ABSTRACT

Methods and process of Requirements Engineering and Management (RE&M) are indispensable in complex system development for cost saving, keeping up with timelines and deadlines, meeting target dates and increasing customer satisfaction. Fixing errors rises drastically the later in the complex system development process they are discovered. The highest savings can be achieved by focussing on finding errors, or avoiding them altogether, during the early stage of a project by effectively incorporating RE&M processes. Within South African aerospace and defence sector projects, missed milestones, increased costs, and project completion delays occur. The purpose of this research is therefore to investigate how RE&M practices affect projects within the South African aerospace and defence sector. Case study method is used. This research report collects case study evidence primarily via interviews conducted with systems engineers, integration engineers, project managers and program managers within an organisation in the South African aerospace and defence sector. Cross-case analysis was used to facilitate the comparison of different cases. It allowed for the comparisons within the South African case studies as well as comparison between the South African and the US case studies. Results show that poor RE&M practices affect projects within the South African aerospace and defence sector. Poor RE&M practises affect areas of supplier selection, under estimating effort required for requirements traceability, as well as incorrect allocation of time for critical systems engineering activities. Project completion delays, missed milestones, dissatisfied customers and increased costs are attributed to poor RE&M. In addition there are other factors outside RE&M process that lead to project completion delays, missed milestones, dissatisfied customers and increased costs. The research adds to the body of knowledge on RE&M practices within the South African aerospace and

defence sector and points to the need for continued research on the various stages within system life cycle of complex systems development within South African aerospace and defence sector.