

ISO 9001 Certification Status and Organizational Quality Maturity

Owino A. Okwiri

Lecturer
School of Business
University of Nairobi
P.O. Box 30197 – 00100
Nairobi, Kenya

Isaac M. Mbeche

Professor
School of Business
University of Nairobi
P.O. Box 30197 – 00100
Nairobi, Kenya

Abstract

ISO 9001 quality management system standard, a member of ISO 9000 family of standards that comprise two complementary pair of standards, ISO 9001 requirements and ISO 9004 guidelines standards, has been used globally as a framework for adoption of quality management approach. With focus on third party certification, performance of certified organizations, relative to the non-certified organizations, has been used to make judgment on the approach itself. To test the validity of this thinking, the authors carried out an in-depth case study in two ISO 9001 certified organizations in the East African nation of Kenya. The findings, based on the data from multiple informants from the two organizations, suggest that an organization can be successful in pre-certification audit and be certified even when it has not made any significant steps towards managing in the quality management way. The findings lead to a conclusion that certification does not imply quality management approach to management.

Keywords: Quality management; quality maturity; ISO 9001; certification

Introduction

An organization is a social arrangement and, as a consequent, issues in management of an organization are, basically, social. A limitation in traditional methods of decision-making as concerns social issues at strategic level is aptly demonstrated in Mbeche (1996) in a case of a government department in the East African nation of Kenya. One response to this limitation has come from management science in the form of analytical decision-making tools to help arrive at strategy content. The emphasis on strategy content is itself considered a key feature in the traditional management theory and practice (Okwiri, 2014).

In a context in which the markets are no longer localized, information symmetry enhanced, and product lifecycles shortened by resource democratization, among other issues, a focus beyond strategy content is necessary to maintain a fit between the dynamic elements of the strategy making context. As stability of the operating environment can no longer be assumed, a paradigm shift in decision-making becomes unavoidable. Integral to this paradigm shift, are changes in assumptions and what is emphasized when formulating a strategy (Roese & Olsson, 2012). From a context in which stability of context is assumed, to one in which improvability of the strategy formulation and implementation is assumed. From a focus on strategy content, to a focus on strategy process and deployment.

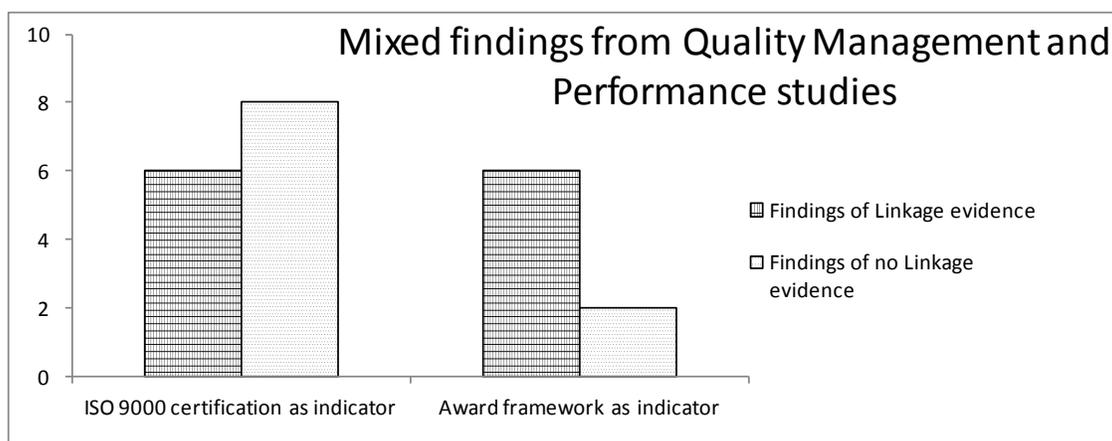
It may not be assumed that the analytical tools of management science used to help arrive at strategy content will remain applicable without any limitations, when applied at the strategy process and deployment levels. Tools and techniques developed for application at strategy process and deployment levels, as part of the evolution of quality management approach, are aimed at overcoming these limitations (Evans and Lindsay, 2002). The development of these tools can be explained by the evolving management field, in which new methods emerge in response to these changing requirements of the new status-quo in management paradigm. Frameworks and models based on fundamental principles and practices which refocus strategic planning from the corporate to the business level, with strategy deployment rather than strategy content emphasized, are outcomes of this development (Okwiri, 2014; Sousa & Voss, 2002). Other significant aspects of the emerging methods of managing include the introduction of the customer-value concept at the core and the enhanced significance of process management, information analysis and business results as factors in management practice.

The frameworks take many forms and descriptions, ranging from ISO 9000 quality management system standards, Total Quality Management, self-assessment models, Business excellence models, or simply, excellence models (van der Wiele, Dale, & Williams, 2000). The intended outcomes of application of these frameworks and models are greater effectiveness of organizational systems leading to greater productivity and enhanced stakeholder satisfaction. Drivers to these intended outcomes are the fundamental principles upon which quality management, as a management approach, is based.

As an international standards family setting out generic requirements for establishing a management system suitable for any organization irrespective of its geographical and socio-economic context, ISO 9000 is the most widely used framework for establishing management systems based on quality concepts. Over 1.1 million organizations world-wide have chosen the standards family to provide the frameworks for application of quality management concept and its principles in managing organizations (ISO Central Secretariat, 2012). Certification against the standard is often taken as synonymous with managing based on the quality management approach and as evidence that the fundamental principles of quality management approach underpin actions in the organization. The expected outcomes are greater customer value perception, greater productivity and better financial performance.

The results, however, have been mixed not just for organizations with management systems certified under ISO 9001 standard but also for those using alternative models (Capistrano, 2008; Dow, Samson, & Ford, 1999; Hemsworth, Sa'nchez-Rodri'guez, & Bidgood, 2005; Lakhali, Pasin, & Limam, 2006; Mart'inez-Costa & Mart'inez-Lorente, 2007; Sila & Ebrahimpour, 2005; Tzelepis, Tsekouras, Skuras, & Dimara, 2006). As indicated by the data presented in figure 1, findings of past certification – performance studies appear not to provide predictability based on certification status. In the chart, fewer than half of certification – performance research findings analyzed could find any significant relationship between ISO 9000 certification status and operational performance. The situation, however, changes where the study investigates adoption of quality management approach using award framework.

Figure 1: Summarized Evidence of Mixed Quality – Performance Linkage Findings



One interpretation of these mixed findings could be that what the models prescribe may not be significant determinants of performance in certain dimensions and therefore the models are inappropriate for certain strategic goals. Another interpretation could be that, while the models are appropriate and can bring about improvement, the application and implementation of the practices prescribed in the models are superficial and hence too shallow to have a significant effect. A third interpretation is that the philosophical foundations upon which some models are constructed are invalid. This last interpretation would be contrary to the stated objective of the ISO 9001 quality management system standard development and use. ISO 9000:2005 quality management system vocabulary standard specifies adoption of the quality management approach as the key objective of the quality management system standards family (ISO 9000:2005(E)).

Kaye and Dyason (1995) suggest that quality concepts and principles may be integrated into how an organization operates even where the change agents are themselves not aware of the existence of such labels as Quality Management or Total Quality Management. Such an organization may be classified, incorrectly, with non-adopters in studies in which adoption status is determined by ISO 9001 standard certification status or some other visible initiative using an established model. One can argue that findings of no linkage may be arrived at simply because the high performing organizations that do not profess such an adoption would have been boosted by the organizations that have integrated the principles into their systems of management through such integration but without the labels. This explanation would be valid if all the organizations that assert adoption fall into the high performer category of firms. The evidence appears not to support this.

A view that emerges from these inconsistencies point to a possibility that awareness of the existence of the labels, such as happens in organizations using one or more of the models, and assertion of adoption may not be equated to integration of the principles and concepts of quality management. It can be argued that effectiveness of a model or framework ought to be considered in terms of the extent this integration is achieved with the outcome assessed in terms of success in bringing about a movement in the quality maturity ladder. Most of the studies reported in the extant literature have investigated direct relationship between certification status and performance in various dimensions. Okwiri (2013) is one of the exemptions, focusing on effectiveness of organizations as an outcome of pre-certification audits and focusing the investigation to the audit as an evaluation tool. Few studies have examined certification approach as quality management approach adoption mechanism.

This study sought to investigate the implications for an organization, in terms of integration levels for these concepts and principles, of being ISO 9001 quality management system standard certified. The investigation sought to find answers for the questions: does certification against ISO 9001 quality management system standard imply quality management concepts and principles guide actions and decisions in the organization? Can the inconsistencies in the findings be explained by the differences in levels of integration of quality concepts and principles into the management systems of ISO 9001 certified organizations?

To get answers to these questions, the study sought to determine the quality maturity stage, in terms of these organizational system outcomes, of the participating ISO 9001 standard certified organizations and their placement in quality maturity ladder. Another specific objective was to determine if ISO 9001 certification implies similarity in quality maturity. The information is important for organizations in making effective strategic decisions on application of the international standards, and especially in making a choice between the two standards in the ISO 9000 quality management system standards family, ISO 9001 and ISO 9004, and, connected with this, the manner and approach to the change.

Quality Maturity Models

It has been suggested that validity of a management approach can only be evaluated based on concepts and principles at play. Any model, identified using whatever label, that purports to change the way an organization is managed depicts a management approach. The extent of the shift to the new approach can be assessed by evaluating indicators of adoption of the concepts and principles of the approach. Chin, Dale and Pun (2000) and Dale (1999) use organizational characteristics as indicators of stages of adoption of quality management approach in an organization.

Chin, Dale and Pun (2000) propose a five-stage quality maturity ladder, with categorization based on the varying levels and nature of awareness and understanding of quality concepts, principles, practices, tools, and continuous improvement.

At the lowest stage, the “Unaware” stage, there is no familiarity with any of the above in the organization. An organization moves from the “Unaware” to “Uncommitted” stage after it gains some understanding of quality management principles, practices and tools.

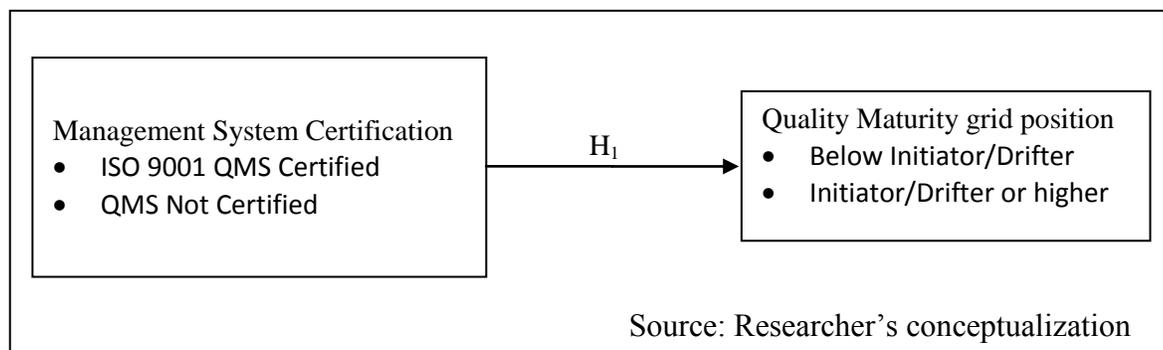
At this stage, it is argued, change of management approach is hampered by the fact that acceptance of these principles, practices and tools are still in contention (Chin et al., 2000). The authors describe an “initiator” stage as the start of the path to quality management approach adoption, when it would be expected that the concepts and principles of quality management would be well understood and accepted within the organization. The outcome of this understanding and acceptance of these concepts and principles would, according to the model, be establishment of frameworks for implementation of the mechanistic aspects of quality management such as process and information-based practices. The model places organizations exhibiting significantly mature usage of the tools and techniques of quality management and, additionally, integration of the concepts into strategic planning of an organization at the higher stages of “improver” and “Achiever” respectively.

Dale (1999) describes six stages starting at the “Uncommitted”, progressing through “Drifters”, “Tool pushers”, “Improvers”, and “Award Winners” stages to end at “World class” organizations. Dale assigns organizational characteristics that correspond to “unaware” and “uncommitted” stages of Chin et al. (2000) maturity ladder to the “uncommitted” stage in the ladder, with the “drifters” stage marking the start of the path to adoption of quality management approach. The other stages in the model are described as “tool pushers” and “improvers”, which correspond to “Improvers” stage and “Award winners” corresponding to the stage of “Achiever” in Chin et al. grid.

Theoretical Context and Hypotheses

As a framework for adoption of quality management approach, it would be expected that application of the ISO 9000 quality management system family of standards would lead to an organization operating at the “initiator” and “drifter” stages in Chin et al. (2000) and Dale (1999) maturity grids, respectively. A proposition implied in the standards is that no organization that boasts of a quality management system certified against ISO 9001 quality management system standard would be at a maturity level lower than “initiator” stage in Chin et al. (2000) or “drifters” stage in Dale (1999) maturity grids. In the event that a certified organization is determined to operate below these levels in the maturity ladders, then the only interpretation ought to be that having a management system certified against the standard does not always imply the start of quality management approach adoption. A conceptualization of this thinking is presented in figure 2 below.

Figure 2: ISO 9001:2008 Certification and Quality Maturity model



The conceptual argument behind the model in figure 2 is that by implementing the practices prescribed in ISO 9001 quality management system requirements standard, an organization moves up in the quality maturity ladder. Successful evaluation through the management system audit can therefore be an indicator of maturity level confirmation. Based on the median maturity level as reference point, the following hypothesis was proposed:

H₁ ISO 9001 quality management system standard certification status has a significant relationship with the quality maturity level of an organization.

H₂ Quality maturity level of an ISO 9001 certified organization is not lower than Initiators/Drifters stages.

Acceptance of the hypotheses would mean that reported failure to achieve significant benefits from application of ISO 9001 quality management system standard, as the model for quality management adoption, implies a failure in quality management as an approach to management. Rejection of any of the hypotheses may imply that reported failures cannot be blamed on quality management as an approach but the model or the manner of evaluating conformance to the standard itself.

One implication of the former would be that Quality Management, as an approach to management, lacks validity. The implication of the latter would be that the model, as constructed, is inadequate in achieving the objectives specified or, alternatively, an indication of inadequacies in pre-certification audit practices.

Method

Adoption models are specifically designed with the objective of changing the way organizations are managed to one based on quality management approach (ISO 9000:2005(E)). All that was needed was to find absence of such a movement in one organization that ought to have made the movement to achieve the objective of the study. A management system assessment body would have provided third party attestation to that expectation by the fact of pre-certification audit conclusions. On the basis of Popperian falsifiability, a theory can conclusively be eliminated after being falsified through a single observation (Popper, 1972). The theory of ISO 9001 quality management system standard certification status and quality maturity can conclusively be eliminated if it could be falsified in the case of one single ISO 9001 certified organization.

The theory which was to be falsified concerns the certification status and quality maturity and not application of the standard itself. Falsification of the theory would result in two alternative interpretations: one, the model effectiveness as a vehicle for adopting quality management approach could be in question. Secondly, the application of the model in the organization could be deficient and or based on inappropriate approach. A research on these issues required an examination to greater depth, and case-based research provides such a depth (Voss et al., 2002). While a case research may have limitations on generalizability of the findings, the adequacy of the underlying theory minimizes these limitations (Smith and Dainty, 1991).

The requirement was for identification of the factors that represent maturity in a given maturity grid and determine the levels so as to assess the organizational quality maturity stage. This essentially involved a “what” question, at a fixed point in time. Cooper and Schindler (2003) assert that a descriptive, cross-sectional research strategy is appropriate when the “what” questions at fixed point in time are to be investigated. To take account of operating context issues, a decision was made to have two organizations participate in the research.

Case Organizations and Data Collection

The issues to be investigated were such that the organizations needed to have management systems certified against ISO 9001 quality management system standard, were at-least of medium size, and could, to a significant extent, be representative of the industries and sectors in which they operated. An Information Technology training firm and a Kenyan state owned firm were selected. These organizations were, in many aspects, representative of the operating contexts in private/medium enterprise and public/large enterprise sectors, respectively. The management of the two organizations also allowed unfettered access to information required for the investigation, thus meeting data access criteria for selection.

A structured interview method was used to obtain the information from informants within the two organizations. Persons interviewed in organization 1 (Org 1) included the general manager, the country manager, the dean of the training institution, four centre managers, chief accountant, ISO 9001 quality system management representative and six other persons in customer service areas. In all, fifteen people were interviewed in the organization, nine of whom were managers. Persons interviewed in organization 2 (Org 2) included the ISO 9001 quality system management representative, a chief manager, a distribution manager and a customer services manager, 11 capital city-based service point managers, a quality systems auditor, and three other (3) professional level members of staff. In all, 18 informants participated for organization 2 (Org 2).

The focus of the interviews was to determine, from the observed attitudes and explanations for decisions and behaviors of management, indicators of “Initiator” stage in Chin et al. (1999) and “Drifters” stage in Dale (1999) maturity ladders.

The variable representing this level of maturity was measured by the extent there was evidence of familiarity with and understanding of quality concepts, principles, practices and tools, and application of process and information-based practices. Other measures were the extent quality assurance activities were focused to processes rather than products and the degree to which participatory management was practiced.

Information on the extent of familiarity with and understanding of quality concepts principles, practices and tools was obtained from a mix of single choice and paired comparison questions. The single choice questions sought to assess the view of the informant as regards the ISO 9001 quality management system that was implemented in their organizations, specifically, whether they considered it a quality system, a management framework, or some other.

Also sought through the single choice questions was information on what the informants considered as the clearest evidence of success in quality management initiative. Choices were to be made between third party systems audit success, internal systems audit success, improved business performance, and improved multi-focus performance assessment.

Other investigative questions concerned perceptions and views in the organizations regarding the concepts of continuous improvement, quality as a concept, and the focus of quality initiative. The extent continuous improvement was perceived as an organizational strategy issue, the extent decisions on operating processes were perceived to be guided by quality management philosophy, and a view of quality management as a strategy was assessed. Extent of application of process and information-based practices was measured using a mix of single point, and paired comparison questions. Other indicators of quality maturity were the focus of quality control activities, what was emphasized in quality activities, and whether preventive approach to problem-solving rather than reactive methods were employed as the means to control quality of outputs.

Participatory management was measured by an 8-item questionnaire in which informants were to respond to a statement by stating the extent of agreement in a 5-point scale. The measurement questions concerned the existence of structures and frameworks for deployment of policies and problem solving, empowerment, cross-functional teams, and forums for discussing and advising on problem solving and improvement issues. Other measures were assessed from the extent outcomes of cross-functional teams and forums were communicated, use of data from benchmarking studies to facilitate improvement, the absence of pre-occupation with numbers and trust between organizational levels.

An objective analysis of the key factor indicators shown in table 1 used together with perceptual data relating to the dimensions listed in the table provided a scaling system for each of the participating organizations. The point system in the scale assigned 3 points to organizations in which signs of some familiarity with quality concepts, principles, practices and tools could be detected and 2 points for those with none. Use of this scale, with a maximum score of 10 when an organization is at the highest level of maturity, together with the overall maturity indicator data, provides a more reliable measurement for the variable of quality maturity. The lower level characteristic concepts support the next level with the consequence that the characteristic concepts in higher stage maturity is not feasible unless the characteristics expected in the immediate lower stage has been achieved.

Table 1: A Quality Maturity Graduating Scale

Stage	Chin, Dale and Pun (2000)	Dale (1999)	Organization characteristics	points
1	Unaware	Uncommitted	Traditional management principles applied	1
			No form of empowerment	1
2	Uncommitted		Some familiarity with quality concepts, principles, practices and tools	0 or 1
			Directed management-driven participatory management	0 or 1
3	Initiators	Drifters	Understanding of quality concepts principles, practices and tools above basic	0 or 1
			Application of process and information-based practices	0 or 1
4	Improvers	Tool pushers	Maturity in use of quality tools and techniques	0 or 1
		Improvers	More strategic application of quality tools and techniques	0 or 1
5	Achiever	Award Winner	Quality concepts are integrated into strategic management processes	0 or 1
			Cultural imperatives of managing recognized by application of socio-behavioral practices	0 or 1
Maximum Scale points				10

Findings and Analysis

Data on aspects of quality maturity as assessed from attitudes, explanations and views in the two participating organizations is presented in table 2 and figures 3 and 4. Table 2 presents data on familiarity and understanding of quality concepts, principles and practices, while the two charts in figure 3 graphically present the data relating to the methods preferred in the organizations and the focus of quality activities. Figure 4 is a graphical representation of the perceptual data on the overall quality maturity obtained the informants sampled from the two organizations.

Understanding of Quality Concepts, Principles and Practices

As shown in table 2, perceptions relating to key characteristics of organizations in “initiators” or “drifters” stages in Chin et al. (2000) and Dale (1999) quality maturity ladders, in the two participating organizations, did not appear to be similar at all despite the common status of ISO 9001 standard certified. While more than half of the fifteen informants interviewed in organization 1 (Org 1) had views expected from organizations in “initiators” or “drifters” stages in quality maturity, just over one third of those interviewed in organization 2 (Org 2) perceived things the same way.

Table 2: Familiarity and Understanding of Quality Concepts, Principles and Practices

Indicators of TQM as a management framework	% of informants with the view	
	Org 1	Org 2
The organization has implemented a management framework rather than TQM program/ Quality system	55	23
With ISO 9000 standard certification, quality philosophy is the key guiding principle for operating process decisions in the organization	70	27
The ISO 9000 quality management system certification framework provides a means to facilitate improvement	50	55
Assessment of performance in both internal and external focused dimensions provides the evidence of success in the application of the ISO 9000 quality management system standard	45	46
Quality management is a strategy and a management philosophy	70	27
Mean	58	36

The data presented in the table shows that the mean for the percentage of informants reporting characteristics consistent with the “initiators” or “drifters” stages on familiarity and understanding of quality concepts, principles and practices in organization 2 (Org 2) was significantly less than the mid-point of 50%. This suggests that, with respect to understanding of quality concepts principles, practices and tools above basic level, the organization was operating below the “initiator” stage in the Chin et al. (2000) quality maturity ladder and below “Drifters” stage in the Dale (1999) maturity grid.

As for organization 1 (Org 1), the mean percentage with perceptions and views consistent with “initiators” or “drifters” stages, being 58 percent, is above 50 percent mid-point in a 0 – 100 range. A t-statistic for the difference between the sample mean, 58, and 50 ± 2.5 , based on 5 percent accuracy and standard deviation, σ , estimated as one sixth of the range of 0 to 100, was computed as 1.3095. This is lower than the table value of 1.76, at 14 degrees of freedom for a 1 tailed test. A Null Hypothesis that the mean percent of the population with the stated views were not significantly greater than 52.5 was accepted at the p-value < 0.05 . Therefore, according to the data, organization 1 (Org 1), notwithstanding that its certification status would be expected to give it greater prominence in quality management matters, was in deficit in the understanding of quality concepts principles, practices and tools above basic. Based on the evaluation scale in table 1, organization 1 (Org 1) could not be placed within the “initiator” or “drifters” stages of quality maturity in the two grids.

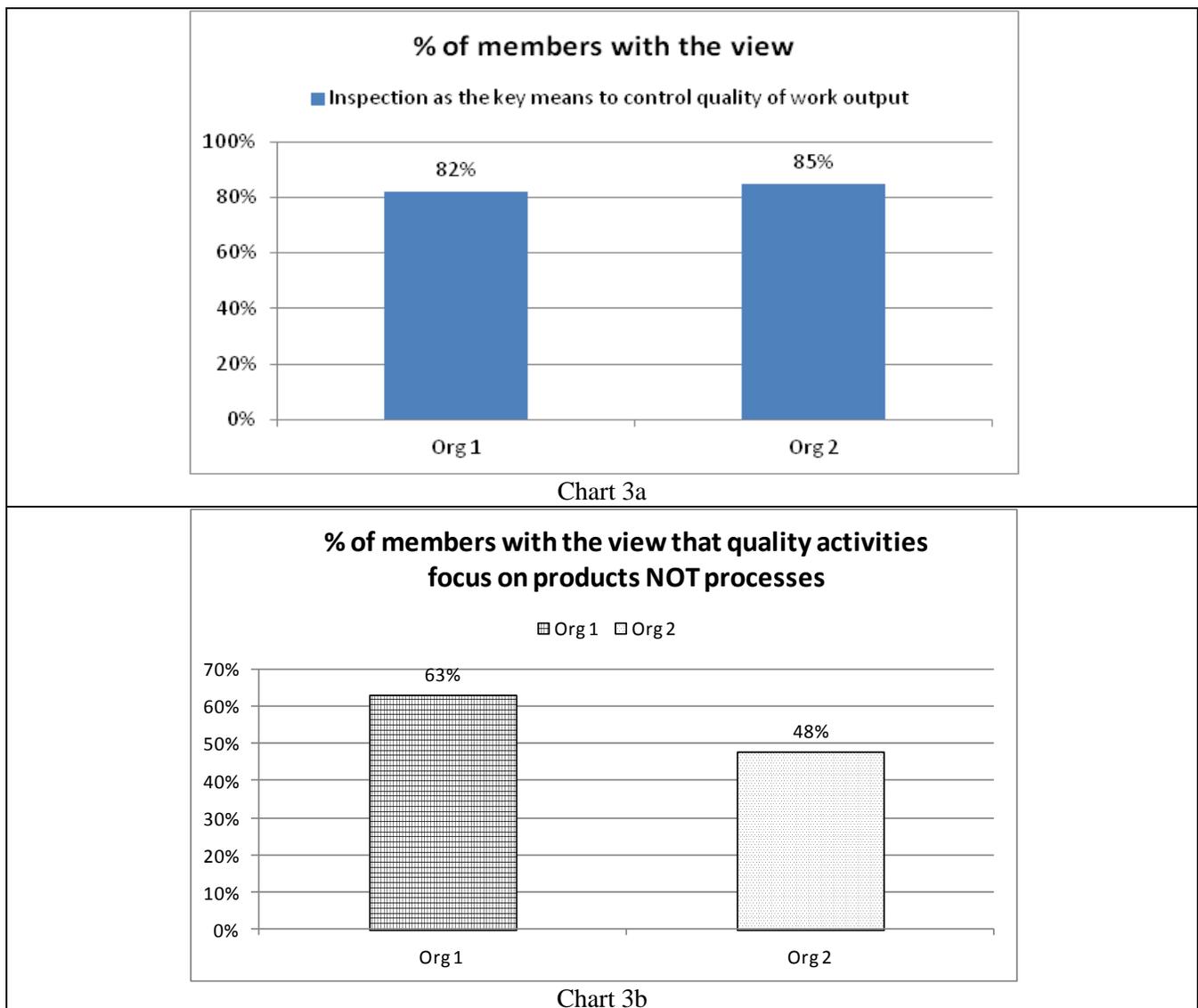
Focus of Quality Activities and Preferred Methods

Data presented in the two charts in figure 3 represent the methods used for managing quality in the two organizations and the focus for the quality related activities. As indicated in chart 3a, inspection was the preferred method for managing quality in both organizations with 82% and 85% of the informants perceiving this as the case in organization 1 (Org 1) and organization 2 (Org 2) respectively. This is reflected in the perception in both organizations of the focus of quality activities as indicated in second chart in figure 3.

Chart 3b shows that more than half of the informants in organization 1 (Org 1) considered that the focus of quality assurance activities in their organization was product and work output rather than the processes. A better situation is reported in organization 2 (Org 2) in which less than 50 percent of informants thought this way. Analysis of the data for organization 2 (Org 2), based on 5 percent accuracy, and standard error of 4.2, computed from a standard deviation estimated as one sixth of the 0 – 100 range, showed Lower and Upper Bounds of 95% Confidence Interval for Mean values of 39.8% and 56.23% respectively.

With a mean above 47.5, the lower limit for the 5 percent accuracy, a Hypothesis that the mean percent of the organization 2 (Org 2) population with the views that activities are focused to products was lower than midpoint of 0 – 100 range could not be accepted. Therefore, as indicated by the data, organization 2 (Org 2), just like organization 1 (Org 1), can be considered to have had their quality activities focused on the products or work outputs, and hence application of process and information-based quality practices would be expected to be low. Based on the evaluation scale in table 1, organization 2 (Org 2) could not be placed within the “initiator” or “drifters” stages of quality maturity in the two grids.

Figure 3: Product Orientation of Quality Assurance Activities



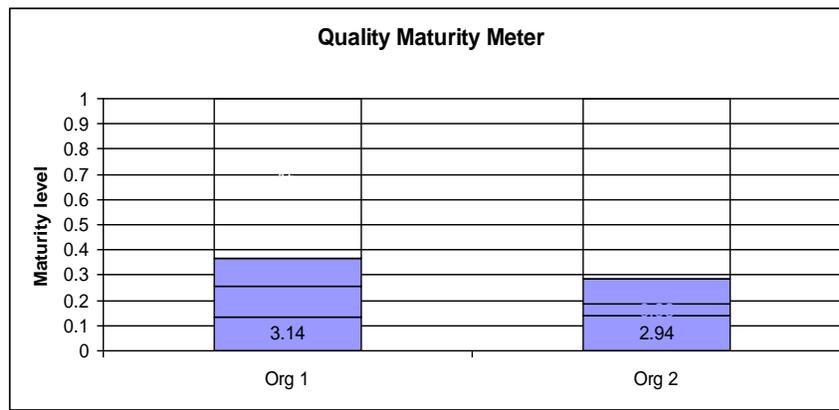
Quality Maturity Meter

Data on overall maturity level based on aggregate values as obtained from the structured interview data and rated in a proportion scale starting from 0.1 to 1 is presented figure 4. The scores of 3.14 and 2.94 are indicated, as labels in the chart, for organization 1 and organization 2 respectively.

With a 1.0 in the scale indicating complete adoption of quality management approach with full maturity, the organization with the higher score, organization 1 (Org 1), is less than 30% into the path to complete quality maturity. In both cases, the scores, evaluated against the scaling in table 1, fall short of the 4 points required to be firmly within the “uncommitted” stage in quality maturity ladder as described in Chin et al. (2000) and Dale (1999) grids. A 1- tail t-statistic computed for the mean of 3.14 being significantly below 4.0 was, at 9.98, greater than the table value of 1.76 at 14 degrees of freedom, p-value less than 0.05.

A null hypothesis that the mean score for organization 1 (Org 1) was not significantly lower than 4.0 could not, therefore, be accepted. Accepting the alternative hypothesis that the mean score was significantly lower than 4.0, the only conclusion was that organization 1 (Org 1) was not firmly within “uncommitted” stage of quality maturity, but appeared to be still at “unaware” stage. It could, therefore, be concluded that both organizations, despite their ISO 9001 standard certification status, had not moved to the critical stage of “Initiators” in Chin et al. (2000) quality maturity ladder nor “Drifters” in Dale (1999) maturity grid.

Figure 4: Quality Maturity Meter scores for participating organizations



Discussions and Interpretation

The findings of this study were that familiarity and understanding of quality concepts, principles and practices were in deficit in the two ISO 9001 certified organizations. Further findings in the study were that the focus of quality activities was on products and work outputs, and inspection was deemed the preferred method of managing quality. These findings are inconsistent with the expectations considering the stated objectives of the standards.

ISO 9001:2008(E) seeks to promote process approach, a fundamental principle of quality management, and therefore, the expectation from certification would be a refocus away from products and to the processes of producing the products and services. Two certified organizations that exhibit characteristics of organizations at “unaware” stage of quality maturity would be inconsistent with this goal. Questions raised by this inconsistency include: Is it a question of the adequacy of the framework upon which the standard is built? Or is it the limitation of the context and its influence on the focus?

ISO 9000:2005(E) definitions and vocabulary standard lists the eight fundamental principles of quality management as the foundational principles for the standards framework. The requirements standard, ISO 9001:2008(E) states that these fundamental principles are taken into account when developing the standard. It is, therefore, the case that the approach itself is judged negatively. One argument advanced by quality management proponents is that a negative judgment cannot be made on the basis of cases in which the approach may not be said to have been adopted. Capistrano (2008) suggests lack of understanding of the approach may also be a possible issue.

The findings of this study appear to vindicate the approach as they confirm that findings of no benefit in certification – performance studies cannot be taken as failure of the underlying concepts and principles since certification does not necessarily mean they are applied. This leads one to the question of context and limitations in that context. It could be in the process of certification itself. Van der Wiele, van Iwaarden, Williams, & Dale (2005) suggest type of audit and auditors could be possible factors in failure of certification to predict organizational effectiveness.

The authors argue that experience in senior management position may be a requirement for the quality system auditors against the new millenium version of the quality management system standard. As such persons are likely to somewhat be scarce, inadequate audit could be much more common than it is imagined.

As pointed out in Okwiri (2013), lack of management knowledge and experience both for auditors and management systems consultants may be responsible for inappropriate quality management systems. Quality management as a management approach is absolved of the charge of invalidity connected with failures to bring about performance improvement beyond the marketing benefits associated with iconic aspects of adoption.

Conclusions and Implications

The findings of this study validated the arguments in Okwiri (2014) that research in any management approach ought to be focused on its concepts and principles rather than, mechanistically, on the framework developed for adoption of that approach in an organization. The findings appear to suggest that application of ISO 9001 standard and third party certification against it are distinct. The only conclusion that can be drawn is that ISO 9001 certified organizations cannot be deemed to be managed based on the quality management approach.

It can also be concluded that the inconsistencies in the findings of certification – performance studies cannot be attributed to the ineffectiveness of the management system standard itself, but to individual contextual factors which influence application of the standard. The implications are that managers ought not to make decisions to achieve certification but to adopt a management approach. That certification ought to be a secondary objective, if not a by-product, in any initiative involving a management framework. This change in focus would essentially imply the guideline standard, ISO 9004:2009, titled “Managing for the sustained success of an organization – A quality management approach” becomes the focal point of the ISO 9000 family of quality management system standards.

Limitations and Areas for future Research

As a case study, there are inherent limitations on generalizability. The methodological issue is one of a probability of an outcome in two consecutive tries, a finding of an outcome in two cases such as was the case lessens the probability of chance findings being returned in the case of the two organizations. The possibility and the extent of theoretical orientation of the data is always an issue when investigating socio-behavioral constructs such as those involved in management. This is particularly a threat when perceptual data is used in investigating concepts and principles in a field with such diverse interpretations and viewpoints as quality management.

Opportunities for further research to enrich the understanding and knowledge of the topic of quality management and its adoption frameworks include changed geographical contexts and changed research approach. An empirical investigation of certification-maturity model using statistical approach would perhaps test the generalizability of the conclusions from this study.

References

- Capistrano, E. P. (2008). ISO 9000 CERTIFICATION AND BUSINESS PERFORMANCE OF SELECTED PHILIPPINE COMPANIES. *Philippine Management Review*, Vol. 15,, 15-36.
- Chin, K.-S., Dale, B. G., & Pun, k.-F. (2000). *Implementing the UMIST Total Quality Management Framework in Hong Kong Manufacturing Industries*. Hong Kong: City University Press.
- Cooper, D. R., & Schindler, P. S. (2003). *Business Rsearch Methods*, 8th edition. New York: McGraw-Hill.
- Dale, B. G. (1999). *Managing Quality*, Oxford,. Oxford: Blackwell Publishing, 3rd edition.
- Dow, D., Samson, D., & Ford, S. (Spring 1999). Exploding The Myth: Do all quality management practices contribute to superior quality performance? *Production and Operations Management*, Vol. 8, No. 1, 1 - 27.
- Evans, J. R., & Lindsay, W. M. (2002). *The Management and Control of Quality*. Ohio, USA: South-Western.
- Garvin, D. (1984, Fall). What does "Product Quality" Really Mean? *Sloan MAnagement Review*, 25 - 43.
- Hemsworth, D., Sa´nchez-Rodrı´guez, C., & Bidgood, B. (2005). Determining the impact of quality management practices and purchasing-related information systems on purchasing performance: A structural model. *The Journal of Enterprise Information Management*, Vol. 18 No. 2,, 169-194.

- ISO 9000:2005(E). (n.d.). Quality management systems — Fundamentals and vocabulary. Geneva, Switzerland: The International Organization for Standardization.
- ISO 9001:2008(E). (n.d.). Quality management systems — Requirements. Geneva: The International Organization for Standardization.
- ISO 9004:2009(E). (n.d.). Managing for the sustained success of an organization — A quality management approach. Geneva: The International Organization for Standardization.
- ISO Central Secretariat. (2012). The ISO Survey of Management System Standard Certifications – 2012. Geneva: The International Organization for Standardization.
- Kaye, M. M., & Dyason, M. D. (1995). The fifth era. *The TQM Magazine*, Vol. 7 Iss: 1, , 33 - 37.
- Lakhal, L., Pasin, F., & Limam, M. (2006). Quality management practices and their impact on performance. *International Journal of Quality & Reliability Management*, Vol. 23 No. 6, 625-646.
- Martínez-Costa, M., & Martínez-Lorente, A. R. (2007). A triple analysis of ISO 9000 effects on company performance. *International Journal of Productivity and Performance Management* Vol. 56 No. 5/6, 484-499.
- Martin, D. (1995). From mechanical Engineering to re-engineering: would Taylor be pleased with modern management? *Journal of Management History*. Vol.1, No.2.
- Massie, J. L. (1998). *Essentials of Management*. New Delhi: Prentice-Hall.
- Mbeche, I. M. (1996). Operational Research/Management Science (OR/MS) In Social Issues at the Strategic Level. *The Nairobi Journal Of Management*, Vol. 2, 43 - 63.
- McDermott, I., & O'Connor, J. (1997). *Practical NLP for Managers*. Aldershot: Gower Publishing Limited.
- Okwiri, O. A. (2013). ISO 9001 QUALITY MANAGEMENT SYSTEM AUDIT AS AN ORGANIZATIONAL EFFECTIVENESS EVALUATION TOOL. *International Journal of Information Technology and Business Management* Vol.20 No.1, 15 - 29.
- Okwiri, O. A. (2014). Quality Management as an Outcome of Management Field Evolution: A Review. *Online Journal of Social Sciences Research*, Volume 3, Issue 1, 1 - 9.
- Parker, L. D., & Ritson, P. (2005). Fads, stereotypes and management gurus: Fayol and Follett today. *Management Decision*, Vol. 43 No. 10, 1335-1357.
- Popper, K. R. (1972). *Conjectures and Refutations: The Growth of Scientific Knowledge*. New York: Basic Books Inc.
- Roese, M. O., & Olsson, A. (2012). Challenging the strategy paradigm within the paper packaging industry. *International Journal of Business Science and Applied Management*, Volume 7, Issue 2, , pp. 1 - 12.
- Secretariat, I. C. (2009). *The ISO Survey of Certifications 2008*. Geneva: The International Organization for Standardization.
- Sila, I., & Ebrahimpour, M. (2005). Critical linkages among TQM factors and business results. *International Journal of Operations & Production Management*, Vol. 25 No. 11, 1123-1155.
- Smith, C. N., & Dainty, P. (1991). *The Management Research Handbook*. London: Routledge.
- Sousa, R., & Voss, C. A. (2002 (20)). Quality Management Re-visited: A Reflective Review and Agenda for Future Research. *Journal of Operations Management*, 91 - 109.
- Tzelepis, D., Tsekouras, K., Skuras, D., & Dimara, E. (2006). The effects of ISO 9001 on firms' productive efficiency. *International Journal of Operations & Production Management* Vol. 26 No. 10, 1146-1165.
- van der Wiele, A., Dale, B. G., & Williams, A. R. (2000). ISO 9000 Series and Excellence Models: Fad to Fashion to Fit. *Journal of General Management*, Vol. 25 No. 3 Spring , 50 - 66.
- van der Wiele, T., van Iwaarden, J., Williams, R., & Dale, B. (2005). Perceptions about the ISO 9000 (2000) quality system standard revision and its value: the Dutch experience. *International Journal of Quality & Reliability Management*, Vol. 22 No. 2, 101-119.
- Voss, C., Tsirikrisis, N., & Frohlich, M. (2002). Case research in operations management. *International Journal of Operations & Production Management*, Vol. 22 No. 2, 195-219.