Identification of the technology gap and its impact at the South African Bureau of Standards

Moyahabo Pennencia Manganyi
Student No. [redacted]

Dissertation submitted in partial fulfilment of the requirements for the degree of Masters of Science in Management of Technology and Innovation

at

The Da Vinci Institute for Technology Management

Academic Supervisor: M Matsapola, MBA

Field Supervisor: A Vermaak, MBL

2013

daVinci institute

Abstract

The South African Bureau of Standards (SABS) was established to serve South Africa's needs with regards to standards and quality assurance. The SABS comprises three entities. One of the entities, the SABS Commercial, is responsible for quality assurance. It requires resources that will enable it to provide uncompromised value added service to its customers. One of the important resources that SABS Commercial requires to enhance its customer service and achieve strategic objectives is technology in terms of knowledge, skills, equipment, and other aspects. The purpose of this study is to investigate and identify the technology gap and its impact at the South African Bureau of Standards. Strategies for bridging the technology gap will also be discussed and recommended.

The Delphi method was used to determine the technology gap and its impact on the performance of laboratories at SABS Commercial. A two round survey was conducted subsequent to piloting the questionnaire. The first round survey was conducted within the Chemical, Bio and Materials Technology Division; the Mining and Minerals Division; the Electro-Technical Division and the Western Cape Region. An invitation to participate in the survey was sent to 20 participants of whom 12 responded. The first round questionnaire was subsequently sent to the 12 participants; only nine responded to the questionnaire. The results of the first round survey were collected and analysed.

The second round questionnaire was generated from the results of the first round survey. The second round survey was conducted in all the divisions relating to product testing and conformity. The questionnaire was sent to a total of 49 participants. Thereafter the results were collected and analysed. The technology gaps with respect to equipment, skills and technical knowledge and the link between laboratory and business processes were identified. The impact of these gaps on performance in terms of turnaround time, quality of results and new product testing were also determined.

The survey that was conducted assisted the researcher to identify gaps in terms of equipment, skills and knowledge in some of the laboratories and the level of alignment with the link between laboratory and business processes at the SABS.

In addition, the researcher conducted semi-structured interviews with the two participants from the South African Grain (SAGL) in Pretoria, one participant at the IWW Rheinisch-Westfälisches Institut für Wasser, Beratungs- und Entwicklungsgesellschaft

mbH (IWW Water Centre) in Germany and one of the general managers at the SABS. The SAGL and the IWW were used in this study to determine the possible strategies that the SABS could adopt to bridge the technology gaps. The strategies that can assist the SABS in bridging the identified gaps were discussed. These strategies form part of the recommendations that the researcher has made.