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Full Length Research Paper

An integrative approach to management systems and business excellence

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Traditionally, quality (ISO, 9001), safety (OHSAS, 18001) and environmental (ISO, 14001) management systems are integrated. This study developed the SECQA Model which integrated the latter systems and proposed aids management and corporate governance in the integration process. Questionnaires were sent to thirty manufacturing and service organizations in the KwaZulu-Natal region to elicit the suitability of the SECQA model. The majority of the respondents indicated that they would be keen to use the SECQA model in their organization as integration of management systems would assist them in reducing their workloads. They also believed that the range of management systems selected was conducive to the trends of the country and would reduce resources used and be better than their current practice. The model can be adopted by manufacturing and service type organizations in any country as a springboard to promote business excellence.

Key words: Integrated management systems, business excellence, process approach.

INTRODUCTION

Many managers and executives are forced to improve their competitive advantage by using minimum resources. Currently, global participation, new technologies and cycle time reduction jeopardises an organization's stability (Dejager, 2007:36). From a South Africa perspective, managers have to contend with more challenges such as the diversity of cultures and changes in socio-economic conditions (Boninelli, 2005:42). It is of significance that the importance of quality management has always been underrated (Stevenson, 2002:420). This may change if managers accept that a small input such as attention to re-design and implementation of a few strategic practices, yield improvement throughout the organization (Foster, 2007:351). This is illustrated by the case discussed in the work: An industrial component manufacturing organization in the United States of America (USA) was asked by a customer to reduce its costs. The organization decided to improve the inspection of certain components. The benefits achieved from this activity produced a 14% reduction in the cycle time, decreased the amount of scrap generated, increased cost savings of thousands of dollars and improved employee morale and customer satisfaction. This example serves to draw attention to a very crucial point regarding quality management and cross-functional integration in an organization. It makes little sense to check the quality at the end of a process. Attention to quality in the early stages of the process would help to eliminate the cost of repeating the process (Stevenson, 2002:440).

STATEMENT OF THE PROBLEM

Most organisations are forced to comply with safety, environment and quality management systems to satisfy either customer requirements or legislation or both (Karapetrovic and Casadesus, 2009: 533). In addition, trends such as the impact of Acquired Immune Deficiency Syndrome (AIDS) and Human Immunodeficiency Virus (HIV) (Kotze, 2003) and the corporate scandals associated with Enron, WorldCom and others (George, 2002:791; Edmondson and Cohn, 2004:1; Dunn, 2003:13) add another dimension to an organisation's strategic initiative which must be managed. The implementation and maintenance of these systems, at the same time retaining competitive advantage, overwhelms managers and employees (Hoyle, 1999:63).

PROPOSED APPROACH

In view of the above, this study aimed to integrate corporate governance and AIDS management systems with the traditionally integrated quality, safety and environmental management. This was achieved by:

1. Designing a simple management system;
2. Developing integrated documents, for example, a policy, procedure, work instruction and a self-assessment checklist as fundamental documentation;
3. Developing a schematic model to support the integration of corporate governance (King III Report) and AIDS (ISO, 16001) management systems with quality (ISO, 9001), health and safety (OHSAS, 18001) and environment (ISO, 14001) management systems; and
4. Presenting the perceptions of the industry to the schematic SECQ model.

A simple management system was designed to serve as a foundation upon which the integrated management systems can be co-ordinated and operated. This can be supported by Stables (2001:3, 19). Policies, procedures and work instructions formed the bulk of the documentation in a management system. Therefore, this study suggested the integration of documents to support and maintain the multiple management systems proposed. The SECQA model was developed to illustrate the integration of the management systems proposed. The perceptions of the respondents to the model were obtained to determine the acceptance of the model in contemporary industries.

MATERIALS AND METHODS

The next section will highlight the need for integration of management systems, the challenges associated with it, the versatility, the uniqueness and development of the SECQA model. It will also present the proposed advantages and disadvantages of the model.

Challenges when operating multiple systems separately

The challenges when operating multiple systems are evident in a number of studies. Fresner and Engelhardt (2004:624) and Jorgensen et al. (2006: 720) researched selected Austrian and Danish manufacturing organisations respectively. Their work was represented by the Small and Medium-size Enterprise (SME) as case studies to show some of the difficulties experienced when operating multiple management systems. They found it increasingly difficult to separate quality, environment and health and safety activities. For example, in any activity, the chemical quality of the materials used had to be investigated (quality management), the effects of these chemicals on the environment had to be considered (environmental management) and the role of their effects on the employees working with them had to be explored (health and safety management) by the team.

During meetings and reviews, they found it difficult to set boundaries between quality, health and safety and environmental issues because discussions, for example, were about compliance with government legislation on waste-water (environmental management), documentation of working conditions at the workplace to comply with legislation (health and safety management), training to increase the awareness of working accurately and handling of chemicals to prevent accidents (quality, health and safety and environmental management), assigning responsibilities, implementing corrective action teams and initiating auditing programmes (quality management). These findings were also consistent with work conducted by Zeng et al. (2007:1763).

Current trends when operating multiple systems

Operating multiple systems such as these effectively is difficult (Zeng et al., 2007:1763). Hence, the philosophy of integrating resources is currently widespread. This is evident in the cellular phone, for example, which is no longer only a device for making a call. It can now send text messages, photographs, graphs and electronic mail. Single-function operations have become increasingly redundant. Successful organisations are integrating environment, quality and safety management systems (Stables, 2001:396). Holdsworth (2003:194) studied the integration of health, safety, risk and environmental management systems in merging organisations in the petrol-chemical industry. He states that it was necessary for organisations to integrate these management systems because audit findings revealed duplication in procedures such as inspection and testing, contractors, training and auditing, conflicts in procedures for process safety, risk, environment, health and safety management. Boninelli (2005:42) expresses the view that the modern manager should have the ability to seek and implement world-wide best practice and appreciate the results of cross-functional integration. Jorgensen et al. (2006: 713), Zeng et al. (2007:1760) and Karapetrovic and Casadesus (2009: 533) concur that integration helps to reduce administration and auditing costs. Zeng et al. (2007:1760) and Jorgensen et al. (2006: 713) are of the opinion that the integration of management systems is gaining popularity. Shaunessy (2008:35) adds that, since the 1990s the compatibility of quality with other management systems has allowed organisations to integrate various practices. He believes that this concept is currently common practice and allows processes and the management systems to operate concurrently with little distress and at lower costs.

Versatility of integrating management systems

The inclusion of specialised management systems or specifications such as HACCP or ISO 17025 is not entirely impossible (South African Bureau of Standards, 2008: vii). When an organisation has evolved to a point where it already has an integrated system, good organisational culture, competent managers, and shows relatively good document requirements, then the specialised management systems or specifications can be included or integrated with the traditional management systems.

Unique practice for AIDS and corporate governance

Although, there are several recommendations from studies such as Boninelli (2005:42), Fresner and Engelhardt (2004:624) and Holdsworth, (2003:194) , to name a few, on integrating safety, environment and quality systems, there are no reports which deal with the benefits of adding corporate governance and HIV/AIDS management systems. It is important to ensure that corporate governance is practiced in all kinds of organisations to prevent the exploitation of share-owners and stakeholders and to facilitate continuous improvement and sustainability of an organisation. Recent scandals in organisations like Enron in America and Regal in South Africa, among others, have shown that strict control measures

Figure 1. Design of a simple management system.

measures should be in place to protect share-owners, stakeholders and organisations (Wixley and Everingham, 2003:52, Jorgensen et al., 2006: 713).

In view of the impact of the AIDS epidemic, every organisation should implement a strategy to identify the status of its employees so that provisions could be made to train new staff to take over from the sick or deceased colleagues and also to increase the working life span of the existing workforce. The Technical Assistance Guideline (TAG) document in South Africa implies that organisations should develop and comply with an integrated strategy to manage HIV/AIDS in the workplace (Department of Labour, 2003:39*)*. To be beneficial, the strategy should assess and understand the impacts of the epidemic to provide short-term and long-term mechanisms to reduce its effects. The review of literature above reveals that it makes good business sense to integrate quality, safety and environmental management systems, in that it reduces the duplication of documentation and will facilitate compliance auditing. It goes further to advice that adhering to sound corporate governance and AIDS management practices can be beneficial.

Approach to develop the SECQA model

To accomplish the above, the methodology in this study designed a simple management system to present a structured approach to operate these systems. It also developed integrated documents to represent the integration of quality, health and safety, environmental, corporate governance and AIDS management systems. It culminated in the development of an integrated business model to support these systems, its strengths and weaknesses and presented the perceptions of industry to the model.

Development of a simple management system to support the SECQA model

From the review of literature, it is evident that certain components are essential for the operation of management systems. These components can be organised to form a coherent management system. A simple management system was designed (Figure 1) during this research to co-ordinate the activities of an organisation. The example above serves as a simplistic representation of a management system as a fundamental tool for an organisation wishing to embark on an improvement initiative. It shows how different levels of the simple management system requirements are addressed. It must be emphasised that, as the number of management systems followed by an organisation increases and the level of integration of these systems intensifies, more sophisticated management and improvement tools should be introduced to support them. The manner in which the design of the simple management system was integrated is consistent with the teachings of quality experts, Crosby and Juran, who emphasise the steps required for quality planning and improvement in management strategies (Crosby, 1984:9, 106,109, 117; Juran, 1992:17). The common steps from both their teachings stress the need for identifying and understanding customer needs, establishing a unit and mechanism of measurement, a means of evaluation and optimising the method to measure defined indicators effectively and proving the reliability of the method. Furthermore, it is encouraged that quality control be used when designing any management system (Crosby, 1984:54; Juran, 1992:17). This aspect has been incorporated in the design of the simple management system.

Development of integrated documents to support the SECQA model

This section presents the documentation required to support integrated management systems. The policy, procedures and work instructions of an organisation form the bulk of the documentation required to support the management system. These documents can be collated into one manual or can form three separate manuals, depending on the size and number of documents in an organisation. It must be emphasised that certain requirements may appear to be downplayed, as not all five management system requirements will feature as actively as others, in all areas of an organisation. Each document should follow the same template. This ensures that when employees work from one document to the next, they are able to identify information quickly because of the familiarity of the layout. This saves the organisation time as it facilitates productivity. Each document must have a title and other basic information as

stipulated by ISO 9001as the framework and all the other requirements from the remaining management systems be incorporated around this. Zeng et al. (2007:1766) highlight the importance of developing appropriate documentation early in the integration process.

An integrated policy

The policy of the organisation lays down the overall intentions and direction of the organisation as stipulated by the management system (South African Bureau of Standards, 2005: 8) (C). It should highlight senior management's pledge to support and deliver on customers' and stake holder's requirements and states the techniques by which its team will achieve these requirements. It should also reflect on the organisation's social responsibility. The different sectors of industry such as safety, quality, corporate governance, AIDS and environment, highlighted in the aim, show how the management systems stipulated by the proposed SECQA model are addressed.

An integrated procedure

The procedure represents the overall planning and administrative aspects of an organisation (South African Bureau of Standards, 2005: 12) (C). The procedure is used to highlight the manner in which an employee should conduct him/herself when performing a particular task. It should stipulate who is responsible for performing the task and the manner in which the task should progress. Thereafter, it should state how the interaction is recorded.

An integrated work instruction

A work instruction provides a recipe which details how an activity must be conducted in accordance to a standard or prescribed method (Tricker and Lucas, 2001:44). It guides the user in a step-by-step manner on how to conduct the specific task. It should begin with an explanation of the task. It should also highlight who should conduct the task, how often it should be conducted and the chemicals and equipment required to fulfil the task. The manner, in which the materials used in the task must be disposed of, should also be clearly stated. The manner in which the task is verified should be highlighted to ensure the credibility of the result. The results obtained should be recorded by a prescribed layout.

A self-assessment checklist

Holdsworth (2003:199) believes that an efficient checklist and audit are the keys to monitor an organisation's performance. To support these beliefs, a checklist was designed for this study. It provided an in-depth efficient investigation for an audit of an organisation. Adherence to the requirements on this checklist will show compliance with the requirements of the SECQA model. A few general requirements to facilitate documentation and logistics have also been included in the checklist.

It must be emphasised that the details of individual management systems, for example, ISO 9001:2000, is assessed through the checklist supplied by the third party agency and does not form part of this study. Adherence to the checklist supplied by the third party agency will only be pertinent to that system and will not necessarily mean that the organisation satisfies the requirements for the SECQA model.

The development of the SECQA model

Stevenson (2002:12) describes models as an abstraction of reality and a simplified version of reality. The application of the process approach was included in the ISO 9001:2000 for developing, implementing and improving the effectiveness of management systems within an organisation, with a view to attaining business excellence and enhancing customer satisfaction (South African Bureau of Standards, 2008:6). Stables (2001:20) advice that it is good practice that quality management should be integrated with the general management practices. Shaunessy (2008:35) is of the view that the ISO 9000 series provides a reliable foundation upon which other standards such as those applicable to the motor, food and medical devices. Jorgensen et al. (2006: 713); Zeng et al. (2007:1763) and Karapetrovic and Casadesus (2009: 535) informed that most of the organisations in their studies implemented ISO 9001 before integrating it with ISO 14001 and OHSAS 18001. Hence, this approach adopted for the development of the SECQA model provided an appropriate structure to integrate safety, environment, corporate governance, quality and AIDS management systems in this study and was used as a foundation for the development of the SECQA model. The schematic diagram (Figure 2) represents the SECQA model. It serves as a guideline to show the overlap between the requirements of safety, corporate governance, quality, HIV/AIDS and environmental management systems.

Advantages of using the SECQA model

Holdsworth (2003:194), Fresner and Engelhardt (2004:624) and Jorgensen et al. (2006: 713) found that it was difficult and costly to operate a number of management systems in parallel. Therefore the SECQA model considered the observations of these authors in its design. Based on the guidance of ISO 9001, this quality management system was provided platform on which to integrate the proposed management systems. ISO 9001 management system includes a mandatory requirement called "continuous improvement" (South African Bureau of Standards, 2008: vii). This requirement forces an organisation to embark on improvement strategies and then to provide evidence of this at surveillance audits. Therefore, "continuous improvement" was included in the model. The integrated documents have a section that stipulates the responsibilities of employees. The latter makes all employees aware of the activities for which they are responsible.

Disadvantages of using the SECQA model

Wilkinson and Dale (2001:318) cautioned researchers about the challenges which they found when working with integrating management systems and the Karapetrovic and Wilborn Model. In view of these findings, it can be perceived that due to the number of requirements stipulated by each management system, the SECQA model may be regarded as being complex. In addition, the introduction and implementation of new practices within an organisation is often received by employees with resistance. For the success of the SECQA model, it is encouraged that the values of the employees be aligned with the essence of the model. A change in the culture of the employees can also be beneficial.

RESULTS

Scope, limitations, assumptions and sample size of the study

The principle study focused on a cross-section of

Figure 2. The SECQA model.

manufacturing and service sectors in KwaZulu-Natal, Durban. It was difficult to find organizations operating integrated management systems which were willing to participate in this study. The lack of awareness amongst certain respondents about corporate governance and AIDS management systems was a limitation to the study. The results obtained are specific to the organizations under investigation and cannot be generalized for a wider sample however; the SECQA model may be useful to a broader scope of organizations. The following assumptions/prerequisites were made prior to this study:

1. Management within the organisations, are committed to implementing a Quality Management System (QMS), Environmental Management System (EMS), Health and Safety management system.
2. The organization has an existing safety, environmental and quality system but wishes to improve performance.
3. The organization wishes to attain accreditation to a certified management system such as ISO 9001, ISO 14001 or OHSAS 18001.
4. The organization has accreditation to one or all of the management systems mentioned above, but wants to improve one or all of them.

The researcher is not part of any of the organizations in this study and will not accrue any benefit from this research. Mellville and Goddard (1996: 4) state that descriptive or case-study research investigates a particular particular situation to determine if it gives rise to any theories or to see if current theories emerge out of specific situations. According to Mertens (1998:108, 259) the simple descriptive approach of research offers a “one-off” survey to determine the characteristics of a sample at a point in time. Hence, a survey was chosen as the tool for the research in this study. A list of organizations in the area was compiled and a sample was drawn using a judgment sample. This represents a simple method of sampling and lends itself to statistical analysis specifically in this study. The sample size was determined using the sample size determinator from the StatGraphics statistical software package. At the 95% level of confidence the appropriate sample size recommended was thirty.

Data collection tool

The Likert scale was found to be the most user-friendly method of for designing a questionnaire. It also lent itself to statistical analysis (Oppenheim, 2003:195). Hence, this method was selected to design the questionnaire in this study. Before the survey it was confirmed that each respondent had access to the information required. This is consistent with suggestions by Mertens (1998:110) on sample plan selection. The responses obtained were commensurate with the knowledge and experience of the respondent to the subject under investigation. Mertens

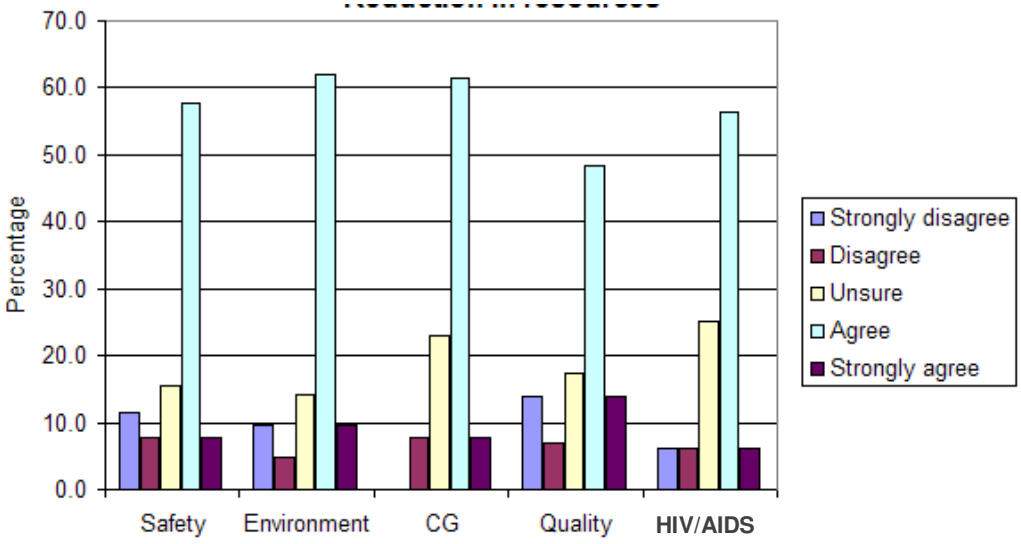

Figure 3. Reduction of resources with the SECQA model.

(1998:105, 106) supports these views and reports that respondents reply to questions based on their knowledge, attitude and behaviour. Therefore the credibility of their responses is dependent on the honesty of the respondent.

The questionnaire was used to elicit whether the management systems included in the model were suitable for organisations in the present trend of South Africa, whether they thought the integration of these systems were beneficial in terms of reducing resources and duplication of work and whether they would use such a model. It also determined the views of respondents relating to integration and their perception of the proposed SECQA model. Due to time constraints and the length of time that would be required to determine the actual benefits of the model would be unrealistic, hence the acceptance of the model can only be based on perception.

Reliability of the questionnaire

The Cronbach's α Index of reliability for the questionnaire used to propose the SECQA model is 0.979. For the data in this analysis, the value exceeds the acceptable standard. Hence, the underlying construct was scored in a consistent manner and that results obtained from the analysis in this study can be considered reliable.

Question 1 - Will the number of people assigned to report to senior management on these management systems of practice decrease, with the adoption of the SECQA model?

Question 1 was included to determine whether the respondents would find a reduction in the number of employees required if the model was implemented, as compared to their current practice. It was evident from the findings that 10 respondents did not perceive that the implementation of the SECQA model would reduce the number of employees reporting to senior management in their organisation. Eleven respondents were of the opinion that the implementation of the SECQA model would enable them to reduce the number of employees reporting to senior management. The latter can be supported by Jorgensen et al. (2006: 713), Zeng et al. (2007:1760) and Karapetrovic and Casadesus (2009: 533). Nine respondents were unsure about whether the implementation of the model would reduce the number of employees reporting to senior management.

In response to these findings respondents who did not perceive a reduction in the employees with the implementation of the model and those respondents who were unsure, are sceptical about an unproven tool. Perhaps these respondents are cautious because management systems are known to have the high implementation costs. In addition, the model proposes integration of management systems that are not typically seen in the trends of this country and managers would have difficulty accepting this concept. The Cronbach's Alpha Index of reliability scored a value of 0.718, showing that the results obtained from this analysis in this section can be considered reliable (Figure 3).

Question 2 - The resources required to manage each management system of practice will reduce!

Question 2 was used to determine if the respondents would find a reduction of resources if the SECQA model was implemented. From the figure given, a combination of "Agree" and "Strongly Agree" shows that approximately: 66% for safety, 73% for environment and

Table 1. The management systems included in the SECQA model were appropriate.

Management system	Correlation
Safety	0.784
Environment	0.696
Corporate governance	0.968
Quality	0.597
AIDS	0.891

quality and 72% for HIV/AIDS, of the respondents are of the opinion that the implementation of the new model would result in the reduction of resources. The Cronbach Alpha Index of reliability scored a value of 0.997 showing that the results obtained from this analysis can be considered reliable. The result 0.768 indicates that there is a strong correlation at a confidence level of 0.01 between the reductions of resources with the implementation of the SECQA model. The findings above are consistent with Holdsworth (2003:194) and Fresner and Engelhardt (2004: 632). There was a lack of response to corporate practice. With such confidence presented by the respondents above, it is hoped that the reduction of resources can provide a convincing motivation to senior management to accept the SECQA model.

Question 3- The management systems selected for the SECQA model are beneficial to the organization?

This question was included to determine whether the respondents would find the model beneficial (Figure 4). From the figure given, a combination of "Agree" and "Strongly Agree" shows that there is approximately: 97% for safety, 98% for the environment, 87% for corporate governance, 100% for quality and 93% for HIV/Aids, in agreement that the SECQA management systems are more beneficial than the existing systems. The Cronbach's Alpha Index of reliability scored a value of 0.938 showing that the results obtained from this analysis can be considered reliable. The high scores above are an indication of the suitability of the management systems included in the model. These findings can be supported by Holdsworth (2003:199), Wixley and Everingham, (2003:52) and Jorgensen, Remmen and Mellado, (2006: 713). The suitability of the model can be supported statistically by the table presented below. The following table demonstrates the view of the respondents to the appropriateness of the management systems selected for this study (Table 1). The correlations above are significant at the level 0.01. The results reveal that respondents were of the view that the management systems included in the SECQA model were appropriate.

Question 4 - The proposed model better than current practice in your organization?

This question was posed to determine whether the respondents were of the view that the model was better than current practice (Figure 5). Figure 5 indicates that 97% of the respondents (29 respondents) believe that the SECQA model is a better model than the existing practice. One percent of the respondents (1 respondent) indicated that the proposed model was not better than current practice. Shaunessy (2008:35) agrees that integration aids in the operation and maintenance of management systems. The Cronbach's Alpha Index of reliability scored a value of 0.979 showing that the results obtained from this analysis can be considered reliable. In terms of management systems being of benefit, the SECQA model appears to be favoured more than individual systems. This can be verified by an average "p value" of 0.000 which indicates that there is a difference between the two methods.

QUESTION 5 - What in particular are the advantages/disadvantages of the SECQA model?

This question was posed to determine if respondents found the management systems selected in the SECQA model appropriate. Respondents had to also indicate what they saw as the advantages and disadvantages of such a model.

Advantages of systems used in the SECQA model

Seven respondents did not comment on the advantages of the SECQA model. One respondent mentioned that the model could be useful because each management system presented served as a strategic tool in sustaining an organisation. Another respondent was of the view that the management systems are appropriately selected because a deficiency of one system in the model is enhanced by the inclusion of another. Three respondents envisaged a reduction in the amount of paperwork with use of the SECQA model. Another three respondents were of the view that the model was comprehensive. Four respondents stated that they believed the model will enable them to utilise their resources more efficiently.

Two respondents mentioned that continuous improvement would be encouraged by adhering to the model. Two other respondents reported that the model would encourage better employee participation in the activities of the organisation and improve teamwork. One respondent stated that adherence to the model would improve the sustainability of an organisation. Holdsworth (2003:199) had similar findings in his research. Five respondents were of the view that integration provided management with more control than individual systems.

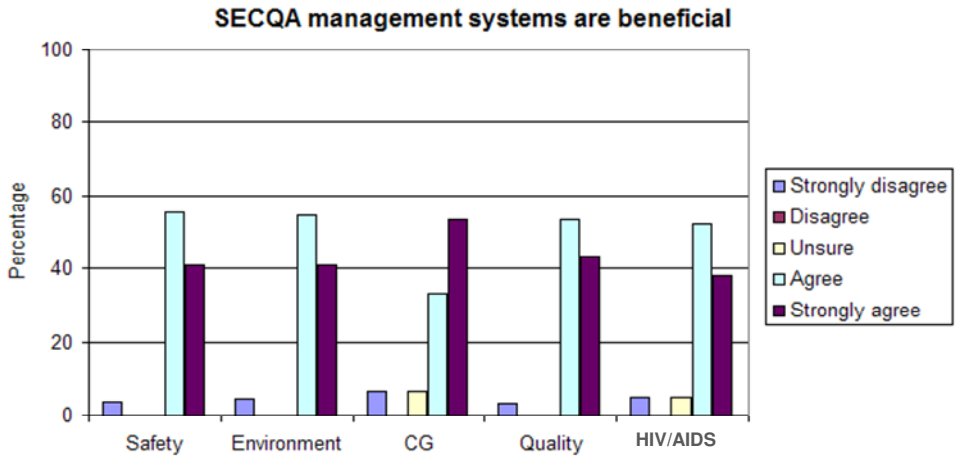

Figure 4. Is the SECQA model beneficial.

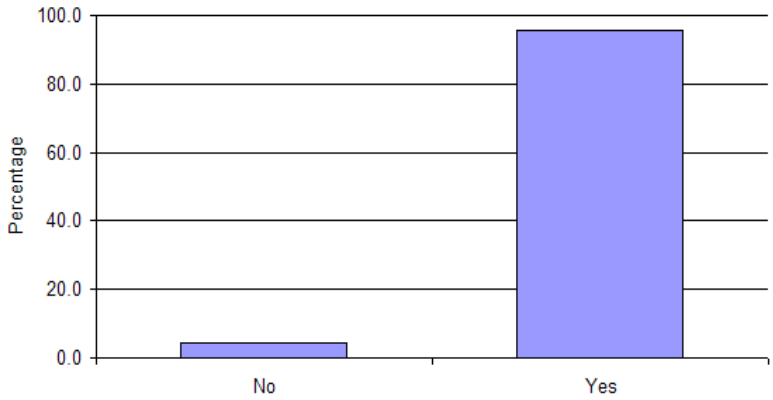

Figure 5. Is the SECQA model better than current practice.

One respondent found the model is advantageous because areas of overlap between individual systems were consolidated and thus the status of the organisation could be assessed at a glance. Another respondent viewed the model as promoting better working conditions for employees. One respondent mentioned that adherence to the model encouraged a safe and healthy working environment for all employees. One other respondent commended the inclusion of AIDS and corporate governance in the model. One respondent viewed that the inclusion of risk management in the model as helpful and will promote good business decision-making to promote the sustainability of an organisation. This finding is in agreement with Wixley and Everingham, (2003:52).

One respondent stated that the model would provide better employee participation. Another respondent was of the view that the model would reduce production time and increase the revenue of the organisation. This can be supported by Shaunessy (2008:35). Two respondents were of the view that adherence to the model would facilitate one person to report to senior management. One respondent viewed the model as being advantageous because of its inclusion of AIDS management. He/she stated that it will make future planning of the organisation more responsive to the actual trends of the country in terms of the virus. This respondent was also of the opinion that adherence to the model would encourage the development of skills of their employees. The responses above are consistent with the intention with which the SECQA model was designed.

The dominant thinking of the respondents was that the inclusion of corporate governance and AIDS management systems with safety, quality and environmental management in the model can provide a consolidated view of the status of an organisation; it can be used on a strategic level as the deficiencies of any one system can be supported by the range selected. The reduction in the resources used and the reduction in the duplication of work, increased teamwork, improved skills development and productivity with the model also featured prominently.

Disadvantages of the management systems used in the SECQA model

Twenty-two respondents did not report on any disadvantages. One respondent was of the opinion that the ISO 9001 system could be very labour intensive if it is not designed appropriately. Another respondent felt that due to the reduction of manpower, job losses could be experienced. One respondent mentioned that due to the constraints of production and the need to achieve production targets, employees do not have the time to learn how to maintain and operate management systems. One respondent complained that the implementation costs of the model could be high. One respondent expressed the view that training in the SECQA model may be difficult. A respondent stressed that punishment should be enforced for failure to adhere to the requirements of the systems. Another respondent reported that due to the inclusion of five systems the focus on individual systems may be lost, thereby resulting in the loss of accreditation. This respondent was also of the opinion that the responsibility of activities may not be clearly defined and that the employee's workload may be increased. Some of the findings above were consistent with the concerns raised by Wilkinson and Dale (2001:318).

In response to the views expressed by the respondents, each requirement in the SECQA model is not prescriptive. It merely provides a guideline for adhering to the management system. The design of the management system is usually done by consultants or a member of the organisation. The design of the management system is dependent on the experience and knowledge of the latter. Hence, responses like tedious paperwork or poorly designed systems can be attributed to such lack of knowledge. Implementation costs of management systems are usually high. This is, perhaps, mostly due to the development of new documentation, increased training and acquiring of additional resources. However, an effectively designed management system will reap profits quickly, which will out-weigh the implementation costs. Support for this contention can be found in Stevenson (2002:420); Gitlow et al. (2005:27); AFP (2005); Khoza (2003); Sanne et al. (2003) (A) (B) (C) and Akass (1994:3).It is suggested that training programmes be designed to accommodate the competency level of the employees. Generic training programmes may be designed for certain departments or competency level of employees and may not be suitable for others. All five management systems in the SECQA model must be reviewed via internal audits. This process should be adequate to determine compliance to the management system. If not, it is suggested that the checklist used during this process be redesigned to be more rigorous to highlight potential findings. In addition, "corrective action forums" and "management reviews" are suitable platforms to investigate possible shortcomings of the management system. The "responsibility" of employees to conduct activities or tasks is addressed in the integrated work instruction. In this way, all employees will be aware of their responsibilities.

Question 6 - What aspects would you recommend for change?

This question was used to elicit any changes the respondents would like to see in the SECQA model. Twenty-one respondents reported that they would not make any changes to the model. One respondent recommended that unnecessary documents be removed from the system and only value-adding activities be conducted. A number of business improvement tools trouble shooting, Kaizen, Lean Manufacturing, Cost of Quality, to name a few, can be used to optimise activities and discard unnecessary steps, thereby ensuring that only value-adding initiatives be maintained. Three respondents urged that intensive training to maintain the model be implemented. Greef (2002:27-28), Holdsworth (2003:202), Oakland (2003:324) and Evans (2005:25) shared common beliefs on the benefits of training. To support their belief, this study designed documentation such as an integrated policy, integrated procedure, integrated work instruction and an integrated checklist to serve as fundamental documents to support management systems, as a means to assist employees in the development, implementation and maintenance of an integrated management system.

One respondent recommended that flow charts and simple procedures be designed to facilitate the implementation and maintenance of the model. Another respondent was of the view that each management system be allocated a weighting. The respondent did not substantiate his/her view. One respondent expressed the view that certification to the management systems used in the model be achieved from one audit. At this stage, the SECQA model cannot be audited as a stand-alone model for certification purposes because it has not yet been fully tested. However, adherence to the model will make auditing and maintaining multiple systems separately much easier as it provides more control and consolidates practices such as documentation, auditing and training. It is hoped that as the benefits of the model are accepted, an integrated audit can be conducted to certify the model. This could perhaps provide an opportunity for future research.

One respondent was of the view that incentives be awarded to employees to increase their morale. The review of literature did not discuss incentives for employees. It was confined to improving profits of the organisation. The review, however, highlighted additional training and employee empowerment as a method to improve employee morale. One respondent stated that managers should review and change their style of

management to support integration such as the SECQA model. These findings are consistent with the view propounded by Karaszewski (2004:59) that management behaviour, commitment and style influences the employees' impressions on the implementation of management systems. One respondent expressed the view that the more competent employees of the organisation be used to maintain the integrated management system. Another respondent urged that the integrated management system be implemented throughout the organisation. Holdsworth (2003:194) and Fresner and Engelhardt (2004:624) are in agreement about the synergy of quality, environment and safety management systems. Hence, in response to the findings above, integration of management systems should be implemented throughout the organisation as the activities associated with these management systems manifest themselves in all departments.

DISCUSSION

An evaluation of the questionnaire presented some of the challenges faced by managers and employees with regard to implementation and maintaining multiple-management systems. Statistical analyses of the responses were conducted using the SPSS package. Where possible the results were supported by using correlations and reliability indexes.

The SECQA model

There was a strong view from respondents in support of integrating safety, quality and environmental management systems. A lack of follow-up to incidents and poor implementation of systems were mentioned in almost all management systems. The study demonstrated how the proposed SECQA model was able to accommodate the challenges and difficulties expressed by the respondents above. Although, 11 respondents were of the view that the SECQA model would reduce the number of employees, 10 respondents did not agree with this view while 9 respondents were unsure. Approximately 70% of the respondents mentioned that the model could reduce resources when compared to current practice. Ninety-five percent of the respondents found that the management systems incorporated in the model were suitable to the present trends of the country. Ninety-seven percent of the respondents indicated that the SECQA model is better than current practice. For the most part, respondents did not recommend any changes to the model. However, they advised that extensive training for the implementation of the model be administered. There was a common view that the model could reduce the duplication of work and that it also facilitates the auditing process, encourages teamwork and skills development, provides for risk assessment and enhances continuous improvement.

CONCLUSIONS, RECOMMENDATIONS AND WAY FORWARD

This paper discussed the integration of selected management systems in the form of a model and used a questionnaire to obtain the perceptions of industry. Models were found to provide a systematic approach to solving and increasing the understanding of a problem. This contention is supported by Stevenson (2002:13). The process approach as illustrated in ISO 9001:2000 management system was found to form a suitable platform to incorporate safety, corporate governance, quality, AIDS and environmental management. The use of the process approach was consistent with the findings of Wilkinson and Dale (2001:318). The study went further to reveal how the requirements from the individual systems could be integrated into the SECQA model without duplication of work. A set of documents such as an integrated policy, an integrated procedure, an integrated work-instruction and an integrated checklist were introduced as supporting structures for organizations hoping to implement the SECQA model. The following conclusions can be made from the survey. Although, some respondents concluded that the SECQA model would reduce resources, fewer respondents did not believe the same and some respondents were unsure. The majority of the respondents found that the management systems incorporated in the model are beneficial for the organization and are suitable to the trends in the country. The advantages of the SECQA model as identified by the respondents included: reduction in the duplication of work, facilitation of the auditing process, encouragement of teamwork, skills development, risk assessment and continuous improvement.

A disadvantage is that the organizations under investigation may not have had suitable platforms to support integrated management systems, hence, they would experience problems. These structures will have to be put in place before implementing the SECQA model. As none of the respondents recommended any changes to the SECQA model it may be inferred that they have confidence in the existing format. The respondents concluded that there is a difference between current practice and the situation with the proposed model. The majority of the respondents found that the SECQA model was better than current practice. Hence, the study supports the implementation of the SECQA model. From earlier discussions and the conclusions above, the following general recommendations in terms of integrating management systems can be drawn: Rigorous training should be provided to all employees as they form the members of cross-functional quality circles. It is encouraged that all the successes of the training programmes

be documented for reference purposes and regular communication with external and internal stakeholders be urged. In this way any gaps in service delivery or product requirements can be highlighted and addressed. Employees should be informed of the potential impact of their not adhering to the requirements and the rules laid down by the management systems. It is suggested that if expertise is not available within the organization to design management systems, suitable consultants can be employed.

Perhaps organizations should ensure that these consultants designing the management systems for compliance purposes are experienced in their area of expertise. In addition the consultants should have sufficient experience in designing management systems which would enable them to design the processes to add value to the organization. It could also be useful if the organization verified the credibility and track record of the consultant in previous tasks undertaken. The efficiency of the latter can act as an indication of the ability of the consultant. It was concluded that respondents also faced limitations because of a lack of resources, lack of time and a lack of training which probably stemmed from the failure of management to accept the benefits of operating effective management systems. This could perhaps contribute to the loss of productivity and loss of profit. To prevent such misunderstandings, it is recommended that management should perhaps ensure that contracts be drawn, accepted and signed between potential employees and the organization before commencement of employment. Any value below 100% conforming products allows employees to manufacture defects or perform below perfection. This promotes a culture which moves away from excellence.

The way forward

Although, corporate governance and AIDS management were adopted informally by many organizations, related literature showed the urgency of including them in the traditional integrated safety, quality and environmental management systems. It is hoped that this research provided a breakthrough of new material with the SECQA model and that it will take the concept of integrated management one step further because it provides a system which advocates similar requirements to the South African Excellence Model (SAEM). It would be encouraging to see organizations wishing to achieve SAEM status using the SECQA model as a method for preparation for the above accreditation process. Although, there is a natural progression of organizations to move from integration of activities to optimizing them, and recently, innovating new products and services, there have been no known studies proposing corporate governance and AIDS management with safety, quality and environmental management systems and a model of this nature is applicable locally, nationally and even internationally.

FUTURE RESEARCH

As organizations progress towards optimization, achieving business excellence becomes the next focal point as a key factor to wining new customer contracts. Many American organizations have sought to achieve accolades in business excellence. Every effort was made by these organizations to achieve the Malcolm Baldrige certification. It is hoped that the SECQA model be implemented and tested within an organization as part of further research studies to determine its full potential. The SECQA model provides a comprehensive model in terms of the range of management systems selected to provide a holistic integrated management system to promote the sustainability, productivity and competitiveness of an organization. Finally, it is hoped that managers will use the SECQA model proposed in this study as a springboard to prepare organizations for sustained quality improvement and business excellence accreditation.

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