- 4) The initiative will satisfy the requirements / expectations of the customers and other stakeholders.
- 5) Ability to allocate necessary resources to introduce and implement the initiative successfully (e.g. funding and equipment).
- 6) Capability of the workforce to introduce and implement the initiative successfully.
- 7) The initiative fits the organisation's culture.
- 8) The initiative is compatible with other initiatives currently being used and will be used in the future.
- 9) Areas in which the initiative will be implemented (e.g. leadership and social responsibilities, strategy, customer focus, process management, workforce focus, partnership and resources).
- 10) The initiative is suitable for the level of organisational excellence maturity.
- 11) Value / benefit of implementing the initiative (e.g. based on cost benefit analysis).
- 12) Duration taken to obtain the value of implementing the initiative.
- 13) The initiative is suitable for the external environment in which the organisation operates, which includes: political, economic, social, technological, legal and environmental factors.
- 14) Ability to implement the initiative easily in the organisation without much intervention.
- 15) The initiative has been proven to provide value / benefit in other similar organisations.
- 16) The initiative fits the sector / industry in which the organisation operates (e.g. private, public or non-profit).
- 17) The initiative fits the size of the organisation (e.g. small, medium or large).

To address the second research question of the fourth research objective, Section two of the evaluation survey asked for the respondents' opinion on the level of importance of each contingency factor that should be considered when selecting improvement initiatives (see Appendix 6, page A6.3). Eighteen factors were included in the survey. Seventeen factors were selected based on the critical factors identified earlier (as listed on page 196 – 197). Another factor included was the popularity of the initiatives. Thawesaengskulthai (2007) suggested that the

popularity and current trend of improvement initiative is one of the factors to be considered. Although the interview results indicated that this factor was not critical, it had been included in the survey to reconfirm the findings. As expected, this factor was rated as being of 'Low importance' based on survey results, as summarised in Table 6.3. In contrast, all the seventeen factors listed on page 196 - 197 were rated either as 'Very high', 'High' or 'Moderate' importance (See Table 6.3 and Section 6.4.1). All these seventeen factors were then used as the sub-criteria for selecting improvement initiatives and categorised into three main criteria, as summarised in Table 8.4. Subsequently, all these criteria were transformed into the decision matrix (see Table 8.6 and 8.7). This decision matrix uses the Weighted Sum Model (WSM) or the Simple Additive Weighting (SAW) technique to assist decision makers in choosing the most appropriate improvement initiative. Brief overviews of these two techniques are explained in Section 2.3.4. The WSM and SAW are the most commonly used MCDM techniques and are suitable to be used when the data is in single dimensional cases or has the same unit of analysis (Triantaphyllou, 2000; Yoon & Hwang, 1995).

9.2.5 Development, evaluation and refinement of an original guidance model for selecting organisational improvement initiatives

This sub-section discusses how this study addresses the overall research aim and the fifth objective, which is to develop, evaluate and refine an original guidance model for selecting organisational improvement initiatives. As depicted in Figure 9.15, two research phases were involved in the development of a final guidance model for selecting organisational improvement initiatives: (1) Development, evaluation and refinement of a conceptual model and (2) Development, evaluation and refinement of a guidance model. The final guidance model was developed based on refinement of the initial guidance model (see Appendix 7, page A7.1 – A7.14) and conceptual models (see Figure 7.1 and Appendix 5 – Supplement 2, page A5.8 – A5.16). The development and evaluation of the initial guidance model are explained in Section 8.2 and 8.3. The interface of the initial guidance model can be seen in Figure 8.1. The refinement of the guidance model is presented in Section 8.4. Figure 8.14 shows the interface of the refined or final model, which encompasses the frameworks presented in Figure 9.3 (Filtration processes involved in the identification of the main improvement initiatives widely used by organisations)

and Figure 9.10 (A framework showing several main steps involved in the selection of improvement initiatives). The full version of the final guidance model (as shown in Appendix 8, page A8.1 – A8.21) comprises of a cover page, an introduction section, a brief explanation of the GUIDE model, an interface of the GUIDE model, descriptions of each step and eight supplements.

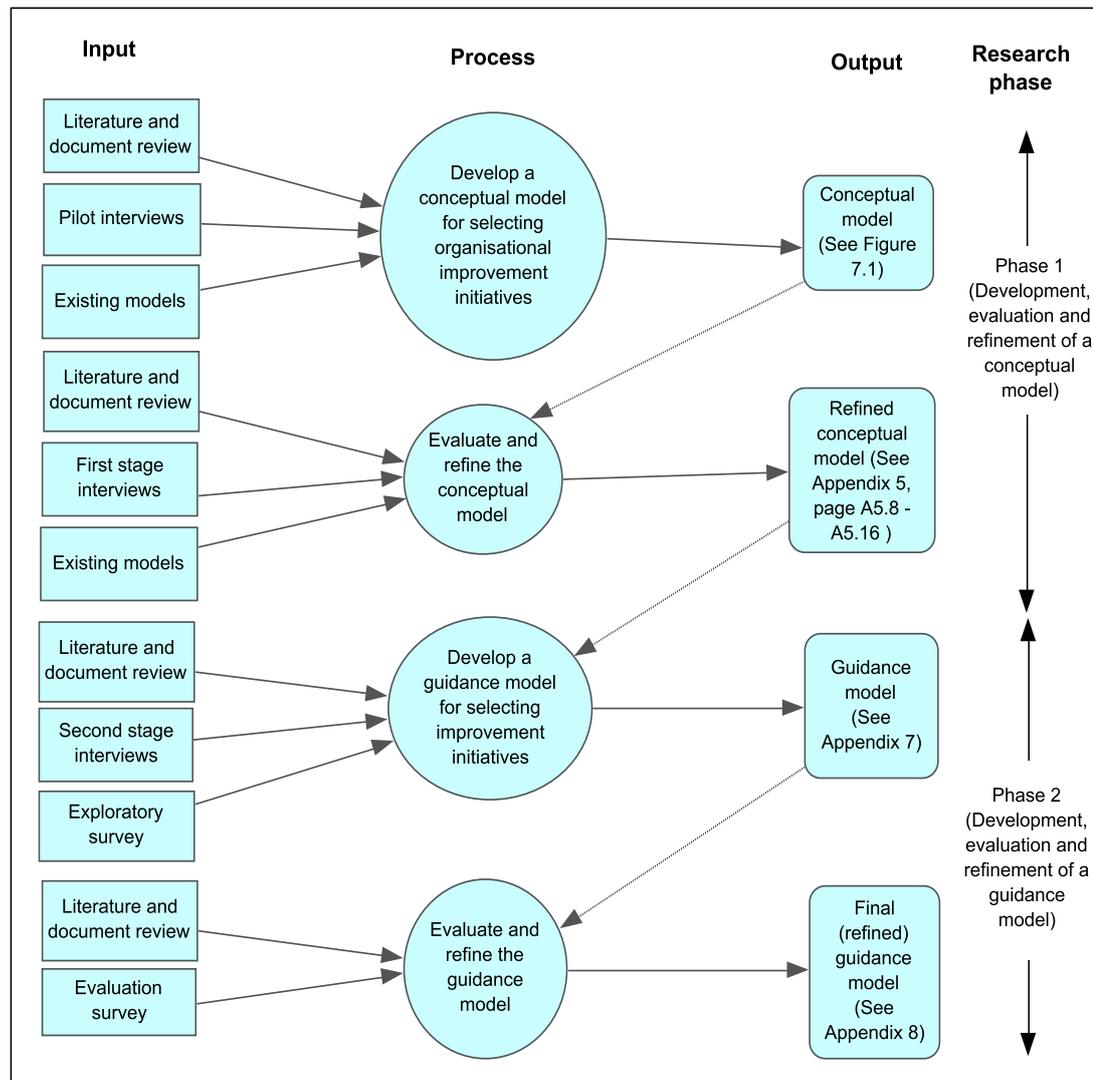


Figure 9.15: Processes involved in the development of a final GUIDE model for selecting organisational improvement initiatives

As shown in Table 3.1 and Figure 9.16, completion of the fifth research objective was achieved by addressing the following four research questions:

- What are the strengths and limitations of the proposed conceptual models?
- What is the degree of agreement of each statement related to the design, steps and/or content of the proposed guidance model?

- What are the strengths and limitations of the proposed guidance model?
- What are the suggestions to improve the proposed conceptual and guidance models?

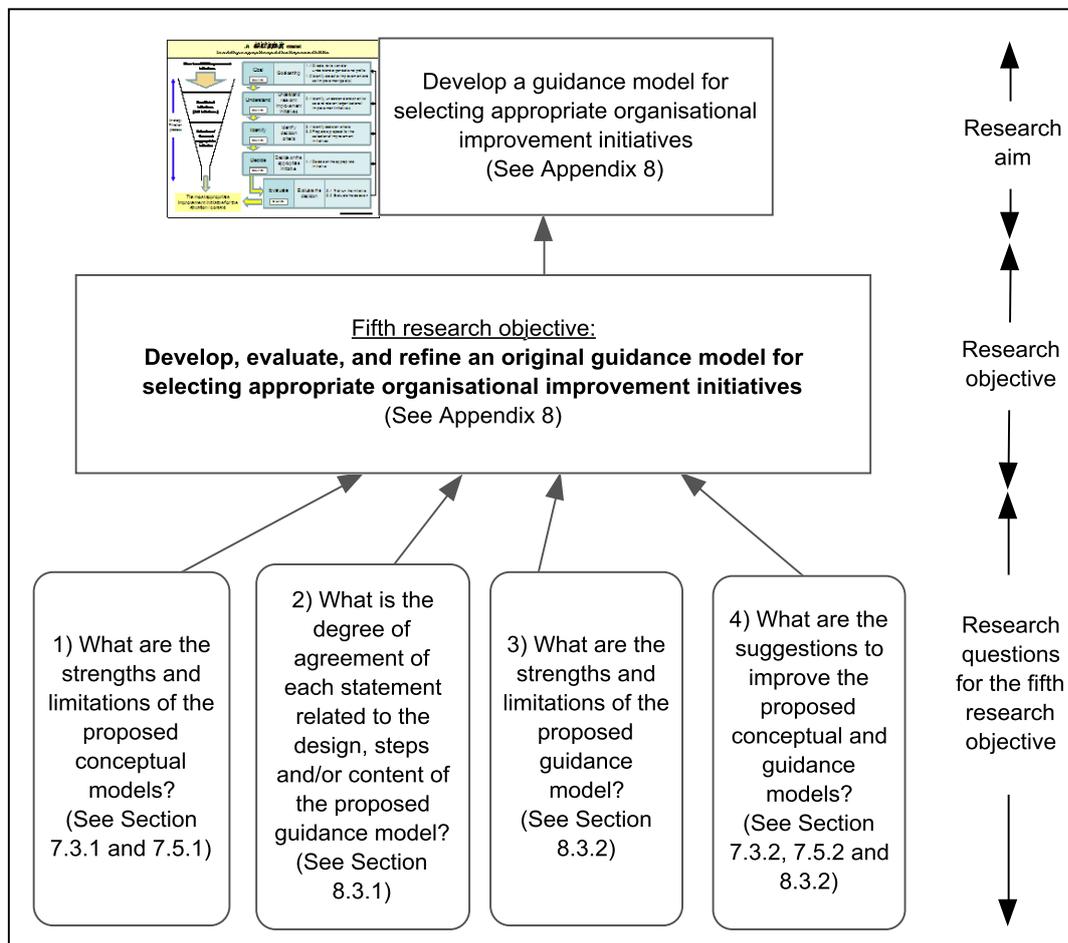


Figure 9.16: The links between the research aim, fifth research objective and research questions for the fifth research objective

As for the first research question of the fifth research objective, the strengths and limitations of the conceptual models are explained in Section 7.3.1 and 7.5.1. Section 7.3.1 presents the results of conceptual model evaluation by seven interviewees. Meanwhile, Section 7.5.1 describes the results of the evaluation of the refined conceptual model by nine interviewees.

Subsequently, the answers for the second and third question are presented in Section 8.3.1 and 8.3.2 respectively. In Section 8.3.1, the degree of agreement for

each statement / question related to the design, steps and contents of the proposed guidance model is presented to address the second research question. As for the third question, the strengths and limitations of the guidance model are explained in Section 8.3.2. These two sections (Section 8.3.1 and 8.3.2) are based on feedback from the evaluation survey.

Finally, Section 7.3.2, 7.5.2 and 8.3.2 provide the answer for the fourth question. Section 7.3.2 provides the interviewees' suggestions to improve the conceptual model. Meanwhile, suggestions given by the interviewees to improve the refined conceptual model are presented in Section 7.5.2. In contrast, Section 8.3.2 describes the suggestions given by the evaluation survey respondents in relation of how to improve the proposed guidance model.

9.3 Contributions of the research

The formal educational background of the author of this thesis is related to Industrial Engineering and Operations Management. Some of the main roles of industrial engineers and operations managers are to improve organisational performance and create better industrial systems (Sawada, 1977; Slack et al., 2009). Part of the Industrial Engineering and Operations Management body of knowledge includes the TQM and BE (Slack et al., 2009). The author of this thesis has been involved in the area of TQM and BE through his experience working as a TQM Executive at the UMW Toyota Motor Malaysia, teaching subjects related to quality management in universities, and attending various courses, workshops and conferences (such as, Organisational Assessment Workshop using Baldrige CPE, BE Global Conference, Malcolm Baldrige National Quality Award Winners Seminar, and The Journey to World Class Organisation Seminar). In addition, the author of this thesis also attended talk given by two prominent quality gurus, Dr. James Harrington and Mr. Masaaki Imai. All these training, formal education and practical experiences have enhanced the ability and credibility of the author to conduct research and make contributions in the area of TQM and BE. The following sub-sections explain how this research makes original contributions to the body of knowledge and gives impact on practice.

9.3.1 Original contribution to the knowledge

A PhD degree is awarded for the thesis that "...makes an original contribution to the knowledge of the subject with which it deals..." (Doctoral Research Committee (DRC), 2011, p. 70). Based on guidelines given by Phillips (1993) and Francis (1976) (as cited in Philips & Pugh, 2005), it is apparent that this PhD research made original contributions to the knowledge.

This research contributes new knowledge in selecting improvement initiatives by developing an original multilayer guidance model for selecting organisational improvement initiatives. This guidance model was developed based on existing research and literature related to TQM and BE, industrial engineering and operations management, strategic management, systems theory, contingency theory, rational decision making, and management fashions and fads. The interface of the model uses the acronym 'GUIDE' which reflects the purpose of the model as a guide to select appropriate improvement initiatives. This model is one of the first to focus on the holistic steps / processes to be used in selecting improvement initiatives whereby its contents are explicitly aligned to the BEMs. This model clearly highlights the need to understand organisational context / profile. Systems and contingency approaches were incorporated in the development of this model so that multiple perspectives and contexts (e.g. current BE maturity level of an organisation, value / benefit of implementing the initiative, ability to gain top management commitment and support) are considered when selecting an initiative. Interestingly, the initial guidance model (see Section 8.2) was used by a researcher in Netherlands for the development of a business improvement initiative selection model for consulting firms (Wieleman, 2011).

Part of the guidance model consists of a framework that shows the main improvement initiatives that can be adopted towards achieving BE, which are arranged according to the common enabling criteria of BEMs and levels of BE maturity. This unique feature can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas of implementation and BE maturity. This framework can be used as one of the pathways to organisational excellence. In addition, this framework indicates that the BEM can be used as an overarching framework for managing, aligning and/or integrating multiple improvement initiatives. This finding promotes an alternative use

of BEM instead of an organisational assessment model. This finding was also published in the International Journal of TQM and BE (Mohammad et al., 2011a). The feedback received from the reviewer of the journal is quoted below:

I like the attempt made to devise a framework for aligning all commonly used quality improvement initiatives. This is something new... I will use it in my lectures after the paper gets published and also quote in my futures writing with credits... the paper does make genuine contribution to the body of knowledge in TQM... The paper is very relevant and definitely will be of interest to all readers.

This research is one of the first to provide a comprehensive list of national quality / BE awards worldwide together with the adopted BEMs and administrative organisations. This effort was initially conducted in January 2010 to fulfil the request from the Baldrige Performance Excellence Program, NIST, USA and later updated in November 2010 (see Section 2.3.3 and Appendix 1). This finding was published in the International Journal of TQM and BE (Mohammad et al., 2011a). Recently, this finding was cited by several researchers including Adomaityte (2011) and Mann, Adebajo, Laosirihongthong, and Punnakitikashem (2011).

This research used a mixed methodologies approach. This approach incorporated multiphase concurrent and sequential data collection, which comprises an extensive literature review, a global on-line exploratory survey, a document review, 17 semi-structured interviews (involving interviewees in three different countries) and a global survey to evaluate the proposed initial guidance model. The experts involved in the interviews and/or surveys include consultants, practitioners from organisations that have won a national Quality / BE award, top management / middle management of the national custodians of Quality or BE award, and academics. Various softwares were used to manage and/or analyse research record and data including QSR NVivo, Endnote, Microsoft Office, Inspiration, MindManager and SPSS PASW Statistics. The development of the final guidance model encompassed multiple iterative processes of development, evaluation and refinement of the model (see Figure 3.1 and 3.4). These rigorous approaches have not been used before in developing a guidance model for selecting improvement initiatives.

To maximise the contributions to the knowledge, the research findings were disseminated using various methods, as summarised in Table 9.1. Within the duration of PhD study, the research findings were published in two journals, four

conference proceedings, a magazine and a website. Currently, the author and the author's PhD main supervisor are finalising three guidebook manuscripts which will be published by the Asian Productivity Organisation (APO). Two of these guidebooks were related to this thesis (see item 9 and 10 in Table 9.1).

9.3.2 Impact on practice

Over the course of the research, the author of this thesis spoke to the CEOs, Directors, Managers, and Executives of award winning organisations and national custodians of quality / BE awards from New Zealand, Singapore, Malaysia and United States. All of these confirmed that the research was of major importance and they would like to be involved and have access to the final results. This was further corroborated through many discussions the author's PhD supervisors have had with the administrators of international BE awards and practitioners from the industry. In addition, the APO, which guides the quality and productivity approaches of 18 Asian countries invited the author as an expert in April 2011 to assist in developing a BE package for Small and Medium Sized Enterprises (SMEs) so that the findings from this research could be leveraged off.

The findings of this research could have a huge impact in educating award administrators / custodians, managers, practitioners, consultants, researchers, academics and/or students in the area of quality and BE. The research findings can also be used for training, workshop, consultancy, mentoring, competency development as well as materials for guidebook / textbook. As a matter of fact, some of this research findings were used by the APO in the development of a BE package for Asian SMEs (see item 9 and 10 in Table 9.1). This BE package has dual roles of increasing awareness and explaining how to adopt BE in SMEs, which consist of guidebooks, poster and slide sets.

In addition, three respondents of the evaluation survey contacted the author to gain permission to use the proposed initial guidance model in their organisations. This indicates that the model is practical and has high possibility to be used by many organisations to assist them in selecting appropriate improvement initiatives.

Table 9.1: Methods of disseminating the research findings

No	Methods of dissemination	Title of article / report / manuscript / book	Main contents of the article/ report / manuscript / book
1	Conference proceedings (Proceedings of the NZOQ Conference)	Multiple initiatives implementation in the journey towards organisational excellence: Issues and future research (Mohammad et al., 2008)	<ul style="list-style-type: none"> • Section 2.2: Organisational improvement initiatives • Section 2.3.3: BEMs as a guiding framework for selecting and managing multiple organisational improvement initiatives
2	Conference proceedings (Proceedings of the International Conference on Quality, Productivity and Performance Measurement)	Selection of business improvement initiatives towards achieving business excellence: An initial conceptual model (Mohammad et al., 2009a) – This article was selected for publication in the Journal of Quality Measurement and Analysis.	Section 7.2: Development of a conceptual model
3	Journal (Journal of Quality Measurement and Analysis)	Selection of quality improvement initiatives: An initial conceptual model (Mohammad et al., 2009b)	Section 7.2: Development of a conceptual model
4	Conference proceedings (Proceedings of the 40th International Conference on Computers and Industrial Engineering)	The right improvement initiative for the right situation: A contextual and systems approach (Mohammad et al., 2010a)	Section 7.4: Refinement of the conceptual model
5	Magazine (QNewZ - Magazine of the NZOQ)	Selecting the right organisational improvement initiative (Mohammad et al., 2010b)	<ul style="list-style-type: none"> • Section 1.2: Background of the research • Section 8.2: Development of a guidance model
6	Baldrige Performance Excellence Program website	National quality / business excellence awards in different countries (Mohammad & Mann, 2010)	Section 2.3.3: BEMs as a guiding framework for selecting and managing multiple organisational improvement initiatives
7	Journal (International Journal of Total Quality Management and Business Excellence)	Business Excellence Model: An overarching framework for managing and aligning multiple organisational improvement initiatives (Mohammad et al., 2011a)	<ul style="list-style-type: none"> • Section 2.3.3: BEMs as a guiding framework for selecting and managing multiple organisational improvement initiatives • Section 9.2.1: Main organisational improvement initiatives that should be used according to the areas of implementation and organisational maturity
8	Conference proceedings (Proceedings of the 15th International Conference on ISO and TQM)	Selecting appropriate organisational improvement initiatives: A five steps approach (Mohammad et al., 2011b)	Section 8.2: Development of a guidance model
9	Guidebook (to be published by APO)	Understanding business excellence: An awareness guidebook for SMEs (In-progress)	Section 2.3.3: BEMs as a guiding framework for selecting and managing multiple organisational improvement initiatives
10	Guidebook (to be published by APO)	Implementing business excellence: An implementation guidebook for SMEs (In-progress)	Chapter 8: Development, evaluation and refinement of a guidance model

9.4 Limitations of the research and suggestions for future research

The research was probably one of the most extensive studies to date on the selection of organisational improvement initiative towards BE. However, there were several limitations that can be improved in the future.

First of all, the development of the final guidance model was mainly based on literature review, interviews and evaluation survey. The interviews were conducted involving 17 respondents and the number of evaluation survey responses was 33. With a higher number of respondents the research could have been strengthened but the number of participants was considered to be sufficient based on the research objectives and the time-frame available for the research. In the future, it is recommended that the model is further developed through testing it in real situations by organisations worldwide. Data obtained from those organisations can be utilised to improve the model so that it is more practical and effective.

Secondly, the proposed GUIDE model serves as a guide for selecting improvement initiatives and only represents a generalised and simplified version of reality. Therefore, the organisations need to customise the model to suit the specific organisations' requirements and expectations. In the future, more case studies should be conducted on the implementation of this model in various types and sizes of organisations worldwide. All these case studies should be recorded and presented as examples of how to use the GUIDE model in different situations.

Thirdly, the proposed GUIDE model only provides a brief explanation on the main purpose of the most commonly used improvement initiatives. Further research should be conducted to develop a database that provides additional information on the initiatives, such as the limitations of the initiatives, situations / contexts in which the initiatives are suitable to be used and several case studies on the cost benefit analysis of the initiatives.

Fourthly, the proposed GUIDE model was presented in pdf file whereby the users can click on the designated box to get more information about the steps of selecting an appropriate initiative. Further research can be conducted to develop a software-based decision support tool to assist organisations in the selection of suitable improvement initiatives according to the context.

Finally, the main output of this research is only a multilayer GUIDE model for selecting improvement initiatives. In the future, guidebooks, slide sets and/or training materials can be developed based on the proposed GUIDE model. The guidebooks, slide sets and/or training materials should provide more practical descriptions, examples and templates on how to implement each step of selecting improvement initiatives.

9.5 Conclusion of the chapter

This chapter has discussed the summary of the main research findings, contributions and limitations of the research as well as suggestions for future research. Overall, this research revealed the following main findings:

- None of the individual improvement initiative can solve all problems effectively in the organisation; each initiative has a role to play towards improving organisational performance. The right improvement initiatives to be used may vary depending on several contingency factors, such as, the areas in which the initiatives are adopted, the current maturity level of the organisation, and capabilities of the workforce.
- There is no one standard path to achieve organisational excellence. Every organisation has its own purpose, structure, culture and environment. On the other hand, every improvement initiative has its own purpose, strengths and limitations. Therefore, the managers, practitioners and consultants should understand the organisational context and improvement initiatives better in order to make an informed decision on which initiative would best suit the situation. There is no 'one size fits all'.
- The organisations should blend both incremental and breakthrough improvement in order to achieve organisational excellence.
- The BEMs can be used as overarching frameworks for managing, aligning and/or integrating multiple improvement initiatives within an organisation.
- The BEMs are used for Quality / BE Awards in at least 83 countries worldwide.
- An original multilayer GUIDE model was developed to assist organisations in selecting an appropriate improvement initiative.

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Appendix 1:
List of national Quality / BE Awards worldwide and their adopted BEMs and administrative organisations 2010

No	Name of award	Region	Country	Model used	Administrative organisations
1	Hong Kong Management Association Quality Award	Asia	Hong Kong SAR	Baldrige Criteria for Performance Excellence	Hong Kong Management Association (HKMA)
2	Indonesian Quality Award	Asia	Indonesia	Baldrige Criteria for Performance Excellence	Indonesian Quality Award Foundation (IQAF)
3	Philippines Quality Award (PQA)	Asia	Philippines	Baldrige Criteria for Performance Excellence	Department of Trade and Industry (DTI) and Development Academy of the Philippines
4	Sri Lanka National Quality Award	Asia	Sri Lanka	Baldrige Criteria for Performance Excellence	Sri Lanka Standards Institution (SLSI)
5	Thailand Quality Award (TQA)	Asia	Thailand	Baldrige Criteria for Performance Excellence	Foundation for Thailand Productivity Institute (FTPI)
6	Swedish Quality Award (Utmarkelsen Svensk Kvalitet)	Europe	Sweden	Baldrige Criteria for Performance Excellence	Swedish Institute for Quality (SIQ)
7	Malcolm Baldrige National Quality Award (MBNQA)	Northern America	United States of America	Baldrige Criteria for Performance Excellence	Baldrige National Quality Program, National Institute of Standards and Technology (NIST)
8	New Zealand Business Excellence Award	Oceania	New Zealand	Baldrige Criteria for Performance Excellence	New Zealand Business Excellence Foundation
9	CII-EXIM Bank Award for Business Excellence	Asia	India	EFQM Excellence Model	Confederation of Indian Industry and Export-Import (EXIM) Bank of India
10	Lebanese Excellence Award	Asia	Lebanon	EFQM Excellence Model	Ministry of Economy & Trade
11	TUSIAD-KalDer Quality Award	Asia	Turkey	EFQM Excellence Model	KalDer and TÜSIAD
12	Dubai Quality Awards	Asia	United Arab Emirates	EFQM Excellence Model	Department of Economic Development
13	Sheikh Khalifa Excellence Award	Asia	United Arab Emirates	EFQM Excellence Model	Abu Dhabi Chamber Of Commerce & Industry
14	Austrian Quality Award	Europe	Austria	EFQM Excellence Model	Austrian Foundation for Quality Management (AFQM)
15	K2 Award	Europe	Belgium	EFQM Excellence Model	Flemish Centre for Quality Management (VCK)
16	Quality Award of the Czech Republic	Europe	Czech Republic	EFQM Excellence Model	Czech Quality Award Association (CQAA)
17	Danish Quality Prize (Danske Kvalitetspris)	Europe	Denmark	EFQM Excellence Model	Center for Ledelse
18	Estonian Quality Award	Europe	Estonia	EFQM Excellence Model	Estonian Centre for Excellence (ECE)
19	Finnish Quality Award (Suomen laatupalkinto)	Europe	Finland	EFQM Excellence Model	Finnish Center for Excellence
20	German National Quality Award (Ludwig-Erhard-Preis)	Europe	Germany	EFQM Excellence Model	German Society for Quality (DGQ)
21	Hungarian National Quality Award	Europe	Hungary	EFQM Excellence Model	The Hungarian Quality Development Center (HQDCIT)

22	Irish Business Excellence Award	Europe	Ireland	EFQM Excellence Model	Excellence Ireland Quality Association (EIQA)
23	Italian Quality Award (Premio Qualita Italia)	Europe	Italy	EFQM Excellence Model	Associazione Premio Qualita Italia (APQI)
24	Latvian National Quality Award	Europe	Latvia	EFQM Excellence Model	Ministry of Economy & Latvian Quality Association
25	Lithuanian National Quality Prize	Europe	Lithuania	EFQM Excellence Model	Minister of Economy & Quality Council
26	Northern Ireland Quality Award	Europe	Northern Ireland	EFQM Excellence Model	Centre for Competitiveness
27	Business Fair Play Award	Europe	Poland	EFQM Excellence Model	Polish Chamber of Commerce
28	Polish Quality Award	Europe	Poland	EFQM Excellence Model	Polish Chamber of Commerce
29	Portuguese Quality Award (Premio de Excelencia – Systema Portugues da Qualidade)	Europe	Portugal	EFQM Excellence Model	Instituto Portugues de Qualidade
30	Romanian Quality Award	Europe	Romania	EFQM Excellence Model	Not known
31	Russian National Quality Award	Europe	Russian Federation	EFQM Excellence Model	Government of the Russian Federation
32	Scottish Award for Business Excellence	Europe	Scotland	EFQM Excellence Model	Quality Scotland
33	Slovenian Business Excellence Prize	Europe	Slovenia	EFQM Excellence Model	Metrology Institute of the Republic of Slovenia (MIRS)
34	Swedish Quality Award (Utmarkelsen Svensk Kvalitet)	Europe	Sweden	EFQM Excellence Model	Swedish Institute for Quality (SIQ)
35	Swiss Quality Award for Business Excellence	Europe	Switzerland	EFQM Excellence Model	ESPRIX
36	Ukrainian National Quality Award	Europe	Ukraine	EFQM Excellence Model	Ukrainian Association for Quality
37	UK Business Excellence Award	Europe	United Kingdom	EFQM Excellence Model	British Quality Foundation (BQF)
38	Wales Quality Award	Europe	Wales	EFQM Excellence Model	Wales Quality Centre
39	Fiji Business Excellence Award	Oceania	Fiji	National model (developed from Australian Business Excellence Framework)	Training and Productivity Authority of Fiji
40	Prime Minister's Industry Excellence Award (formerly known as Prime Minister's Quality Award for Private Sector)	Asia	Malaysia	National model (developed from Baldrige and Deming Prize)	Ministry of International Trade and Industry (MITI)
41	Quality Management Excellence Award (QMEA)	Asia	Malaysia	National model (developed from Baldrige and Deming Prize)	Malaysia Productivity Corporation (MPC)
42	FNCCI National Business Excellence Award	Asia	Nepal	National model (developed from Baldrige and Deming Prize)	Federation of Nepalese Chambers of Commerce & Industry (FNCCI)

43	Pakistan National Quality Award	Asia	Pakistan	National model (developed from Baldrige and Deming Prize)	National Productivity Organization (NPO)
44	Golden Peacock National Quality Award	Asia	India	National model (developed from Baldrige and EFQM Excellence Model)	Institute of Directors
45	Singapore Quality Award	Asia	Singapore	National model (developed from Baldrige and EFQM Excellence Model)	The Standards, Productivity and Innovation Board (SPRING)
46	Icelandic Quality Award	Europe	Iceland	National model (developed from Baldrige and EFQM Excellence Model)	Icelandic Association for Quality
47	Brazil National Quality Award	Latin America	Brazil	National model (developed from Baldrige and EFQM Excellence Model)	Brazilian Foundation for the National Quality Award
48	The National Award for Excellence in Quality	Africa	Egypt	National model (developed from Baldrige)	Industrial Modernisation Centre (IMC)
49	Mauritian National Quality Award	Africa	Mauritius	National model (developed from Baldrige)	Mauritius Export Processing Zone Association
50	China Quality Award	Asia	China	National model (developed from Baldrige)	China Association for Quality
51	IMC Ramkrishna Bajaj National Quality Award	Asia	India	National model (developed from Baldrige)	IMC Ramkrishna Bajaj National Quality Awards Committee
52	Japan Quality Award	Asia	Japan	National model (developed from Baldrige)	Japan Productivity Center
53	National Productivity Award (NPA)	Asia	Mongolia	National model (developed from Baldrige)	National Productivity and Development Center
54	Vietnam Quality Award	Asia	Vietnam	National model (developed from Baldrige)	Directorate for Standards, Metrology and Quality (STAMEQ)
55	Q-MARK National Quality Award	Europe	Ireland	National model (developed from Baldrige)	Excellence Ireland Quality Association (EIQA)
56	Aruba Quality Award	Latin America	Aruba	National model (developed from Baldrige)	Aruba Quality Foundation
57	National Quality Award of Argentina (Premio Nacional a la Calidad)	Latin America	Argentina	National model (developed from Baldrige, Deming Prize and EFQM Excellence Model)	Foundation for the National Quality Award (FNQA)
58	National Quality Award of Chile (Premio Nacional a la Calidad)	Latin America	Chile	National model (developed from Baldrige, Deming Prize and EFQM Excellence Model)	National Center of Productivity and Quality
59	IIASA SHIBA Award	Europe	Hungary	National model (developed from Deming Prize)	The Hungarian Quality Development Center & National Institute IIASA
60	No award to date	Asia	Bahrain	National model (developed from EFQM Excellence Model)	Bahrain Centre for Excellence
61	Moroccan National Quality Award	Africa	Morocco	National model (developed from EFQM Excellence Model)	Moroccan Association for Quality

62	South African Excellence Award	Africa	South Africa	National model (developed from EFQM Excellence Model)	South African Business Excellence Foundation
63	Iran National Quality Award (INQA)	Asia	Iran	National model (developed from EFQM Excellence Model)	Institute of Standards and Industrial Research of Iran
64	King Abdullah II Award for Excellence	Asia	Jordan	National model (developed from EFQM Excellence Model)	King Abdullah II Center for Excellence
65	French Quality Award (Prix Francais pour la Qualite)	Europe	France	National model (developed from EFQM Excellence Model)	Mouvement Francais pour la Qualite (MFQ)
66	Athens Chamber of Commerce and Industry Awards	Europe	Greece	National model (developed from EFQM Excellence Model)	Athens Chamber of Commerce and Industry
67	Dutch Quality Award	Europe	Netherlands	National model (developed from EFQM Excellence Model)	Institute Nederland Kwaliteit (INK)
68	Norwegian Quality Award	Europe	Norway	National model (developed from EFQM Excellence Model)	Excellence Norway Forum for Leadership and Quality
69	The Slovak Quality Award	Europe	Slovakia	National model (developed from EFQM Excellence Model)	Slovak Society for Quality
70	ECO-Q Recognitions	Asia	Cyprus	National model (unique)	ECO-Q Magazine
71	Rajiv Gandhi National Quality Award	Asia	India	National model (unique)	Bureau of Indian Standards
72	Israel National Industrial Quality Award	Asia	Israel	National model (unique)	The Israek Standards Institute
73	Deming Prize	Asia	Japan	National model (unique)	Japanese Union of Scientists and Engineers (JUSE)
74	Korean National Quality Award	Asia	Korea	National model (unique)	Korean Standards Association (KSA)
75	Prime Minister's Quality Award (for public sector)	Asia	Malaysia	National model (unique)	Malaysian Administrative and Modernization Planning Unit (MAMPU) Ministry of Economics Affairs
76	Taiwan National Quality Award	Asia	Taiwan	National model (unique)	ECO-Q Magazine
77	ECO-Q Recognitions	Europe	Greece	National model (unique)	Mouvement Luxembourgeois pour la Qualite, Minister of Economy & Centre of Public Research
78	Prix Luxembourgeois de la Qualite	Europe	Luxembourg	National model (unique)	Spanish Ministry of Industry, Tourism and Trade
79	Prince Philip Award for Business Excellence (Premios Principe Felipe a la Excelencia Empresarial)	Europe	Spain	National model (unique)	Swedish Institute for Quality (SIQ)
80	Swedish Quality Award (Utmarkelsen Svensk Kvalitet)	Europe	Sweden	National model (unique)	National Government of Columbia
81	Colombia National Quality Prize	Latin America	Colombia	National model (unique)	Costa Rican Chamber of Industries
82	Costa Rica Excellence Award	Latin America	Costa Rica	National model (unique)	Ministry of Economy and Planning
83	National Quality Award of Cuban Republic	Latin America	Cuba	National model (unique)	Mexican Foundation for Total Quality (FUNDAMECA)
84	National Quality Award of Mexico (Premio Nacional de Calidad)	Latin America	Mexico	National model (unique)	

85	National Quality Award of Uruguay (Premio Nacional de Calidad)	Latin America	Uruguay	National model (unique)	National Quality Committee of Uruguay
86	Canada Awards for Excellence	Northern America	Canada	National model (unique)	National Quality Institute of Canada
87	Australian Business Excellence Award	Oceania	Australia	National model (unique)	SAI Global
88	Brunei Civil Service Excellence Award	Asia	Brunei Darussalam	Not known	Brunei Darussalam's Civil Service
89	Oman Award for Excellence	Asia	Oman	Not known	Not known
90	Qatar Quality Award	Asia	Qatar	Not known	Not known
91	King Abdulaziz Quality Award	Asia	Saudi Arabia	Not known	Saudi Arabian Standards, Metrology and Quality Organization (SASO)
92	Croatian Quality Award	Europe	Croatia	Not known	Not known
93	Malta Quality Award	Europe	Malta	Not known	Not known
94	Ecuador National Quality Award	Latin America	Ecuador	Not known	Not known
95	Paraguay National Quality Award	Latin America	Paraguay	Not known	Not known
96	Peruvian National Quality Award	Latin America	Peru	Not known	Not known
97	The Puerto Rico Excellence Award	Latin America	Puerto Rico	Not known	Not known

Appendix 2: Sample of the on-line exploratory survey

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

Hello all,

I am Musli, a PhD student at the Centre for Organisational Excellence Research, Massey University (www.coer.org.nz). I am conducting a survey on business improvement initiatives. This survey is part of my doctoral study, which is supervised by Dr. Robin Mann and Dr. Nigel Grigg.

Can you help?

All practitioners, managers, executives, consultants and/or academicians who have a good understanding and experience on business improvement initiatives are invited to complete the survey.

What is the purpose?

There are numerous business improvement initiatives that can be used by organisations to improve quality, productivity and sustainability towards achieving excellence. The initiatives can be approaches, systems, tools and/or techniques, such as, Six Sigma, Lean, ISO9000, ISO14000, Business Process Reengineering, and Benchmarking. The right initiatives to be used may vary depending on several factors, for instance, the current maturity level of the organisation, areas in which the initiatives are implemented, organisation type and size, and the capabilities and responsibilities of the workforce. Moreover, there is also a lack of clear understanding by people regarding when, where and how to implement the initiatives. In order to help organisations to select suitable initiatives according to the contexts, this survey attempts to identify where the main business improvement initiatives should be used according to the following areas: leadership and social responsibilities, strategy and policy, customers, processes, workforce, and, partnerships and resources.

How much time does it takes?

It will take approximately 5 to 60 minutes of your time to complete this questionnaire depending on your knowledge and experience of different business improvement initiatives. There are 53 main initiatives listed in Section 2 of the questionnaire. You are not expected to answer all the listed initiatives. Instead, please answer the initiatives that you are familiar with. If you are only familiar with two or three initiatives, it will probably only take you 5 to 10 minutes to complete the survey.

Do you want to participate?

Returning the completed questionnaire is taken as your consent to participate in this survey. Your feedback will be used solely for research purposes and resultant research reports or publications will not disclose the identity of the participants. Confidentiality is assured. You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Ask any questions about the study. If you require any further information, you are welcome to contact me. My contact details are shown below.
- Provide information on the understanding that your name will not be used unless you give permission to the researcher.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application 09/27. If you have any concerns about the conduct of this research, please contact Dr Karl Pajo, Chair, Massey University Human Ethics Committee: Southern B, telephone +64 4 801 5799 ext. 6929, email humanethicsouthb@massey.ac.nz. Alternatively, you may also contact my main supervisor: Dr. Robin Mann, by telephone +64 6 350 5445 or email R.S.Mann@massey.ac.nz.

What benefit will you get?

If you have completed the questionnaire and request form, you will be sent a copy of the survey findings through email, once it is ready.

I hope you can participate. Thank you in advance for sharing your opinions.

Yours sincerely,

Musli Mohammad
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Industrial Management and Innovation Cluster
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Email: M.Mohammad@massey.ac.nz or muslimailbox@gmail.com

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11%

 Take a look under the hood

Online Surveys powered by SurveyGizmo

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

This questionnaire consists of two (2) main sections:
Section 1: Background of the respondent and organisation
Section 2: Area(s) in which the business improvement initiatives should be used

Please read the questions carefully before answering them.

SECTION 1: BACKGROUND OF THE RESPONDENT AND ORGANISATION

This section seeks general information about you and your organisation.

1. For how many years have you been involved in the area related to quality, productivity and/or sustainability?*

- Less than 1 year
- 1 to 2 years
- 3 to 4 years
- 5 to 6 years
- 7 years or more than 7 years

2. In which country are you currently working?*

- New Zealand
- Australia
- Malaysia
- Singapore
- India
- Taiwan
- England
- Ireland
- Scotland
- Wales
- Germany
- Canada
- Other (please specify):

3. What is your organisation's major business activity?*

- Agriculture, Forestry and Fishing
- Communication Services
- Mining
- Finance and Insurance
- Manufacturing
- Property and Business Services
- Electricity, Gas and Water Supply
- Government Administration and Defence
- Construction
- Education
- Wholesale Trade
- Health and Community Services
- Retail Trade
- Cultural and Recreational Services
- Accommodation, Cafes and Restaurants
- Personal and Other Services
- Transport and Storage
- Other (please specify):

4. Within which sector does your organisation operate?

- Public Sector
- Private Sector
- Not for Profit or Community

5. What is the approximate number of full-time employees in your organisation?*

- Less than 5
- 5 to 9
- 10 to 19
- 20 to 49
- 50 to 99
- 100 to 199
- 200 to 249
- 250 or more than 250

6. Has your organisation won any business excellence / quality award(s)?

- No
- Yes. Please indicate award(s) name and year of receiving the award(s):

7. There are numerous business improvement initiatives that can be used by organisations to improve quality, productivity and sustainability, such as, Six Sigma, ISO9000, ISO14000, Lean, and Business Process Reengineering. Do you think that selection of suitable business improvement initiatives is an important area of study?

- Extremely important
- High importance
- Moderate importance
- Low importance
- Not important

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22%

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED

There are 53 main initiatives listed in this section. **You are not expected to answer all the listed initiatives. Instead, please answer the initiatives that you are familiar with.** If you are familiar with numerous initiatives but only have a limited time, please answer at least 5 (five) main initiatives. If you are not familiar with a certain initiative, just leave it blank and proceed to the next initiative.

Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

Kindly respond to all the areas for each initiative that you are familiar with.

Example: If you are only familiar with benchmarking, please find the row which indicates 'benchmarking' (row number 3). Subsequently, please indicate the degree of suitability in terms of where the benchmarking should be used according to the following areas: leadership and social responsibilities, strategy and policy, customers, processes, workforce, and partnerships and resources.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
1) Asset Management	Focuses on management's behaviour and leadership system in building culture of excellence in the organisation, as well as, organisation's responsibilities and contribution to society and environment					
2) Balanced Scorecard						
3) Benchmarking						
4) Business Excellence Award application						
5) Self-Assessment based on Business Excellence Model	Very high High Moderate Low Very low Not suitable					
6) Business Process Reengineering						
7) Change Management						
8) Communication Strategy						
9) Core Competencies Development						
10) Corporate Social Responsibility (CSR) System						

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SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED (Cont.)

There are 53 main initiatives listed in this section. You are **not** expected to answer all the listed initiatives. Instead, please **answer the initiatives that you are familiar with**. If you are familiar with numerous initiatives but only have a limited time, please answer at least 5 (five) main initiatives. If you are not familiar with a certain initiative, just leave it blank and proceed to the next initiative.

Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

Kindly respond to all the areas for each initiative that you are familiar with.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
11) Customer Relationship Management (CRM)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
12) Customer Segmentation	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
13) Employee Development	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
14) Employee Suggestion Scheme	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15) Enterprise Resource Planning	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
16) Environmental Management System	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
17) Facilities Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
18) Financial Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
19) Human Resource Planning	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
20) Improvement Teams (including Quality Circles)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

A process to understand the customer groups and respond quickly to shifting customer desires. Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle (the chain of activities from the initial targeting of customers to efforts to win them back for more). CRM data also provide companies with important new insights into customers' needs and behaviours, allowing organisations to tailor products / services to targeted customer segments.

Very high
High
Moderate
Low
Very low
Not suitable

44%

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED (Cont.)

There are 53 main initiatives listed in this section. **You are not expected to answer all the listed initiatives. Instead, please answer the initiatives that you are familiar with.** If you are familiar with numerous initiatives but only have a limited time, please answer at least 5 (five) main initiatives. If you are not familiar with a certain initiative, just leave it blank and proceed to the next initiative.

Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

Kindly respond to all the areas for each initiative that you are familiar with.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
21) Innovation Management	<input type="text"/>	<input type="text"/>	Focuses on how organisation develops, communicates, deploys, monitors, reviews and improves its strategy and policy to achieve performance excellence		<input type="text"/>	<input type="text"/>
22) Knowledge Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
23) Leadership Development Programme	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
24) Lean Production / Operations	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
25) Loyalty Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
26) Managing by Walking / Wandering Around (MBWA)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
27) Market Research	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
28) Mergers and/or Acquisitions	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
29) Mission, Vision and Values Statements	High <input type="text"/>	Very high <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
30) Mistake Proofing (Poka-Yoke)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Very high
High
Moderate
Low
Very low
Not suitable

Click to Go Back

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55%

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED (Cont.)

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Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

Kindly respond to all the areas for each initiative that you are familiar with.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
31) Occupational Health and Safety Management System	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
32) Organisational Governance	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
33) Outsourcing	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
34) Performance Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
35) Product Life Cycle Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
36) Project Management	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
37) Quality Function Deployment (QFD)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
38) Quality Management System (QMS)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
39) Rewards and Recognition System	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
40) Risk Management (Crisis Management)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers, and determines their satisfaction

- Very high
- High
- Moderate
- Low
- Very low
- Not suitable



SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED (Cont.)

There are 53 main initiatives listed in this section. You are **not** expected to answer all the listed initiatives. Instead, please **answer the initiatives that you are familiar with**. If you are familiar with numerous initiatives but only have a limited time, please answer at least 5 (five) main initiatives. If you are not familiar with a certain initiative, just leave it blank and proceed to the next initiative.

Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

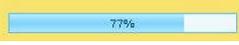
Kindly respond to all the areas for each initiative that you are familiar with.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
41) Business Continuity Management (BCM)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
42) Shared Service Centres	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
43) Six Sigma	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
44) Statistical Process Control (SPC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
45) Strategic Alliances	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
46) Strategic Planning	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
47) Strategic Execution/Deployment	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
48) Service Level Agreement	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
49) Supplier Management (Supplier Relationship Management)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
50) Supply Chain Management (Supply Chain Integration)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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

Very high
High
Moderate
Low
Very low
Not suitable



SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

SECTION 2: AREA(S) IN WHICH THE BUSINESS IMPROVEMENT INITIATIVES SHOULD BE USED (Cont.)

There are 53 main initiatives listed in this section. You are **not** expected to answer all the listed initiatives. Instead, please **answer the initiatives that you are familiar with**. If you are familiar with numerous initiatives but only have a limited time, please answer at least 5 (five) main initiatives. If you are not familiar with a certain initiative, just leave it blank and proceed to the next initiative.

Based on your knowledge and experience, please indicate the **degree of suitability** in terms of where the business improvement initiative should be used according to the following areas:

- (1) Leadership and social responsibilities;
- (2) Strategy and policy;
- (3) Customers;
- (4) Processes;
- (5) Workforce; and
- (6) Partnerships and Resources.

Kindly respond to all the areas for each initiative that you are familiar with.

Useful tip: move the cursor on the items for more details

	Leadership and social responsibilities	Strategy and policy	Customers	Processes	Workforce	Partnerships and Resources
51) Theory of Constraints (TOC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
52) Total Productive Maintenance (TPM)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
53) 5S (Industrial Housekeeping)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other 1 (please specify below)*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other 2 (please specify below)*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other 3 (please specify below)*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other 4 (please specify below)*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other 5 (please specify below)*	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- Very high
- High
- Moderate
- Low
- Very low
- Not suitable

* Please specify other initiatives indicated at the above table:

Other 1

Other 2

Other 3

Other 4

Other 5

Do you have any comments to add concerning this section or the research in general?



SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

REQUEST FORM

Dear participant,

If your organisation has any criteria, guidelines and/or model to assist in the selection of business improvement initiatives, I would like to follow-up this survey with an interview in person or over the telephone. The interview will be conducted at a mutually arranged venue and time for approximately 50 to 90 minutes. This interview will be conducted to obtain your opinions and experience related to the selection of business improvement initiatives. Would you be interested for a follow-up interview? *

- Yes. Please fill in your contact details below.
 No

Would you like to have a copy of survey findings?

- Yes. Please fill in your contact details below.
 No

Your contact details:

Name :	<input type="text"/>
Position / Designation :	<input type="text"/>
Organisation :	<input type="text"/>
Department :	<input type="text"/>
Postal address :	<input type="text"/>
Country :	<input type="text"/>
Telephone no. :	<input type="text"/>
Email address* :	<input type="text"/>

* To receive a copy of survey findings, you must provide your email address. Thank you.

Click to Go Back

Finished? Submit your Survey

94%

 Take a look under the hood

Online Surveys powered by SurveyGizmo

SURVEY ON BUSINESS IMPROVEMENT INITIATIVES - CAN YOU HELP?

Thank you for completing this survey. Your response is very important to us.

100%

 Take a look under the hood

Online Surveys powered by SurveyGizmo

Appendix 3: Protocol for Pilot Interviews

PROTOCOL FOR PILOT INTERVIEWS

This interview is conducted to obtain your opinions and experience about the selection of business improvement initiatives towards achieving excellence focussing on:

- What are the main business improvement initiatives widely used by the organisations?
- When should the main business improvement initiatives be used according the level of BE maturity? (e.g. starting, progressing, mature, excellence)
- How should the organisations select suitable business improvement initiatives? (Focuses on critical contextual factors, key steps and how to overcome the main challenges faced).

Are there any questions before we start the interview? I will start recording as soon as I start asking the first question. Feel free to stop the recording at any time during the interview if your feel uncomfortable.

- 1) Firstly, let's talk about yourself and your work. Can you tell me about your work background?
- 2) What are the main business improvement initiatives that widely used by the organisations?
- 3) Can you tell me about your experience in selecting suitable business improvement initiatives to be used?
 - What are the critical factors should be considered when selecting suitable business improvement initiatives to be used?
 - What are the key steps in selecting suitable business improvement initiatives?
- 4) One of the factors that should be considered when selecting suitable initiatives is the business excellence maturity.

In your point of view, how many levels of business excellence maturity can you segregate? (e.g. starting, progressing, mature and excellence).

Can you explain the main characteristics of each level of business excellence maturity?

Based on literature review (refer to Appendix A), this is a brief description of business excellence maturity. What do you think about this description?

This is the list of the main business improvement initiatives that widely used by the organisations (based on Question 2).

Can you tell me when should the organisation first uses the initiatives according to the business excellence maturity that we have discussed before?

- 5) Can you describe the main challenges faced by organisations in selecting suitable business improvement initiatives?
Can you tell me how to overcome these challenges?
- 6) Does your organisation have any model / framework to assist in the selection and implementation of business improvement initiatives?

If yes, can you explain briefly about the model/framework that has been used?

If no, proceed to the next question.

- 7) Is there anything else that you want to add regarding the selection of suitable initiatives towards business excellence?
- 8) Do you think that how an organisation selects suitable business improvement initiatives is an important area of study?
- 9) What do you think about this interview session? Do you have any suggestions to improve this interview session?

Thank you for participating in this interview.

APPENDIX A

Brief Description of Business Excellence (BE) Maturity Levels based on Literature Review

Levels of BE Maturity (Saunders & Mann, 2007)	Brief Description
1) Starting	Focuses on controlling or solving current problems. Short-term results regarding product output and quality are expected. Continuous improvement is perceived as a programme and/or concentrated in manufacturing / operations departments. Management style is reactionary (Dale & Lascelles, 2007).
2) Progressing	Focuses on preventing non-conformances. More emphasis is placed on advanced quality planning, critical problem-solving tasks, improving the design of the product, process and services, improving control over the process, and involving people (Dale & Lascelles, 2007; Dale, Van der Wiele, & Van Iwaarden, 2007)
3) Mature	Focuses on company-wide approach to excellence, with improvements undertaken on a continuous basis by everyone in the organisation (Dale, Van der Wiele, & Van Iwaarden, 2007). Effective cross-functional management processes and achieved process-stream improvement those are measurable (Dale & Lascelles, 2007).
4) Excellent	Constantly competes and wins against the best world-wide. Total integration of continuous improvement and business strategy to delight the stakeholders and respond to changing market conditions. Has developed and applied a unique success model (Dale & Lascelles, 2007, p. 125).

References:

- Dale, B. G., & Lascelles, D. M. (2007). Levels of TQM adoption. In B. G. Dale, T. Van der Weile & J. Van Iwaarden (Eds.), *Managing Quality* (pp. 111-126). Malden, MA: Blackwell Publishing Ltd.
- Dale, B. G., Van der Wiele, A., & Van Iwaarden, J. D. (2007). TQM: An Overview. In B. G. Dale, T. Van der Wiele & J. Van Iwaarden (Eds.), *Managing Quality* (pp. 3-38). MA: Blackwell Publishing.
- Saunders, A. M., & Mann, R. (2007). *Business excellence tools: the tools used by companies at different stages of business excellence maturity*. Unpublished report, Centre for Organisational Excellence Research, Palmerston North.

Appendix 4: Protocol for First Stage Interviews



Centre for Organisational Excellence Research (COER)
School of Engineering and Advanced Technology
Massey University, Palmerston North, New Zealand



Development of a Model to Assist Organisations in the Selection of Business Improvement Initiatives towards the Achievement of Business Excellence

PROTOCOL FOR 1ST STAGE INTERVIEWS

This interview is conducted to obtain your opinions and experience about the selection of business improvement initiatives towards achieving excellence focussing on:

- Where should the main business improvement initiatives be used according the element of BE? (leadership and social responsibilities, strategy and policy, customers, processes, workforce, and, partnerships and resources)
- When should the main business improvement initiatives be used according the level of BE maturity? (starting, progressing, mature, excellence)
- How should the organisations select suitable business improvement initiatives? (Focuses on critical contextual factors, key steps and how to overcome the main challenges faced).

Are there any questions before we start the interview? I will start recording as soon as I start asking the first question. Feel free to stop the recording at any time during the interview if your feel uncomfortable.

- 1) Firstly, let's talk about you. Can you tell me about your qualifications and work background?
- 2) Can you tell me about your experience in selecting / assist other organisations to select suitable business improvement initiatives?
 - What are the reasons for selecting suitable business improvement initiatives?
 - What are the current practices of selecting the business improvement initiatives?
 - Who are people that involved in the selection of business improvement initiatives?
 - What are the critical factors that should be considered when selecting suitable business improvement initiatives?
 - What are the key steps in selecting suitable business improvement initiatives?
- 3) Does your organisation have any criteria, guidelines or model to assist in the selection of business improvement initiatives?

If yes, can you explain briefly about the criteria, guidelines or model that has been used?

- 4) Please refer to Supplement 1 and go through a brief description of business excellence (BE) elements. Then, please let me know when you're ready to continue the interview.

So, what do you think about the segregation and descriptions of the BE elements?

One of the factors that should be considered when selecting suitable initiatives is the business excellence maturity. Please refer to Supplement 2 and go through a brief description of business excellence maturity. Then, please let me know when you're ready to continue the interview.

So, what do you think about the segregation and descriptions of the levels of BE maturity?

Based on descriptions shown in the Supplement 1 and 2, can you write down (using template in Supplement 3):

- The areas in which the main business improvement initiatives should be used; and
- The levels of BE maturity in which the main business improvement initiatives should first start be used.

For example, the strategic planning should be used at the 'starting' stage of BE maturity covering the 'Leadership and Social Responsibilities, as well as 'Strategy and Policy'.

The examples of widely used initiatives are shown in Supplement 4.

- 5) Please refer to Supplement 5 and go through several available models for selecting business improvement initiatives. Then, please let me know when you're ready to continue the interview.

- What do you think about all these models?
- What are your expectations of a guidelines model for selecting business improvement initiatives? (e.g. provide valid information, easy to use and understand, ease the decision making, step-by-step approach)
- Among these available models, can you select two best models for selecting suitable business improvement initiatives?
- Please evaluate these two selected models as compared to the proposed conceptual model (refer to Supplement 6).
- Do you have any suggestions to further improve the proposed conceptual model?

- 6) Can you describe the main challenges faced by organisations in selecting suitable business improvement initiatives?

Can you tell me how to overcome these challenges?

- 7) Is there anything else that you want to add regarding the selection of suitable initiatives towards business excellence?

- 8) Do you think that selection of suitable business improvement initiatives is an important area of study?

Thank you for participating in this interview.

Supplement 1: Common Elements of Business Excellence

Table 1: Common Elements of Business Excellence based on the Enabler Criteria of Major Business Excellence Models and Previous Research

Common Elements	Baldrige Criteria For Performance Excellence (NIST, 2008)	EFQM Excellence Model (EFQM, 2003)	Singapore Quality Award Framework (SPRING Singapore, 2007)	Australian Business Excellence Awards Framework (SAI Global, 2008)	Malaysian Prime Minister's Quality Award Criteria (Calingo, 2002; NPC, 2001)	Japan Quality Award Criteria (JQA, 2005)	Bohoris (1995)	Puay et al. (1998)	Tan (2002)
1. Leadership and social responsibilities	Leadership	Leadership	Leadership	Leadership	Top management leadership and management of quality	Leadership	Leadership	Leadership	Leadership system
2. Strategy and policy	Strategic planning	Policy and strategy	Planning	Strategy and planning		Social responsibility of management		Impact on society	Impact on society
3. Customers	Customer and market focus	Processes	Customers	Customer and market focus	Customer focus	Understanding and interaction with customers and markets	Customer management and satisfaction	Customer management and satisfaction	Customer management and satisfaction
4. Processes	Process management		Processes	Process management, improvement and innovation	Process management	Value creation process	Process quality	Process quality	Process management
5. Workforce	Workforce focus	People	People	People	Human resource management	Individual and organisational ability to improve	Human resource management	Human resource management	People management
6. Partnerships and Resources	Measurement, analysis and knowledge management	Partnership and resources	Information	Information and knowledge	Use of quality data and information	Information management	Resources Management	Resources management	Resources
					Quality assurance of external suppliers			Suppliers / partners management and performance	Information and analysis Performance and management of suppliers / partners

Table 2: Description of each common element of BE and its relations with several business improvement initiatives

No	Common element	Description	Example of initiatives
1	Leadership and Social Responsibilities	Focuses on management's behaviour and leadership system in building a culture of excellence in the organisation, as well as an organisation's responsibilities and contribution to society and environment.	Mission, Vision and Values; Communication Strategy; Organisational Structure and Governance; Corporate Social Responsibilities
2	Strategy and policy	Focuses on how organisation develops, communicates, deploys, monitors, reviews and improves its strategy and policy to achieve performance excellence.	Strategic Planning, Balanced Scorecard, Strategic Alliances
3	Customers	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers, and determines their satisfaction.	Customer Relationship Management, Customer Segmentation, Supply Chain Management
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.	ISO9000, Business Process Reengineering, Six Sigma, Benchmarking
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.	Human Resource Planning, Investors in People, Core Competencies
6	Partnerships and Resources	Focuses on how the organisation plans and manages 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.	Knowledge Management, Innovation, Outsourcing, Supply Chain Management

Supplement 2: Business Excellence Maturity

Table 1: Descriptions of the Maturity Levels according to the Elements of Business Excellence

No	Item	Starting	Progressing	Mature	Excellent
1	Leadership and social responsibilities	Not all senior managers are committed to improve organisational performance. Rarely monitor and plan in advance to meet regulatory and legal requirements; and identify a few potential risks associated with products, services and operations.	Senior managers initiate and support the implementation of improvement initiatives Sometimes monitor, and plan in advance to meet regulatory and legal requirements; and identify some potential risks associated with products, services and operations.	Quality and organisational improvement are recognised by all managers as important elements of business success. Usually monitor and plan in advance to meet regulatory and legal requirements; and identify most potential risks associated with products, services and operations.	All managers at all levels promote and commit with BE implementation. Dependability is emphasised throughout the organisation. Always address and minimise all the negative environmental and community impact. Always monitor and plan in advance to meet regulatory and legal requirements; and identify all potential risks associated with products, services and operations.
2	Strategy and policy	There are stated strategic objectives and an action plan.	A policy of strategy deployment is in place, together with a robust and proactive system.	Strategy development and deployment are based on achieving leading industry performance.	Strategy development and deployment are based on achieving world-class performance.
3	Customers	Aware of the importance of customer relationships and market knowledge.	There is a process for capturing customer and market data and implementing performance measures for markets and customers.	Perceptions of key customers of organisational performance are surveyed and acted upon to drive improvement action.	There is total willingness and inherent capability to predict and respond to changing market conditions and customers' needs and requirements.

No	Item	Starting	Progressing	Mature	Excellent
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.	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.	Organisation procedures and processes are efficient and responsive to stakeholders needs. Effective cross-functional management process and achieved process-stream improvements that are measurable.	All key processes of the organisation are aligned / integrated to create common and shared objectives and to facilitate an environment conducive to improvement.
5	Workforce	Workforce start to be concerned about continuous improvement.	A long term and company-wide education and training programme are in place. Importance of employee involvement through a variety of departmental and cross-functional teams and other means is recognised, communicated and celebrated.	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.	Each workforce in the organisation is committed in an almost natural manner to seek opportunities for improvement for the mutual benefits of everyone and the organisation.
6	Partnerships and resources	Rarely work together with suppliers / partners to add greater value to 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.	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.	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.	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.

Table 2: Overall Description of BE maturity levels and its relations with the business improvement initiatives

Levels of BE Maturity	Brief Description	Example of initiatives
1) Starting	Focuses on controlling or solving current problems. Short-term results regarding product output and quality are expected. Continuous improvement is perceived as a programme and/or concentrated in manufacturing / operations departments. Management style is reactionary.	Quality Management System (ISO9000); Performance Management; Quality Circles, Self-Assessment based on Business Excellence Model; Balanced Scorecard; Project Management; Mission, Vision and Values statement, Strategic Planning, Customer Relationship Management, Human Resources Planning, Communication strategies, informal benchmarking, MBWA, 5S, change management, leadership development programme, innovation management, market research
2) Progressing	Focuses on preventing non-conformances. More emphasis is placed on advanced quality planning, critical problem-solving tasks, improving the design of the product, process and services, improving control over the process, and involving people.	Statistical Process Control, Mistake-proofing, Quality Function Deployment, Performance Benchmarking, Business Process Reengineering, Lean, Theory of Constraint, Customer segmentation, knowledge management, Supply Chain Management, Business Excellence Award application,
3) Mature	Focuses on company-wide approach to excellence, with improvements undertaken on a continuous basis by everyone in the organisation. Effective cross-functional management processes and achieved process-stream improvement those are measurable.	Six Sigma, Investors in People, Strategic Alliances, Corporate Social Responsibilities
4) Excellent	Constantly competes and wins against the best world-wide. Total integration of continuous improvement and business strategy to delight the stakeholders and respond to changing market conditions. Has developed and applied a unique success model.	Best Practice Benchmarking

Supplement 3: Template

	Leadership and Social Responsibilities	Strategy and Policy	Customers	Processes	Workforce	Partnerships and Resources
Excellent						
Mature						
Progressing						
Starting						

Supplement 4:

Description of the Main Business Improvement Initiatives widely used by the organisations

Initiatives (approaches, systems, or techniques)
1) Asset Management: A methodology to maximise the performance of fixed, physical or capital assets that have a direct and significant impact on achieving corporate objectives. It is often computerised to enable the monitoring of larger and diverse types of assets. Value engineering and life cycle cost analysis may also be used in association with asset management processes
2) Balanced Scorecard: Translates mission and vision statements into a comprehensive set of objectives and performance measures that can be quantified and appraised. It provides a framework for setting a performance measurement framework centred on four 'perspectives': Financial, Customer, Internal Business Process and Innovation, Learning and Growth.
3) Benchmarking: A systematic process for identifying and implementing best or better practices. It is a structured process to help organisations close the gap with the best-in-class performer without having to "re-invent the wheel". It is to find "secrets of success" and then adapt and improve for the implementation according to the context of the organisation.
4) Business Excellence Award application: Applying for Business Excellence Award, such as EFQM Excellence Award, Malcolm Baldrige National Quality Awards, or any other national business excellence awards.
5) Self-Assessment based on Business Excellence Model: A systematic and regular review of an organisation's activities and results referenced against the Business Excellence Award Model (such as Baldrige Criteria for Performance Excellence, EFQM Excellence Award)
6) Business Process Reengineering (BPR): Fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed. It uses several techniques such as change management, process measurement, and information technology.
7) Change Management: Process whereby management supports people and the organisation during a period of transition.
8) Communication Strategy: Having appropriate channels of communication, such as weekly and/or monthly reports, business review meetings, internet, intranet, newsletter, employee forums and an information centre.
9) Core Competencies Development: A deep proficiency that enables a company to deliver unique value to customers. It embodies an organisation's collective learning, particularly of how to coordinate diverse production skills and integrate multiple technologies. Understanding Core Competencies allows organisations to invest in the strengths that differentiate them and set strategies that unify their entire organisation.
10) Corporate Social Responsibility (CSR) System: System designed to measure, apply, assess, and report organisational efforts to integrate CSR into all operations. It is a commitment of organisations to behave socially and environmentally responsible, while striving for their economic goals.
11) Customer Relationship Management (CRM): A process to understand the customer groups and respond quickly to shifting customer desires. Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle (the chain of activities from the initial targeting of customers to efforts to win them back for more). CRM data also provide companies with important new insights into customers' needs and behaviours, allowing organisations to tailor products / services to targeted customer segments.
12) Customer Segmentation: A subdivision of a market into discrete customer groups that share similar characteristics
13) Employee Development: Strategic investment in the education, training, development, and growth of workforce's talent and competencies within an organisation. Typically provided through training courses, internships, job rotation, coaching, mentoring, and peer group assistance within the work place.
14) Employee Suggestion Scheme: A formalised mechanism, which encourages employees to contribute constructive ideas for improving the organisation in which they work.
15) Enterprise Resource Planning (ERP): Software based approach to integrate information from all departments in an organisation (e.g. Strategic Planning, Asset Management, Financial, Human Resources, etc).
16) Environmental Management System (EMS): Organisation's system for protecting the natural environment (e.g. air, land, sea, waterways) from the effects of their processes and outputs. For example, develop environmental policy, compliance to ISO14000, briefing and campaign.
17) Facilities Management: Management of facility resources and services in support of the operations and primary objectives of an organisation.
18) Financial Management: Concerned with all aspects of how a business or organisation deals with its financial resources. It involves financial planning, financial accounting, financial analysis, management accounting, capital appraisal and budgeting.
19) Human Resource Planning: A strategy for the acquisition, utilisation, improvement and retention of an organisation's human resources.
20) Improvement Teams (including Quality Circles): A team that is formed to make improvement on the workplace and/or processes. It can comprise members of a single department, cross functional, and/or include representatives of either or both customers and suppliers. Membership can be voluntary or mandatory. The examples of tools that are widely used by the improvement teams are the 7 basic quality tools (Cause and Effect Diagram, Check Sheet, Control Chart, Graphs, Histogram, Pareto Diagram, Scatter Diagram) and 7 management tools (Affinity Diagram, Relations Diagram, Systematic Diagram, Matrix Diagram, Matrix Data Analysis, Process Decision Programme Chart, Arrow Diagram).
21) Innovation Management: Managing how to create, exchange, evolve and apply innovative ideas to produce products and provide services for the success of an organisation.

Initiatives (approaches, systems, or techniques)

<p>22) Knowledge Management: Method to acquire and share intellectual assets. It increases the generation of useful, actionable and meaningful information and seeks to increase both individual and organisational learning.</p>
<p>23) Leadership Development Programme: Programme to develop leaders, such as experience sharing, leadership training, and apprenticeships.</p>
<p>24) Lean Production / Operations: Improvement approach that focuses on removing waste and improving flow. It requires a very clear focus on the value element of all products and services and a thorough understanding of the detailed operations of the business processes. The example of tools and techniques used are Kanban, Value Stream Mapping, Takt Time, and visual control.</p>
<p>25) Loyalty Management: Measures and tracks the loyalty of customers and/or employees, diagnose the root causes of defection among them, and develop ways to turn them into advocates for the company. It involves activities such as customers and/or employee surveys, communicate survey feedback throughout the organisation, and develop policy and implement programme to retain loyalty of the customers and/or employees.</p>
<p>26) Managing by Wandering Around (MBWA): Listening, empathising and staying in touch with the stakeholders (e.g. customers, suppliers, and workforce) and taking necessary action to improve the situations.</p>
<p>27) Market Research: Helps to ensure that there will be a demand for the product/service and that the requirements of the customer will be met. It can include experiments, surveys, product tests, advertising tests, promotion tests, motivational research, strategy research, customer-satisfaction monitoring and many other techniques.</p>
<p>28) Mergers and/or Acquisitions: Mergers typically involve two relative equals joining forces and creating a new company. Acquisitions occur when a company takes over another company.</p>
<p>29) Mission and Vision Statements: Brief statements of the purpose and vision of an organisation, with the intention of keeping employees aware of the organisation's direction.</p>
<p>30) Mistake Proofing (Poka-Yoke, Fool-proofing): A system designed to fool-proof against any errors being made by workers performing a process.</p>
<p>31) Occupational Health and Safety Management System (OHSMS): Helps to ensure the well being of staff and to comply with government regulations. For examples, develop health and safety policy, compliance to OHSAS18000, briefing, campaign, Health and Safety Committee and Emergency Response Team.</p>
<p>32) Organisational Governance: Involves accountability for management's actions, transparency in operations, independence in internal and external audits, and protection of stakeholders' interests.</p>
<p>33) Outsourcing: Uses third parties to perform noncore business activities.</p>
<p>34) Performance Management (PM): A systematic approach directed towards organisational performance improvement through the alignment of individual performance with organisational goals. It aligns an employee's individual goals with the organisation's objectives, mission, and vision. It requires the development of sound job descriptions, clear accountabilities, and growing employee competency levels. Performance appraisal and coaching systems are key components for the provision of feedback to employees. The examples of techniques used are 360 degree feedback, continuous feedback and online evaluation.</p>
<p>35) Product Life Cycle Management: A management philosophy that takes into consideration all matters connected with products, or services, throughout its total life span. It considers the complete life cycle of products from conceptualisation to disposal and recycling.</p>
<p>36) Project Management: Involves planning, scheduling, budgeting and controlling of a project.</p>
<p>37) Quality Function Deployment (QFD): An approach in which customer requirements are translated into appropriate technical requirements for each stage of product development and production.</p>
<p>38) Quality Management System (QMS): A management system to direct and control an organisation with regard to quality. It includes a quality policy, quality manual, quality objectives, procedures, records and/or compliance to quality standards, such as ISO9000, ISO/TS 16949, ISO 13485, and ISO/TS 29001.</p>
<p>39) Rewards and Recognition System: Formal system to recognise achievements of individual, group, unit and organisation.</p>
<p>40) Risk Management (Crisis Management): Processes, structure and culture whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.</p>
<p>41) Business Continuity Management (BCM): Provides the availability of processes and resources in order to ensure the continued achievement of critical objectives. It will prevent an emerging crisis from becoming an organisational and personal disaster. It involves risk identification and assessment, business impact assessment and analysis, development of business continuity plan, training and testing of business continuity plan.</p>
<p>42) Shared Service Centres: Consolidating one or more back-office operations used by multiple divisions of the same company (e.g. finance, information technology, customer service and human resources) into a shared operation.</p>
<p>43) Six Sigma: A business improvement approach that seeks to reduce variation and eliminate causes of defects / errors in processes by focusing on outputs that are critical to customers and providing a clear financial return for the organisation. The examples of tools and techniques used are Measurement System Analysis, Design of Experiments, Kano Analysis, Process Mapping, Failure Mode and Effect Analysis, and Robust Design.</p>

Initiatives (approaches, systems, or techniques)

44) Statistical Process Control (SPC): A statistical method to eliminate the special causes of process variation and to establish and maintain consistency in the process which enable process improvement. The examples of tools widely used are control chart, histogram, and process capability analysis.

45) Strategic Alliances: Agreements between organisations in which each commits resources to achieve a common set of objectives.

46) Strategic Planning: Process by which organisation answers such questions as the following: Who are we? Where are we going? How will we get there? What do we hope to accomplish? What are our strengths and weaknesses? and What are the opportunities and threats in our business environment?. It directs goal setting and resource allocation to achieve desired future results. The examples of techniques used are: Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, and business environment analysis in terms of Political, Economic, Social, Technological, Legal and Environmental aspects (PESTLE / PEST analysis).

47) Strategic Execution / Deployment: Involves implementing strategies set forth in strategic planning, monitoring progress toward their achievement, and adjusting as necessary.

48) Service Level Agreement (SLA): A performance agreement (contract) between a service or product provider and a customer. The contract specifies the terms of the supplier's responsibility to the customer (usually in measurable terms), what services or products the provider will deliver, and the quality measures and indicators that must be met.

49) Supplier Management (Supplier Relationship Management): Method used by organisations in the acquisition of raw materials and goods required for its operation. It will enhance the efficiency of processes associated with acquiring goods and services, managing inventory, and processing materials. Tasks associated with supply management are including cost analysis, strategic sourcing, value chain integration, negotiation, supplier training and development, supplier appraisal and convergence, supplier certification and performance management, and collaborative planning and forecasting.

50) Supply Chain Management (Supply Chain Integration): Synchronises the efforts of all parties (e.g. suppliers, manufacturers, distributors) involved in meeting a customer's needs. It forges much closer relationships among all links in the value chain in order to deliver the right products to the right places at the right times for the right costs.

51) Theory of Constraints (TOC): Focuses on identifying and eliminating systems constraints. Main effects are fast throughput, less inventory and reduce operating expenses.

52) Total Productive Maintenance (TPM): Helps increases the productivity of plant and equipment by improving and maintaining equipment and facilities at an optimal performance level in order to reduce their life-cycle costs.

53) 5S (Industrial Housekeeping): Industrial housekeeping method for organising a workplace. The 5S's is the acronym of five Japanese words: (1) Seiri - sort, (2) Seiton - set in order, (3) Seiso - shine, (4) Seiketsu - standardize, and (5) Shitsuke – sustain.

Supplement 5:

Several available models that can be used to assist in the selection of business improvement initiatives

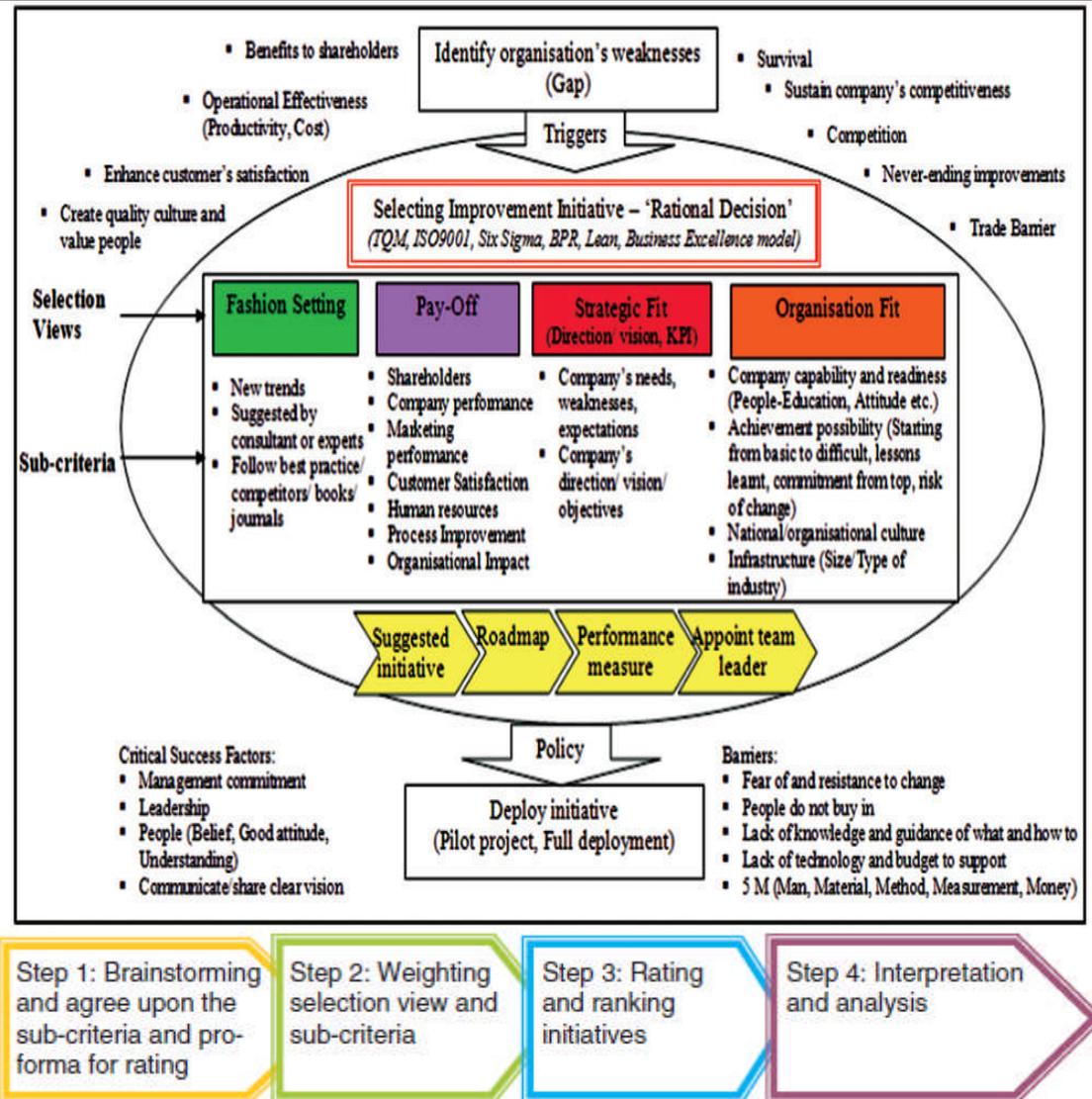


Figure 1: An academic-based model to assist organisation in the selection of business improvement initiatives (Thawesaengskulthai & Tannock, 2008)

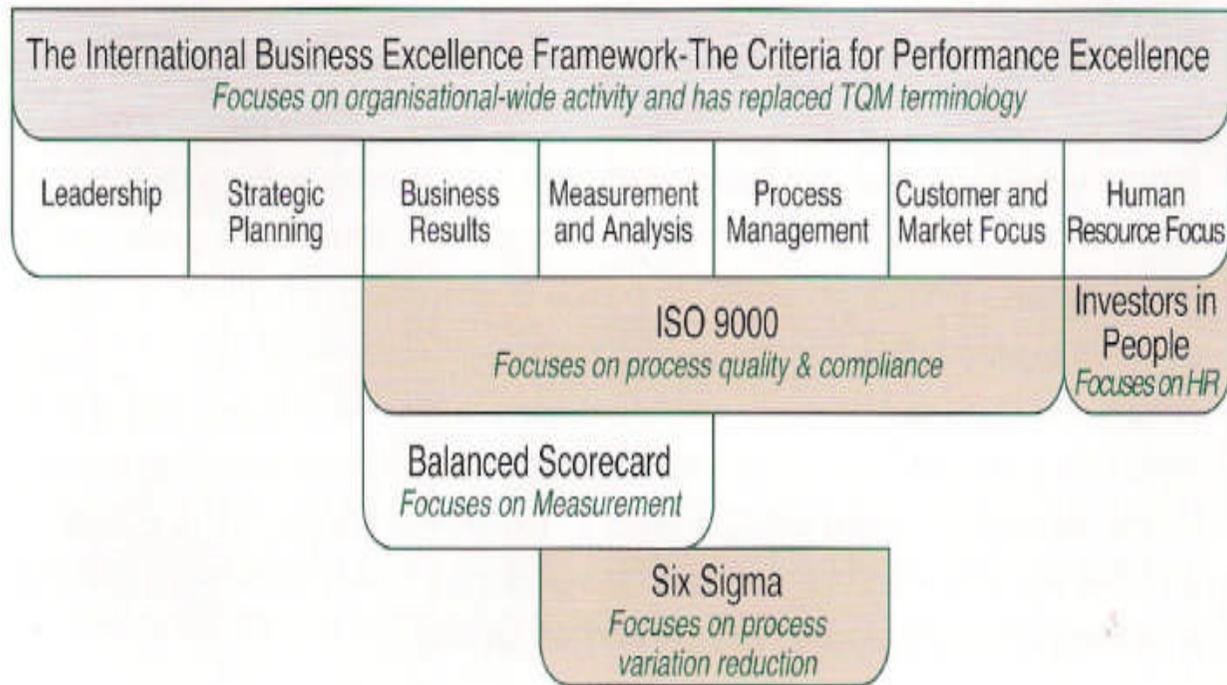


Figure 2: A consultant-based model indicating the initiatives to be used according to the Baldrige Criteria for Performance Excellence (New Zealand Ministry of Economic Development, 2006)

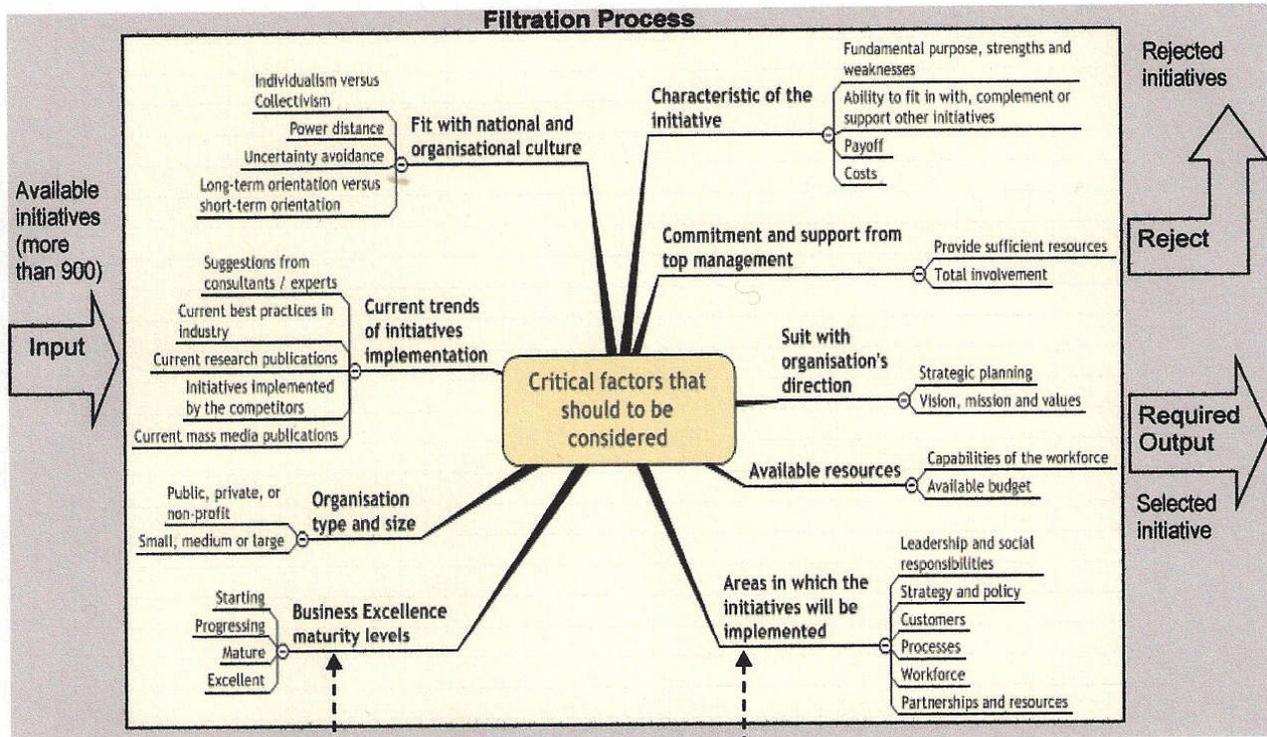
	Leadership	Strategic Planning	Measurement, Analysis, Knowledge Management	Process Management	Customer and Market Focus	Workforce Focus
Increasing Business Excellence Maturity ↑ Starting Progressing Mature Excellent	Business Excellence Award Application					
	Best Practice Benchmarking					
	Corporate Social Responsibility	Strategic Alliances	Knowledge Management Focus: intellectual capital	Supply Chain Management Focus: coordinating supply and demand within and across companies		Knowledge Management Focus: intellectual capital
	Communication Strategy	Scenarios	6 Sigma Focus: reducing process variation			Investors in People
	Organisational structure and governance	Balanced Scorecard Focus: measurement linked to strategy		Core Competencies Focus: competitive advantage		
	Performance Benchmarking					
		Mergers and Acquisitions	Innovation New Products	Business Process Reengineering	Customer Segmentation	Employee Satisfaction
			IT Audit	Managing Product / Service Complexity	Customer Satisfaction	Policies and procedures
		ISO 9000 Focus: process and quality standards				
	Business Excellence Self-assessment					
	Mission Vision and Values	Strategic Planning	Performance Measurement	Outsourcing	Customer Relationship Management	Human Resource Planning

Figure 3: A consultant-based model indicating the initiatives to be used according to the levels of Business Excellence maturity and enablers of Baldrige Criteria for Performance Excellence (Saunders and Mann, 2007)

Leadership	Strategic Planning	Business Results	Measurement, Analysis and Knowledge Management	Process Management	Customer and Market Focus	Workforce Focus
Baldrige Criteria for Performance Excellence						
Organisation wide						
		ISO 9001 Focuses on quality & compliance of processes				
Various Leadership & Strategy schemes		Six Sigma Focuses on process variation reduction				
		Lean Processing Focuses on process variation reduction & customer satisfaction				
		Balanced Scorecard Focuses on measurement				
					Investors in People - Focuses on HR	

Figure 4: A consultant-based model indicating the initiatives to be used according to Baldrige Criteria for Performance Excellence (Brown & Pemberton Planning Group Ltd., 2008)

Supplement 6: An initial conceptual model for selecting business improvement initiatives



***Areas in which the initiatives should be implemented**

Where? / When?	Leadership and Social Responsibilities	Strategy and Policy	Customers	Processes	Workforce	Partnerships and Resources	
Excellent	All initiatives are aligned, integrated and fit within the organisation; Have a unique success model						
Mature	Best Practice Benchmarking; Six Sigma; Business Continuity Management; Innovation Management; Knowledge Management						
	Corporate Social Responsibility System	Strategic Alliances			Investors In People		
Progressing	Performance Benchmarking; Business Excellence Award application; Lean Production / Operations; Risk Management; Change Management						
	Organisational Governance; Occupational Health and Safety Management System; Environmental Management System; Leadership Development Programme	Mergers and Acquisitions	Core Competencies Development; Enterprise Resource Planning				
		Balanced Scorecard		Business Process Re-engineering	Occupational Health & Safety Management System	Balanced Scorecard	
			Supply Chain Management			Supply Chain Management	
		Customer Segmentation	Statistical Process Control; Mistake Proofing; Theory of Constraints;				
			Total Productive Maintenance		Total Productive Maintenance		
Starting	Quality Management System (ISO9000); Improvement teams / Quality Circles						
	Managing by Walking / Wandering Around (MBWA)					Supplier Management; Asset Management; Facilities Management; Financial Management; Service Level Agreement	
	Strategic Planning; Strategic Deployment; Mission, Vision and Values Statement		Customer Relationship Management, Market Research	Inspection; Outsourcing; 5S	Human Resource Management		
	Self-assessment based on Business Excellence Model; Communication Strategies; Informal Benchmarking; Project Management, Performance Management;						

***Levels of Business Excellence maturity in which the initiatives should start be implemented**

***The lower part of the model indicates the examples of the main business improvement initiatives that can be considered in the filtration process**

Appendix 5: Protocol for Second Stage Interviews



Centre for Organisational Excellence Research (COER)
School of Engineering and Advanced Technology
Massey University, Palmerston North, New Zealand



Development of a Model to Assist Organisations in the Selection of Business Improvement Initiatives towards the Achievement of Business Excellence

PROTOCOL FOR 2ND STAGE INTERVIEWS

This interview is conducted to obtain your opinions and experience about the selection of business improvement initiatives towards achieving excellence focussing on how organisations should select suitable business improvement initiatives.

Are there any questions before we start the interview? I will start recording as soon as I start asking the first question. Feel free to stop the recording at any time during the interview if you feel uncomfortable.

- 1) Firstly, let's talk about you. Can you tell me about your qualifications and work background?
- 2) Can you tell me about your experience in selecting / assisting other organisations to select suitable business improvement initiatives?
 - What are the reasons for selecting suitable business improvement initiatives?
 - What are the current practices of selecting the business improvement initiatives?
 - Who are people that involved in the selection of business improvement initiatives?
 - What are the critical factors that should be considered when selecting suitable business improvement initiatives?
 - What are the key steps in selecting suitable business improvement initiatives?
- 3) Does your organisation have any criteria, guidelines or model to assist in the selection of business improvement initiatives?

If yes, can you explain briefly about the criteria, guidelines or model that has been used?
- 4) Please refer to Supplement 1 and go through several available models for selecting business improvement initiatives. Then, please let me know when you're ready to continue the interview.
 - What do you think about all these models?

- What are your expectations of a guidance model for selecting business improvement initiatives?
 - Among these available models, can you select two best models for selecting suitable business improvement initiatives?
 - Please evaluate these two selected models as compared to the proposed conceptual model (refer to Supplement 2).
 - Do you have any suggestions to further improve the proposed conceptual model?
- 5) Do you think that selection of suitable business improvement initiatives is an important area of study?

Thank you for participating in this interview.

Supplement 1:

Several available models that can be used to assist in the selection of business improvement initiatives

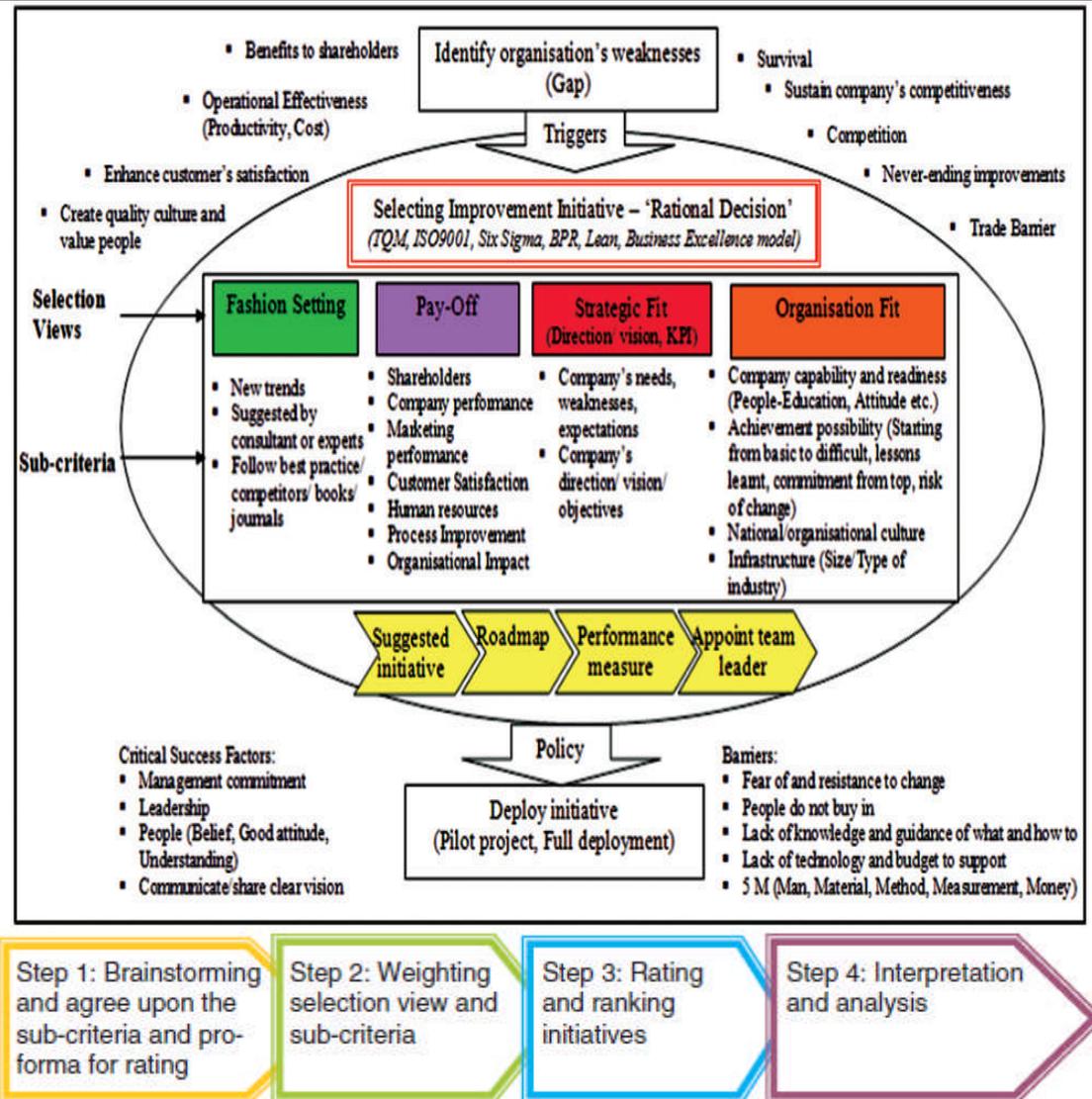


Figure 1: An academic-based model to assist organisation in the selection of business improvement initiatives (Thawesaengskulthai & Tannock, 2008)



Figure 2: A consultant-based model indicating the initiatives to be used according to the Baldrige Criteria for Performance Excellence (New Zealand Ministry of Economic Development, 2006)

	Leadership	Strategic Planning	Measurement, Analysis, Knowledge Management	Process Management	Customer and Market Focus	Workforce Focus
Increasing Business Excellence Maturity 	Business Excellence Award Application					
	Best Practice Benchmarking					
	Corporate Social Responsibility	Strategic Alliances	Knowledge Management Focus: intellectual capital	Supply Chain Management Focus: coordinating supply and demand within and across companies		Knowledge Management Focus: intellectual capital
	Communication Strategy	Scenarios	6 Sigma Focus: reducing process variation			Investors in People
	Organisational structure and governance	Balanced Scorecard Focus: measurement linked to strategy		Core Competencies Focus: competitive advantage		
	Performance Benchmarking					
		Mergers and Acquisitions	Innovation New Products	Business Process Reengineering	Customer Segmentation	Employee Satisfaction
			IT Audit	Managing Product / Service Complexity	Customer Satisfaction	Policies and procedures
	ISO 9000 Focus: process and quality standards					
	Business Excellence Self-assessment					
Starting	Mission Vision and Values	Strategic Planning	Performance Measurement	Outsourcing	Customer Relationship Management	Human Resource Planning

Figure 3: A consultant-based model indicating the initiatives to be used according to the levels of Business Excellence maturity and enablers of Baldrige Criteria for Performance Excellence (Saunders and Mann, 2007)

Leadership	Strategic Planning	Business Results	Measurement, Analysis and Knowledge Management	Process Management	Customer and Market Focus	Workforce Focus
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Various Leadership & Strategy schemes		Six Sigma Focuses on process variation reduction				
		Lean Processing Focuses on process variation reduction & customer satisfaction				
		Balanced Scorecard Focuses on measurement				
					Investors in People - Focuses on HR	

Figure 4: A consultant-based model indicating the initiatives to be used according to Baldrige Criteria for Performance Excellence (Brown & Pemberton Planning Group Ltd., 2008)

Hypothetical House of Excellence for Public Service

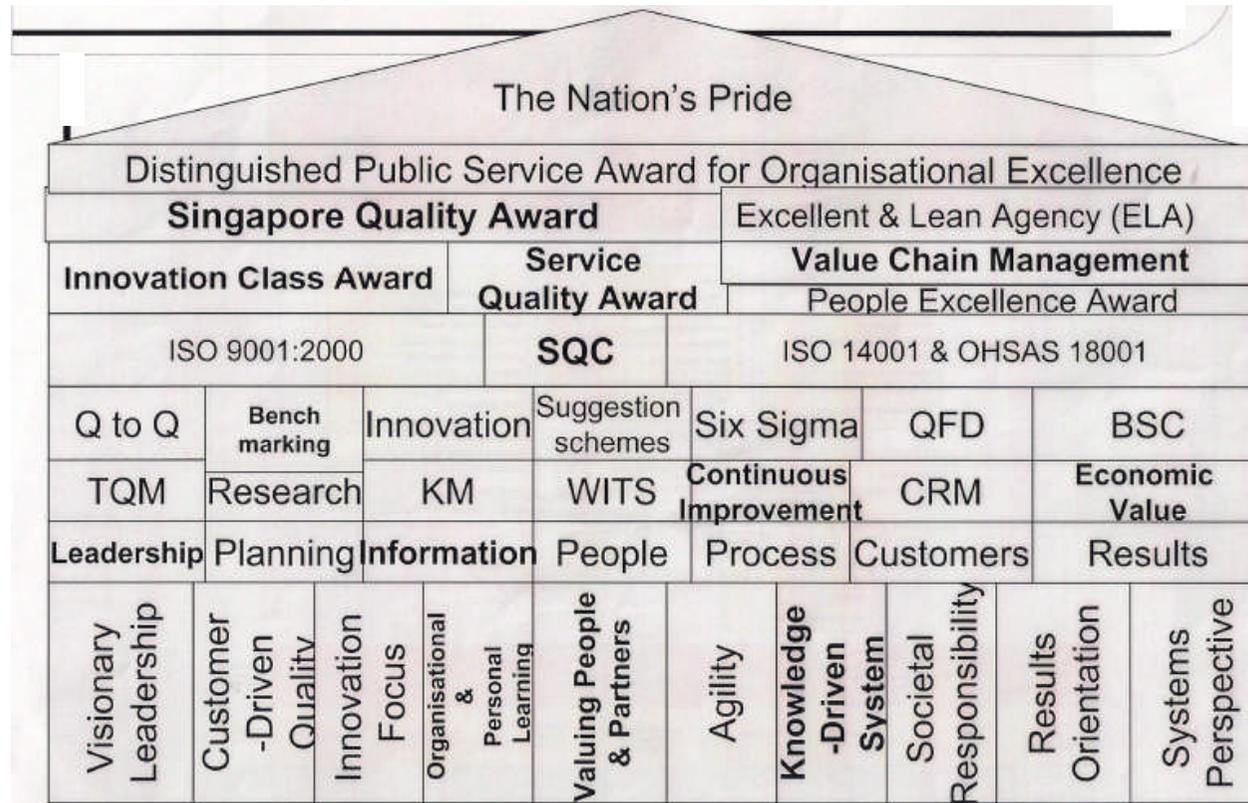
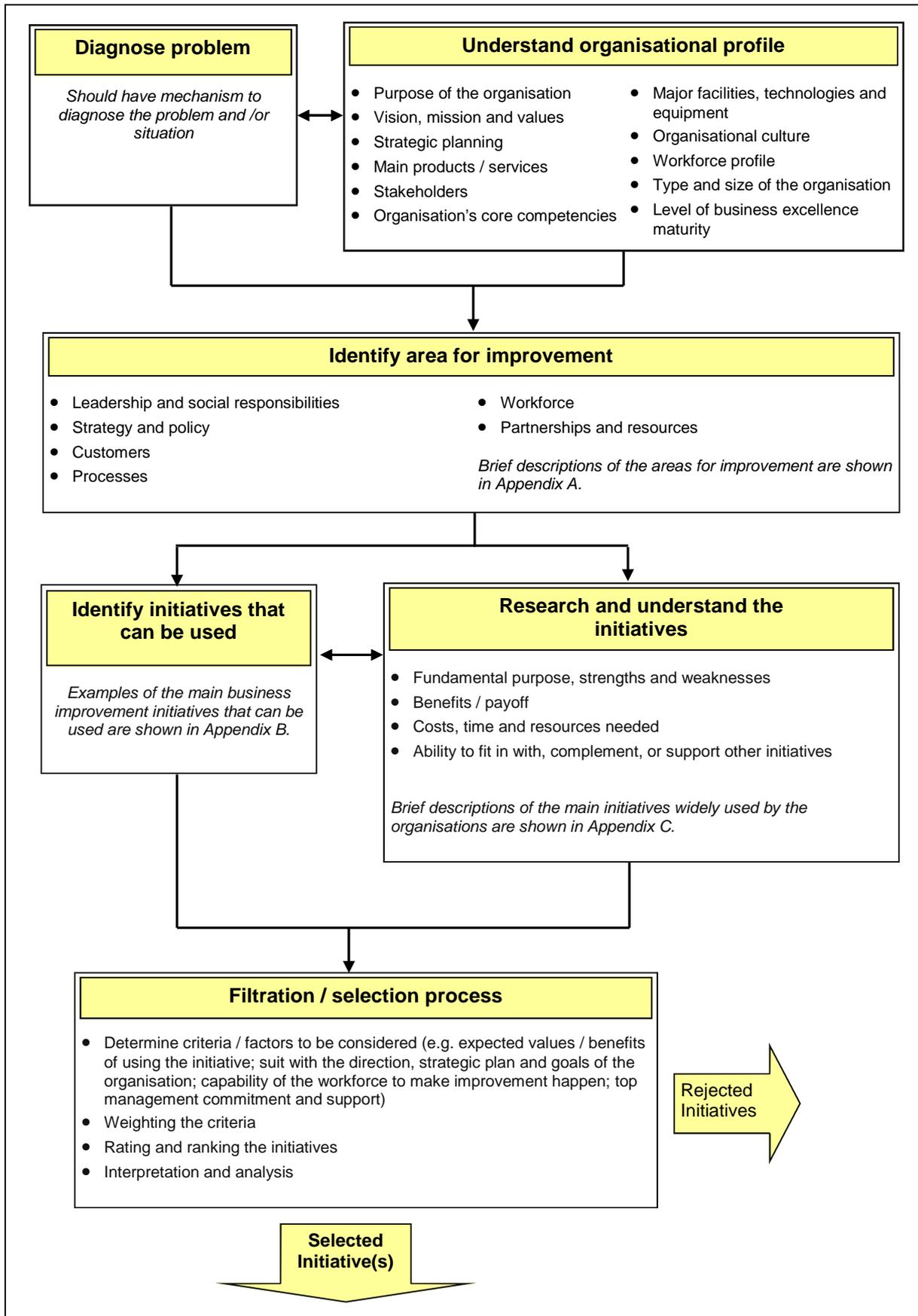


Figure 5: A model indicating the initiatives to be used according to the core values / concepts of Business Excellence Model (Rimington, 2007)

Supplement 2:
A proposed conceptual model for selecting business improvement initiatives



Appendix A:
Brief Description of the Areas for Improvement
(Based on the Enabler Criteria of Major Business Excellence
Models and Previous Research)

No	Area	Description
1	Leadership and Social Responsibilities	Focuses on management's behaviour and leadership system in building a culture of excellence in the organisation, as well as an organisation's responsibilities and contribution to society and environment.
2	Strategy and policy	Focuses on how organisation develops, communicates, deploys, monitors, reviews and improves its strategy and policy to achieve performance excellence.
3	Customers	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers, and determines their satisfaction
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.
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.
6	Partnerships and Resources	Focuses on how the organisation plans and manages 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.

Appendix B:
Examples of the main business improvement initiatives according to the areas of implementation and levels of business excellence maturity

Areas in which the initiatives can be used

Where? When?	Leadership and Social Responsibilities	Strategy and Policy	Customers	Processes	Workforce	Partnerships and Resources	
	Excellent	All initiatives are aligned, integrated and fit within the organisation; Have a unique success model					
Mature	Best Practice Benchmarking; Six Sigma; Business Continuity Management; Innovation Management, Knowledge Management						
	Corporate Social Responsibility System	Strategic Alliances			Investors In People		
Progressing	Performance Benchmarking; Business Excellence Award application; Lean Production / Operations; Risk Management; Change Management						
	Organisational Governance; Occupational Health and Safety Management System; Environmental Management System; Leadership Development Programme	Mergers and Acquisitions	Core Competencies Development; Enterprise Resource Planning				
		Balanced Scorecard		Business Process Re-engineering	Occupational Health & Safety Management System	Balanced Scorecard	
				Supply Chain Management		Supply Chain Management	
			Customer Segmentation	Statistical Process Control; Mistake Proofing; Theory of Constraints;			
				Total Productive Maintenance		Total Productive Maintenance	
Starting	Quality Management System (ISO9000); Improvement teams / Quality Circles						
	Managing by Walking / Wandering Around (MBWA)		Customer Relationship Management, Market Research	Inspection; Outsourcing; 5S	Human Resource Management	Supplier Management; Asset Management; Facilities Management; Financial Management; Service Level Agreement	
	Strategic Planning; Strategic Deployment; Mission, Vision and Values Statement						
	Self-assessment based on Business Excellence Model; Communication Strategies; Informal Benchmarking; Project Management, Performance Management;						

Levels of Business Excellence maturity in which the initiatives should start be implemented

- Note:
- Brief descriptions of the areas of implementation are shown in Appendix A.
 - Brief descriptions of the levels of Business Excellence maturity are shown in Appendix D.
 - This figure only indicates some current examples of the main business improvement initiatives.
 - All these examples of initiatives require further consideration in the filtration process.

Appendix C:
Description of the Main Business Improvement Initiatives widely used by the organisations

Initiatives (approaches, systems, or techniques)
1) Asset Management: A methodology to maximise the performance of fixed, physical or capital assets that have a direct and significant impact on achieving corporate objectives. It is often computerised to enable the monitoring of larger and diverse types of assets. Value engineering and life cycle cost analysis may also be used in association with asset management processes
2) Balanced Scorecard: Translates mission and vision statements into a comprehensive set of objectives and performance measures that can be quantified and appraised. It provides a framework for setting a performance measurement framework centred on four 'perspectives': Financial, Customer, Internal Business Process and Innovation, Learning and Growth.
3) Benchmarking: A systematic process for identifying and implementing best or better practices. It is a structured process to help organisations close the gap with the best-in-class performer without having to "re-invent the wheel". It is to find "secrets of success" and then adapt and improve for the implementation according to the context of the organisation.
4) Business Excellence Award application: Applying for Business Excellence Award, such as EFQM Excellence Award, Malcolm Baldrige National Quality Awards, or any other national business excellence awards.
5) Self-Assessment based on Business Excellence Model: A systematic and regular review of an organisation's activities and results referenced against the Business Excellence Award Model (such as Baldrige Criteria for Performance Excellence, EFQM Excellence Award)
6) Business Process Reengineering (BPR): Fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed. It uses several techniques such as change management, process measurement, and information technology.
7) Change Management: Process whereby management supports people and the organisation during a period of transition.
8) Communication Strategy: Having appropriate channels of communication, such as weekly and/or monthly reports, business review meetings, internet, intranet, newsletter, employee forums and an information centre.
9) Core Competencies Development: A deep proficiency that enables a company to deliver unique value to customers. It embodies an organisation's collective learning, particularly of how to coordinate diverse production skills and integrate multiple technologies. Understanding Core Competencies allows organisations to invest in the strengths that differentiate them and set strategies that unify their entire organisation.
10) Corporate Social Responsibility (CSR) System: System designed to measure, apply, assess, and report organisational efforts to integrate CSR into all operations. It is a commitment of organisations to behave socially and environmentally responsible, while striving for their economic goals.
11) Customer Relationship Management (CRM): A process to understand the customer groups and respond quickly to shifting customer desires. Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle (the chain of activities from the initial targeting of customers to efforts to win them back for more). CRM data also provide companies with important new insights into customers' needs and behaviours, allowing organisations to tailor products / services to targeted customer segments.
12) Customer Segmentation: A subdivision of a market into discrete customer groups that share similar characteristics
13) Employee Development: Strategic investment in the education, training, development, and growth of workforce's talent and competencies within an organisation. Typically provided through training courses, internships, job rotation, coaching, mentoring, and peer group assistance within the work place.
14) Employee Suggestion Scheme: A formalised mechanism, which encourages employees to contribute constructive ideas for improving the organisation in which they work.
15) Enterprise Resource Planning (ERP): Software based approach to integrate information from all departments in an organisation (e.g. Strategic Planning, Asset Management, Financial, Human Resources, etc).
16) Environmental Management System (EMS): Organisation's system for protecting the natural environment (e.g. air, land, sea, waterways) from the effects of their processes and outputs. For example, develop environmental policy, compliance to ISO14000, briefing and campaign.
17) Facilities Management: Management of facility resources and services in support of the operations and primary objectives of an organisation.
18) Financial Management: Concerned with all aspects of how a business or organisation deals with its financial resources. It involves financial planning, financial accounting, financial analysis, management accounting, capital appraisal and budgeting.
19) Human Resource Planning: A strategy for the acquisition, utilisation, improvement and retention of an organisation's human resources.
20) Improvement Teams (including Quality Circles): A team that is formed to make improvement on the workplace and/or processes. It can comprise members of a single department, cross functional, and/or include representatives of either or both customers and suppliers. Membership can be voluntary or mandatory. The examples of tools that are widely used by the improvement teams are the 7 basic quality tools (Cause and Effect Diagram, Check Sheet, Control Chart, Graphs, Histogram, Pareto Diagram, Scatter Diagram) and 7 management tools (Affinity Diagram, Relations Diagram, Systematic Diagram, Matrix Diagram, Matrix Data Analysis, Process Decision Programme Chart, Arrow Diagram).
21) Innovation Management: Managing how to create, exchange, evolve and apply innovative ideas to produce products and provide services for the success of an organisation.

Initiatives (approaches, systems, or techniques)

<p>22) Knowledge Management: Method to acquire and share intellectual assets. It increases the generation of useful, actionable and meaningful information and seeks to increase both individual and organisational learning.</p>
<p>23) Leadership Development Programme: Programme to develop leaders, such as experience sharing, leadership training, and apprenticeships.</p>
<p>24) Lean Production / Operations: Improvement approach that focuses on removing waste and improving flow. It requires a very clear focus on the value element of all products and services and a thorough understanding of the detailed operations of the business processes. The example of tools and techniques used are Kanban, Value Stream Mapping, Takt Time, and visual control.</p>
<p>25) Loyalty Management: Measures and tracks the loyalty of customers and/or employees, diagnose the root causes of defection among them, and develop ways to turn them into advocates for the company. It involves activities such as customers and/or employee surveys, communicate survey feedback throughout the organisation, and develop policy and implement programme to retain loyalty of the customers and/or employees.</p>
<p>26) Managing by Wandering Around (MBWA): Listening, empathising and staying in touch with the stakeholders (e.g. customers, suppliers, and workforce) and taking necessary action to improve the situations.</p>
<p>27) Market Research: Helps to ensure that there will be a demand for the product/service and that the requirements of the customer will be met. It can include experiments, surveys, product tests, advertising tests, promotion tests, motivational research, strategy research, customer-satisfaction monitoring and many other techniques.</p>
<p>28) Mergers and/or Acquisitions: Mergers typically involve two relative equals joining forces and creating a new company. Acquisitions occur when a company takes over another company.</p>
<p>29) Mission and Vision Statements: Brief statements of the purpose and vision of an organisation, with the intention of keeping employees aware of the organisation's direction.</p>
<p>30) Mistake Proofing (Poka-Yoke, Fool-proofing): A system designed to fool-proof against any errors being made by workers performing a process.</p>
<p>31) Occupational Health and Safety Management System (OHSMS): Helps to ensure the well being of staff and to comply with government regulations. For examples, develop health and safety policy, compliance to OHSAS18000, briefing, campaign, Health and Safety Committee and Emergency Response Team.</p>
<p>32) Organisational Governance: Involves accountability for management's actions, transparency in operations, independence in internal and external audits, and protection of stakeholders' interests.</p>
<p>33) Outsourcing: Uses third parties to perform noncore business activities.</p>
<p>34) Performance Management (PM): A systematic approach directed towards organisational performance improvement through the alignment of individual performance with organisational goals. It aligns an employee's individual goals with the organisation's objectives, mission, and vision. It requires the development of sound job descriptions, clear accountabilities, and growing employee competency levels. Performance appraisal and coaching systems are key components for the provision of feedback to employees. The examples of techniques used are 360 degree feedback, continuous feedback and online evaluation.</p>
<p>35) Product Life Cycle Management: A management philosophy that takes into consideration all matters connected with products, or services, throughout its total life span. It considers the complete life cycle of products from conceptualisation to disposal and recycling.</p>
<p>36) Project Management: Involves planning, scheduling, budgeting and controlling of a project.</p>
<p>37) Quality Function Deployment (QFD): An approach in which customer requirements are translated into appropriate technical requirements for each stage of product development and production.</p>
<p>38) Quality Management System (QMS): A management system to direct and control an organisation with regard to quality. It includes a quality policy, quality manual, quality objectives, procedures, records and/or compliance to quality standards, such as ISO9000, ISO/TS 16949, ISO 13485, and ISO/TS 29001.</p>
<p>39) Rewards and Recognition System: Formal system to recognise achievements of individual, group, unit and organisation.</p>
<p>40) Risk Management (Crisis Management): Processes, structure and culture whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.</p>
<p>41) Business Continuity Management (BCM): Provides the availability of processes and resources in order to ensure the continued achievement of critical objectives. It will prevent an emerging crisis from becoming an organisational and personal disaster. It involves risk identification and assessment, business impact assessment and analysis, development of business continuity plan, training and testing of business continuity plan.</p>
<p>42) Shared Service Centres: Consolidating one or more back-office operations used by multiple divisions of the same company (e.g. finance, information technology, customer service and human resources) into a shared operation.</p>
<p>43) Six Sigma: A business improvement approach that seeks to reduce variation and eliminate causes of defects / errors in processes by focusing on outputs that are critical to customers and providing a clear financial return for the organisation. The examples of tools and techniques used are Measurement System Analysis, Design of Experiments, Kano Analysis, Process Mapping, Failure Mode and Effect Analysis, and Robust Design.</p>

Initiatives (approach, system, or technique)

44) Statistical Process Control (SPC): A statistical method to eliminate the special causes of process variation and to establish and maintain consistency in the process which enable process improvement. The examples of tools widely used are control chart, histogram, and process capability analysis.

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Appendix D: Business Excellence Maturity

Table 1: Descriptions of the Business Excellence Maturity Levels according to the Areas of Implementation

No	Item	Starting	Progressing	Mature	Excellent
1	Leadership and social responsibilities	Not all senior managers are committed to improve organisational performance. Rarely monitor and plan in advance to meet regulatory and legal requirements; and identify a few potential risks associated with products, services and operations	Senior managers initiate and support the implementation of improvement initiatives Sometimes monitor, and plan in advance to meet regulatory and legal requirements; and identify some potential risks associated with products, services and operations.	Quality and organisational improvement are recognised by all managers as important elements of business success. Usually monitor and plan in advance to meet regulatory and legal requirements; and identify most potential risks associated with products, services and operations.	All managers at all levels promote and commit with BE implementation. Dependability is emphasised throughout the organisation. Always address and minimise all the negative environmental and community impact. Always monitor and plan in advance to meet regulatory and legal requirements; and identify all potential risks associated with products, services and operations.
2	Strategy and policy	There are stated strategic objectives and an action plan.	A policy of strategy deployment is in place, together with a robust and proactive system.	Strategy development and deployment are based on achieving leading industry performance.	Strategy development and deployment are based on achieving world-class performance.
3	Customers	Aware of the importance of customer relationships and market knowledge.	There is a process for capturing customer and market data and implementing performance measures for markets and customers.	Perceptions of key customers of organisational performance are surveyed and acted upon to drive improvement action.	There is total willingness and inherent capability to predict and respond to changing market conditions and customers' needs and requirements.

No	Item	Starting	Progressing	Mature	Excellent
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.	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.	Organisation procedures and processes are efficient and responsive to stakeholders needs. Effective cross-functional management process and achieved process-stream improvements that are measurable.	All key processes of the organisation are aligned / integrated to create common and shared objectives and to facilitate an environment conducive to improvement.
5	Workforce	Workforce start to be concerned about continuous improvement.	A long term and company-wide education and training programme are in place. Importance of employee involvement through a variety of departmental and cross-functional teams and other means is recognised, communicated and celebrated.	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.	Each workforce in the organisation is committed in an almost natural manner to seek opportunities for improvement for the mutual benefits of everyone and the organisation.
6	Partnerships and resources	Rarely work together with suppliers / partners to add greater value to 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.	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.	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.	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.

Table 2: Overall Descriptions of Business Excellence Maturity Levels

Levels of BE Maturity	Brief Description
1) Starting	Focuses on controlling or solving current problems. Short-term results regarding product output and quality are expected. Continuous improvement is perceived as a programme and/or concentrated in manufacturing / operations departments. Management style is reactionary.
2) Progressing	Focuses on preventing non-conformances. More emphasis is placed on advanced quality planning, critical problem-solving tasks, improving the design of the product, process and services, improving control over the process, and involving people.
3) Mature	Focuses on company-wide approach to excellence, with improvements undertaken on a continuous basis by everyone in the organisation. Effective cross-functional management processes and achieved process-stream improvement those are measurable.
4) Excellent	Constantly competes and wins against the best world-wide. Total integration of continuous improvement and business strategy to delight the stakeholders and respond to changing market conditions. Has developed and applied a unique success model.

Appendix 6: Questionnaire for Evaluation Survey



Centre for Organisational Excellence Research (COER)
School of Engineering and Advanced Technology
Massey University, Palmerston North, New Zealand



EVALUATION OF THE PROPOSED GUIDANCE MODEL FOR SELECTING ORGANISATIONAL IMPROVEMENT INITIATIVES

Hello all,

I am Musli, a PhD student at the Centre for Organisational Excellence Research, Massey University (www.coer.org.nz). I am conducting a survey to evaluate the proposed guidance model for selecting organisational improvement initiatives. This survey is part of my doctoral study, which is supervised by Dr. Robin Mann and Assoc. Prof. Dr. Nigel Grigg.

Can you help?

All practitioners, managers, executives, consultants and/or academicians who have been involved in the selection and/or implementation of organisational improvement initiatives are invited to complete the survey.

What is the purpose?

It has been estimated that there are more than 900 improvement initiatives that can be used to improve an organisation's performance. Improvement initiatives in the present context refer to approaches, systems, tools and/or techniques, such as Six Sigma, Lean, Business Process Reengineering, ISO9001, and benchmarking. Unfortunately, there is a lack of clear advice or guidance available to organisations on how to select the most appropriate improvement initiative for a given context or situation. To address this issue, a guidance model has been developed to assist organisations in the selection of appropriate improvement initiatives towards achieving organisational excellence. The purpose of this survey is to obtain your opinion on the guidance model's design and usefulness.

How much time does it takes?

It will take approximately 15 to 45 minutes of your time to complete this questionnaire.

What should you do to participate?

Step 1: Understand the proposed guidance model (Please refer to the attached pdf file).

Step 2: Complete the questionnaire. Returning the completed questionnaire is taken as your consent to participate in this survey. Your feedback will be kept confidential and will be used solely for research purposes. If you require any further information, you are welcome to contact me. My contact details are shown below. Alternatively, you may also contact my main supervisor: Dr. Robin Mann, by email: R.S.Mann@massey.ac.nz

Step 3: Email the completed questionnaire by 16th of February 2011 to: muslimailbox@gmail.com or M.Mohammad@massey.ac.nz

What benefits will you get?

If you have completed the questionnaire, you will be sent a copy of the survey findings and final version of the GUIDE model via email once it is ready.

I hope you can participate. Thank you in advance for sharing your opinions.

Yours sincerely,

Musli Mohammad,
PhD Student, Centre for Organisational Excellence Research (COER),
School of Engineering and Advanced Technology, Massey University, Private Bag 11 222,
Palmerston North 4442, New Zealand.
Office Phone: +64 6 356 9099 extn 7439; Mobile Phone: +64 21 027 15357; Fax: +64 6 350 5604
Email: M.Mohammad@massey.ac.nz or muslimailbox@gmail.com

This questionnaire consists of four (4) main sections:

Section 1: Background of the respondent and organisation

Section 2: Factors that should be considered when selecting organisational improvement initiatives

Section 3: Evaluation of the proposed GUIDE model

Section 4: Comments and/or suggestions

Please read the questions carefully before answering them. Where appropriate, please cross (X) in the box and/or complete the answer in the space provided.

SECTION 1: BACKGROUND OF THE RESPONDENT AND ORGANISATION

This section seeks general information about you and your organisation.

1.1 For how many years have you been involved in the area related to quality, productivity and/or organisational excellence?

Less than 1 year

1 to 2 years

3 to 4 years

5 to 6 years

7 years or more than 7 years

1.2 Which of the following best describes your role in the organisation?

Chief Executive Officer / Director / President / Vice President

General Manager / Senior Manager / Manager / Assistant Manager

Executive / Engineer

Academician / Lecturer

Consultant

Other (please specify):

1.3 In which country are you currently based?:

1.4 What is your organisation's major business activity?

Agriculture, Forestry and Fishing <input type="checkbox"/>	Communication Services <input type="checkbox"/>
Mining <input type="checkbox"/>	Finance and Insurance <input type="checkbox"/>
Manufacturing <input type="checkbox"/>	Property and Business Services <input type="checkbox"/>
Electricity, Gas and Water Supply <input type="checkbox"/>	Government Administration and Defence <input type="checkbox"/>
Construction <input type="checkbox"/>	Education <input type="checkbox"/>
Wholesale Trade <input type="checkbox"/>	Health and Community Services <input type="checkbox"/>
Retail Trade <input type="checkbox"/>	Cultural and Recreational Services <input type="checkbox"/>
Accommodation, Cafes and Restaurants <input type="checkbox"/>	Personal and Other Services <input type="checkbox"/>
Transport and Storage <input type="checkbox"/>	Other (please specify): <input type="checkbox"/>

1.5 Has your organisation won any national business excellence / quality award(s)?

Yes

No

If Yes, please provide the award(s) name and year of receiving the award(s):

1.6 Your email address:

Must be provided to receive a copy of survey findings and final version of the GUIDE model

1.7 Your name (Optional):

SECTION 2: FACTORS THAT SHOULD BE CONSIDERED WHEN SELECTING ORGANISATIONAL IMPROVEMENT INITIATIVES

In this section, we are trying to obtain your opinions on the factors that should be considered when selecting appropriate improvement initiatives. Please cross (X) in the box that indicates your perception on the level of importance of each factor listed below:

Factors that should be considered when selecting improvement initiatives	Level of importance					
	Very high	High	Moderate	Low	Very low	Not important
1. Capability of the workforce to introduce and implement the initiative successfully.	<input type="checkbox"/>					
2. Ability to gain top management commitment and support to introduce and implement the initiative successfully.	<input type="checkbox"/>					
3. Ability to allocate necessary resources to introduce and implement the initiative successfully (e.g. funding and equipment).	<input type="checkbox"/>					
4. The initiative is suitable for the level of organisational excellence maturity.	<input type="checkbox"/>					
5. The initiative is aligned to the vision, mission and/or purpose of the organisation.	<input type="checkbox"/>					
6. The initiative is aligned to the direction, strategic plan and/or goals of the organisation.	<input type="checkbox"/>					
7. The initiative will satisfy the requirements / expectations of the customers and other stakeholders.	<input type="checkbox"/>					
8. The initiative fits the organisation's culture.	<input type="checkbox"/>					
9. The initiative is suitable for the external environment in which the organisation operates, which includes: political, economic, social, technological, legal and environmental factors.	<input type="checkbox"/>					
10. The initiative fits the sector / industry in which the organisation operates (e.g. private, public or non-profit).	<input type="checkbox"/>					
11. The initiative fits the size of the organisation (e.g. small, medium or large).	<input type="checkbox"/>					
12. Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future.	<input type="checkbox"/>					
13. Ability to implement the initiative easily in the organisation.	<input type="checkbox"/>					
14. Value for implementing the initiative (based on cost benefit analysis, Return of Investment (ROI) analysis and/or payback analysis).	<input type="checkbox"/>					
15. Duration taken to obtain the value of implementing the initiative.	<input type="checkbox"/>					
16. Whether the initiative has been proven to provide value / benefit in other similar organisations.	<input type="checkbox"/>					
17. Popularity of the initiative (e.g. many other organisations are implementing the initiative).	<input type="checkbox"/>					
18. Areas in which the initiative will be implemented (e.g. leadership and social responsibilities, strategy, customer focus, process management, workforce focus, partnership and resources).	<input type="checkbox"/>					
19. Other (please specify):	<input type="checkbox"/>					

SECTION 3: EVALUATION OF THE PROPOSED GUIDE MODEL

This section deals with your evaluation of the proposed GUIDE model. Referring to the GUIDE Model (pdf file), please cross (X) in the box that indicates degree of agreement for each statement / question listed below:

Criteria for evaluating the proposed GUIDE model	Degree of agreement to the following statements/questions						*If you have indicated 'disagree' or 'strongly disagree' for any of the following statements / questions, please explain why and suggest improvements to the model if possible.
	Strongly agree	Agree	Neutral	Disagree *	Strongly disagree *	Don't know	
1. The Introduction Section to the GUIDE Model is written clearly and easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. The GUIDE model is presented clearly and easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Do you agree with the steps and content of the 'G - Goal Setting' section?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Do you agree with the steps and content of the 'U – Understand organisational context' section?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Do you agree with the steps and content of the 'I – Identify relevant organisational improvement initiatives' section?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Do you agree with the steps and content of the 'D – Decide appropriate initiative' section?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Do you agree with the steps and content of the 'E – Evaluate the decision' section?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Do you agree that the model is useful for quality and/or organisational improvement consultants?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Do you agree that the model is useful for quality and/or organisational improvement practitioners?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Do you agree that the model is useful for Small and Medium Sized Enterprises (SMEs)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Do you agree that the model is useful for academics?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Do you agree that the model is useful for organisations in general?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

SECTION 4: COMMENTS AND/OR SUGGESTIONS

In this section, we would like to obtain your comments and/or suggestions with regards to the proposed GUIDE model.

4.1 Strengths of the model:

4.2 Weaknesses of the model:

4.3 Suggestions for improvement:

Thank you for providing valuable feedback.
Please email the completed questionnaire by 16th of February 2011 to:
muslimailbox@gmail.com or **M.Mohammad@massey.ac.nz**



Centre for Organisational Excellence Research
School of Engineering and Advanced Technology
Massey University, Palmerston North, New Zealand
www.coer.org.nz



A GUIDE MODEL FOR SELECTING ORGANISATIONAL IMPROVEMENT INITIATIVES TOWARDS ACHIEVING ORGANISATIONAL EXCELLENCE

Developed by:

MUSLI MOHAMMAD
PhD Research Student
M.Mohammad@massey.ac.nz

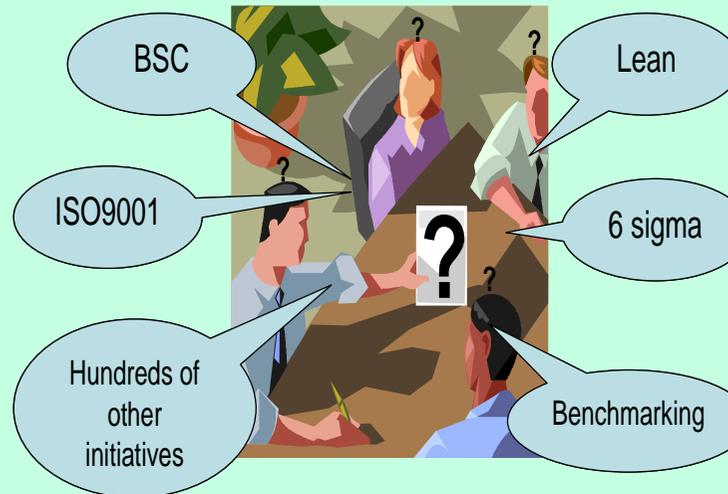
Acknowledgement:

The researcher would like to acknowledge the research supervisors - Dr. Robin Mann and Assoc. Prof. Dr. Nigel Grigg; all interviewees in New Zealand, Singapore and Malaysia; all questionnaire survey respondents; research colleague - Jürgen P. Wagner; and all other individuals who have been involved in this research, directly and indirectly.
Thank you for all your comments, suggestions and contributions to this research.

INTRODUCTION

Never ending journey towards achieving organisational excellence

- To remain relevant, competitive and sustainable in today's increasingly complex and dynamic business environment, organisations are required to continuously improve their performance in order to both maintain pace with their competitors, and to satisfy and exceed the expectations of customers, employees, supply chain partners, community and other stakeholders. It has been estimated that there are more than 900 improvement initiatives that can be used to improve an organisation's performance. Improvement initiatives in the present context refer to approaches, systems, tools and/or techniques, such as Six Sigma, Lean, Business Process Reengineering, ISO9001, and benchmarking.
- Unfortunately, there is a relatively lack of clear advice or guidance available to organisations on how to select appropriate improvement initiative. Even more challenging is that the numbers of improvement initiatives are significantly increasing every year which makes it harder to select appropriate initiative.
- A number of organisations implement these initiatives as a panacea for all organisational problems. In reality, while none of the individual initiative can solve all problems effectively in the organisation, each initiative has a role to play towards achieving organisational excellence. The right initiatives to be used may vary depending on several contextual factors, for instance, the current maturity level of an organisation, areas in which the initiatives are adopted, type and size of an organisation, and the capabilities of a workforce.
- Many organisations have failed to reap the benefit of implementing the proven improvement initiatives. One of the reasons why this happens is due to lack of clear understanding by people regarding when, where and how to implement the initiatives. Many people have also not considered the contextual factors / aspects when selecting improvement initiative for their organisation.
- People need to understand the organisation and the improvement initiatives better in order to make an informed decision on which initiative would best suit the situation. There is no one size to fit all.



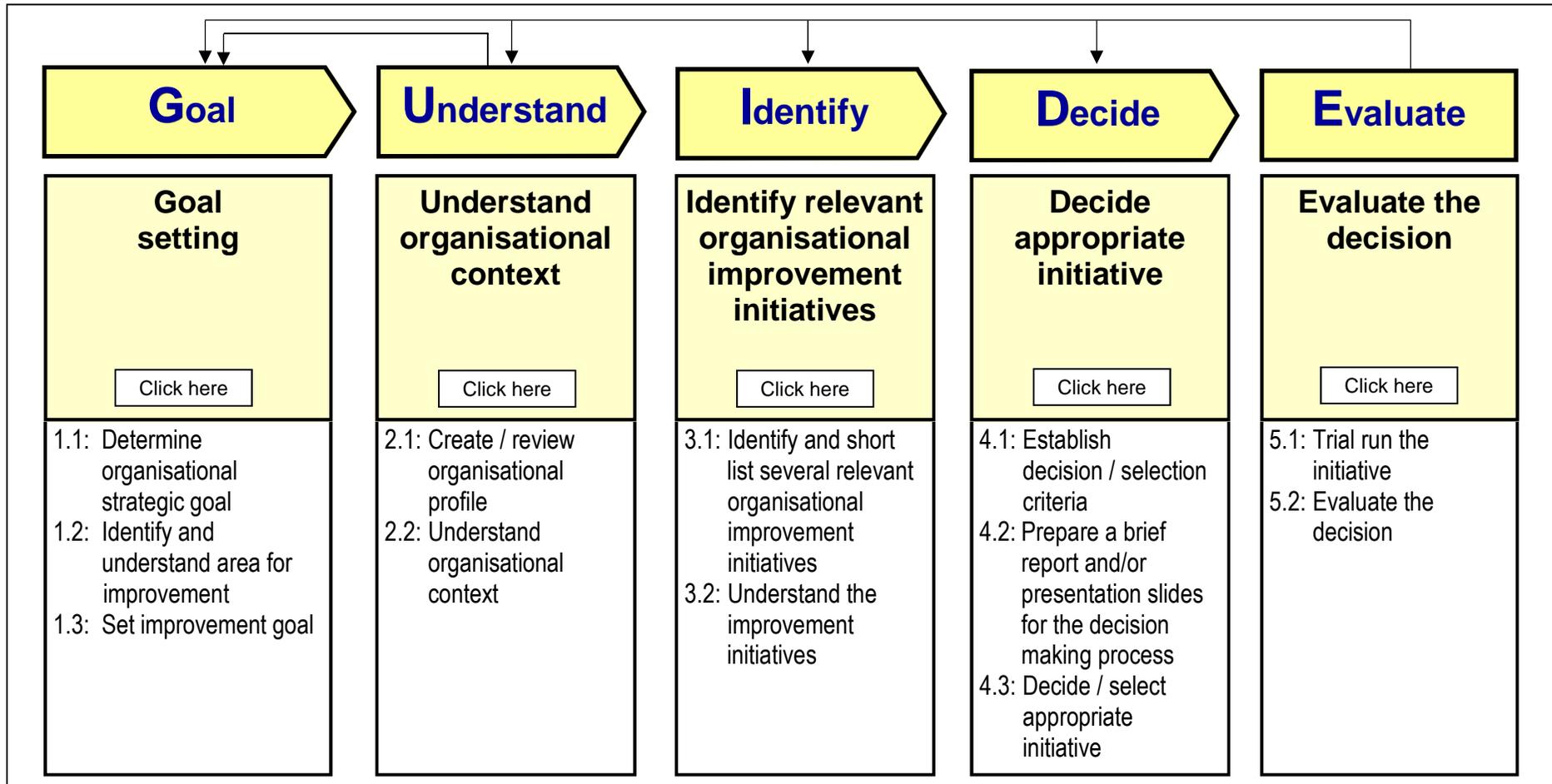
- Excellent:
- Leadership and social responsibilities
 - Strategy
 - Customer focus
 - Process management
 - Workforce focus
 - Partnership and resources

ORGANISATIONAL EXCELLENCE

Use the proposed **GUIDE** model to guide your organisation to select the appropriate improvement initiatives towards achieving organisational excellence



A G U I D E model
for selecting appropriate organisational improvement initiatives

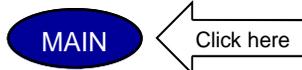


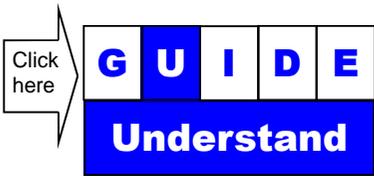
This model attempts to provide a structured and descriptive guideline to select appropriate initiative, instead of a prescriptive approach so that it can be used according to the context.



G - Goal setting

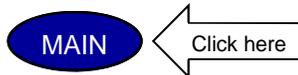
Step		Description
1.1	Determine organisational strategic goal(s)	<p>Organisational strategic goal(s) can be determined based on:</p> <ul style="list-style-type: none"> • Organisational desired future state <ul style="list-style-type: none"> - Determine where the organisation wants to be. - Develop an effective intelligence gathering system that looks at the past, present and future. - Predict / forecast the future. • Gap analysis <ul style="list-style-type: none"> - Identify realistic gaps between where the organisation wants to be and where it is now. - Examples of tools that can be used for gap analysis are: (1) organisational assessment based on established Business Excellence Model (BEM) such as, Baldrige Criteria for Performance Excellence and European Foundation for Quality Management (EFQM) Excellence Model; (2) benchmarking; (3) SWOT analysis; (4) Internal and external customer survey; (5) business performance review. - As part of the gap analysis process, we might also need to understand organisational context (refer to <u>step 2.2</u>)
1.2	Identify and understand area for improvement	<p>Identify and understand area for improvement in order to achieve organisational strategic goal:</p> <ul style="list-style-type: none"> • Areas for improvement can be categorised based on the enablers criteria of Business Excellence Models (BEMs). Examples of the main area for improvement based on the enablers criteria of major BEMs are shown in <u>Appendix A</u>. • Get a team to consider all possible areas for improvement and priorities, and decide on the improvement area that is important to focus on. • Identify stakeholders (e.g. employees, customers, suppliers) and resources involved in the area of improvement. • Identify inputs, processes and outputs involved in the area of improvement. • Diagnose and analyse the situation using team-based approach. Reflect what have been done in the past to address the situation. It is about reflection and learning. Identify possible root causes of the situation. We might need to understand organisational context (refer to <u>step 2.2</u>) in order to diagnose and analyse the situation.
1.3	Set improvement goal	<p>Set improvement goal to address the area of improvement:</p> <ul style="list-style-type: none"> • Define performance measures. • Identify current performance and expected future performance.

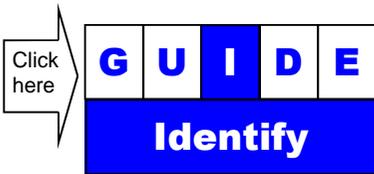




U - Understand organisational context

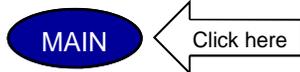
Step		Description
2.1	Create / review organisational profile	<p>Elements of the organisational profile / context that should be created, reviewed and/or understood are include but not limited to:</p> <ul style="list-style-type: none"> • Vision, mission and values of the organisation • Purpose of the organisation • Direction, strategic plan and goals of the organisation • Profile of customers, employees, partners, suppliers and/or other stakeholders of the organisation • Requirements and expectations of the customers and other stakeholders • Level of organisational excellence maturity • Main resources of the organisation, such as facilities, technologies, equipment • Challenges faced by the organisation • Core competencies of the organisation • External environment in which the organisations operate, which includes: political, economic, social, technological, legal and environmental factors
2.2	Understand organisational context	<ul style="list-style-type: none"> • Organisational and/or national culture • Main products / services provided • Core processes in the organisation • Type and size of the organisation • Relationships and dependencies between the sub-systems within the organisation

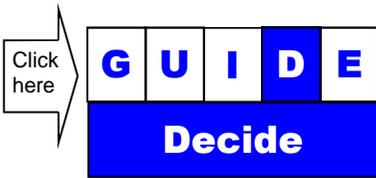




I - Identify relevant organisational improvement initiatives

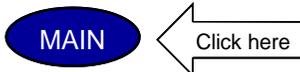
Step		Description
3.1	Identify and shortlist several relevant organisational improvement initiatives	<ul style="list-style-type: none"> • Several relevant improvement initiatives can be identified based on: <ul style="list-style-type: none"> - Discussion with consultants / experts - Discussion and experience sharing with various people from other organisations - Brainstorming session - Latest publications from management and industrial gurus - Requirements and/or expectations of the customers and/or other stakeholders - Findings from academic and practitioner research - Best practices in industry - Attending related training / conference / workshop • Do not restrict searching to the initiatives that are available in the market place or academia. In identifying relevant initiatives, we can end up by inventing a bespoke initiative. • Examples of the main initiatives that can be considered are shown in Appendix B. These examples should not be taken as a prescription that the organisations must adopt a certain initiative. There is no standard solution that every organisation should be following. There is no one size to fit all. • All improvement initiatives can fit within the BEM. The BEM can be used as an overarching framework for managing / aligning / integrating multiple initiatives within the organisation (Refer to Appendix B).
3.2	Understand the improvement initiatives	<ul style="list-style-type: none"> • Collect relevant data and analyse the data. • Elements of the initiatives that should be understood are include but not limited to: <ul style="list-style-type: none"> - Fundamental purpose, strengths and weaknesses of the initiatives. - Expected values or payback for implementing the initiatives successfully. - Expected costs, time and resources needed to introduce and implement the initiatives successfully. - Ability to fit in with, complement, integrate or support other initiatives already in place, and might be used in the future. - All the ramifications of implementing the initiatives. - Possible risks of implementing the initiatives. - Whether the initiative has been proven to provide value / benefit in other similar organisations. • Conduct cost benefits analysis, risk analysis, Return of Investment (ROI) analysis and/or payback analysis for each initiative that has been short-listed for selection.

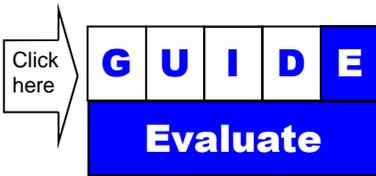




D - Decide appropriate initiative

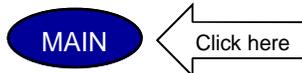
Step		Description
4.1	Establish decision / selection criteria	<ul style="list-style-type: none"> Establish decision / selection criteria through meeting, workshop and/or brainstorming session. Example of a proposed decision / selection criteria is shown in the Appendix C.
4.2	Prepare a brief report and/or presentation slides for the decision making process	<ul style="list-style-type: none"> Prepare a brief report and/or presentation slides prior to the decision making meeting / session. Contents of the report and/or presentation slides are include but not limited to: <ol style="list-style-type: none"> (1) background of the situation; (2) rational of selecting and/or implementing the improvement initiatives; (3) main purposes of the improvement initiatives; (4) values / benefits for implementing the initiatives; (5) costs and other resources required to implement the initiatives; (6) cost benefits analysis; (7) list of employees, customers, suppliers and other stakeholders involved; (8) trial run and/or implementation plan; (9) possible challenges / barriers and proposed countermeasures; (10) decision / selection criteria (refer to step 4.1); and / or (11) decision matrix that can be used to assist the selection of an appropriate initiative (Example of the decision matrix is shown in Appendix D).
4.3	Decide / select appropriate initiative	<ul style="list-style-type: none"> Use team based approach in deciding / selecting appropriate initiative through meeting, workshop and/or brainstorming session. Invite appropriate people to be involved in the decision making process. Consult and involve the people who are going to implement and/or use the initiative. Discuss the contents of the report / slides prepared in the previous step (refer to step 4.2). Complete the decision matrix prepared in the earlier step (refer to step 4.2). This includes weighting the criteria, rating and ranking the initiatives as well as interpretation and analysis. Decide / select appropriate initiative. Expected outcome from this decision / selection process should be the appropriate initiative for the organisation. Other shortlisted initiatives will be rejected.





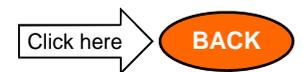
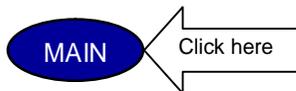
E - Evaluate the decision

Step		Description
5.1	Trial run the initiative	<ul style="list-style-type: none"> To evaluate the decision that has been made and reduce the risk of failure, it is better for the organisation to conduct a trial run before fully implementing the initiative. Get approval and buy-in from top management. Convince and educate the top management so that they are very clear why the organisation needs to implement the initiative. Roll-out appropriate plan for trial run of the initiative. Select and train the right people and teams to execute the trial run of the initiative. Introduce the initiative at the selected organisational unit for trial run. Engage all related people at different levels of organisational unit. Create awareness and provide training to ensure all related leaders and employees have sufficient level of understanding and ready to embark on this initiative. All the related people should understand: <ol style="list-style-type: none"> What is the initiative?; Why they are doing it?; What are the benefits of doing it?; How to link the initiative to their job?; What are they suppose to do?; and/or How they can balance the implementation of initiative with their daily job? Customise, adopt and/or adapt the initiative to fit the situation. Monitor the trial-run of the initiative The people in the organisation should have the right attitude and behaviour towards excellence, otherwise any good initiatives implemented in the organisation will be unlikely to succeed.
5.2	Evaluate the decision	<ul style="list-style-type: none"> Measure the performance / impact of the initiative to the organisation. Check whether the initiative would be able to help organisation achieve the improvement goal established earlier (refer to step 1.3). Evaluate the decision that has been made based on the trial run of the initiative. If the trial run of the initiative is successful, then continue implementing it. This situation indicates that the organisation is ready to fully implement the decision. If the trial run of the initiative is not successful, then diagnose the root cause of the failure. If the root cause is due to an inappropriate decision taken, then return to earlier phases of the overall selection / decision process ('Goal', 'Understand', 'Identify' and/or 'Decide' phase).

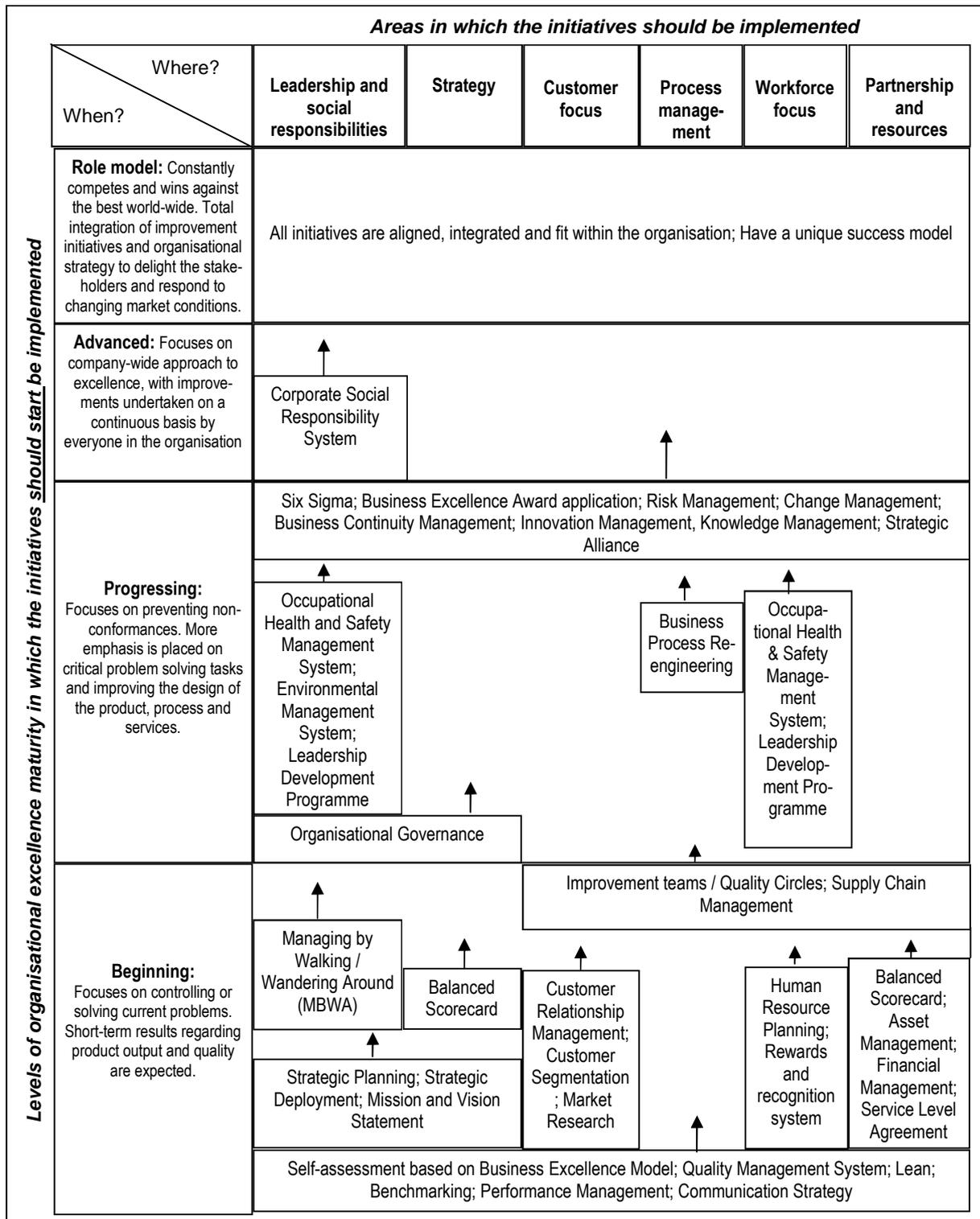


Appendix A:
Example of the main areas for improvement based on the enablers criteria of major Business Excellence Models (BEMs)

Areas for improvement	Brief description	Core values and concepts	Baldrige Criteria For Performance Excellence (2009-2010)	EFQM Excellence Model (2010 onwards)
1. Leadership and social responsibilities	Focuses on management's behaviour and leadership system in building culture of excellence in the organisation, as well as, organisation's responsibilities and contribution to society and environment.	Leading with vision, inspiration and integrity, systems perspective, and taking responsibility for a sustainable future.	Leadership	Leadership
2. Strategy	Focuses on how organisation develops, communicates, deploys, monitors, reviews and improves its strategy to achieve performance excellence	Visionary leadership, focus on the future, nurturing creativity and innovation, and agility	Strategic planning	Strategy
3. Customer focus	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers, and determines their satisfaction	Customer-driven excellence, focus on results and creating value.	Customer focus	
4. Process management	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	Organisational learning, nurturing creativity and innovation, focus on results and creating value, agility and systems perspective.	Process management	Processes, Products and Services
5. Workforce focus	Focuses on how the organisation engages, manages, and develops the workforce to utilise its maximum potential in alignment with the organisation's overall mission and strategy	Personal learning, valuing workforce members, focus on results and creating value, succeeding through people, and nurturing creativity and innovation.	Workforce focus	People
6. Partnership 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 the effective operation of processes	Valuing partners, building partnership, management by fact, focus on results and creating value, and nurturing creativity and innovation.	Measurement, analysis and knowledge management	Partnership and resources



Appendix B: Example of the pathway / roadmap to organisational excellence



- Note:
- Please use this example with caution. It should not be taken as a prescription that the organisation must adopt a certain initiatives. There is no standard solution that every organisation should follow. There is no one size to fit all.
 - Brief descriptions of the main improvement initiatives listed in this figure are shown in **Appendix E**.
 - The areas in which the initiatives should be implemented are derived from the enablers criteria of major Business Excellence Models (BEMs) such as, Baldrige Criteria for Performance Excellence and EFQM Excellence Model. Brief descriptions of the areas of implementation are shown in **Appendix A**.
 - This figure shows an example of how the enablers criteria of BEM can be used as an overarching framework for managing / aligning / integrating multiple initiatives within the organisation.



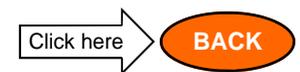
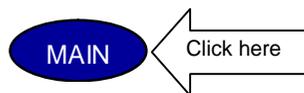
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**Appendix C:
Proposed decision / selection criteria**

Main criteria (FOSCV)	Sub-criteria	Sources of information / input
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	<ul style="list-style-type: none"> • Capability of the workforce to introduce and implement the initiatives successfully. • Ability to gain top management commitment and support. • Ability to allocate necessary resources to introduce and implement the initiatives successfully, such as funding and equipment. • Suit with the level of organisational excellence maturity. 	Data from step 2.2 (Understand organisational context)
2. Organisation fit: Can the initiative fit within the organisational context?	<ul style="list-style-type: none"> • Suit with the purpose of organisation. • Suit with the requirements / expectations of the customers and other stakeholders. • Suit with the organisational culture. • Suit with the external environment in which the organisations operate, which includes: political, economic, social, technological, legal and environmental factors. • Suit with the types (e.g. private, public or non-profit) and sizes (e.g. small, medium or large) of organisation. 	
3. Strategic alignment: Can the initiative be aligned with the organisation's strategy?	<ul style="list-style-type: none"> • Align with the vision, mission and/or policy of the organisation. • Align with the direction, strategic plan and/or goals of the organisation. 	
4. Compatibility: Can the initiative work successfully with other initiatives already in place and might be used in the future?	<ul style="list-style-type: none"> • Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future. • Ability to implement the initiative easily in the organisation without much intervention. 	Data from step 3.2 (Understand improvement initiatives)
5. Values / benefits: Can the initiative add value to the organisation?	<ul style="list-style-type: none"> • Value / payback for implementing the initiatives based on cost benefits analysis, Return of Investment (ROI) analysis and/or payback analysis. • Duration taken to obtain the value of implementing the initiative (ability to produce good results in a short period of time). • Whether the initiative has been proven to provide values / benefits in other similar organisations. 	



Appendix D

Example of the proposed decision matrix for selecting appropriate organisational improvement initiative

Name of the decision maker: John
Date: 8 July 2010

Main criteria (FOCV)	Weight (0-1)	No	Sub-criteria	Importance (0-100)	Initiative 1		Initiative 2		Initiative 3	
					Score (1-5)	Weighted Score	Score (1-5)	Weighted Score	Score (1-5)	Weighted Score
	Total weight = 1.0			Y	Z1	Y x Z1	Z2	Y x Z2	Z3	Y x Z3
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	0.2	1	Capability of the workforce	25	3	75	4	100	2	50
		2	Ability to gain top management commitment and support	25	2	50	3	75	3	75
		3	Ability to allocate necessary resources (e.g. funding, equipment)	25	3	75	2	50	3	75
		4	Suit with the level of organisational excellence maturity	25	2	50	2	50	4	100
		Total score for feasibility		100		250		275		300
		Total weighted score for feasibility				50		55		60
2. Organisation fit: Can the initiative fit within the organisational context?	0.2	1	Suit with the purpose of organisation	20	3	60	5	100	1	20
		2	Suit with the requirements / expectations of the customers and other stakeholders	20	3	60	4	80	2	40
		3	Suit with the organisational culture	20	3	60	3	60	3	60
		4	Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental)	20	3	60	2	40	3	60
		5	Suit with the types and sizes of organisation	20	4	80	1	20	3	60
		Total score for organisation fit		100		320		300		240
		Total weighted score for organisation fit				64		60		48
3. Strategic alignment: Can the initiative be aligned with the organisation's strategy?	0.1	1	Align with the vision, mission and/or policy of the organisation	50	3	150	3	150	3	150
		2	Align with the direction, strategic plan and/or goals of the organisation	50	2	100	3	150	2	100
		Total score for strategic alignment		100		250		300		250
		Total weighted score for strategic alignment				25		30		25
4. Compatibility: Can the initiative work successfully with other initiatives already in place and might be used in the future?	0.2	1	Ability of the initiative to fit in with, complement, integrate and/or support other initiatives already in place, and might be used in the future	60	4	240	4	240	2	120
		2	Ability to implement the initiative easily in the organisation without much intervention	40	3	120	4	160	3	120
		Total score for compatibility		100		360		400		240
		Total weighted score for compatibility				72		80		48
5. Values / benefits: Can the initiative add value to the organisation?	0.3	1	Values / payback for implementing the initiatives based on cost benefits analysis, Return of Investment (ROI) analysis and/or payback analysis	60	5	300	3	180	2	120
		2	Duration taken to obtain the value of implementing the initiative	20	2	40	3	60	3	60
		3	Whether the initiative has been proven to provide values / benefits in other similar organisations	20	3	60	3	60	4	80
		Total values / benefits		100		400		300		260
		Total weighted score for values/benefits				120		90		78
Overall weighted score						331		315		259
Rank						1		2		3



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Appendix E:
Brief descriptions of the main organisational improvement initiatives widely used by the organisations

Initiatives (approach, system, or technique)
1) Asset Management: A methodology to maximise the performance of fixed, physical or capital assets that have a direct and significant impact on achieving corporate objectives. It is often computerised to enable the monitoring of larger and diverse types of assets. Value engineering and life cycle cost analysis may also be used in association with asset management processes
2) Balanced Scorecard: Translates mission and vision statements into a comprehensive set of objectives and performance measures that can be quantified and appraised. It provides a framework for setting a performance measurement framework centred on four 'perspectives': Financial, Customer, Internal Business Process and Innovation, Learning and Growth.
3) Benchmarking: A systematic process for identifying and implementing best or better practices. It is a structured process to help organisations close the gap with the best-in-class performer without having to "re-invent the wheel". It is to find "secrets of success" and then adapt and improve for the implementation according to the context of organisation.
4) Business Continuity Management (BCM): Provides the availability of processes and resources in order to ensure the continued achievement of critical objectives. It will prevent an emerging crisis from becoming an organisational and personal disaster. It involves risk identification and assessment, business impact assessment and analysis, development of business continuity plan, training and testing of business continuity plan.
5) Business Excellence Award application: Applying for Business Excellence Award, such as EFQM Excellence Award, Malcolm Baldrige National Quality Awards, or any other national business excellence awards.
6) Business Process Reengineering (BPR): Fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed. It uses several techniques such as change management, process measurement, and information technology.
7) Change Management: Process whereby management supports people and the organisation during a period of transition.
8) Communication Strategy: Having appropriate channels of communication, such as weekly and/or monthly report, business review meeting, internet, intranet, newsletter, employee forums and information centre.
9) Corporate Social Responsibility (CSR) System: System designed to measure, apply, assess, and report organisational efforts to integrate CSR into all operations. It is a commitment of organisations to behave socially and environmentally responsible while striving for their economic goals.
10) Customer Relationship Management (CRM): A process to understand the customer groups and respond quickly to shifting customer desires. Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle (the chain of activities from the initial targeting of customers to efforts to win them back for more). CRM data also provide companies with important new insights into customers' needs and behaviours, allowing organisations to tailor products / services to targeted customer segments.
11) Customer Segmentation: A subdivision of a market into discrete customer groups that share similar characteristics
12) Environmental Management System (EMS): Organisation's system for protecting the natural environment (e.g. air, land, sea, waterways) from the effects of their processes and outputs. For example, develop environmental policy, compliance to ISO14000, briefing and campaign.
13) Financial Management: Concerned with all aspects of how a business or organisation deals with its financial resources. It involves financial planning, financial accounting, financial analysis, management accounting, capital appraisal and budgeting.
14) Human Resource Planning: A strategy for the acquisition, utilisation, improvement and retention of an organisation's human resources.
15) Improvement Teams (including Quality Circles): A team that is formed to make improvement on the workplace and/or processes. It can comprise members of a single department, cross functional, and/or include representatives of either or both customers and suppliers. Membership can be voluntary or mandatory. The examples of tools that widely used by the improvement teams are 7 basic quality tools (Cause and Effect Diagram, Check Sheet, Control Chart, Graphs, Histogram, Pareto Diagram, Scatter Diagram) and 7 management tools (Affinity Diagram, Relations Diagram, Systematic Diagram, Matrix Diagram, Matrix Data Analysis, Process Decision Programme Chart, Arrow Diagram).
16) Innovation Management: Managing how to create exchange, evolve and apply innovative ideas to produce products and provide services for the success of an organisation.
17) Knowledge Management: Method to acquire and share intellectual assets. It increases the generation of useful, actionable and meaningful information and seeks to increase both individual and organisational learning.
18) Leadership Development Programme: Programme to develop leaders, such as experience sharing, leadership training, and apprenticeship.
19) Lean: Improvement approach that focuses on removing waste and improving flow. It requires a very clear focus on the value element of all products and services and a thorough understanding of the detailed operations of the business processes. The example of tools and techniques used are Kanban, Value Stream Mapping, Takt Time, and visual control.
20) Managing by Walking / Wandering Around (MBWA): Listening, empathising and staying in touch with the stakeholders (e.g. customers, suppliers, and workforce) and taking necessary action to improve the situations.

Initiatives (approach, system, or technique)

21) Market Research: Helps to ensure that there will be a demand for the product/service and that the requirements of the customer will be met. It can include experiments, surveys, product tests, advertising tests, promotion tests, motivational research, strategy research, customer-satisfaction monitoring and many other techniques.

22) Mission and Vision Statements: Brief statements of the purpose and vision of an organisation, with the intention of keeping employees aware of the organisation's direction.

23) Occupational Health and Safety Management System (OHSMS): Helps to ensure the well being of staff and to comply with government regulations. For examples, develop health and safety policy, compliance to OHSAS18000, briefing, campaign, Health and Safety Committee and Emergency Response Team.

24) Organisational Governance: Involves accountability for management's actions, transparency in operations, independence in internal and external audits, and protection of stakeholders' interests.

25) Performance Management (PM): A systematic approach directed towards organisational performance improvement through the alignment of individual performance with organisational goals. It aligns an employee's individual goals with the organisation's objectives, mission, and vision. It requires the development of sound job descriptions, clear accountabilities, and growing employee competency levels. Performance appraisal and coaching systems are key components for the provision of feedback to employees. The examples of techniques used are 360 degree feedback, continuous feedback and online evaluation.

26) Quality Management System (QMS): A management system to direct and control an organisation with regard to quality. It includes a quality policy, quality manual, quality objectives, procedures, records and/or compliance to quality standards, such as ISO9000, ISO/TS 16949, ISO 13485, and ISO/TS 29001.

27) Rewards and Recognition System: Formal system to recognise achievements of individual, group, unit and organisation.

28) Risk Management (Crisis Management): Processes, structure and culture whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.

29) Self-Assessment based on Business Excellence Model: A systematic and regular review of an organisation's activities and results referenced against the Business Excellence Award Model (such as Baldrige Criteria for Performance Excellence, EFQM Excellence Award)

30) Service Level Agreement (SLA): A performance agreement (contract) between a service or product provider and a customer. The contract specifies the terms of the supplier's responsibility to the customer (usually in measurable terms), what services or products the provider will deliver, and the quality measures and indicators that must be met.

31) Six Sigma: A business improvement approach that seeks to reduce variation and eliminate causes of defects / errors in processes by focusing on outputs that are critical to customers and a clear financial return for the organisation. The examples of tools and techniques used are Measurement System Analysis, Design of Experiments, Kano Analysis, Process Mapping, Failure Mode and Effect Analysis, and Robust Design.

32) Strategic Alliances: Agreements between organisations in which each commits resources to achieve a common set of objectives.

33) Strategic Planning: Process by which organisation answers such questions as the following: Who are we?, Where are we going?, How will we get there?, What do we hope to accomplish?, What are our strengths and weaknesses?, and What are the opportunities and threats in our business environment?. It directs goal setting and resource allocation to achieve desired future results. The examples of techniques used are: Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis, and business environment analysis in terms of Political, Economic, Social, Technological, Legal and Environmental aspects (PESTLE / PEST analysis).

34) Strategic Execution / Deployment: Involves implementing strategies set forth in strategic planning, monitoring progress toward their achievement, and adjusting as necessary.

35) Supply Chain Management (Supply Chain Integration): Synchronises the efforts of all parties (e.g. suppliers, manufacturers, distributors) involved in meeting a customer's needs. It forges much closer relationships among all links in the value chain in order to deliver the right products to the right places at the right times for the right costs.

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A *GUIDE* model for Selecting Organisational Improvement Initiatives

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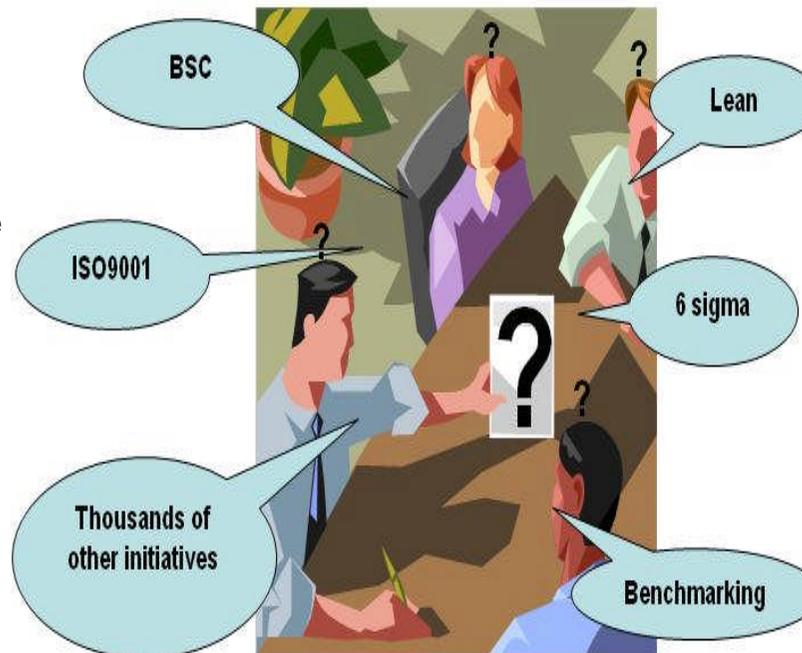
Acknowledgement:

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Thank you for all your comments, suggestions and contributions to this research.

INTRODUCTION

Never ending journey towards achieving business / organisational excellence

- Many organisations need guidance and advice on the selection of appropriate improvement initiatives due to a myriad of initiatives currently available. There are more than 1000 improvement initiatives that can be used to improve an organisation's performance such as Six Sigma, Lean, Business Process Reengineering, ISO9001, and benchmarking.
- The adoption of improvement initiatives requires time, resources, financial and knowledge. To avoid unnecessary waste and frustration, it would be better to select the appropriate initiative that will fit with organisation's context and provide value to the organisation.
- Every improvement initiative has its own strengths and limitations.
- The right initiatives to be used may vary depending on several factors, for instance, the current maturity level of an organisation, areas in which the initiatives are adopted, type and size of an organisation, and the capabilities of a workforce.
- People need to understand the organisation and the improvement initiatives better in order to make an informed decision on which initiative would best suit the situation.



Excellent:

- Leadership and social responsibilities
- Strategy
- Customer focus
- Process management
- Workforce focus
- Partnership and resources

BUSINESS / ORGANISATIONAL EXCELLENCE

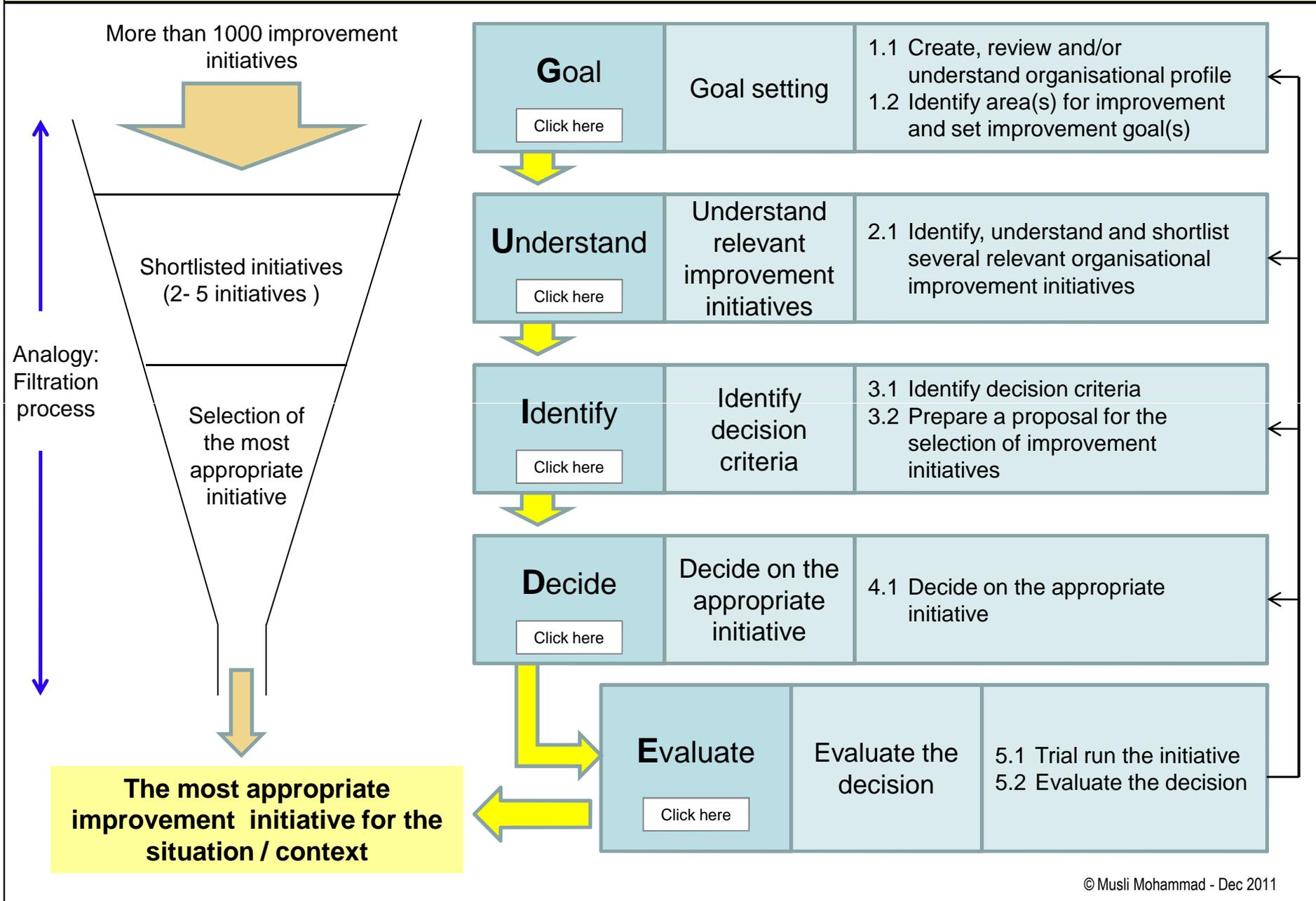
Use the proposed **GUIDE** model to assist your organisation to select the appropriate improvement initiative

What is the **GUIDE** model?

- An acronym representing the five key steps to select improvement initiatives:
 - (1) G - Goal setting
 - (2) U - Understand relevant improvement initiatives
 - (3) I - Identify decision criteria
 - (4) D - Decide on the appropriate initiative
 - (5) E - Evaluate the decision
- Developed based on data from an extensive literature review, a document review, two global surveys and seventeen semi-structured interviews conducted in New Zealand, Singapore and Malaysia.
- Provide a descriptive step by step guideline, instead of a prescriptive approach so that it can be used according to the context.
- The contents are explicitly aligned to the Business Excellence (BE) Models, such as Baldrige Criteria for Performance Excellence and EFQM Excellence Model.
- Other interesting features of the GUIDE model:
 - A framework that shows the main improvement initiatives that can be adopted towards achieving BE. This framework can be used as one of the pathways to BE. This unique feature can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas of implementation and BE maturity.
 - A decision matrix which aims to provide support in the selection of improvement initiatives and bring together a range of decision criteria to enhance the decision-making process.

A **GUIDE** model

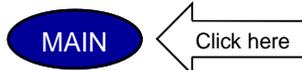
for selecting an appropriate organisational improvement initiative

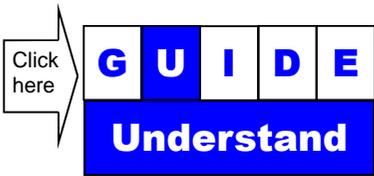




G - Goal setting

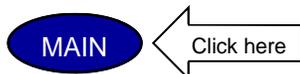
Step		Description
1.1	Create, review and/or understand organisational profile	<ul style="list-style-type: none"> It is important to understand organisational profile in order to make an informed decision on which improvement initiative would best suit the situation. The organisational profile summarises the main organisational characteristics and provides the context for the way the organisation operates. Proposed contents of the organisational profile that should be created, reviewed and/or understood are summarised in Supplement A.
1.2	Identify area(s) for improvement and set improvement goal(s)	<ul style="list-style-type: none"> Identify area(s) for improvement based on the organisation's desired future state or gap analysis. Examples of tools that can be used for gap analysis are: <ol style="list-style-type: none"> Organisational assessment based on established Business Excellence Model (BEM), such as Baldrige Criteria for Performance Excellence and EFQM Excellence Model; Benchmarking; SWOT analysis; Internal and external customer survey; Business performance review. Areas for improvement can be categorised based on the enabler criteria of BEMs. Examples of the main areas for improvement based on the enabler criteria of major BEMs are shown in Supplement B. Consider all possible areas for improvement and priorities, and decide on the improvement area that is important to focus on. Identify stakeholders (e.g. employees, customers, suppliers) and resources involved in the area of improvement. Get buy-in and involvement from them. Get buy-in and support from top management. Identify inputs, processes and outputs involved in the area of improvement. Diagnose and analyse the situation. Identify possible root causes of the situation. Define performance measures. Identify current performance (based on available data). Set improvement goal(s) (based on available data).

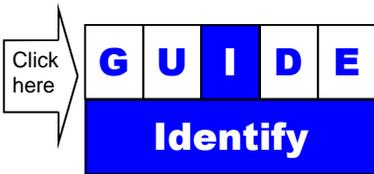




U - Understand relevant improvement initiatives

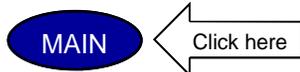
Step		Description
2.1	Identify, understand and shortlist several relevant organisational improvement initiatives	<ul style="list-style-type: none"> • Several relevant improvement initiatives can be identified based on: <ul style="list-style-type: none"> - Discussion with consultants / experts. - Discussion and experience sharing with various people from other organisations. - Latest publications from management and industrial gurus. - Requirements and/or expectations of the customers and/or other stakeholders. - Findings from academic and practitioner research. - Industry best practice. - Attending related training / conference / workshop. • Examples of the most common initiatives that can be considered are shown in Supplement C. • All improvement initiatives can fit within the BEM. The BEM can be used as an overarching framework for managing, aligning and/or integrating multiple initiatives within an organisation (See Supplement C). • Do not restrict searching to the initiatives that are available in the market place or academia. In identifying relevant initiatives, we can end up by inventing a bespoke initiative. • Elements of the initiatives that should be understood include but are not limited to: <ul style="list-style-type: none"> - Fundamental purpose, strengths and limitations of the initiatives. - Expected financial and non-financial benefit for implementing the initiatives successfully. - Expected cost, time and resources (e.g. workforce, infrastructure, equipment and training) needed to introduce and implement the initiatives successfully. - Whether the initiative is compatible with other initiatives currently being used and will be used in the future. - All the potential ramifications of implementing the initiatives. • Where possible, conduct cost benefit analysis for each initiative that has been shortlisted for selection. Possible cost and benefit of implementing a particular improvement initiative can be estimated using industry data. This information can be obtained from the experts of a particular initiative, related research organisations and / or relevant research publications.

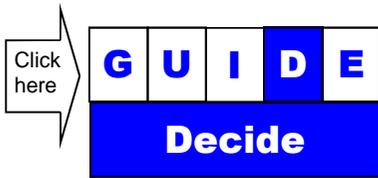




I - Identify decision criteria

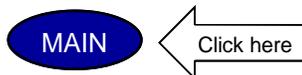
Step		Description
3.1	Identify decision / selection criteria	<ul style="list-style-type: none"> Identify decision / selection criteria through meeting, workshop and/or brainstorming session. Example of a proposed decision / selection criteria is shown in Supplement D. The proposed main criteria are: <ol style="list-style-type: none"> Feasibility: Is the initiative feasible and possible to be implemented in the organisation? Organisation fit: Can the initiative fit within the organisational context? Value / benefit: Can the initiative add value to the organisation?
3.2	Prepare a proposal for the selection of improvement initiatives	<ul style="list-style-type: none"> Prepare a proposal for the selection of improvement initiatives. The proposal can be in a form of report and/or presentation slides supported with facts and/or other sound basis for selecting the initiatives. This proposal can also be used to obtain support and commitment from top management. Proposed contents of the proposal are summarised in Supplement E. The proposed main contents include: <ol style="list-style-type: none"> Background of the situation; Stakeholders involved; Current performance and expected future performance; Description of the shortlisted initiatives; Decision / selection criteria (refer to step 3.1). Proposed decision matrix that can be used to assist the selection of improvement initiatives is shown in Supplement F.





D - Decide on the appropriate initiative

Step		Description
4.1	Decide on the appropriate initiative	<ul style="list-style-type: none"> • Use team based approach in deciding / selecting appropriate initiative through meeting, workshop and/or brainstorming session. • Invite appropriate people to be involved in the decision making process. • Consult and involve the people who are going to implement and/or use the initiative. • Discuss the contents of the proposal prepared in the previous step (refer to step 3.2). • Complete the decision matrix prepared in the earlier step (refer to step 3.2). The steps to complete the decision matrix are shown in Supplement G. • Decide / select an appropriate initiative. • Expected outcome from this decision / selection process should be the appropriate initiative for the organisation. Other shortlisted initiatives will be rejected. • Get approval and buy-in from top management. Convince and educate top management so that they are very clear why the organisation needs to implement the initiative.



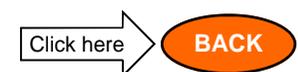
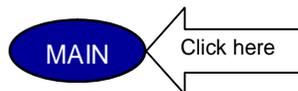
E - Evaluate the decision

Step		Description
5.1	Trial run the initiative	<ul style="list-style-type: none"> To evaluate the decision that has been made and reduce the risk of failure, it is better for the organisation to conduct a trial run before fully implementing the initiative. Roll-out appropriate plan for trial run of the initiative. Select and train the right people and teams to execute the trial run of the initiative. Introduce the initiative at the selected organisational unit for trial run. Engage all related people at different levels of organisational unit. Create awareness and provide training to ensure all related leaders and employees have sufficient level of understanding and ready to embark on this initiative. All the related people should understand: <ol style="list-style-type: none"> (1) What is the initiative?; (2) Why are they doing it?; (3) What are the benefits of doing it?; (4) How to link the initiative to their job?; (5) What are they suppose to do?; (6) How they can balance the implementation of initiative with their daily job? Customise, adopt and/or adapt the initiative to fit the situation. The trial run and/or adoption of the initiatives are not always easy and direct process. In most cases, it may require a transition period and sometimes, it may cause a decline in performance prior to achieve a better result. Monitor the trial-run of initiative. People in the organisation should have the right attitude and behaviour towards excellence, otherwise any good initiatives implemented in the organisation will be unlikely to succeed.
5.2	Evaluate the decision	<ul style="list-style-type: none"> Evaluate the impact of the initiative to the organisation. Check whether the initiative would be able to help organisation to achieve the improvement goal(s) established earlier (refer to step 1.2). Evaluate the decision that has been made. If the trial run of the initiative is successful, then continue implementing it. This situation indicates that the organisation is ready to fully implement the decision. If the trial run of the initiative is not successful, then diagnose the root cause of the failure. If the root cause is due to an inappropriate decision taken, then return to earlier phases of the overall selection / decision process ('Goal', 'Understand', 'Identify' and/or 'Decide' phase). Evaluate and improve the process of selecting the initiative.

**Supplement A:
Proposed contents of the organisational profile that should be created, reviewed and/or understood**

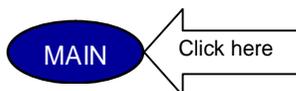
Proposed contents of the organisational profile that should be created, reviewed and/or understood include but are not limited to:

- 1) Purpose, vision, mission and values of the organisation
- 2) Direction, strategic plan and goals of the organisation.
- 3) Main products and/or services that the organisation offers in the marketplace.
- 4) Main assets of the organisation, such as facilities, technologies, equipment.
- 5) Workforce profile, such as workforce groups and segments, workforce education levels, and workforce and job diversity.
- 6) Regulatory requirements under which the organisation operates, such as occupational health and safety regulations, and environmental, financial and product regulations.
- 7) Profile of customers, partners, suppliers and/or other stakeholders of the organisation, such as key market segments and stakeholder groups, key requirements and expectations, and key mechanisms for communicating with them.
- 8) Structure, type and size of the organisation.
- 9) Organisation's competitive environment, such as the number and type of competitors, and key available sources of comparative and competitive data from within and outside industry.
- 10) Organisation's key strategic challenges and advantages.
- 11) Level of BE maturity.



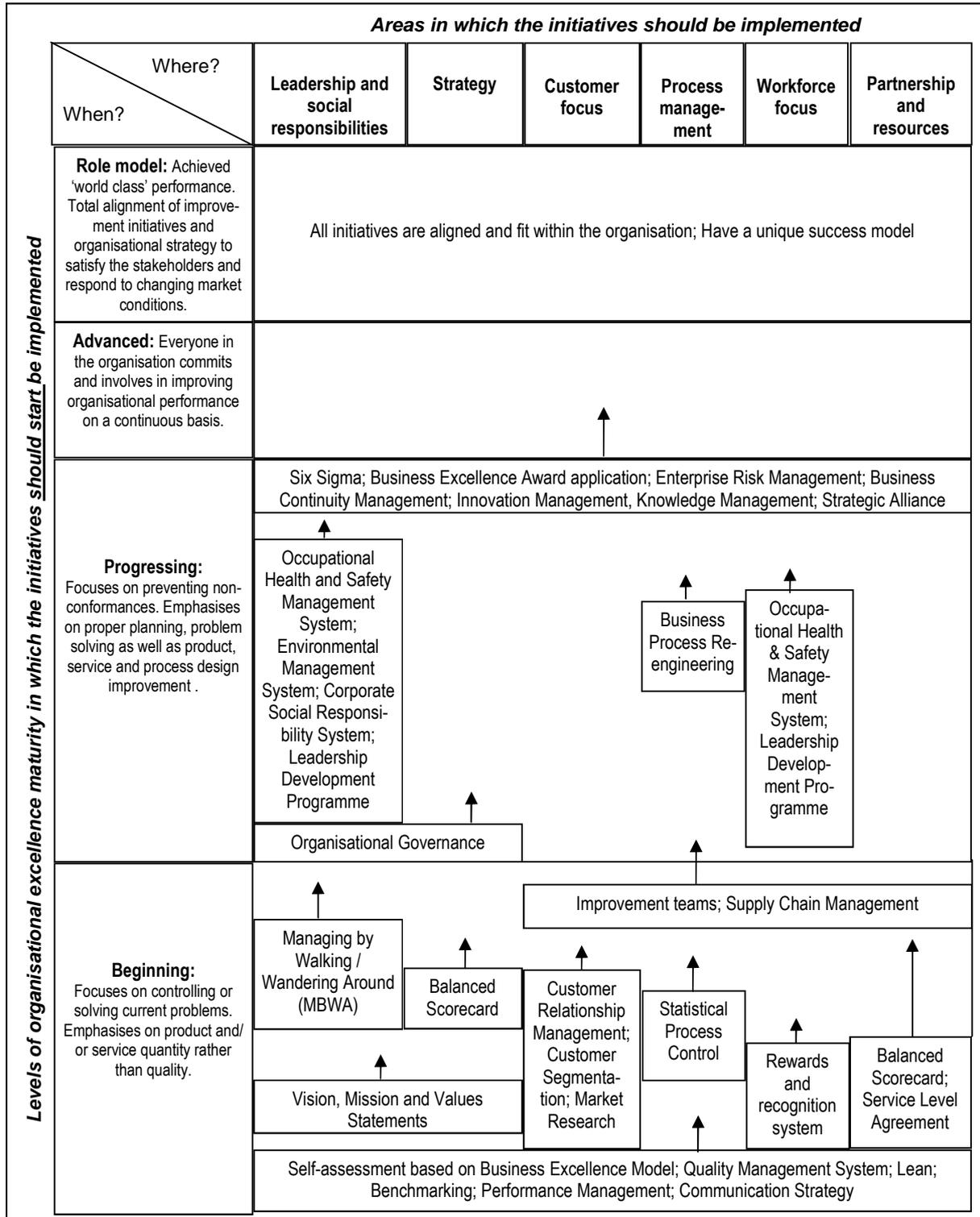
**Supplement B:
Examples of main areas for improvement based on enablers criteria of major Business Excellence Models (BEMs)**

Areas for improvement	Brief description	Core values and concepts	Baldrige Criteria For Performance Excellence 2011-2012	EFQM Excellence Model 2010
1. Leadership and social responsibilities	Focuses on leader's behaviour and leadership system in shaping the future and building culture of excellence in the organisation, as well as, organisation's governance systems, responsibilities and contribution to society, community and environment.	Leading with vision, inspiration and integrity; systems perspective; and taking responsibility for a sustainable future.	Leadership	Leadership
2. Strategy	Focuses on how the organisation develops, communicates, deploys, measures, monitors, reviews and /or improves its strategy to achieve organisational success and sustainability.	Visionary leadership; focus on the future; nurturing creativity and innovation; and agility.	Strategic planning	Strategy
3. Customer focus	Focuses on how the organisation determines customers and market needs and expectations; builds relationships with customers; uses customer information to improve and identify opportunities for innovation; and determines customer satisfaction for long-term marketplace success.	Customer-driven excellence; focus on results; and creating value.	Customer focus	Processes, Products and Services
4. Process management	Focuses on the design, management, evaluation, and improvement of various work systems and work processes in the organisation in order to fully satisfy, and generate increasing value for customers and other stakeholders.	Organisational learning; nurturing creativity and innovation; focus on results and creating value; agility; and systems perspective.	Operations focus	
5. Workforce focus	Focuses on how the organisation engages, manages, values, recognises and develops the workforce to utilise its maximum potential in alignment with the organisation's overall mission, strategy and plan.	Personal learning; valuing workforce members; focus on results and creating value; succeeding through people; and nurturing creativity and innovation.	Workforce focus	People
6. Partnership and resources	Focuses on how the organisations plan, manage, measure, analyse and improve external partnerships, suppliers and internal resources (such as information and knowledge, financial, materials, natural resources, buildings, equipment, technology, and intellectual property) in order to support strategy and the effective operation of work processes.	Building partnerships; management by fact; focus on results and creating value; and nurturing creativity and innovation.	Measurement, analysis and knowledge management	Partnership and resources



Supplement C:

A framework showing some examples of the main initiatives to implement to improve organisational performance according to the areas of implementation and levels of BE maturity



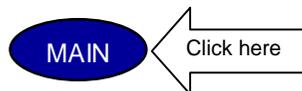
- Note:
- Please use this framework with caution because it only shows one of the pathways to organisational excellence and only highlights two of the contextual factors, which are the: (1) levels of BE maturity; and (2) areas of implementation. This framework serves as a guide as there is no standard path that every organisation should follow. There is no one size to fit all.
 - Brief descriptions of improvement initiatives listed in this framework are shown in **Supplement H**.

Supplement C. Continued

- The areas in which the initiatives should be implemented are derived from the enabler criteria of major Business Excellence Models (BEMs) such as, Baldrige Criteria for Performance Excellence and EFQM Excellence Model (see **Supplement B**).
- Some improvement initiatives are designed to be focussed in one area of implementation, for instance Statistical Process Control (Process Management), Customer Relationship Management (Customer focus), and Managing by Walking / Wandering Around (Leadership and social responsibilities). On the other hand, there are also some initiatives that can be used across more than one area such as, Self-assessment based on BEM, Benchmarking, Quality Management System, and Knowledge Management.
- The upward arrow across the BE maturity levels indicates that the implementation of initiatives in the designated box can be continued concurrent with improvement in levels of BE maturity.
- For each area of implementation, there are examples of the main initiatives that should be used first based on the level of BE maturity. If an organisation is at the beginning stage of BE journey and intends to improve its processes, it can consider implementing a Statistical Process Control, Quality Management System, Benchmarking and Improvement Teams to tackle the easier and less complicated issues. When their level of BE maturity increases, they can continue using the existing initiatives (shown as an arrow moving upward). Alternatively, they can consider switching to more sophisticated initiatives such as, Business Process Reengineering and Six Sigma.
- This framework shows how multiple improvement initiatives can fit within the common enabling criteria of BEMs. Therefore, a BEM can be used as an overarching framework for managing and/or aligning multiple initiatives within the organisation. Moreover, this framework also shows a pathway / roadmap to organisational excellence and highlights the examples of the main improvement initiatives that can be considered on the journey towards organisational excellence. This feature can help organisations to choose appropriate improvement initiatives by narrowing down the options according to the areas of implementation and BE maturity.
- In general, when the organisations have achieved the 'role model' level of maturity, all the initiatives implemented are aligned and fit within the organisations. These organisations normally have a unique success model embedded with their culture of excellence. Most of the organisations at this level of maturity are able to invent their own organisational improvement initiatives tailored specifically to the culture, characteristics and nature of its organisations. World class organisations such as Toyota and Motorola have invented their own bespoke improvement initiatives known as Lean and Six Sigma, which are currently being used by many other organisations all over the world.

**Supplement D:
Proposed decision / selection criteria**

Main criteria	Sub-criteria	Sources of information / input
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	<ul style="list-style-type: none"> • Ability to gain top management commitment and support. • Ability to allocate necessary resources to introduce and implement the initiatives successfully, such as funding and equipment. • Capability of the workforce to introduce and implement the initiatives successfully. 	<ul style="list-style-type: none"> ▪ Step 1.1 (Create, review and /or understand organisational profile) ▪ Step 2.1 (Identify, understand, and shortlist several relevant organisational improvement initiatives)
2. Organisation fit: Can the initiative fit within the organisational context?	<ul style="list-style-type: none"> • Align with the vision, mission and/or purpose of the organisation. • Align with the direction, strategic plan and/or goals of the organisation. • Suit with the requirements / expectations of customers and other stakeholders. • Suit with the organisation's culture. • Suit with the areas in which the initiative will be implemented (e.g. leadership and social responsibilities, strategy, customer focus, process management, workforce focus, partnership and resources). • Suit with the level of organisational excellence maturity. • Compatible with other initiatives currently being used and will be used in the future. • Suit with the external environment in which the organisations operate, which includes: political, economic, social, technological, legal and environmental factors. • Ability to implement the initiative easily in the organisation without much intervention. • Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit). • Suit with the size of the organisation (e.g. small, medium or large). 	
3. Value / benefit: Can the initiative add value to the organisation?	<ul style="list-style-type: none"> • Value of implementing the initiatives (e.g. based on cost benefits analysis). • Duration taken to obtain the value of implementing the initiative (ability to produce good results in a short period of time). • Whether the initiative has been proven to provide value in other similar organisations. 	



Supplement E:
Proposed contents of the proposal for selecting organisational improvement initiatives

No	Main content	Sub-content	Remarks
1	Background of the situation	<ul style="list-style-type: none"> • Issues faced by the organisation and the reasons for initiating an improvement initiative (e.g. due to strategic reasons, competitive issues or process problems) • Improvement area to focus on (e.g. leadership and social responsibilities, customer focus, or strategy) • Inputs, processes and outputs involved in the area of improvement. 	Based on Step 1 (Goal setting - G)
2	Stakeholders involved	<ul style="list-style-type: none"> • List of employees, customers, suppliers and other stakeholders involved 	
3	Current performance and expected future performance	<ul style="list-style-type: none"> • Performance measures (e.g. defect levels, complaint levels, product cost, cycle time, delivery time, response time, customer satisfaction) • Current performance • Expected future performance 	
4	Description of the shortlisted initiatives (2-5 initiatives)	<ul style="list-style-type: none"> • Brief description of the shortlisted initiatives by providing the following information: <ul style="list-style-type: none"> - Main purpose, strengths and/or limitations of the initiatives; - Financial and/or non-financial benefits of implementing the initiatives (e.g. reduce waste, increase productivity, reduce operation cost, reduce customer complaint, improve communication, increase in revenue); - Costs of implementing the initiatives (labour cost, consulting fee, administrative expenses, training cost, equipment cost); and/or - Whether the initiative is compatible with other initiatives currently being used and will be used in the future. • Where possible, conduct cost benefit analysis for each initiative that has been shortlisted for selection. 	Based on Step 2 (Understand relevant improvement initiatives – U)
5	Decision / selection criteria	<ul style="list-style-type: none"> • Criteria for selecting the initiatives. Examples of the criteria can be seen in Supplement D. • Decision matrix for selecting the improvement initiatives. An example of decision matrix is shown in Supplement F. 	Based on Step 3 (Identify decision criteria – I)

**Supplement F:
Proposed decision matrix for selecting appropriate organisational improvement initiatives**

Column M	Column W		Column S	Column I	A1	IA1	A2	IA2	A3	IA3
Main criteria	Weight (0-1)	No	Sub-criteria	Importance (0-100)	Initiative 1 (A1)		Initiative 2 (A2)		Initiative (A3)	
	Total weight = 1.0				Score (1-5)	Weighted Score	Score (1-5)	Weighted Score	Score (1-5)	Weighted Score
				I	A1	I x A1	A2	I x A2	A3	I x A3
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?		1	Ability to gain top management commitment and support							
		2	Ability to allocate necessary resources (e.g. funding, equipment)							
		3	Capability of the workforce							
		Total score for feasibility (M1)								
		Total weighted score for feasibility (WM1)								
2. Organisation fit: Can the initiative fit within the organisational context?		1	Align with the vision, mission and/or purpose of the organisation							
		2	Align with the direction, strategic plan and/or goals of the organisation							
		3	Suit with the requirements / expectations of the customers and other stakeholders							
		4	Suit with the organisation's culture							
		5	Suit with the areas in which the initiative will be implemented							
		6	Suit with the level of organisational excellence maturity							
		7	Compatible with other initiatives currently being used and will be used in the future							
		8	Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental)							
		9	Ability to implement the initiative easily in the organisation without much intervention							
		10	Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit)							
		11	Suit with the size of the organisation (e.g. small, medium or large).							
	Total score for organisation fit (M2)									
	Total weighted score for organisation fit (WM2)									
3. Value / benefit: Can the initiative add value to the organisation?		1	Value of implementing the initiative (e.g. based on cost benefit analysis)							
		2	Duration taken to obtain the value of implementing the initiative							
		3	The initiative has been proven to provide value in other similar organisations							
		Total value / benefit (M3)								
	Total weighted score for value/benefit (WM3)									
Overall weighted score (WM1 + WM2 + WM3)										
Rank										

MAIN ← Click here

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Supplement G: Steps to complete the decision matrix

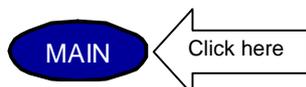
Referring to the table in next page, the steps to complete the decision matrix are as follows:

- 1) Discuss and make a collective agreement on the main criteria (Column M) and sub-criteria (Column S) for selecting improvement initiatives.
- 2) Discuss and make a collective agreement on the shortlisted initiatives for selection. For this example, there are 3 alternatives or initiatives (A1 – A3).
- 3) Weight each main criteria by completing Column W. Total weight value is 1.0 and the value for each main criteria must be between 0 to 1.
- 4) Complete Column I (Importance of each sub-criteria). The value for each main sub-criteria must be between 0 to 100.
- 5) Complete the score for each alternative or initiative (see Column A1, A2 and A3). The score for each alternative must be between 1 to 5.
- 6) Calculate the weighted score for each sub-criteria by multiplying the importance score for each sub-criteria (Column I) with the score for each alternative (Column A1, A2 and A3). For example, the weighted score for the sub-criteria 'Ability to gain top management commitment and support' in relation to the first initiative is 360 (90 x 4).
- 7) Calculate the total score for each main criteria by adding the results from the previous step. For example, the total score for the first main criteria (feasibility) in relation to the first initiative is 880 (360 + 340 + 180). The results for this step are shown in row M1, M2 and M3.
- 8) Calculate the total weighted score for each main criteria by multiplying the weightage score for each main criteria (Column W) with the results from the previous step. For example, the total weighted score for the first main criteria (feasibility) in relation to the first initiative is 440 (880 x 0.5). The results for this step are shown in row WM1, WM2 and WM3.
- 9) Calculate the overall weighted score for each initiative by adding the results shown in WM1, WM2 and WM3. For example, the overall weighted score for initiative 1 is 922 (440 + 402 + 80).
- 10) Rank the overall weighted score of the shortlisted initiatives according to ascending order. For this case, the first rank is the initiative 1 because it has the highest score.
- 11) Select the first rank initiative. For this case, select initiative 1.

In practice, the decision makers need only to go through step one until five. Calculation in step six until eleven will be computed automatically in the Microsoft Excel document.

Supplement G. Continued

Column M	Column W		Column S	Column I	A1	IA1	A2	IA2	A3	IA3
Main criteria	Weight (0-1)	No	Sub-criteria	Importance (0-100)	Initiative 1 (A1)		Initiative 2 (A2)		Initiative (A3)	
					Score (1-5)	Weighted Score	Score (1-5)	Weighted Score	Score (1-5)	Weighted Score
	Total weight = 1.0			I	A1	I x A1	A2	I x A2	A3	I x A3
1. Feasibility: Is the initiative feasible and possible to be implemented in the organisation?	0.5	1	Ability to gain top management commitment and support	90	4	360	4	360	2	180
		2	Ability to allocate necessary resources (e.g. funding, equipment)	85	4	340	2	170	3	255
		3	Capability of the workforce	60	3	180	3	180	3	180
		Total score for feasibility (M1)				880		710		615
		Total weighted score for feasibility (WM1)				440		355		307.5
2. Organisation fit: Can the initiative fit within the organisational context?	0.3	1	Align with the vision, mission and/or purpose of the organisation	20	3	60	5	100	1	20
		2	Align with the direction, strategic plan and/or goals of the organisation	50	2	100	3	150	2	100
		3	Suit with the requirements / expectations of the customers and other stakeholders	80	4	320	3	240	2	160
		4	Suit with the organisation's culture	50	3	150	3	150	3	150
		5	Suit with the areas in which the initiative will be implemented	50	2	100	3	150	2	100
		6	Suit with the level of organisational excellence maturity	25	2	50	2	50	4	100
		7	Compatible with other initiatives currently being used and will be used in the future	20	3	60	4	80	2	40
		8	Suit with the external environment in which the organisations operate (e.g. political, economic, social, technological, legal and environmental)	20	3	60	2	40	3	60
		9	Ability to implement the initiative easily in the organisation without much intervention	20	4	80	1	20	3	60
		10	Suit with the sector / industry in which the organisation operates (e.g. private, public or non-profit)	60	4	240	4	240	2	120
		11	Suit with the size of the organisation (e.g. small, medium or large).	40	3	120	4	160	3	120
		Total score for organisation fit (M2)				1340		1380		1030
Total weighted score for organisation fit (WM2)				402		414		309		
3. Value / benefit: Can the initiative add value to the organisation?	0.2	1	Value of implementing the initiative (e.g. based on cost benefit analysis)	60	5	300	3	180	2	120
		2	Duration taken to obtain the value of implementing the initiative	20	2	40	3	60	3	60
		3	The initiative has been proven to provide value in other similar organisations	20	3	60	3	60	4	80
		Total value / benefit (M3)				400		300		260
		Total weighted score for value/benefit (WM3)				80		60		52
Overall weighted score (WM1 + WM2 + WM3)					922		829		668.5	
Rank					1		2		3	



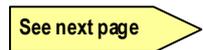
Supplement H:
Brief descriptions of the 30 main organisational improvement initiatives widely used by the organisations

Initiatives (approaches, systems, or techniques)
1) Balanced Scorecard: “Translates Mission and Vision Statements into a comprehensive set of objectives and performance measures that can be quantified and appraised” (Rigby, 2007, p. 12). “It provides a framework for setting a performance measurement framework centred on four ‘perspectives’, Financial, Customer, Internal Business Process and Innovation, Learning and Growth” (CEHE, 2003, p. 8).
2) Benchmarking: A structured process for “identifying and implementing best or better practices” (Adebanjo & Mann, 2008, p. 1). “The goal of benchmarking is to find “secrets of success” and then adapt and improve them for [our] own application” (Goetsch & Davis, 2006, p. 672).
3) Business Continuity Management (BCM): “Provides the availability of processes and resources in order to ensure the continued achievement of critical objectives... prevent an emerging crisis from becoming an organisational and personal disaster” (Standards Australia / New Zealand, 2004, pp. 3-4). It involves risk identification and assessment, business impact assessment and analysis, development of business continuity plan, training and testing of business continuity plan (Standards Australia / New Zealand, 2004).
4) Business Excellence Award application: Applying for Business Excellence Award, such as EFQM Excellence Award, Malcolm Baldrige National Quality Awards, or any other national business excellence awards (Mann, Abbas, & Kohl, 2010).
5) Business Process Reengineering (BPR): “Fundamental rethinking and redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed” (Hammer, 1990, as cited in Ricondo & Viles, 2005, p. 332). It uses several techniques such as change management, process measurement, and information technology (Ricondo & Viles, 2005).
6) Communication Strategy: Having appropriate channels of communication, such as weekly and/or monthly report, business review meeting, internet, intranet, newsletter, employee forums and information centre (NZAS, 2007; Sharp HealthCare, 2007)
7) Corporate Social Responsibility (CSR) System: “System designed to measure, apply, assess, and report organisational efforts to integrate CSR...into all operations” (Mann et al., 2010, p. 36). It is a “commitment of [organisations] to behave socially and environmentally responsible while striving for their economic goals” (Zink & Steimle, 2000, p. 150).
8) Customer Relationship Management (CRM): “A process...to understand the customer groups and respond quickly...to shifting customer desires...Data collected through focused CRM initiatives help firms solve specific problems throughout their customer relationship cycle...CRM data also provide companies with important new insights into customers’ needs and behaviours, allowing organisations to tailor products / services to targeted customer segments” (Rigby, 2007, p. 26).
9) Customer Segmentation: “Subdivision of a market into discrete customer groups that share similar characteristics” (Rigby, 2007, p. 28).
10) Environmental Management System (EMS): “Organisation’s system for protecting the natural environment (e.g. air, land, sea, waterways) from the effects of their processes and outputs” (BPIR, 2009). For example, develop environmental policy, compliance to ISO14000, briefing and campaign.
11) Improvement Teams (including Quality Circles): A team that is formed to make improvement on the workplace and/or processes. “[It] can comprise members of a single department, be cross-functional, and include representatives of either or both customers and suppliers...Membership can be voluntary or mandatory” (Dale, van der Wiele, & van Iwaarden, 2007, p. 515).
12) Innovation Management: “Managing how to create, exchange, evolve and apply innovative ideas to produce products and provide services for the success of an organisation” (BPIR, 2009).
13) Knowledge Management: Method to “acquire and share intellectual assets. It increases the generation of useful, actionable and meaningful information and seeks to increase both individual and team learning” (Rigby, 2007, p. 32).
14) Leadership Development Programme: Programme to develop leaders, such as experience sharing, leadership training, and apprenticeship (Sharp HealthCare, 2007; NZAS, 2007)
15) Lean: Improvement approach that “focuses on removing waste and improving flow” (Nave, 2002, p. 75). “It requires a very clear focus on the value element of all products and services and a thorough understanding of the detailed operations of the business processes” (Bendell, 2005, p. 972). The example of tools and techniques used are Kanban, Value Stream Mapping, Takt Time, and visual control (Ricondo & Viles, 2005).
16) Managing by Walking / Wandering Around (MBWA): “Listening, empathising and staying in touch” with the stakeholders (e.g. customers, suppliers, and workforce) and taking necessary action to improve the situations (Peters & Austin, 1985, p. 7).
17) Market Research: “[Helps] to ensure that there will be a demand for the product/service and that the requirements of the customer will be met” (Mann & Kehoe, 1994, p. 55). It can include experiments, surveys, product tests, advertising tests, promotion tests, motivational research, strategy research, customer-satisfaction monitoring and many other techniques (BPIR, 2009).
18) Vision, Mission and Values Statements: “Brief statements of the [vision, mission and values] of an organisation, with the intention of keeping employees aware of the organisation’s direction” (Mann et al., 2010, p. 36).
19) Occupational Health and Safety Management System (OHSMS): “Helps to ensure the well being of staff and to comply with government regulations” (BPIR, 2009). Examples are: develop health and safety policy, compliance to OHSAS18000, briefing, campaign, Health and Safety Committee, and Emergency Response Team.
20) Organisational Governance: Involves “accountability for management’s actions...transparency in operations...independence in internal and external audits... protection of stakeholder and stockholder interests (NIST, 2010, p.8).

Initiatives (approaches, systems, or techniques)
21) Performance Management (PM): "A systematic approach directed towards organisational performance improvement through the alignment of individual performance with organisational goals...align an employee's individual goals with the organisation's objectives, mission, and vision... require the development of sound job descriptions, clear accountabilities, and growing employee competency levels" (Crawford, 2007, p. 1). Examples of techniques used are 360 degree feedback, continuous feedback and online evaluation (Crawford, 2007).
22) Quality Management System (QMS): "[A] management system to direct and control an organisation with regard to quality" (International Organisation for Standardisation [ISO], 2000, p.22). It includes a quality policy, quality manual, quality objectives, procedures, records and/or compliance to quality standards, such as ISO9000, ISO/TS 16949, ISO 13485, and ISO/TS 29001 (Goetsch & Davis, 2006)
23) Rewards and Recognition System: Formal system to recognise achievements of individual, group, unit and organisation (Mann & Kehoe, 1994).
24) Risk Management (Crisis Management): "Process whereby organisations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities" (Institute of Risk Management [IRM], Association of Insurance and Risk Managers [AIRMIC], & National Forum for Risk Management in the Public Sector [ALARM], 2002, p.2).
25) Self-Assessment based on Business Excellence Model: "A comprehensive, systematic and regular review of an organisation's activities and results referenced against the [Business Excellence Model, such as Baldrige Criteria for Performance Excellence and EFQM Excellence Award]" (EFQM, 2003, p.9).
26) Service Level Agreement (SLA): "A performance agreement (contract) between a service or product provider and a customer...The contract specifies the terms of the supplier's responsibility to the customer (usually in measurable terms), what services or products the provider will deliver, and the quality measures and indicators that must be met" (BPIR, 2009).
27) Six Sigma: "A business improvement approach... [to reduce variation and] eliminate causes of defects and errors in...processes by focusing on outputs that are critical to customers and a clear financial return for the organisation" (Evans, 2008, p. 92). Examples of tools and techniques used are Measurement System Analysis, Design of Experiments, Kano Analysis, Process Mapping, Failure Mode and Effect Analysis, and Robust Design (Ricondo & Viles, 2005; Yang, 2004).
28) Strategic Alliances: "Agreements between organisations in which each commits resources to achieve a common set of objectives" (Rigby, 2007, p. 54).
29) Statistical Process Control (SPC): "A statistical method to eliminate the special causes of process variation and to establish and maintain consistency in the process which enabling process improvement" (Goetsch & Davis, 2006, p. 590). The examples of tools widely used are control chart, acceptance sampling, and process capability analysis (Grigg & Walls, 1999).
30) Supply Chain Management (Supply Chain Integration): "Synchronises the efforts of all parties [e.g. suppliers, manufacturers, distributors] involved in meeting a customer's needs...forges much closer relationships among all links in the value chain in order to deliver the right products to the right places at the right times for the right costs" (Rigby, 2007, p. 58).

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