

## **ANP APPLIED TO SMART METERING PROJECT SELECTION**

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### **ABSTRACT**

Research and Development (R&D) project selection is a complex decision-making process. Risks and uncertainties are also associated with the investments and returns of R&D projects. This research paper illustrates an application of ANP (analytic network process). The analytic network process (ANP) is presented as a potentially valuable method to support the selection of projects in a research and development (R&D) environment. The AHP (Analytic Hierarchy Process) is employed to break down large unstructured decision problems into manageable and measurable components. The ANP, as the general form of AHP, is powerful to deal with complex decisions where interdependence exists in a decision model. The research paper discusses the use of the ANP, a general form of Saaty's analytic Network process, as a model to evaluate the value of competing R&D projects.

The research paper concludes with a case study describing the implementation of this model at a small high-tech company, including data based on the actual use of the decision making model. The case study helps to verify that ANP is an effective and efficient decision-making tool.

A major contribution of this work is to provide a methodology for assessing the best project. Also author introduce first time 'innovation' factor in a new model for R&D project selection using ANP method. Despite a number of publications applying AHP in project selection, this is probably the first time that an attempt has been made to apply ANP in an electronics project selection  
Keywords: Analytic hierarchy process, analytic network process, multi criteria decision-making, project selection, R&D management, and R&D projects.