Measuring the importance and implementation of TQM practices and identifying TQM implementation barriers in Bahraini industries using Baldrige Criteria of performance excellence

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BBS PhD SYPOSUIM 23rd & 24th March 2009
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Abstract

Bahraini industries need to develop their TQM initiatives tailored to their organizational culture and business environment. A theory based framework stemming from core Baldrige Criteria is required to be empirically tested, evaluated and modified to suit quality goals of Bahraini industries. This research will seek to identify the critical success factors of TQM by measuring the importance of TQM practices as perceived by respondents of the firm in their organizational context, as prescribed by Baldrige criteria of performance excellence. The research will also measure the implementation level of identified important practices, thus demonstrating the current status of TQM, and will finally identify implementation barriers to practices that are perceived important but not implemented by organizations. The three sets of variables will be brought together to derive a framework for TQM, customized to the organizational culture and business conditions of Bahraini industry.

1 Introduction

The global marketplace has become very competitive because customers are demanding superior quality of products and services. Quality and its management and the associated continuous improvement are looked upon by many organizations as the means by which they can survive in increasingly aggressive markets and maintain a competitive edge over
their rivals (Dale et al, 2007). Oakland (2004) maintains that demanding customers with high product and service quality expectations and an established reputation for quality, drives organizations to implement quality management programs. The literature indicates that to implement quality management programs effectively, the organization's culture needs to be molded to the quality program or the quality program needs to be molded to the organization's culture (Klein et al., 1995) Changing the established behavior, customs, practices and prejudices of an organization is not easy and change programs often do not work because they begin trying to change the knowledge, attitudes and beliefs of individuals (Oakland, 2004). In order to bring about this change in an effective way, organizations need to choose their own starting point and course of action and build gradually on the individual quality features at a pace which suit their business situation and available resources (Oakland, 2004). In this approach, management has to assess its current status of implemented quality programs, its real quality requirements and potential barriers in addressing those requirements through a comprehensive, systematic and regular review of activities and results. To date, a number of recognized models have been developed against which current status can be referenced. One of the most widely used is the Baldrige Criteria of Performance Excellence.

An examination of the quality management literature indicates that any TQM program in any organization should be validated by the leaders of the organization through a study that will find what is required to be implemented. For this purpose, perceived importance of TQM factors by managers at every level is required. The managers should be presented with all the potential best practices in a TQM program and allowed to choose what they feel right for their firm in its particular cultural and business context. The
company leaders and quality managers of Bahraini industries may not be specifically familiar with Baldrige Criteria but may be practicing its principles routinely without even knowing it. Therefore, this research will use an approach of obtaining the experiences of quality practitioners to identify critical quality practices and potential barriers in implementation through an online survey questionnaire. This would mean that their frame of reference in answering the survey questionnaire would be their practical experience of TQM rather than their knowledge of the Baldrige framework, and would prevent the Baldrige framework from merely "validating" itself (Black and Porter, 1996), (Dayton, 2001), (Flynn and Saladin, 2006), (Stephens et al, 2005), (Wilson and Collier, 2000), (Paul et al, 2005). This 'received wisdom' will be used to recommend a framework of a quality management program that can be used by Bahraini organizations to evaluate their progress in pursuit of superior quality performance (Oakland, 2004).

2 Academic contribution

As compared to similar studies in the past, the main contributions of this study will be as follows:

Research will use latest Baldrige criteria of performance excellence (NIST, 2008) for designing survey instrument. To date, no study has used this new criteria in developing context specific TQM guidelines.

Research will target both manufacturing & service industries of medium & large size and will also include TQM & non-TQM industries.

The target will be only industries of Bahrain which is a small developing country and where no research of this kind has taken place so far.
Survey questions will address directly the importance and implementation of practices in areas instead of main criteria or criteria items. Results of assigned importance and implementation will be aggregated to areas and only the areas will be given low or high priority.

TQM implementation barriers will be extracted from literature and grouped into categories to relate them with main Baldrige criteria.

Research will identify significant areas of TQM prioritized by quality managers and leaders of Bahraini industries.

Data on TQM implementation barriers will be collected in Bahraini industries and mapped to the areas with low level of implementation.

Assessment of TQM implementation will be made at the level of practices because respondent can observe only the practices not the principles and techniques (Sousa and Voss, 2002)

3 Methodology

The research methodology is a self directed approach in which every step is dependent on the studies and findings of the previous step. The approach is divided into three phases and each phase contains processes.

1. Phase 1 is used to identify the critical success factors of TQM in the Bahraini context by measuring the importance of TQM practices prescribed by Baldrige criteria of performance excellence and perceived by respondents in their organizational context.

2. Phase 2 will measure the implementation level of identified important practices to ascertain the current status of TQM.
3. Phase 3 will identify implementation barriers to those practices that are perceived important but not implemented by organizations.

3.1 Research model – types of data

A quantitative research methodology will be used consisting of a combination of web-based and mailed survey questionnaire to collect following three types of data:

a. Data to determine the perceptions of the feasibility of TQM practices in the Bahraini industries as perceived by the quality managers and leaders of companies. It will address the degree of importance of TQM practices in Bahraini industries. Through this approach, research will identify significant areas of TQM and formulate a TQM implementation strategy in accordance with the priority assigned by respondents. This data will also determine the difference in perceived importance between manufacturing and service industries; medium and large enterprises; and TQM and non-TQM enterprises.

b. Data to determine the level of implementation of TQM practices in industries of Bahrain that will reflect current state of TQM in Bahraini industries. The knowledge of current state of TQM is very important while planning the TQM initiatives

c. Data to identify the barriers in implementation of TQM. This will identify the TQM implementation barriers in industries of Bahrain. It will also determine why TQM implementation barriers exist and how TQM implementation barriers can be bridged in Bahraini industries.
3.2 Research model – criteria structure

In order to develop the survey instrument on TQM, we need to understand the Baldrige Criteria Structure. Baldrige Criteria consists of seven Criteria Categories but this study is using only six categories related to processes. Scope of this study is to find out importance and implementation of TQM practices given in criteria and TQM implementation barriers. Therefore the seventh category of results is not included. These six categories are subdivided into Items and Areas to Address. There are 12 Items in six categories, each category having two items each, focusing on a major requirement. These 12 Items consist of one or more Areas to address totalling to 26 substantive areas.

3.3 Questionnaire development

Six Baldrige criteria used in this study have twelve items having twenty six areas. Survey questions are addressing directly to areas instead of criteria or items. The questionnaire is built directly on practices and the result of responses will be aggregated to 26 practice areas of Baldrige Criteria.

All survey questions are tied to specific criteria in the Baldrige Criteria for Performance Excellence (NIST, 2008) and the content and wording of the items are directly traceable to the Baldrige Criteria for Performance Excellence. Several researchers and quality managers assisted with pre-testing the questionnaire and provided valuable feedback in terms of wording and useful measures to be included in the questionnaire.

3.4 Measurement

The measurement of each of the 26 Baldrige areas, which cannot be measured directly, is operationalized using a scale of items. Each item is measured using a five-point Likert scale. There will be three types of measurements used:

1. The way to measure the importance of these twenty six areas would be survey questionnaire feedback from respondents on Likert-type 1 to 5 scale, ranging from 1 = Not important at all, 2 = Slightly important, 3 = Moderately Important, 4 = Important, 5 = Critically Important. Here the respondent will attempt to quantify practices using multiple-item scales. Each criteria category has multiple items to address and each item will have multiple areas. Data will be collected in terms of the scalar survey feedback, and the respondent reaction to each practice will be aggregated to the area level of the criteria. Each of the areas will have a Multi-item
statements to respond to and respondent will be asked what level of importance he/she will assign to the TQM practices.

2. The way to measure implementation of these six criteria would be on Likert-type 1 to 5 scale, ranging from 1 = Not implemented at all, 2 = Low level of implementation, 3 = Medium level of implementation, 4 = High level of implementation, 5 = Advanced level of implementation. Respondents will be asked to state the degree of compliance of TQM practices in above mentioned 26 areas.

3. Respondents to the survey will be asked to indicate their agreement/disagreement to the implementation barrier statements about their organization using a five-point scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). A higher mean rating implies a more significant barrier to TQM implementation.

4. **Population and Sample of the Study**

Participants of the study will include the quality managers and department heads of more than 60 manufacturing and more than 40 service industries of Bahrain of medium and large size (having more than 100 employees). There will be approximately 300 respondents from 100 companies selected at random from entire population.

**References**


