The University of Central Florida has many successful measures to reflect on as it celebrates its 50th year in 2013. It is a university with the 2nd largest student population in the U. S. and its overall ranking in the U.S. News & World Report has improved 4 years in a row. However, with respect to research spending the federally funded research and development for UCF has remained flat. In addition when compared to other schools its portion of those federal research dollars is small. This thesis lays the groundwork for developing a model for improving the federal funding for research and development at UCF. A systems approach using the balanced scorecard methodology was used to develop causal loop relationships between the many factors that influence the federal funding process. Measures are proposed that link back to the objectives and mission of the university. One particular measure found in the literature was refined to improve its integration into this model. The resulting work provides a framework with specific measures that can be incorporated at the university to improve their share of the federal funding for research and development. Although developed for UCF this work could be applied to any university that desires to improve their standing in the competition for federal funded research and development.