INTERNATIONAL RESEARCHERS

ROOT CAUSE ANALYSIS OF STRATEGIC MANAGEMENT PROBLEMS: A CASE STUDY

Prof. Chris Adendorff and Prof. Kobus Jonker

Volume No 1 Issue No.2 June 2012

www.iresearcher.org

ISSN 227-7471

THE INTERNATIONAL RESEARCH JOURNAL "INTERNATIONAL RESEACHERS"

www.iresearcher.org

© 2012 (individual papers), the author(s)

© 2012 (selection and editorial matter)

This publication is subject to that author (s) is (are) responsible for Plagiarism, the accuracy of citations, quotations, diagrams, tables and maps.

All rights reserved. Apart from fair dealing for the purposes of study, research, criticism or review as permitted under the applicable copyright legislation, no part of this work may be reproduced by any process without written permission from the publisher. For permissions and other inquiries, please contact

editor@iresearcher.org

INTERNATIONAL RESEARCHERS is peer-reviewed, supported by rigorous processes of criterion-referenced article ranking and qualitative commentary, ensuring that only intellectual work of the greatest substance and highest significance is published.

ROOT CAUSE ANALYSIS OF STRATEGIC MANAGEMENT PROBLEMS: A CASE STUDY

Prof. Chris Adendorff, PhD¹, Prof. Kobus Jonker, DBA²

Nelson Mandela Metropolitan University Business School, P.O Box 77000, Port Elizabeth, 6031, South Africa

(SOUTH AFRICA)

E-mails: powerhouse@alfresco.co.za and kobus.Jonker@nmmu.ac.za

ABSTRACT

Problem solving ability is a much south-after trait for The Bottling Plant Africa executives, especially the ability to solve strategic management problems. This article proposes a systematic (RCA) process for The Bottling Plant Africa that effectively and consistently uncovers some of the root causes of strategic management problems and proposes certain controls of these causes in a way that could prevent the problems from recurring. Achieving and maintaining excellence in strategic management projects is a top priority for The Bottling Plant Africa. To accomplish this goal, The Bottling Plant Africa will have to implement a series of significant strategic management reforms, including the conduct of the root cause analysis (RCA) to identify the major challenges to strategically plan and manage The Bottling Plant Africa's Projects. The RCA article pinpoints possible opportunities to improve The Bottling Plant Africa's management of strategic management projects and serves as the foundation for developing and implementing corrective measures to improve performance and, ultimately, being removed. The RCA is unique in that it represents the first time that The Bottling Plant Africa internally have identified some past and present deficiencies in strategic management issues and gained consensus on their possible root causes. Developed in combination with The Bottling Plant Africa management professionals, this report highlights some areas that require important considerations that this article initiated. The issues and underlying root causes identified for The Bottling Plant Africa highlight some past and present strategic management challenges. The focus of this proposed initial Corrective Action Plan (CAP) for The Bottling Plant Africa is to successfully address the deficiencies identified in the RCA and improve strategic management performance. To realize improvement, strategy planning may need to be increased and the strategic management policies, systems and structures used to manage strategy, needs to be strengthened.

KEYWORDS: Strategic Management, Root Cause Analysis, Corrective Action Plan.

1. INTRODUCTION

The Bottling Plant Africa the continent's leading manufacturer and distributor empty bottles in Africa. The Bottling Plant Africa operates four business units in Africa: South Africa, Nigeria, East and Central Africa, as well as North and West Africa. Nigeria, Egypt, Morocco and Kenya are the top five markets currently on the continent. This extensive reach is made possible by 37 bottlers, operating 161 bottling and canning operations, and serving retailers across the formal and informal sectors.

Both through The Bottling Plant Africa Foundation and directly, The Bottling Plant Africa Company is an active contributor to initiatives that focus on HIV/AIDS prevention, environment (water), education and entrepreneurship. Over the next decade The Bottling Plant Africa is committed to also investing US\$60 million to flagship projects, which should also provide clean drinking water to poorer communities, support HIV/AIDS and malaria programmers, enhance education and help young people develop entrepreneurial skills, to mention a few (Salvador, 2011).

Root cause analysis (RCA) is a class of problem solving methods aimed at identifying the root causes of problems or events (University of Pittsburgh, 2009). The practice of RCA is predicated on the belief that problems are best solved by attempting to address, correct or eliminate root causes, it is more probable that problem recurrence will be prevented (University of Pittsburgh, 2009). However, it is recognized that complete prevention of recurrence by one corrective action is not always possible. Conversely, there may be several effective measures (methods) that address the root cause of a problem. Thus, RCA is often considered to be an iterative process, and is frequently viewed as a tool of continuous improvement (Wong and Chatterjee, 2009).

RCA is typically used as a reactive method of identifying event(s) causes, revealing problems and solving them. Analysis is generally done after an event has occurred. Insights in RCA may make it useful as a pro-active method. In that event, RCA can be used to forecast or predict probable events even before they occur (Ramachandran, 2011).

The origins of root cause analysis can be traced to the broader field of total quality management, or TQM (Anderson & Fagerhaug, 2006:12). Root cause analysis has been defined as a structured investigation that aims to identify the true cause of a problem and the actions necessary to eliminate it (Neal, Watson, Hicks, Porter & Hill, 2004:75). Root cause analysis also regarded as originated in the field of engineering, and, during the last three decades, it has been applied in fields such as aerospace, transportation, nuclear power, chemical processing, pollution control, information technology, manufacturing and health care (Rademeyer, du Plessis and Kepner, 2009). It is evident from this list that the field of strategic management has not been an area in which root cause analysis has generally been applied.

The research objective of this article was to apply and test a root cause analysis process that would uncover the causes of strategic management problems for The Bottling Plant Africa. The researchers believe that strategic management problems require the same detailed scrutiny and attention that problems in the fields mentioned above do.

However, while The Bottling Plant Africa takes pride in its recent accomplishments, significant opportunities remain for further improvement in the areas of strategic management. In order to assess the underlying causes for past challengers, a root cause analysis was conducted to identify significant strategic management deficiencies and to subsequently develop a strategy to make the changes required to allow The Bottling Plant Africa to attack these deficiencies head-on. While the emphasis of this article is directed at strategic management projects, several of the issues identified are also applicable to other projects, such as major items of equipment projects and Office of Environmental Management cleanup projects.

The very nature of The Bottling Plant Africa's business required excellence in the execution of relatively straightforward strategically managed projects to large, complex projects as a core competency. Improvements in management projects have been made and these resulted in improved project execution performance. Despite the most recent strategic managed improvement trends, The Bottling Plant Africa's performance goals have not yet entirely been achieved. Challenges continue predominantly in the areas of inadequate up-front strategic planning, human capital, organizational alignment, and inadequate oversight of The Bottling Plant Africa's strategic projects. Too often original strategic project performance baselines are breached, and, at times, they are breached significantly.

This RCA article will serve as a foundational document for strategic management performance improvement at The Bottling Plant Africa. It is a reassessment of what issues and underlying root causes remain which negatively impact strategic performance. The issues and underlying root causes can be addressed to make significant strides for achieving and maintaining The Bottling Plant Africa's strategic and portfolio performance goals.

2.ROOT CAUSE ANALYSIS OBJECTIVES

The overall objective of this research was to identify and define the root causes impeding improved strategic management performance of The Bottling Plant Africa. The specific sub-objectives were:

- To identify a comprehensive list of root causes that negatively impact strategic management.
- To provide a basis for developing recommended solutions that address the identified root causes and issues and mitigate or eliminate any negative impacts to strategic management performance.

3. APPROACH AND METHODOLOGY

The approach for conducting the strategic management RCA, involved collecting data through document reviews and personnel interviews and then analyzing the issues and identifying root causes during a 1-day informal workshop. Workshop attendees included 9 strategic managers and project management personnel from The Bottling Plant Africa headquarters and various sites, including 2 regional project directors.

The methodology used to perform the strategic management RCA included the following steps:

3.1 **Define the Problem**. Despite certain improvements in strategic management, The Bottling Plant Africa's performance in completing strategic projects within cost and schedule baselines continues to be inconsistent. Most

recent strategic project performance continues to fall short of performance goals as a result of impediments and challenges to managing and strategic projects.

- 3.2 **Gather Data and Evidence**. Data was gathered to document past shortcomings in strategic performance. This data was predominantly gathered from reviewing documented The Bottling Plant Africa's reports that specifically addressed strategic management issues. The significance and value of the findings in many of these reports were still "germane". They were reviewed for continued applicability. The findings from these reports were validated and supplemented with informal interviews of people directly responsible for, and closely familiar with The Bottling Plant Africa's strategic management issues.
- 3.3 **Identify Issues that Contribute to the Problem**. This was done on the basis of the data gathered and reviewed through document reviews and informal interviews. The workshop participants also identified the most significant strategic management issues that continue to plague performance. While no empirical evidence was able to delineate how each issue impacted each strategic project, there was broad acknowledgement that addressing the identified strategic issues would improve performance. There was also general agreement that while the strategic issues identified were present in some strategic management projects, they were not necessarily representative of all The Bottling Plant Africa's strategic management activities.
- 3.4 **Find the Root Causes**. Once the common issues negatively affecting strategic management performance were established, a more thorough review of the main issues was undertaken to determine the reasons why they continue. The RCA methodology commonly referred to as the "Five Whys" procedure was used for this purpose. During the workshop, individuals knowledgeable of, and directly responsible for, managing strategic management projects, identified probable root causes through this challenging series of questions as to "why" the situation, event, or condition associated with each of the identified strategic issues existed. The responses were structured to establish root causes for this article.
- 3.5 **Develop Recommended Solutions**. Upon determining the underlying root causes for strategic management shortcomings, a series of recommended solutions have been developed in the form of corrective measures aimed at resolving the strategic management issues and root causes. The focus will be on properly addressing the critical few having the biggest impact, which will have a positive impact on all of the identified strategic management issues. To establish ownership and ensure successful implementation, future corrective measures have also been suggested with broad input and support from people across The Bottling Plant Africa.
- 3.6 **Establish Milestones and Performance Measures**. Each of the corrective measures will have to include discrete milestones and performance measures. These milestones and performance measures will be used in the future to evaluate implementation of the corrective action plan as well as the overall strategic management performance in accordance with The Bottling Plant Africa's established strategic performance goals.
- 3.7 **Implement Recommended Solutions**. Each corrective measure will also then have to be included in a comprehensive and integrated corrective action plan. The implementation of specific corrective measures will then have to be evaluated and reported on a periodic basis.
- 3.8 **Identify Resources to Observe and Measure Performance for Desired Outcome.** Ensuring the commitment and allocation of the necessary strategic resources to continually measure performance against The Bottling Plant Africa's performance goals.

4. DATA COLLECTION AND FINDINGS

The purpose of data gathering is to generate evidence to support any researchers claim to knowledge (Rademeyer et al. 2009) Over the years, there have been many external reports and studies focused on The Bottling Plant Africa strategic management strategic challenges. Some of these reports and studies highlighted the root causes of these particular strategic challenges. As mentioned above, the value and importance of past findings and recommendations addressed in previous studies on strategic management remain "germane". A total of 9 documents were reviewed and the key issues that impact strategic management performance were identified. Thereafter, a comprehensive list of potential current issues that continue to impede strategic management performance was compiled.

In addition, informal interviews were conducted to validate past findings and to identify any additional strategic management performance issues that may not have been identified through our document reviews. In addition to interviewing of The Bottling Plant Africa's headquarters and field personnel directly responsible for managing

strategic projects, representatives knowledgeable about The Bottling Plant Africa projects, were also informally interviewed. In most cases, these interviews did not identify any new issues; however, they did confirm the continued presence of previously identified and documented strategic management issues.

As mentioned above, an informal root cause analysis workshop was conducted on 2nd September 2011, to discuss the challenges of strategic planning and managing The Bottling Plant Africa's strategic projects, including the major issues and associated root causes impacting strategic management performance. Attendees were assembled during the workshop to review, revise, merge, delete, and/or validate the previously defined 38 strategic issues as well as identify additional new strategic issues impacting strategic management. The resulting top 10 and most prominent strategic management issues identified by the workshop participants are outlined in figure 1 below:

After consolidating and prioritizing the above mentioned strategic management problems, the most significant issues impeding performance were further evaluated to identify root causes. The purpose of the RCA was to identify the underlying causes that, when corrected, will preclude or minimize the recurrence of strategic management deficiencies in the future. As discussed earlier, the RCA incorporated the "Five-Whys" methodology.

Figure 2 below summarizes and presents the top 10 strategic management issues along with the results of the root cause analysis. Taken in context with the resulting strategic management issues and recurring shortcomings related to planning, oversight, organization, and resources, these root causes emanate from an ingrained culture of weak ownership of projects, including associated strategic mechanisms, from inception through execution to completion.

Table 2: Summary of Top 10 Strategic Management Issues and Associated Root Causes			
TOP 10 THE BOTTLING PLANT AFRICA PTY (LTD) STRATEGIC MANAGEMENT ISSUES	ROOT CAUSES		
1. The Bottling Plant Africa PTY (LTD) often does not complete front-end strategic planning (to include) project requirements definition) to an appropriate level before establishing strategic project baselines.	 Insufficient number of people Inadequate skilled personnel Inadequate time Reliance on the outside contractors Lack of benchmarking Ineffective interdepartmental integration Limited planning budget 		
2. The Bottling Plant Africa PTY (LTD) does not have adequate resources allocated to strategic management, contracting and project personnel with the appropriate skills in Africa (e.g., cost estimating, scheduling risk management, and technical expertise) to place, direct, and oversee strategic project execution.	 Insufficient budget Conflicting and competing priorities Inadequate roles and responsibility definition Inadequate training 		
3. Risks associated with strategic projects are not objectively identified, assessed, communicated, and managed through all phases of strategic planning and execution.	 Insufficient number of staff Inadequate training Lack of management emphasis and direction Lack of recognition of the required number of personnel and the necessary skills needed. 		

- Failure to request and obtain full funding (or planned incremental funding) results in increased risk of strategy failure.
- Suboptimum portfolio management Ineffective project and program prioritization and resource allocation.

	THE BOTTLING PLANT AFRICAPTY (LTD) STRATEGIC MANAGEMENT ISSUES	ROOT CAUSES
5.	Contracts for strategic projects are too often awarded in Africa prior to the development of adequate government participation co-ordination.	 Lack of policy and standards Lack of qualified personnel Lack of databases with current or historical information
6.	The Bottling Plant Africa's strategic acquisitions strategies and plans are often ineffective and are not developed and driven by strategic management personnel. The Bottling Plant Africa PTY (LTD) does not begin strategic acquisition planning early enough in the process or devote the time and resources to do it well.	 Insufficient qualified staff Competing priorities Personnel resource conflicts and budget limitations Lack of effective field and headquarters integration Lack of lessons learned Inadequate roles and responsibilities definition.
7.	The Bottling Plant Africa's organizational structure is not entirely optimized for strategic managing projects.	 Competing priorities Lack of prioritization on strategic project management Lack of alignment in authority, accountability and responsibility Attributes of optimized organization structure are not identified and universally understood.
8.	The Bottling Plant Africa PTY (LTD) has not ensured that its strategy management requirements are consistently followed. In some instances strategic management projects are initiated or carried out without fully complying with the processes and controls contained in The Bottling Plant Africa's policy and guidance	 Conflicting guidance and priorities Lack of adequate personnel resources Inadequate training Lack of failed project reviews

- 9. Ineffective The Bottling Plant Africa's strategic management project oversight has sometimes resulted in failure to identify strategic project performance issues in a timely manner.
- Inadequate budget and personnel resources
- Competing and conflicting resource priorities
- Lack of effective portfolio management
- Inadequate field oversight.
- 10. The Bottling Plant Africa PTY (LTD) is not effectively executing its ownership role on some large strategic management projects with respect to the oversight and management of strategic contracts and contractors.
- Inconsistent expectations and definition of ownership role
- Lack of experienced and qualified personnel
- Limited authority
- Lack of accountability

As this RCA article indicates, there are opportunities for continuous improvement in strategic management activities. The following is a list of potential preliminary corrective measure captured during the one day informal workshop. These, along with other future proposals, could be fully vetted in follow-on efforts to finalize a Corrective Action Plan (CAP):

- Acquire, develop, and retain a comprehensive strategic management and qualified management workforce through comprehensive resource management.
 - Conduct a thorough assessment of existing strategic capability and a needs analysis of current and future strategic requirements;
 - ii. Close skill and competency gaps;
 - iii. Implement a strategic workforce staffing plan; and
 - iv. Provide training at the point of need to support mission-driven strategic management needs
- Improve the efficiency and effectiveness of hiring practices in Africa.
- Improve the discipline and structure for certifying future staff developments at predetermined skill
 levels to ensure competent strategic management oversight of resources for appropriate strategic
 projects at specific geographical locations; the right people, at the right place, at the right time.
- Improve and communicate the definition of roles and responsibilities for strategic management implementation.
- Improve accountability at the individual and organizational level for both head office and regional areas in Africa.
- Enforce strict ownership and contractor adherence to the identification, definition, and justification of strategically managed project needs.
- Improve the alignment, coordination, and integration of strategic management functions, including integrated and timely change control management.

- Establish and implement a procedure to ensure that ongoing strategically managed projects are reevaluated frequently in light of changing missions.
- Develop a more disciplined strategic management cost estimating capability to develop independent cost estimates, conduct comprehensive cost analysis, and support more accurate budget development efforts in strategic African projects.
- Ensure that financial and strategic management systems provide accurate, reliable, and timely information on strategic contract spending and project costs.
- Provide improved policy and strategic guidance on the optimal use of funding and develop guidance to assist in the establishment of realistic incremental funding profiles based on the historical realities of the budgeting process.
- Improve the specific requirements for front-end strategic planning.
- Establish performance baselines based on more complete strategic management designs.
- Maximise the practice of strategic 'projects' (or programs) into smaller strategic projects. This will
 enable greater focus and requirements definition on smaller facility subsets and will enhance
 strategic management span of control and oversight.
- Enhance the existing internal and external independent review processes to improve the strategy
 planning of strategic projects before authorization to assure that the appropriate level and detail of
 planning has been completed.
- Increase strategic management acquisition and contract management training for programme managers and strategic project directors.
- Improve the ownership and development of strategic acquisition strategies.
- Increase oversight of strategic plan implementation, including the writing of statements of work, evaluation criteria, and performance incentives.
- Improve the planning and management of strategic project risks, using defined systems and processes.
- Develop and use internal and external strategic management benchmarking data for continuous performance improvement.

The above list is not all encompassing but documents some potential future corrective measures. There are certainly other measures requiring consideration, and these will be identified and further defined through the corrective action planning process. Once all of the potential corrective measures have been vetted, a comprehensive and integrated Corrective Action Plan (CAP) will be established. The CAP will include a series of corrective measures directed at mitigating or eliminating the root causes to improve strategic management performance. The focus will be on properly addressing the critical few having the biggest impact, which will have a positive impact on all of the identified strategic management issues.

6. PROPOSED CORRECTIVE ACTION PLAN

The focus of this Corrective Action Plan (CAP) is to successfully address and propose the deficiencies identified in the RCA and to improve strategic management performance. To realize improvement, the number and capabilities of The Bottling Plant Africa's strategic management personnel may need to be increased and the management policies, systems, and structures used to manage strategic projects strengthened.

While each strategic project has individual schedule goals, the primary focus of The Bottling Plant Africa's overarching performance goals is to maintain cost discipline by recognising that any significant schedule delay translates to strategic project cost increases. Strategic project schedules will have to be monitored; however, in the

near term, minimizing strategic project cost growth will be The Bottling Plant Africa's primary focus with the understanding that there is a strong correlation between schedule and cost.

In order to improve its strategic management performance, it is imperative to mitigate and, where applicable,

Figure 3: The Bottling Plant Africa's Corrective Measures Aligned to Address the Most Significant Strategic Management Issues and Associated Underlying Root Causes

Most Significant Strategic Management Issues and Underlying Root Causes	Strategic Management Corrective Measures
1. The Bottling Plant Africa often does	CORRECTIVE MEASURE #1
not complete front-end strategic planning (to include) project requirements definition) to an appropriate level before establishing strategic project baselines.	Establish and implement measures to ensure adequate strategic project requirements definition is accomplished before a project performance baseline is established. This would include defining strategic planning benchmarks, ensuring adequate resource allocation and conducting third-party review prior to strategic projects approval, additional funding authorization and strategic project execution.
	cycle so that the business and strategy also are measured against predetermined KPI's/KBI's
The Bottling Plant Africa does not have adequate resources allocated	CORRECTIVE MEASURE #2
to strategic management, contracting and project personnel with the appropriate skills in Africa (e.g., cost estimating, scheduling risk management, and technical	Develop and implement a comprehensive The Bottling Plant Africa staffing plan, with an associated resource plan, to recruit, develop, and retain the optimum strategic management workforce
expertise) to place, direct, and oversee strategic project execution.	Ensure effective communication to all levels of staff.
Risks associated with strategic projects are not objectively	CORRECTIVE MEASURE #3
identified, assessed, communicated, and managed through all phases of strategic planning and execution.	Establish objective, uniform methods for assessing communicating, and managing strategic project risks and uncertainties. This would include the development of realistic budgets and schedules, and the consistent definition, development and use of management reserve and contingency. Be cautious of the requirement of the strategy and ensure they are in place. These

could be from a resource, capability,

funding, capacity perspective.

*Continues form page 9		
Most Significant Strategic Management Issues and Underlying Root Causes	Strategic Management Corrective Measures	
4. Failure to request and obtain full funding (or planned incremental funding) results in increased risk of strategy failure.	Improve the alignment and integration of cost baselines with budget funding profiles to account for budget fiscal realities and to ensure uninterrupted project execution. Enhance strategic prioritization and associated resource allocation to minimise negative impact to the performance baseline. Ensure information of the market is accurate and more importantly relevant so that they can be relied on to make good	
5. Contracts for strategic projects are too often awarded in Africa prior to the development of adequate government participation coordination.	CORRECTIVE MEASURE #5 Establish and implement an independent cost estimating capability, including the development of appropriate policy and standards, allocation of required resources, and compilation of unit cost labour and material databases.	
6. The Bottling Plant Africa's strategic acquisitions strategies and plans are often ineffective and are not developed and driven by strategic management personnel. The Bottling Plant Africa does not begin strategic acquisition planning early enough in the process or devote the time and resources to do it well.	CORRECTIVE MEASURE #6 Strengthen the commitment to The Bottling Plant Africa ownership by aligning and integrating acquisition strategies and acquisition plans and strategic project plans; clearly define roles and responsibilities, enhance integrated strategic projects teams participation, and ensure accountability for ownership and integrating. Ensure effective communication to all levels of staff.	
*Continues on page 11		

*Continues form page 11 **Most Significant Strategic Management Strategic Management Corrective Issues and Underlying Root Causes** Measures 7. The Bottling Plant Africa's **CORRECTIVE MEASURE #7** organizational structure is not Identify and implement opportunities to entirely optimized for strategic improve the management and oversight of managing projects. strategic projects; clarify strategic management rolls, responsibilities and The Bottling Plant Africa has not authorities, including field and headquarters ensured that its strategy integration. management requirements are consistently followed. In some Establish a strategic oversight benchmark instances strategic management projects are initiated or carried out Ensure that the system is robust enough to without fully complying with the take leanings or the journey to course processes and controls contained in correct if so required. The Bottling Plant Africa's policy and guidance **Ineffective The Bottling Plant** Africa's strategic management project oversight has sometimes resulted in failure to identify strategic project performance issues in a timely manner. 8. The Bottling Plant Africa is not **CORRECTIVE MEASURE #8** effectively executing its ownership

8. The Bottling Plant Africa is not effectively executing its ownership role on some large strategic management projects with respect to the oversight and management of strategic contracts and contractors.

Re-evaluates strategic management policy, guidance, and standards for alignment and consistency.

Establish measures and procedures to ensure that all strategic management requirements are clearly documented and followed and responsible personnel are held accountable.

Source: Researchers own construction

6. SUMMARY

This article conclusion focused on past The Bottling Plant Africa strategic management challenges and their issues pertaining to certain underlying root causes. Improvement in strategic management is the imperative. However, future enhancements must be measurable (and sustainable) to achieve performance goals. Areas for improvement were identified as a result of this article, including the composition of a workforce, their capabilities, organizational alignment and interaction as well as strategic management processes and systems.

To improve strategic management efforts at The Bottling Plant Africa, the identified root causes from this article will be proposed with the appropriate corrective actions which can then be actively tracked and managed over time. Effective performance in strategic management effort is essential to achieving The Bottling Plant Africa's mission and goals.

Real, sustainable, and measurable strategic management performance requires The Bottling Plant African organizational and managerial commitment for continuous improvement from top to bottom. By focusing on strategic project definition and front-end strategic planning, resource allocation and acquisition strategy decisions, risk management and project oversight, strategic management performance will improve. This will require investment in human capital to acquire, develop, and retain qualified personnel commensurate with the value and complexity of the strategic projects.

These and other corrective measures could be merged into an official and comprehensive strategic management CAP. This CAP could be developed by The Bottling Plant African cross departmental team and vetted across the agency and with appropriate stakeholders to muster maximum support. Some of these corrective measures can be implemented with immediate effect.

7. BIBLIOGRAPHY

Anderson, B., & Fagerhaug, T., 2006. ROOT CAUSE ANALYSIS Simplified Tools and Techniques. American Society for Quality Publishers

Neal, L.A., Watson, D., Hicks, T., Porter, M., & Hill, D. 2004. Root cause analysis applied to the investigation of serious untoward incidents in mental health services. Psychiatric Bulletin

Ramachandran, V., 2011. Root Cause Analysis as a Management Tool. Available at:

http://www.brighthub.com/hubfolio/ramachandran-v/articles/117679.aspx. Accessed: September 2011

Rademeyer, A., du Plessis, Y., & Kepner, C., 2009. *Human performance variation analysis: a process for human performance problem-solving.* Wall Street Journal (2009) Volume: 7, Issue: 1

University of Pittsburgh., 2009. Root Cause Analysis. Available at

http://www.nasmhpd.org/general_files/publications/Hospital%20CEO%20Toolkit/Updated%20PDF%20Toolkit/8.7%20%20Root%20Cause%20Analysis%20(Frank%20Ghinassi).pdf. Accessed: September 2011

Wong, W., & Chatterjee, B., 2009. Integrating Risk Management as an Effective Approach to Root Cause Analysis: Optimize time and cost of product development by managing risk. BioPharm International. Volume 22, Issue 1