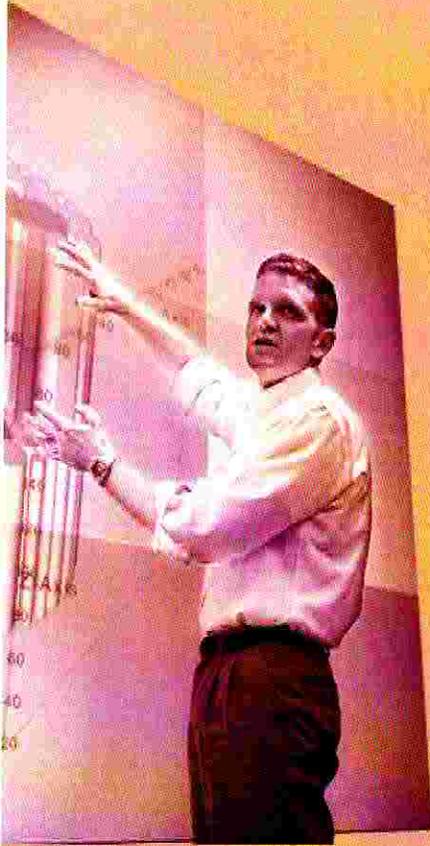


2009 GOVERNOR'S INNOVATION SUMMIT

SEPTEMBER 24, 2009

Idaho Innovation Council
Final Report



project 60
IDAHO

IDAHO
DEPARTMENT OF COMMERCE

C.L. "BUTCH" OTTER, GOVERNOR
DONALD A. DIETRICH, DIRECTOR



Investments for a healthy bottom line.



Table of Contents

Page

Chairman's Letter

1

Background

2

Results

2

Recommendations

3

Conclusions

11

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DEPARTMENT OF COMMERCE

C.L. "BUTCH" OTTER, GOVERNOR
DONALD A. DIETRICH, DIRECTOR

February 20, 2010

Governor Otter,

Thank you for convening the 2009 Governor's Innovation Summit last September, and for inviting the Innovation Council to preside with you over the event. On behalf of the Innovation Council I am pleased to report the Summit was a successful and significant step in realizing the goals of Project 60.

Perhaps just as importantly, the Innovation Summit further familiarized business leaders from throughout Idaho with your vision of how innovation can help fuel the next wave of economic development and prosperity for all Idahoans.

The business leaders who participated in the Summit shared the opportunities and obstacles currently facing their companies. They gave candid, thoughtful testimony about the issues shaping our State's economy today and tomorrow. The fruits of their testimony—more than 200 distinct suggestions on topics spanning topics from technology transfer to taxes—provide valuable and varied insight into the successes of Idaho's innovation economy and what can be done to cultivate further successes. We found the panelists' input relative to Tech-Transfer & Commercialization (the Council's primary area of focus) particularly compelling. The Innovation Council consolidated the panelists' suggestions into the following five categories:

- Technology-Transfer & Commercialization;
- Industry/Higher-Education Collaboration;
- Tax Policy Improvements;
- Kindergarten Through 12th Grade Public Education; and
- Access & Availability of Capital

The panelists' suggestions and observations were reviewed thoroughly by the Innovation Council, which ultimately prepared the enclosed report detailing a handful of formal recommendations for your consideration. The Council was advised by the Department of Commerce that several of the recommendations contained in this report are within the purview of specific Idaho State agencies. We propose that the Council's recommendations could, pending prior gubernatorial review and approval, be disseminated to the appropriate agencies and the germane legislative committees by the Department of Commerce.

As always, the Council and I are steadfast in our commitment to work at your direction on these issues, and we are at your disposal to assist in whatever capacity you deem appropriate.

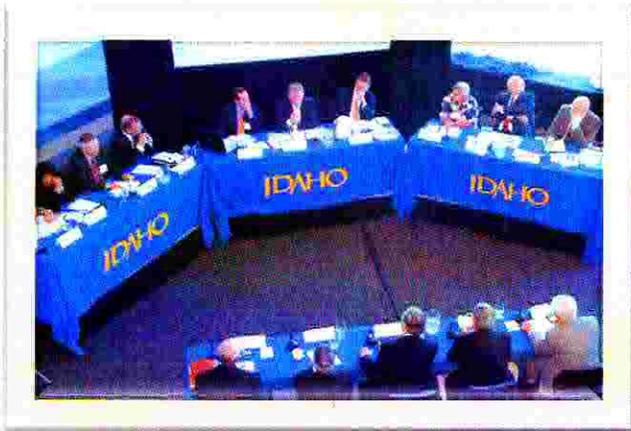
Kind regards,



Jefferson Jewell, Chairman
Idaho Innovation Council

BACKGROUND

On September 24th, 2009, Governor C.L. “Butch” Otter convened the 2009 Governor’s Innovation Summit at Stueckle Sky Center, Boise State University. The purpose of this event was to provide a forum for a broad segment of Idaho’s innovation community to describe the current conditions in their industries, the challenges they face in the current economic climate, the needs they have relative to their goals, and what they believe State government’s role is in addressing



their challenges and needs. The Governor organized the event to support **Project 60**, his economic development strategy to take Idaho’s \$51 billion economy to \$60 billion through comprehensive systemic growth, domestic business recruitment, and increased international trade and investment in Idaho. This collaborative approach would require public and private partnerships to preserve the best aspects of Idaho’s stable, business-friendly tax and regulatory environment while minimizing the barriers and obstacles to future growth. The Governor’s Innovation Summit was an important milestone in building those partnerships and setting the stage for effective public policy.

Governor Otter and Lieutenant Governor Brad Little presided over the Idaho Innovation Council, who heard testimony and recommendations from 30 panelists who participated on six panels: Manufacturing, Energy & Defense, Higher Education & Research, Agricultural & Biological Technology, Software, and Small Business & Entrepreneurship. Panelists were geographically selected to represent a diversity of views within each

industry. All panelists were executive decision-makers including individual business owners. Each panelist had the opportunity to read prepared remarks highlighting their industry’s challenges and opportunities. The Governor also encouraged them to provide recommendations for policy changes that might improve business conditions moving forward. A short question-and-answer period followed the conclusion of all prepared remarks during each panel, and the event concluded with a plenary roundtable discussion between the hearing committee and all panelists.

RESULTS

Panelists’ testimony was video recorded during the summit and a resulting 96-page written transcript was produced from the video. Panelists recommended a wide range of policy options to promote economic growth – more than 200 distinct recommendations were identified. The Idaho Department of Commerce solicited follow-up clarification from panelists in the weeks following the event. Commerce worked with the Governor’s Office to collate and condense the recommendations for analysis by the Idaho Innovation Council. The Innovation Council deliberated by e-mail, a one-hour public meeting by conference call, and a two-hour public meeting in person to arrive at a set of final, prioritized recommendations to the Governor on next steps relative to innovation development. This report is the culmination of that process.

One outcome of the Business and Innovation summits that was undertaken immediately by the Governor and the Idaho departments of Commerce and Finance was to convene a third summit—the 2010 Governor’s Finance Summit – on January 5th, 2010. It was felt by the Governor and others in attendance that availability and access to financial capital needed to be addressed. In addition, plans subsequently were adopted to conduct another summit focused on small business challenges and concerns in spring 2010.

RECOMMENDATIONS

The process of reviewing, compiling and condensing the more than 200 distinct suggestions presented by the Innovation Summit panelists resulted in the identification of proposals in the following categories:

1. Technology Transfer & Commercialization
2. Industry/Higher Education Collaboration
3. Tax Policy Improvements
4. Kindergarten Through 12th Grade Education
5. Availability and Access to Financial Capital

The Innovation Council's subsequent analysis of the recommendations within these categories produced the following summary recommendations which are hereby submitted to the Governor and the Idaho Department of Commerce:

Technology Transfer & Commercialization

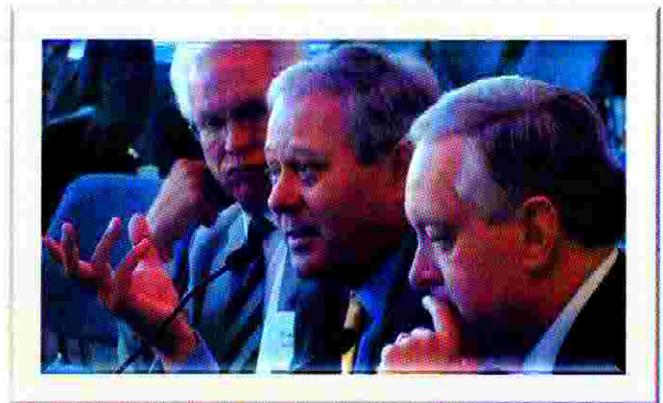
Idaho should undertake a statewide effort to develop streamlined, cost-effective systems and processes that facilitate and promote technology transfer and commercialization of intellectual property developed at State and federal research institutions and private companies.

More specifically, the State should:

- Develop a statewide strategic plan to translate federal and State funded research to tangible economic benefit to private industry through technology transfer and industry collaborations.
- Develop a method of routinely assessing how effective Idaho is at translating federal and State funded research to economic benefit and forming collaborative research and industry relationships.
- Implement policies and procedures that encourage collaboration between universities and industry and entrepreneurial cultures.
- Streamline Idaho's technology transfer processes and reduce the paperwork required. Reduce the cost of working with universities and transferring technology from research institutions to private industry, particularly for less-developed technologies.
 - Develop standardized documents/ templates across the statewide higher education system
 - Develop web-based resources for standardized legal documents;

- Establish a self-sustaining "gap" fund to pool investment capital resources
- Develop a process for developing awareness of, identifying value and maturity of intellectual property and capabilities at universities.

The current global economic situation has exerted additional pressure on research institutions to deliver tangible benefits. As the new Secretary of Energy Steven Chu stated recently, "It's not about writing research papers anymore, you've got to deliver the goods." The practice of technology transfer is an integral part of "delivering the goods."



"We can't just look at the public and say, 'You take care of it.' We all have to get together and be at the table..."

—Dr. Art Vailas, Idaho State University

Governor Otter recognized the importance of this engine to economic growth when he established the Idaho Innovation Council and charged its members with identifying and correcting barriers to technology transfer & commercialization that exist in Idaho policy. **This effort is a core element of the Systemic Growth component of the Governor's Project 60 initiative.**



“You know, we should be focusing on removing those kinds of [tech-transfer & commercialization] barriers. If it’s pride of authorship, or if it’s ‘who’s going to get the money’, let’s get those things negotiated out – whether it’s a partnership into perpetuity, a percentage of the company or whatever. It just seems to me that if that’s stopping a great idea from getting from the research bench to the market shelves of the world, we oughta’ be getting to work on that.”

—Governor C.L. “Butch” Otter

The effect that Technology Transfer and Commercialization can have on economic development is tremendous. For example, Google, Sun Microsystems, Silicon Graphics, Netscape, Cisco Systems, and Yahoo all spun off from just one university – Stanford. MIT also produces approximately 150 companies each year. Although MIT and Stanford are very different than Idaho universities, the Idaho Innovation Council believes that Idaho could greatly benefit from focusing on how to improve technology transfer practices and cultures within its research institutions.

Technology transfer not only includes creating companies, but also providing Idaho companies access to the tremendous assets possessed by our research institutions. This includes researchers, engineers, scientific instruments and unique assets, like Idaho’s advanced nuclear test reactors. These assets can be tremendously helpful in assisting companies in overcoming technical challenges and developing new products to offer to industry. Idaho needs to find ways to better leverage these assets to improve the ability for Idaho companies to compete nationally and globally.

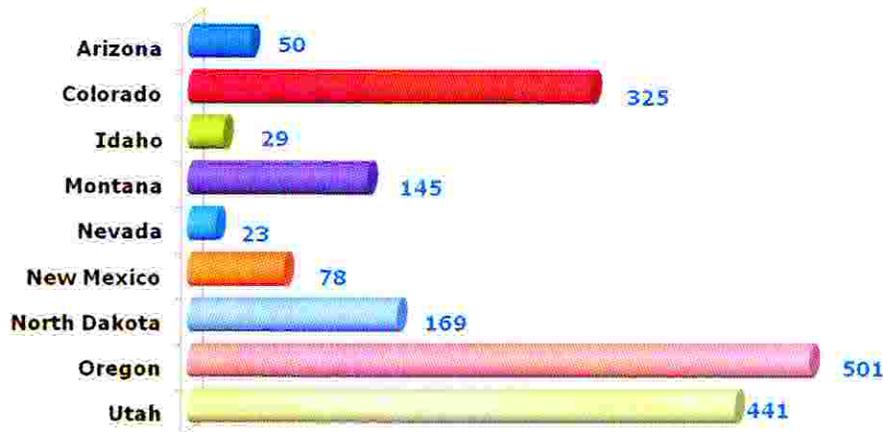
The Association of University Technology Managers (AUTM) compiles intellectual property (IP), tech-transfer, and commercialization data from universities in the U.S. and Canada. AUTM’s data shows that during the 10-year period from 1998-2007, Idaho earned IP licensing revenues just short of \$3 million which, on a per-capita basis, ranks Idaho 42nd in the U.S. As Chart 1 on the next page illustrates, Idaho had 29 active university IP licenses in 2007. That ranks 41st in the U.S. and as the chart shows, places our state at a considerable disadvantage to several of our neighboring/competing states. Utah, which ranks 20th in the nation in IP licenses and 10th in per-capita IP licensing revenues, exemplifies the kind of tech-transfer performance to which Idaho should aspire. Their 441 active university IP licenses produced \$20.4 million in licensing revenues in 2007 alone.

The National Science Foundation (NSF) compiles data relative to state expenditures in Research & Development. Table 1 on the next page delineates the expenditures among the same set of competing states. While, according to this data, Idaho received \$202 million in federal research dollars in 2006—ranking 11th in the nation on a per-capita basis—the INL accounted for the lion’s share of that appropriation (\$155 million). In terms of university R&D funding, Idaho received only \$47 million which ranked 46th in the nation on a per-capita basis.

Perhaps a more important question is, “In terms of long-term economic impact, and particularly tech-transfer and commercialization, what is Idaho’s ROI of the federal R&D funding that we receive?”



1998-2007 Active University IP Licenses



Source: Association of University Technologists (AUT) Statistics Access for Tech-Transfer (STAT) database: www.auto.org

Chart 1: Competing States' Active University IP Licenses

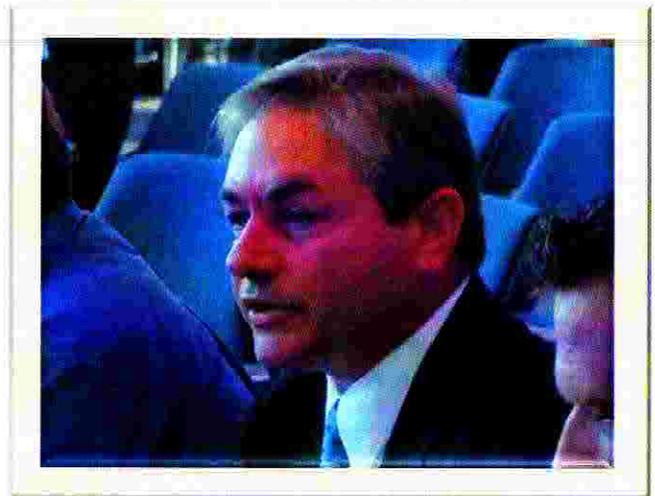
STATE	Population	% of Population	Federal Public Research Dollars	Rank	% of Federal Public R&D	Per Capita	Rank	Federal University R&D	Rank	% of Federal University R&D	Per Capita	Rank
Arizona	2,867,764	0.93%	349,347,000	23	1.08%	122	16	349,347,000	23	1.19%	122	12
Colorado	4,935,213	1.60%	669,356,000	15	2.08%	136	9	582,431,000	13	1.98%	118	13
Idaho	1,527,506	0.50%	202,064,000	30	0.63%	132	11	46,934,000	49	0.16%	31	46
Montana	968,035	0.31%	86,987,000	44	0.27%	90	26	86,987,000	43	0.30%	90	23
Nevada	2,615,772	0.85%	87,767,000	43	0.27%	34	46	87,767,000	42	0.30%	34	44
New Mexico	1,986,763	0.65%	2,163,453,000	3	6.71%	1089	1	1,233,585,000	8	4.20%	621	1
Oregon	3,782,991	1.23%	313,931,000	26	0.97%	83	28	313,931,000	26	1.07%	83	25
Utah	2,727,343	0.89%	221,675,000	28	0.69%	81	29	221,675,000	28	0.75%	81	26
Washington	6,566,073	2.13%	897,359,000	11	2.78%	137	8	642,540,000	12	2.19%	98	20

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: FY 2006

Tabl 1: State R&D Expenditures

In 2000, the predecessor to the Idaho Innovation Council – the Governor’s Science & Technology Advisory Council – produced a comprehensive Idaho Science & Technology Strategy, which identified six strategies and 26 action items relative to technology-based economic development. That document was updated in 2004 and 2006. Throughout its development, a recurring theme was the need for Idaho to establish a centralized mechanism for identifying, inventorying, evaluating, protecting and commercializing intellectual property produced at Idaho’s higher education and research institutions.

Testimony by higher education and research leadership, as well as by several leaders from industry, at the 2009 Governor’s Innovation Summit suggests that the tech-transfer & commercialization opportunity continues to be an important area of concern for the Idaho innovation community.



“There’s a mismatch in government and academia versus industry pace.”

—Mike Scott, Premier Technology

The Innovation Council is committed to continuing the facilitation of tech-transfer & commercialization and to redoubling current efforts to optimize tech-transfer policy and processes.

Through partnership between the Department of Commerce, the State Board of Education, the Higher Education Research Council, each of Idaho's research institutions, other organizations, and leaders from industry, the Innovation Council will collaborate on solutions to Idaho's tech-transfer & commercialization challenges.

Industry/Higher Education Collaboration

Idaho should establish public policy that facilitates and promotes industry partnership and collaboration with the State's higher education and research institutions.

- Promote and encourage closer collaboration between business/industry, education, the Idaho Department of Labor and the Idaho Workforce Development Council.
- Strengthen higher education research efforts by restructuring the Higher Education Research Council to provide statewide leadership in research acquisition.
- Create a higher education research strategic plan that incorporates and works in tandem with the strategic plan for technology transfer.
- Collaborate in pursuit of major multi-university grant opportunities, particularly in the energy and bio-tech fields.

Idaho universities received more than \$175 million in research dollars in 2009. A precursor to the creation and development of meaningful and relevant

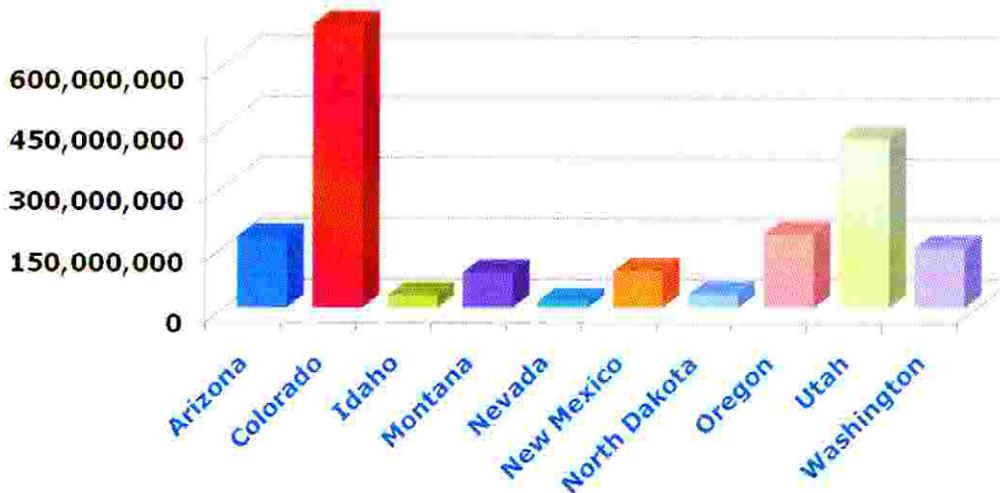
intellectual property at research institutions is effective partnership and collaboration with industry. Even if no public intellectual property results from such relationships, education still must play a vital role in helping to solve industrial problems.

Simultaneously, collaboration between industry and education is the key to effectively developing programs and curricula that result in an educated and skilled workforce – one that matches the needs of Idaho employers.

Several industry experts at the Innovation Summit testified that they had experienced difficulty in working with Idaho's higher education institutions. Their difficulties ranged from not finding any mechanism or system for collaboration at all, to not being able to identify the person or agency responsible for managing such a relationship, to not finding Idaho workers with skills that their businesses require.

The AUTM maintains records of industry investment in university-based research. Over the past decade, Idaho has ranked 42nd on a per capita basis in industry investment in university R&D. Chart 2 on Page 7 illustrates the R&D expenditures by industry in Idaho and 9 competing states. Idaho's industry investment of only \$31 million over this period is indicative of our state's challenges relative to industry/university collaboration.

1998-2007 Industry Expenditure on University R&D



Source: Association of University Technology Managers (AUTM), STATT database, www.autm.org

Chart 2: Industry/University Collaborative Research

The Innovation Council enthusiastically recommends that the Governor encourage a statewide policy that requires each institution of higher learning and research to implement an industry outreach and partnership plan that establishes simple and efficient means for industry to collaborate with education. The Council suggests that these plans include a single office, clearly designated at each institution, responsible for industrial relations and partnership agreements. It is further suggested that an industrial relations council be encouraged at each institution, or established on a statewide basis, that meets regularly to discuss the collaborative needs of industry and address challenges and opportunities in this regard. To the degree such collaboration contributes to creation of jobs or results in industry needs for employees with particular skill sets, it should be coordinated with the Idaho Workforce Development Council.

Whatever form the higher education and research collaboration offices and council's may take, their objective should be fostering partnership between faculty/staff and Idaho employers; developing entrepreneurial cultures within the State's higher education and research institutions; managing easy and affordable access to public facilities and

resources; and seeking solutions to workforce skills challenges faced by Idaho companies.

Tax Policy Improvements

Idaho should proactively ensure that taxation of e-commerce and innovation start-ups is implemented in a business-friendly way that enables growth of Idaho start-up businesses and those that use the Internet, allowing them to compete in the global marketplace.

The tax system impacts innovation activity within a state. E-commerce – businesses' use of the Internet as a vehicle for buying and selling products and services – is an increasingly important component of Idaho's economy. Idaho's industries that utilize e-commerce face significant challenges in the race to remain competitive with companies in other states and countries that realize cost savings or subsidies relative to labor, supply, distribution, energy rates or other factors.



“Any legislation crafted with an eye on taxation of e-commerce ought to be carefully crafted in such a manner as to not discourage Internet companies from either moving or staying in the State of Idaho.”

—Brad Wiskirchen, Keynetics

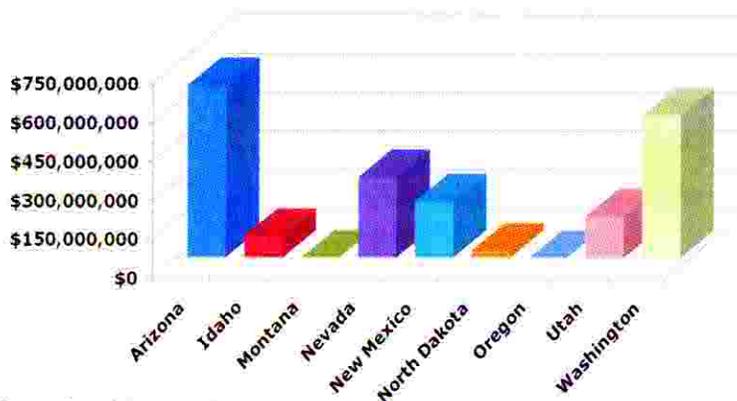
A report produced in November 2008 by our own tax commission highlighted the e-commerce tax gap and the potential, additional tax revenues that could be gained by more strictly enforcing the sales tax on Idaho companies that utilize e-commerce. A report produced by the Transaction Tax Standards Association (TTSA) seemed to confirm the Idaho Tax Commission’s assessment that approximately \$30 million in e-commerce sales tax goes uncollected in Idaho each year. An analysis of all 50 states however, reveals that all states have a collection rate in the range of 73.5 to 75.5 percent. This would seem to indicate that while

Idaho leaves revenue on the table, it does not experience a disadvantage relative to competing states in this respect.

It is very important to note that two of Idaho’s neighboring states—Oregon and Montana—do not collect sales tax at all. This fact already renders Idaho e-commerce companies less competitive with those in these two states, and any increases in Idaho’s e-commerce tax collections would be even more disadvantageous, while not producing significant tax revenue relative to our competitors. Chart 3 below, illustrates Idaho’s e-commerce tax position relative to its nearest competitors.

Several panelists at the Innovation Summit expressed concerns about their competitiveness in the global marketplace, and e-commerce taxation was specifically addressed. Targeted efforts to impose special taxes on companies who engage in e-commerce can drastically impact the competitiveness of Idaho companies on which these new taxes might be imposed. Therefore, the Innovation Council strongly recommends that the Governor ardently oppose attempts at the State and federal level to increase tax revenues through the systematic imposition of special taxes on e-commerce—commonly referred to as “Amazon Laws.” In addition, the Governor should consider other tax incentives that encourage innovation.

2009 E-Commerce Taxes Collected



Source: Transaction Tax Standards Association (TTSA)

Chart 3: E-Commerce Tax Collections

PREPARATION	Idaho		Top States
	Early 1990s ^a	2008	
High School Completion (25%)			
18- to 24-year-olds with a high school credential	85%	89%	95%
K-12 Course taking (30%)			
9th to 12th graders taking at least one upper-level math course	40%	46%	64%
9th to 12th graders taking at least one upper-level science course	20%	18%	46%
8th grade students taking algebra	n/a	31%	47%
K-12 Student Achievement (35%)			
8th graders scoring at or above "proficient" on the national assessment exam in math	22%	34%	41%
8th graders scoring at or above "proficient" on the national assessment exam in reading	n/a	32%	39%
8th graders scoring at or above "proficient" on the national assessment exam in science	n/a	36%	41%
8th graders scoring at or above "proficient" on the national assessment exam in writing	n/a	29%	46%
Low-income 8th graders scoring at or above "proficient" on the national assessment exam in math	n/a	22%	24%
Number of scores in the top 20% nationally on SAT/ACT college entrance exam per 1,000 high school graduates	117	190	265
Number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors	35	94	237
Teacher Quality (10%)			
7th to 12th graders taught by teachers with a major in their subject	n/a	69%	83%

Source: National Center for Policy and Higher Education

Table 2: Idaho 2008 Measuring Up Report

Idaho higher education should increase opportunities/incentives for primary and middle school students to learn about and engage in university-level activities and develop programs at the middle and high school levels that fascinate students and use math, science and other software development skills. Idaho should expand the opportunities for professional-technical education available to high school students throughout the state. Programs like COSSA in Canyon County, the Dehryl A. Dennis Professional Technical Center in the Boise, Meridian area, the Cassia Regional Technical Center, and the K-Tech school being developed in northern Idaho are models of regional professional technical programs that can be followed.

Governor Otter has publicly encouraged the development and expanded utilization of technological tools (broadband Internet, video conferencing, e-learning, etc.) among state agencies, and the Innovation Council urges that same encouragement for the public education community statewide.

The rapid expansion of the Idaho Education Network (IEN) and the Idaho Research Optical Network (IRON) are examples of infrastructure improvements that will facilitate the use of technology to deliver public education improvements.



"We also encourage the state to prioritize and build a K-12 education system that prepares our Idaho students to compete globally. I want to emphasize that this is a key enabler to support sustainable innovation-related economic growth in Idaho."

—Scott DeBoer, Micron Technology

Access & Availability of Capital

Idaho should focus efforts to attract and cultivate investment firms that focus on all stages of development to help existing Idaho companies grow.

A recurring theme of both the Business and Innovation Summits was a dearth of financial capital (seed, angel, venture capital, growth, operating, and debt) across the state. The 2010 Governor's Finance Summit convened on January 5th and a report detailing its outcomes is being developed. That report should go further in identifying the realities of the capital availability challenge as well as potential solutions.



"...there are separate challenges in that the angel funding—the early stage funding that we see—doesn't scale up to a larger company... I think that as we look forward, I believe that will ultimately be an obstacle as we grow..."

—Tony Hauser, Booklamp

Early-stage capital is a critical ingredient in launching technology-based businesses. Entrepreneurs from universities successful in generating start-ups have access to seed capital. In addition, universities and intermediary organizations assist entrepreneurs with business plan development and offer entrepreneurs opportunities to showcase and network with potential investors. Where early-stage capital does not exist, universities, public and private sectors step in to create it, often seeding private funds that leverage additional monies. Angel networks also play

an increasingly important role in spawning early-stage firms.

The Innovation Council offers its formal recommendation that solutions be sought to address the capital needs of Idaho's companies and the resources/training that the promoters of such companies need to successfully acquire funding. Any potential establishment or expansion of Idaho businesses or development/commrcialization of innovative technologies will require financial capital, so it is in the State's interest to increase the availability of and access to these resources.

"The notion that startups rely on the beneficence of a loose coalition of family and friends seems misleading given our findings. Instead, roughly 80 percent to 90 percent of most firms' startup capital is made up in equal parts of owner equity and bank debt."

2008 Kaufman Foundation Study

CONCLUSION

It is the intention of the Innovation Council to submit these recommendations to the Governor in the form of advice and counsel. They represent the collected, considered and synthesized perspectives and insights of panelists at the Governor's Innovation Summit. The Innovation Council made no attempt to determine or suggest the budgetary or political efficacy of any recommendations. The Council's advice represents its best assessment and determination – based on suggestions from industry and education leaders – of what public policies could work to advance the Governor's priorities of creating career-path jobs and economic opportunities for Idahoans, specifically in the area of increasing access to and applicability of technology and the creative energy of Idaho's people. It is the Council's intent to continue pursuing its foundational mission of advising the Governor on how most effectively to move innovation from the realm of ideas at Idaho's higher education and research institutions to creation of Idaho products, services and employment. Its members appreciate the opportunity provided by the Governor to lend its expertise to this process.