Despite advances in subjective personality questionnaires and one-dimensional approaches to predicting Decision Making (DM) potential, there is room for improvement. An extensive review of 53 studies investigating the use of personality tests that determined that effect sizes were small, inconsistent across studies, and task dependent (Koelega, 1992). This research provides a thorough review of traditional subjective and objective approaches (i.e., Personality, Emotional Intelligence and Stress Coping; Supervisor Ratings; 360-degree Evaluations; Aptitude Measures; and Biographical Data) currently used as tools for personnel selection and job advancement. Hence, the purpose for this exploratory research is to establish an effective assessment tool that supports talent management— in particular, personnel selection. If successful, this work will generate a selection profile that supports the quantification of DM skills. The goal is to establish a multidimensional approach to predicting DM potential by determining if physiological measures obtained during a short battery of tasks are predictive of DM performance in a real-world task. The objective for the experiment is to manipulate the independent variables (i.e., short battery tasks) in order to investigate the dependent variables (i.e., physiological measures).