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THE DEVELOPMENT OF A ROOT CAUSE ANALYSIS PROCESS FOR VARIATIONS IN HUMAN PERFORMANCE

by

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PRETORIA

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"I asked for strength that I might achieve;
I was made weak that I might learn humbly to obey.
I asked for health that I might do greater things;
I was given infirmity that I might do better things.
I asked for riches that I might be happy;
I was given poverty that I might be wise.
I asked for power that I might have the praise of men;
I was given weakness that I might feel the need of God.
I asked for all things that I might enjoy life;
I was given life that I might enjoy all things.
I got nothing that I had asked for,
But everything I had hoped for.
Almost despite myself my unspoken prayers were answered;
I am, among all men, most richly blessed."

(Prayer of an unknown Confederate soldier, cited in Haddon, 2003:155)

DECLARATIONS

I, Anerie Rademeyer, declare that '*The development of a root cause analysis process for variations in human performance'* is my own unaided work both in content and execution. All the resources I used in this study are cited and referred to in the reference list by means of a comprehensive referencing system. Apart from the normal guidance from my supervisors, I have received no assistance, except as stated in the acknowledgements.

I declare that the content of this thesis has never before been used for any qualification at any tertiary institution.

I, Anerie Rademeyer, declare that this study was language edited by Idette Noomé (MA English, University of Pretoria).

_____

Anerie Rademeyer

ABSTRACT

The development of a Root Cause Analysis process for variations in human performance

by

Anerie Rademeyer

Promotor	:	**Dr Yvonne du Plessis**
Co-promotor	:	**Dr Charles H Kepner**
Faculty	:	**Economic and Management Sciences**
Degree	:	**Philosophiae Doctor (Human Resources Management)**

Problem-solving ability is now the most sought-after trait in up-and-coming executives, according to a survey of 1 000 executives conducted by Caliper Associates, reported in the *Wall Street Journal* by Hal Lancaster (Hoenig, 2002:338). This trait would include the ability to solve human performance problems, something many people tend to steer clear of.

According to Piskurich (2002:57-58) and Rothwell, Hohne and King (2000:67-71), the most common problem-solving tools that are used when solving human performance problems are brainstorming, cause-and-effect analysis, and the five why's technique. Although techniques such as these have proven to be robust and useful, what is required to solve human performance problems is a logical and verifiable process that can establish a data point about which relevant information can be recognized and gathered, and against which the conclusion can be evaluated, to have confirmed knowledge of the root cause of the problems. Unfortunately, existing root cause analysis processes tend to focus on processes and systems, rather than on individual performance (Bowling, 2003).

The main objective of this study was to develop a root cause analysis process that would uncover the root cause(s) of uncontrolled variation(s) in human performance and prevent the recurrence of events causing the variation. In addition to addressing individual human performance incidents, it is also necessary continually to manage people's performance to detect and address

any occurrences (or recurrences) of performance variations. Therefore, in addition to the main objective, the study also aimed to develop a Human Performance Management Model that incorporated the root cause analysis process as a problem-solving tool.

Action research was used in this study, because of the cyclical iterative nature of this type of research, and because it is a rigorous, responsive and flexible process. The study consisted of three cycles. The end result was a structured root cause analysis process – the Human Performance Variation Analysis (HPVA) process – that enables the systematic collection of valid and reliable information, as is required to solve variation in human performance. The HPVA process is a three-part process that consists of 11 steps. The process is in turn a tool that forms part of a ten-step Human Performance Management Model.

The study contributes to the body of knowledge on human performance management by presenting the following:

- a systematic root cause analysis process that uncovers the root causes of human performance problems effectively and consistently and that controls these causes of problems in a way that prevents the problems from recurring; and
- a Human Performance Management Model that will help to sustain the new, improved performance; prevent the same or similar performance problem(s) in other areas of the organisation; and ultimately, create an environment and culture of continuous human performance improvement.

Key terms:

Human performance enhancement
Human performance technology
Performance analysis
Performance deviations
Performance improvement
Performance management
Performance management model
Performance problem-solving
Problem-solving process
Performance variations
Root cause analysis
Solving human performance problems

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