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PPA Internship Paper

**Background.** My internship was held at the Division of Science, Technology, and Innovation (DSTI) within the California Technology, Trade, & Commerce Agency (CTTCA). CTTCA is responsible for researching and responding to changes in California's economic climate. The authority for the creation of DSTI was made possible with the passage of SB 1136 (Vasconcellos) on September 30, 2000, and was formerly established on January 1, 2001. DSTI directs CTTCA's involvement in domestic, technology-based economic activity. DSTI's mission is to promote smart technology policy, develop supportive programs, and form turnkey partnerships to ensure a technology-driven economy for all Californians. This mission is carried out by assisting small businesses to use and gain access to technology by providing funds and technical assistance for the development and commercialization of innovative products, and by working at the intersection of public, private, and non-profit organizations to foster understanding and enhance California's technology-based economy. DSTI does this through the implementation of six basic partnership programs that are administered from a single local assistance budget line item of about twenty-six million dollars. These programs are (1) the Next Generation Internet Network (NGI), (2) the Rural E-Commerce Program, (3) the California Technology Investment Partnership (CalTIP), (4) the DSTI- Employment Development Department (EDD) Research Team, (5) Manufacturing Technology Program (MTP), and (6) Space Industry Competitive Grant Program. DSTI has two offices in the state, one based at CTTCA headquarters in Sacramento and the other in the Los Angeles Regional Office in Pasadena.

During the first semester I worked under the DSTI-EDD Research partnership manager conducting research on numerous technology-related issues and designing and analyzing surveys to collect data on California's technology-based businesses. The second semester I worked under the CalTIP grant program manager designing and analyzing surveys for past and present CalTIP grant recipients to measure the CalTIP grant program's effectiveness. I also drafted numerous handouts on technology-based legislation for the Division's governor-appointed Special Assistant. Below I will explain in greater detail some of the major deliverables I contributed to DSTI during the course of my internship.

**California's Research & Development Assets.** My first task was to generate a comprehensive inventory of California's research and development assets. Another intern and I conducted internet and library research and held telephone interviews to compile a list of all science and technology research universities, national laboratories, non-profit institutes, and private industry. We also summarized the types of research conducted, and identified each research and development institutions' funding sources and contributions. Our findings were presented in a white paper posted on the DSTI website at [www.tech4ca.com](http://www.tech4ca.com).

**Survey Design and Analysis.** My next task was to take over an ongoing survey project from a former intern. In July 2001, the Technology Survey was distributed via hardcopy and email to over 24,000 leaders in various high technology sectors primarily within California. DSTI partnered with several technology organizations in California to increase the survey's distribution by leveraging their membership base. The survey was sent to small, medium, and large companies including the fastest growing companies and to key national, state and regional

organizations. The intention of the survey was to gather information about California businesses, especially regarding what businesses perceive as being their top challenges, and what they suggest California government can do to better provide them assistance in meeting those challenges. The surveys also inquire about businesses' perceptions on the role and level of effectiveness of California's government in maintaining the State's technology-based economy. After the September 11 tragedy, I rewrote the survey to fix minor design errors and redistributed the survey to the companies and posted it on DSTI's website to see how businesses' views changed in the terrorist attack aftermath. I also generated a report that summarized the survey results on a state-wide level and broken down by the following four regions: Los Angeles & Central Coast, Bay Area, San Diego Region, and the Inland Valley & Mountain Areas.

**California Science and Technology Week 2001.** The intern staff, in conjunction with the program and Division management, brainstormed to develop a series of events to hold during California Science and Technology Week. In partnership with the California Council and Science and Technology (CCST), DSTI launched a series of legislative workshops and discussions featuring technology-based industry leaders.

**Measuring Program Effectiveness.** During the second semester, I switched mentors to the CalTIP program manager. CalTIP is a state-matching grant program designed to accelerate the development of new technology-based products, businesses, and jobs for Californians. The program was established in 1993 to help counter the negative statewide effects of the downturn in the defense industry. Recognizing that small high-tech companies may need assistance in bringing their products to market, CalTIP facilitates the development of such high-tech

businesses. Supported high-tech industry sectors include health, defense, telecommunications, energy, transportation, medicine, consumer electronics, biotechnology, telecommunications, transportation, and environmental management. Program funds provide matching grants to California firms successful in obtaining federal technology development awards. While federal R&D programs support innovation, CalTIP leverages the productive power of new technologies by helping transform inventions into real products and services. Since being established in FY 1993-1994, CalTIP has made over 200 awards to over 150 companies, organizations and research institutions averaging approximately \$200,000 each.

With the CalTIP program manager, I assisted in the formulation of questions for a survey to evaluate program effectiveness. The intent of the survey was to gather information about past CalTIP grant recipient companies for purposes of program planning and development. Specifically, the surveys ask grantees whether a product was launched from the CalTIP-funded project and whether the release of that product facilitated job creation. It also asks the grantees whether the CalTIP award was a necessity for: (1) the project to occur, and (2) federal funding. The survey also inquires whether the CalTIP award assisted their business with obtaining capital from private sector sources; and how they would change the CalTIP program to make it more effective at commercializing technology-based products. We conducted the surveys via telephone between February and June 2002 drawing from a survey population of 119 CalTIP grants awarded to 93 unique small- and medium- sized California businesses between 1993 and 1999. Using SPSS, I developed a coding scheme and coded survey responses using ordinal variables. My analysis, in addition to the program manager's assessment of program effectiveness and its policy implications resulted in a report that was distributed agency-wide, survey participants, as well as to legislators' and the governor's offices.

**CalTIP proposal review.** Working with the six Regional Technology Alliances located in the Bay Area, Los Angeles, San Diego, Capitol Region, Desert Region, and San Joaquin Valley, I reviewed CalTIP grant proposals technology-based companies submitted to compete for CalTIP grant program funds to assure all required portions were included and that all associated paperwork and software was accounted for. I also helped locate technology-based experts to secure their assistance with scoring the grant proposals and choosing award winners.

**Technology-Related Policy Initiatives.** Working with the Special Assistant, I drafted handouts on pending bills and passed legislation relating to science and technology that have Governor Davis' support. Examples include funding for more computers in K-12 classrooms, Identity Theft Protection, tax-free Internet, creation of the Office on Privacy Protection, telecommunications infrastructure development, and establishment of High Tech High Schools.

**The 2002-2003 Budget.** My internship allowed me to follow the California State Budget Process and how it affected our agency and Division itself. I witnessed committee hearings at the Capitol and was able to see firsthand how the budget shortcomings resulted in real cuts in our program funding and downsizing of agency staff. I also drafted memos on the budget process and sources of Division funding to provide the intern staff with the understanding of the budget process.