2014 Proceedings of PICMET '14: Infrastructure and Service Integration

Systems Engineering Management Process Maturity of South African Manufacturing Organisations

Ian D. Lemberger[1], Louwrence D. Erasmus[2]

[1]Department of Engineering and Technology Management, Graduate School of Technology Management (GSTM), University of Pretoria, South Africa

[2]Integrated Systems Group, DPSS, Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa

Abstract

The National Planning Commission's National Development Plan: Vision for 2030 (NDP) aims to promote economic equality by focussing on innovation within key sectors of the economy. It has been noted that systems engineering has the ability to integrate people, processes and technologies to deliver innovative complex systems. The investigation set out to improve the understanding of systems engineering (SE) with focus on organisations in manufacturing of coke, petroleum, chemical products, rubber or plastic products as it represents the largest income and employment provider in the manufacturing sector in South Africa. Ten process areas were identified to measure systems engineering management (SEM) activities using a Capability Maturity Model (CMM). Data gathering was conducted using a combination of face-to-face and telephonic interviews of six (6) randomly selected organisations in the identified population using a six level Likert Scale. Overall SEM process maturity measured 2.91, indicating a general lack of formal SE procedures.