



The Science of Prediction: **A Battery of Blind Back-Dated Validation Tests** **of PredictionWorks' New Venture Assessment System**

Final Report

John Sibley Butler and Gary M. Cadenhead

November 1, 2016



The University of Texas at Austin
IC² Institute

Office of the Vice President for Research

THE UNIVERSITY OF TEXAS AT AUSTIN



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New Venture Assessment System

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Table of Contents

Abstract	3
Introduction: The Desire to Make Sense of and Control the Future	3
The Method of PredictionWorks	5
Experiment at the University of Texas at Austin	5
UT/IC ² Test Results	7
Test Protocols	12
McCombs Business School and IC2 Institute’s Interest in the Advancing Predictive Analytics: Experiments for the Future	13
The McCombs School of Business Profile	15
IC ² Institute Profile	15
John Sibley Butler, Principal Investigator.....	15
Gary Cadenhead, Principal Investigator	16
Exhibit A: Wilson Sonsini/Hitachi Consulting/FSX Test.....	18
Exhibit B: Summary Results of the Wilson Sonsini/Hitachi Consulting/FSX test	29

Abstract

This report examines the results of a research partnership with PredictionWorks, a private firm, and The University of Texas at Austin (McCombs School of Business and the IC² Institute). The research problem is to predict the success of new ventures based on their business plans. After speaking to PredictionWorks, which had predicted 100% of new venture investments that turned out to be successful in Silicon Valley (N=10), we asked the principals of this private company to bring their methodology (utilizing blind back-dated validation tests) to the Austin region to engage in another “experiment” predicting the future success of business plans. Research on prediction has a long and rich tradition and is multi-disciplinary. This report introduces the results of our experiment in Austin and places it in that rich tradition, with a focus not only on new venture development but moreover on that which we believe are evolving new categories, namely New Venture Management (NVM) and New Growth Management (NGM).

Introduction: The Desire to Make Sense of and Control the future

The purpose of this report is to begin to understand how to predict the performance of business plans. While there is a tradition of scholarship which examines the impact of business plans on the future of the enterprise (Burke, Fraser and Greene, 2010; Shane, 2004; Kirsch, Goldfarb and Gera, 2009; Delmar and Shame, 2003), the impact of big data, algorithms and overall modeling will change the lens that allows us to examine the performance of business plans and other aspects of the business world (Cukier, 2010; Gantz and Reinsel, 2011; DailyChart, 2011; Lohr , 2012; Yuki, 2011; Big Data, 2008; Manyika et al, 2011; Mayer-Schonberger and Cukier, 2013). This lens should help us understand, and reduce the risk, of investing in business plans and future outcomes not simply in the start-up arena but also in the realm of venture acquisitions and new product development that mark the investment growth strategies that extend from the leagues of enterprise competition, through the ranks of middle market companies and their battle for high-growth stock status, and extending to the elite regions of investment banking, PE firms and M&A specialists

The reduction of risk and prediction has long been part of the human experience, and indeed has enhanced that experience. Peter Bernstein, in *Against the Gods: The Remarkable Story of Risk* (1996), notes that what distinguishes modern people from the ancients extends further than the progress of technology, science, or capitalism and democracy. Indeed, hundreds of years before the birth of Christ, the great library of Alexandria had been built, and there were brilliant mathematicians, inventors and political philosophers. Indeed, Euclid's geometry was being taught and minerals such as oil, coal, iron and copper had been serving people for millennia. Bernstein argues that "The revolutionary idea that defines the boundary between modern times and the past is the mastery of risk: the notion that the future is more than a whim of the gods and that men and women are not passive before nature. Until human beings discovered a way across the boundary, the future was a mirror of the past or the murky domain of oracles and soothsayers who held a monopoly over knowledge of anticipated events." (p.1) Creating a future that does not depend on the murky mirror of the past and estimates events of the future is the major task of risk management.

Deleting the murky domain of oracles and soothsayers can be found in aspects of life and its academic counterpart. Put more formally, risk management, as measured by the lens of statistics and probability theory, dominates our ability to understand the future in many disciplines (Stigler, 1986). Physical sciences, biological sciences, and social sciences have created models to try and understand the future (Shanks and Kheterpal, 2013; Derman, 2011; Weatherall, 2013). The task of this private company, PredictionWorks, is to continually improve our ability to predict business plans with the highest degree of confidence, and enhance the ability of investors, who represent a multi-billion-dollar industry, to see through the murky mirror of the past and help create a successful future, utilizing a system of scientific understanding that enables reliable prediction and, thus, risk management.

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The Method of PredictionWorks

In 2009, PredictionWorks (at that time called SuperLab) had developed a New Venture Assessor system, which was first tested in Silicon Valley (see Exhibit A and Exhibit B). At the core of the method is a blind test on investment backed start-ups. This test validates the level of reliability and performance of PredictionWorks system's ability to predict from a start-up company's business plan if that company was deserving of angel or venture capital investment. PredictionWorks was not permitted to use any information from any source after the date of a company's business plan. It was not allowed to have any contact with a company's customers, vendors or management team. The assessment of the business plan lasted from five to ten hours. The basic question of the assessment system was as follows: Would this venture backed company provide its early investors a high ROI-based IPO or sale/merger liquidity event within 7 years of launching? Why or why not? The results of the experiment are presented in Exhibit A.

Experiment at The University of Texas at Austin

Inspired by the blind back-dated validation tests undertaken in Silicon Valley in 2009, The University of Texas McCombs Business School and IC² Institute of Austin undertook another battery of blind back-dated validation tests on the PredictionWorks New Venture Assessor system. As noted earlier (Silicon Valley test), this New Venture Assessor system was accurate 10 out of 10 times in forecasting the 7-year investment returns for the 10 start-ups capitalized through venture capital and angel investors.

In the most recent McCombs/IC² Institute blind back-dated tests (2016), PredictionWorks New Venture Assessor system was tested 9 times. 7 of the tests were

performed on VC/Angel funded start-ups with a “complete business plan.” An eighth funded start-up had only an executive summary to assess. The PredictionWorks system functions best with “complete business plans.” A ninth start-up, which came through McCombs’s nationally sponsored Moot Court Business Plan Competition, was assessed despite being unfunded.

Table 1 presents the companies assessed at The University of Texas at Austin. PredictionWorks New Venture Assessor was accurate 6 out of 7 times on venture capital/angel backed start-up companies with “complete business plans.” The one incorrect assessment was not far off. PredictionWorks assessed this plan as a “fund.” This company did sell in the 7-year window, and the investors at least received a return of their capital. On the eighth start-up assessed, (the one with only an executive summary, which mentioned little, if anything, about the quality of its IP) PredictionWorks predicted that if this company had evidence of strong IP, then PredictionWorks would fund. It turned out that this company had strong IP and sold with good returns to the investors.

On the ninth start-up assessed, (the unfunded start-up from McCombs Moot Court Business Plan Competition) the score by PredictionWorks matched the score given by the Moot Court Business Plan scoring committee. Since this prestigious Moot Court Business Plan Competition has a strong record of top 3 winners eventually becoming successful companies, the PredictionWorks aligned score is significant.

**UT/IC2
TEST RESULTS**

TABLE 1

Company Profiles	PW's Invest/ Do not Invest Decision and Score	Actual Results	Was PW's Forecast Correct or Not?
<p>Product Development Management</p> <p>This new software company was developing a web based software solution for the product development community. Central to its solution was the assumption that the on-demand software industry needed a way to simplify, accelerate and collect the voice of the customer for the internal stakeholders.</p>	<p>Do not invest</p> <p>59 (Category Circumstances)</p> <p>57 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>J2EE Components for Enterprise Application Middleware</p> <p>This new software company was founded to develop products that automate J2EE application deployment and configuration. The company's software enabled fast, reliable server deployment while virtually eliminating configuration errors and accelerating the enterprise application development life-cycle. The company's product supported BEA Systems' Weblogic and IBM's Websphere. It also supported JBoss and Oracle application servers.</p>	<p>Invest</p> <p>73 (Category Circumstances)</p> <p>80 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did generate a high ROI within 7 yrs through a sale</p>	<p>Correct Forecast</p>

<p>Vending Machine Management</p> <p>This new company thought it identified a market need for real-time remote decision/mobile data/information decision-support system to provide bottlers a way to get revenues higher and costs of operators minimized.</p>	<p>Do not invest</p> <p>50 (Category Circumstances)</p> <p>60 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Parking Facility Management</p> <p>This new software and hardware company developed patented software and wireless hardware systems to help small parking facility owners reshape the economics of parking facility ownership/management. The solution consisted of wireless sensors, mobile payments and voice-based transaction processing.</p>	<p>Do not invest</p> <p>47 (Category Circumstances)</p> <p>56 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Metering for SaaS Systems</p> <p>This new software company thought it could develop operational services manager (OSM) and a unified dashboard of operational support systems (OSS)/business support systems (BSS) for efficient SaaS delivery. The core technology was to enable configurable “generic (usage) metering.”</p>	<p>Do not invest</p> <p>74 (Category Circumstances)</p> <p>62 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>

Company Profiles	PW's Invest/ Do not Invest Decision and Score	Actual Results	Was PW's Forecast Correct or Not?
<p>Enterprise Social Business</p> <p>This new software company built technology that would allow enterprises to connect to and utilize the vast publicly available infrastructure of social networks and applications existing beyond their firewalls and allow enterprises to realize a whole new level of productivity. This company's solution required a layer of management and security that did not exist at the time, as well as a solution for integration of data across social applications and existing legacy applications.</p>	<p>Do not invest</p> <p>66 (Category Circumstances)</p> <p>57 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Gaming Network Processors</p> <p>This new hardware and software company created the world's first gaming network processor ("GNP"). This company's network card promised the hard-core online gamers a "faster-than-life" gaming experience. The company's GNP first industry standard UDP game API.</p>	<p>Invest</p> <p>71 (Category Circumstances)</p> <p>82 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company did not provide a high ROI within 7 yrs from sale/IPO. It did sell and the investors did get their capital back, just no profit.</p>	<p>Partially Correct Forecast</p>

<p>Database Optimizer</p> <p>This new software company wanted to develop cache technologies to optimize database through-put. The company’s drop-in software functions as a “tuner” relying on proprietary algorithms based on artificial intelligence heuristic known as “genetic algorithms.” *Protocol was violated because the business plan was <u>not funded</u>. The entrepreneurs, for personal reasons, decided not to seek funding and launch.</p>	<p style="text-align: center;">Invest</p> <p style="text-align: center;">75 (Category Circumstances)</p> <p style="text-align: center;">75 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>This company won 2nd place in the UT Moot Court Business plan Competition. Founders did not launch for personal reasons.</p>	<p style="text-align: center;">Correct forecast based on the fact that the idea won 2nd place in UT Moot Court Business Plan Competition</p>
<p>Operations Performance Management (“OPM”)</p> <p>This new software company developed a next generation version of corporate performance management (“CPM”) software. The company’s OPM system essentially integrated strategic reporting features on top of conventional CPM operating features.</p> <p>*Protocol was violated because the company only provided an executive summary and not a complete business plan that test protocol required.</p>	<p style="text-align: center;">Invest if Strong IP</p> <hr/> <p style="text-align: center;">Do not Invest if no sign of strong IP, thus</p> <p style="text-align: center;">57 (Category Circumstances)</p> <p style="text-align: center;">61 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>Company did have strong IP and did sell, producing a high profit</p>	<p style="text-align: center;">Correct forecast because company did have strong IP</p>

Assessments where protocol was not followed*

Test Protocols

The prime motivation for the blind back-dated stress tests was to further validate the findings of the 2009 Silicon Valley test (see Exhibit A and Exhibit B), this time under academic conditions. The McCombs/IC² test objective was the same as the Silicon Valley test: in a rigorous academic setting, could the PredictionWorks New Venture Assessment system maintain the Silicon Valley level of reliability and performance, and predict if a company was deserving of angel or venture capital financing, from that start-up company's business plan. In short:

Would this venture capital/angel backed company provide early stage investors a high ROI-based IPO or sale/merger liquidity event within 7 years of launching?

Time and Monitoring for Each Assessment:

PredictionWorks was not allowed to execute any assessment in more than one day or out of the sight of sponsor monitors. This meant that assessment sessions lasted 12 to 15 hours each due to the technical complexity of this battery of tests.

Redacted Business Plans:

Redacted business plans dated between 2003 and 2008 would be provided to PredictionWorks by the Sponsor who knew the companies being assessed and their performance record to date. The name of a company, and its principal's names and product names, were redacted.

No Contact with Company Customers, Vendors or Management Team:

PredictionWorks was not allowed to have any contact with a company's customers, vendors or management team.

No Information Beyond the Date of the Business Plan:

PredictionWorks was not permitted to use any information from any source (including the Internet) after the date of a company's business plan.

Technology/Domain Experts Allowed:

PredictionWorks was permitted to seek the input of technology or business domain experts on any assessment. However, any domain expert had to agree in advance that he/she would not provide any information beyond the date of a company's business plan. In addition, a domain expert was not permitted to opine on the assessed company's future performance.

McCombs Business School and IC2 Institute's Interest in the Advancing Predictive Analytics: Experiments for the Future

There were follow-on reasons for conducting the Blind Stress Tests in an academic setting. If, as happened, PredictionWorks' strategic rules engine assessment system in an academic test environment achieved similar reliability and performance results, as compared to the first battery of tests in Silicon Valley, such an accomplishment would certainly be ample justification for establishing a formal academic alliance with PredictionWorks. This relationship is presently being shaped by utilizing a Grant Administration process intended to jointly advance academia's interest in educational standards being kept on the cutting edge of innovation and the PredictionWorks' interest in updating and automating its technology tools. Additionally, such a process opens the door to validate a longer term PredictionWorks claim that they are pioneering two *new technology/solution categories*, namely New Growth Management (NGM) and New Venture Management (NVM). If their "new category" claims prove to be as reliable and powerful as their strategy predictive analytic system, that may well promise novel and revolutionary ways to reinvigorate and meaningfully integrate real world capitalism with academia. A valued realignment of the marketplace and academia, such as their claims suggest, could incorporate paradigm-shifting, collaborative ideation discovery and design (ID2) processes, integrated with development, validation and commercialization best practices utilizing the company's proprietary tools.

Thus, the Grant Administration process could well aid not only PredictionWorks' near-term software development agenda and annual recalibration needs, but in the longer term, other core competencies inherent within their strategy predictive analytic rules engine. For instance, fleshing out their Core Asset for Sale (CAS) core strategy archetype may well provide a practical near-term bridge for revitalizing and measuring a more productive, real-time innovation relationship between corporate America and academia than now exists. Utilizing the company's in-house CAS Lab Innovation Platform (CLIP) idea creation and design/development tools for mobilizing high return, short term innovation sales could be especially advantageous in the process of creating a lively, productive and profit producing marriage between the pure R & D being conducted by universities and the application needs of the marketplace. A big need exists in this white space opportunity, where the applied technology and "next gen" new product/new venture, new growth management concerns especially challenge corporate America's Middle Market workhorse (companies with revenues between \$10M and \$900M) from which major GNP growth originates. The implications for job creation and academic/corporate integration are huge, as these concerns are not only regional and national but global as well.

Principals

SPONSOR OVERSIGHT ENTITIES:

The University of Texas
McCombs Business School

IC² Institute

Representatives:

John Sibley Butler, PhD.
J. Marion West Chair for
Constructive Capitalism
Gary M. Cadenhead, PhD.
Former Director of Master of
Science in Technology
Commercialization Program
(MSTC)

John Sibley Butler, PhD.
Fellow and former Director
Gary M. Cadenhead, PhD.
Fellow

BUSINESS PLAN SOURCES:

Moot Corp[®] Competition

G51 Venture Capital

Angel Venture Capital

Gary M. Cadenhead, PhD.
Former Director of the
Global Moot Corp[®]
Competition
Rudy Garza,
Founding Partner
Jamie Rhodes,
IC² Institute Fellow

PredictionWorks PROJECT LEADERS:

Mark Long
Chip Adams

TEST RESEARCHERS/MONITORS:

Rashi Jain, Blossom Eze, Hassan Mansi, Quy Le, Melanie Guerrier, Ryan Kelly, Patrick Wooding

INTERN SUPPORT RESEARCH TEAM:

Damjan Kochov, Ronald Lim, Commander Brian FitzPatrick

DOMAIN EXPERTS:

Dave MacSwain (technology), Gartner Research (technology)

The McCombs School of Business

The McCombs School of Business at The University of Texas at Austin offers undergraduate, master's, and doctoral programs for their average 12,000 students each year, adding to its 93,523 member alumni base from a variety of business fields. In addition to traditional classroom degree programs, McCombs is home to 14 collaborative research centers, the international business plan competition: Venture Labs Investment Competition (formerly known as "MOOT Corp®"), and executive education programs. McCombs is also the oldest public business school in Texas. Effects of the 1990s technology boom and dot-com bubble were palpable in Austin, leaving the nickname "Silicon Hills" on the city. One McCombs School program that has capitalized on this is the Venture Labs Investment Competition, the oldest operating inter-business school new-venture competition in the world. Begun in 1984, it has been dubbed the "Super Bowl" of world business plan competitions.

IC² Institute

The IC² Institute was founded in 1977 as a "think and do" tank to test the belief of its founder, George Kozmetsky, that technological innovation can catalyze regional economic development through the active and directional collaboration among the university, government, and private sectors. Since then, the Institute has researched the theory and practice of entrepreneurial wealth creation and has been instrumental in Austin's growth as an innovation and technology center and in the development of knowledge-based economies in over 35 countries.

John Sibley Butler, Principal Investigator

John Sibley Butler holds the J. Marion West Chair for Constructive Capitalism in the Graduate School of Business (Department of Management). He is a professor in the Management Department and holds a joint appointment in Organizational Behavior in the College of Liberal Arts, where he holds the Darrell K. Royal Regents Professorship in Ethics and American Society (Sociology). His research is in the areas of Organizational Behavior and Entrepreneurship/New Ventures. His research appears in professional journals and books. He is the Sam Barshop Fellow at The IC² Institute, an organization dedicated to the creation of new ventures throughout the world. For the last seven years, Professor Butler has occupied the Distinguished Visiting Professor position at Aoyama Gakuin University in Tokyo, Japan, where he lectured on new venture start-ups and general entrepreneurship. This past year, he was named as a distinguished Libra Professorship at The University of Southern Maine. Professor Butler has served as a consultant for many firms and the U.S. Military. At this time, he is Management Consultant for State Farm Insurance Companies, with Corporate Headquarters in Bloomington, Illinois. In this connection, he has given lectures on general management issues of corporate America. He is also one of the distinguished professors who composed the Economic Advisory Team of Governor George Bush's

2000 Presidential Campaign. Professor Butler has appeared on over 30 radio and television programs, including Eye On America (CBS Nightly News), The Jim Leher News Hour, CBS Radio Talk Show, The Osgood Report, and Public Radio. In addition, Professor Butler's research has appeared in The Wall Street Journal, The New York Times, The Chicago Tribune, Time Magazine, U.S. News and World Report, and other newspapers and magazines across America. His books include Entrepreneurship and Self-Help Among Black America: A Reconsideration of Race and Economics; All That We Can Be: Black Leadership and Racial Integration the Army Way (with Charles C. Moskos – Winner of the Washington Monthly Best Book Award); Immigrant and Minority Entrepreneurship: The Continuous Rebirth of American Communities (with George Kozmetsky, forthcoming); and, Forgotten Citations: Studies in Community, Entrepreneurship, and Self-Help Among Black-Americans (with Patricia Gene Greene and Margaret Johnson, forthcoming). Professor Butler received his undergraduate education from Louisiana State University in Baton Rouge and his Ph.D. from Northwestern University in Evanston, Illinois.

Gary M. Cadenhead, Principal Investigator

In 1980, Dr. Gary M. Cadenhead joined the faculty of the Business School, now the McCombs School of Business, at The University of Texas at Austin; and he retired at the end of May 2016. During this period, he directed two major entrepreneurship programs and taught in both the MSTC and MBA programs. Dr. Cadenhead taught graduate business courses in management accounting, strategy, and entrepreneurship.

For the past nine years, Dr. Cadenhead has been the Director of the Master of Science in Technology Commercialization (MSTC) Program. Under Dr. Cadenhead's leadership, the MSTC Program has more than doubled in number of students, developed an online option in which students literally come to class via the Internet, increased the experience level and quality of entering students, increased the number of successful ventures launched each year, inaugurated an International Trip, increased the competitiveness of MSTC teams in new venture competitions, enhanced the effectiveness of the curriculum, improved the format for the course offerings, and significantly increased the students' satisfaction with the Program. He has also taught in the Program, including the initial class in 1996.

As a Senior Lecturer in Entrepreneurship, Dr. Cadenhead served as Director of the world renowned MOOT CORP® Competition from 1992 until 2005. Under his leadership, the Competition grew from eleven universities to forty, became truly global, became a launch pad for new ventures, and offered the winners \$100,000 in investment capital. During his tenure, the ventures also increasingly focused on technologies developed at The University of Texas. He also taught the MBA courses that prepared UT MBAs for the MOOT CORP® Competition.

In four different years, Texas MBA students selected him to receive Outstanding Graduate Business Professor Awards. In 1995, the Kauffman Foundation and the Entrepreneur of the Year Institute recognized him as one of the Top Ten Entrepreneurship Educators of the Year. In 1998

and again in 2003, Dr. Cadenhead and the MOOT CORP® Program were featured in *Inc.* magazine. In 1999, he received the Entrepreneurship Education Pedagogy Innovation of the Year Award from USASBE. In a 2003 survey of entrepreneurship directors commissioned by *Entrepreneur* magazine, Dr. Cadenhead was recognized as one of the three top directors of entrepreneurship programs in the United States.

Prior to joining The University of Texas in 1980, Dr. Cadenhead held faculty positions at Stanford University, UCLA, and the University of California at Santa Barbara. He has been a visiting professor at the University of Hawaii at Manoa, Ecole Polytechnique Federale de Lausanne in Switzerland, IMADEC University in Austria, and Texas Christian University; and served as the chief financial officer of the Center for the Study of Democratic Institutions in Santa Barbara.

During 1988, he served as Research Director for the Texas Strategic Economic Policy Commission, which developed a strategic plan for the State of Texas. He also prepared business plans for the Texas Lottery Commission and the Kansas Bioscience Authority.

He earned two bachelor degrees from Southern Methodist University: 1) a BA in mathematics and elected into Phi Beta Kappa and 2) a BBA in accounting graduating first in the business school class of 1962. He next earned an M.B.A. from Harvard University and received his Ph.D. in accounting from Stanford University. A CPA licensed in the State of Texas, he had auditing experience with Haskins & Sells, now Deloitte. In addition to having been an auditor, he had experience hiring and managing auditors during his tenure as Chief Financial Officer of the Center for the Study of Democratic Institutions and Chairman of the Audit Committee at Schlotzsky's. His articles have appeared in various professional journals, including the *Journal of Accounting Research*, *Accounting Review*, and *Abacus*. He has also published in the *Design Management Journal* and *The Journal of Private Equity*. His third book, *No Longer MOOT: The Premier New Venture Competition From Idea to Global Impact*, was published in 2002.

Dr. Cadenhead has a lifelong involvement in entrepreneurial activities. He has started and managed his own ventures, consulted new ventures, served on the boards of new businesses, and assisted minority-owned businesses. He served on the Executive Advisory Board on Intellectual Property and Technology Transfer at The University of Texas at Austin, as a governor of the Opportunity Funding Corporation, a nonprofit entity that encourages minority economic development, and on the Advisory Board for Technology Transfer at the Los Alamos National Laboratory. He now serves on the advisory board of *The Journal of Private Equity*. Currently, Dr. Cadenhead's professional activities involve advising new ventures and consulting.

Exhibit A

**Wilson Sonsini, Hitachi Consulting
and FSX Validate SuperLab's Strategy
Assessment System;
Scores 10 for 10 in Monitored
Blind Stress Test**



What Was Assessed

The future performance of ten venture backed companies launched between 2000-2003. \$400 million was collectively raised by eight high tech companies, one consumer product company and one medical therapy company.

Steering Committee

Oversight

Wilson, Sonsini, Goodrich & Rosati

Representative

John Turner

Jack Sheridan

Financial Services Exchange. Inc.
(FSX), National Investment Banking
Association

Robert Spencer, President

Steve Fryer

Joe Cerbone

Hitachi Consulting

Chris Lord

Gable PR

Tom Gable

SuperLab

Project Leaders

Mark Long

Chip Adams

Researcher

Bonnie Alexander

Domain Experts

Stanley C. Brooks

Steve Moeller

Chris Lord

David Raab

Stress Test Results

Out of the 10 business plans provided to SuperLab to assess, SuperLab's Core Strategy Assessment System scored 10 out of 10 successfully in the opinion of the Stress Test's Steering Committee. In effect, SuperLab's Assessment System predicted accurately whether or not these venture-backed start-ups or re-start-ups, which were collectively funded with \$400 million of investor funds, would be suitable investments to meet angel and/or venture capital fund standards.

SuperLab's Core Strategy Assessment System Reports provided the reasons behind SuperLab's scores. These "reasons" were rated "highly insightful" by the Steering Committee judges.

SuperLab executed each assessment within 5-10 hours.

Three National Leaders Conduct the Stress Test

SuperLab has been developing a New Venture/New Product Core Strategy Assessment System since 2003. This system, which is now in its fourth version, has been beta-tested and used commercially since 2006.

In April 2009 the law firm of Wilson, Sonsini, Goodrich & Rosati (“WSGR”) was retained by SuperLab to represent SuperLab going forward. Also during April, SuperLab began discussions with Hitachi Consulting. These discussions centered on Hitachi Consulting’s role as a service provider to SuperLab in connection with the automation of SuperLab’s Assessment System. In early 2009 SuperLab began providing its Core Strategy Assessment System services to broker-dealer firm members of FSX. SuperLab initiated the idea for a Blind Stress Test with WSGR, Hitachi Consulting and FSX in early April. SuperLab requested that each of the firms participate as overseers and providers of business plans. These business plans had to be of companies launched in the 2000-2003 time frame, venture capital and/or angel financed. In addition, the firm providing the plan had to know the actual performance to date of the assessed company.



Actual Blind Stress Test Session

A Blind Test on Venture Backed Start-Ups

The reason for the Blind Stress Test was to validate the level of reliability and performance of SuperLab’s Assessment System’s ability to predict from a start-up company’s business plan if that company was deserving of angel or venture capital investment. SuperLab was not permitted to use any information from any source (including the Internet) after the date of a company’s business plan. SuperLab was not allowed to have any contact with a company’s customers, vendors or management team. SuperLab executed each assessment within 5-10 hours.

SuperLab was permitted to seek the help of any technology or business domain expert on any assessment. However this domain expert had to agree in advance that he/she would not provide any information beyond the date of a Company’s business plan. In addition, a domain expert was not permitted to opine on the assessed Company’s future performance. The question SuperLab was to answer from the logic, rating system and predictive patterns of its Assessment System was simply this:

Would this venture backed company provide its early investors a high ROI-based IPO or sale/merger liquidity event within 7 years of launching? Why or why not?

Profiles on the 10 Companies Assessed

WSGR selected six companies and FSX, through efforts of Steve Fryer, selected four companies for the Stress Test. Combined these 10 companies raised approximately \$400 million to launch their early efforts. Nine of the companies were high tech or high tech service-based except one – a golf accessories manufacturer. The last company was a medical therapy company. These companies and the approximate amounts they raised during their first 7 years were as follows:

Golf Accessories Manufacturing \$1 million Raised	Advanced Audio Technologies for Surround Sound Systems \$3 million Raised
Sales & Marketing Point of Sale Technologies \$25 million Raised	Clean Technologies for High Volume Food Processing Firms \$50 million Raised
Mobile E-Commerce Platform \$10 million Raised	Digital Media Distribution \$6 million Raised
Managed Threat Detection & Response Services \$70 million Raised	On-Line Investment Advice Services \$130 million Raised
Wi-Fi Technologies for RV Park Resorts \$1.2 million Raised	Treatment Programs & Therapies for Addiction \$135 million Raised

The Protocol Followed

The following procedures were established by the Steering Committee and agreed to by SuperLab:

5-10 Hours Per Assessment. SuperLab devoted on average 5-10 hours of work per assessment. Four plans were assessed at the WSGR offices. Six plans were assessed at SuperLab's offices.

Redacted Business Plans. Redacted business plans or private placement memorandums (PPM's) would be provided SuperLab by steering committee members who knew the companies being assessed and their performance record to date. The name of the company, and its principals' names and product names were redacted. WSGR provided 6 business plans and FSX member Steve Fryer provided 4 business plans. Two of the business plans provided by Steve Fryer did have the names of the company and its principals. SuperLab's principals have represented by affidavit that these two companies were not recognizable names.

No Information Beyond the Date of the Business Plan. SuperLab would use its assessment system on information provided by the following:

- The business plan or PPM.

- Any researched information not provided by the business plan, **provided this information was not dated following the date of the business plan except contact with or information from a company’s customers, vendors or management team was not permitted.**

Affidavit of Honest Performance. In order to help satisfy the requirements of **no information beyond the business plan date, the principals and staff of SuperLab provided the Steering Committee affidavits of Honest Performance.**

How SuperLab’s Assessment System Actually Performed

SuperLab precisely forecasted the seven year business and investment performance for 10 out of the 10 companies assessed. In other words, SuperLab was able to rate and score with its Assessment System the future investment performance each company actually provided its investors against the standard criteria – would this venture backed company provide its early investors a high ROI-based IPO on sale/merger liquidity event within seven years of launching.



Of seven of the companies, SuperLab forecasted four companies would go out of business and three would be sold. Of the three sold, SuperLab predicted one company would be sold for an acceptable profit and while two companies would generate little ROI, if any, from their sale. Steering committee judges acknowledged not only the pinpoint accuracy of the assessments, but the keen insights that buttressed assessment conclusions. Three companies remained in business and as forecasted they did not generate a liquidity event or come close to meeting revenue projections in the seven year timeframe.

How can SuperLab help You?



To find out how SuperLab’s tools can help your new venture/new product innovation and/or investment challenges please contact Mark Long or Chip Adams. SuperLab can customize our powerful training, assessment and design tools to fit your budget and time deadlines.

SuperLab
 9020 Activity Road, Suite D
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June 24, 2009

To Other SuperLab Stress Test Steering Committee Members

Our firm was retained in February 2009 to represent SuperLab for legal and business advisory services.

In April 2009 SuperLab, through its President Mark Long, asked certain attorneys of our firm to participate as a Steering Committee member on a blind stress test of SuperLab's New Venture Assessment System. Mark informed our firm that FSX, Hitachi Consulting and possibly Rady Business School would participate as Steering Committee members.

We were intrigued with SuperLab's Assessment System and rigorous testing of the Assessment System seemed a natural step for SuperLab to take. As a leader in the venture capital and high tech industries, WSGR has made it our business to watch and stay current on new developments that can contribute to new venture innovation and investment processes.

After discussions with Mark, the following protocol was agreed to with SuperLab. We were told that the other Steering Committee members had been apprised of the protocol and agreed to it as well. This protocol was as follows:

1. **Redacted Business Plans.** Redacted business plans or private placement memorandums (PPM's) would be provided SuperLab by steering committee members who knew the companies being assessed and their performance record to date. The name of the company, and its principal's names and product names were redacted. Representatives of WSGR provided 6 business plans and FSX member Steve Fryer provided 4 business plans. Two of the business plans provided by Steve Fryer did have the names of the company and its principals. SuperLab's principals have represented to us that these two companies were not recognizable names.
2. **No Information Beyond the Date of the Business Plan.** SuperLab would use its assessment system on information provided by the following:
 - The provided business plan or PPM.
 - Any researched information not provided by the business plan, **provided this information was not dated following the date of the business plan.**
3. **Representation Honest Performance.** The principals of SuperLab have represented to us that they have complied with the testing protocol, including the requirements that no

June 24, 2009
Page 2

information beyond the date of the business plan or PPM be used in assessing the potential investment.

- 4. Steering Committee is Judge and Jury.** The steering committee member that provided the business plan would evaluate SuperLab's report for the level of predictive accuracy.

Our firm provided six redacted business plans for SuperLab to assess. Four of these plans were assessed by SuperLab at our offices in San Diego during the week of May 4th-May 8th. The other two assessments were performed by SuperLab at SuperLab's offices.

SuperLab scored each of the six business plans we provided accurately in how the companies ultimately performed. SuperLab scored all six companies as "no fund" venture investments. In our judgment, four of the six business plans also identified with reasonable specificity the risks that ultimately lead to the Company's failure to achieve business goals. SuperLab's assessments predicted none of these companies would provide early investors with a high ROI liquidity event through IPO or sale/merger within seven years of launching.

We were pleased to have participated in this Stress Test and were impressed by the results.

If any Steering Committee members wish to speak with me feel free to call me at (650) 565-3599.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

To Other SuperLab Stress Test Steering Committee Members

Our firm was contacted by SuperLab in March 2009 to become a software development provider to SuperLab. In April 2009 I agreed to participate as both a domain expert and as a Steering Committee member on a blind stress test of SuperLab's New Venture Assessment System. Mark informed our firm that FSX, Wilson Sonsini and possibly Rady Business School would participate as Steering Committee members.

I was consulted concerning appropriate stress test protocols. Like the other Steering Committee members I agreed that the following protocols be followed:

- 1. Redacted Business Plans.** Redacted business plans or private placement memorandums (PPM's) would be provided SuperLab by steering committee members who knew the companies being assessed and their performance record to date. The name of the company, and its principal's names and product names were redacted. WSGR provided 6 business plans and FSX member Steve Fryer provided 4 business plans. Two of the business plans provided by Steve Fryer did have the names of the company and its principals. SuperLab's principals have represented by affidavit that these two companies were not recognizable names.
- 2. No Information Beyond the Date of the Business Plan.** SuperLab would use its assessment system on information provided by the following:
 - The provided business plan or PPM.
 - Any researched information not provided by the business plan, **provided this information was not dated following the date of the business plan.**
- 3. Affidavit of Honest Performance.** In order to help satisfy the requirements of **no information beyond the business plan date, the principals and staff of SuperLab provided the Steering Committee affidavits of Honest Performance.**
- 4. Steering Committee is Judge and Jury.** The steering committee member that provided the business plan would evaluate SuperLab's report for the level of predictive accuracy.

During SuperLab's Stress Test work, I was called upon to be a domain expert on three of the assessments. On one assignment, I performed my work for two hours at the offices of Wilson Sonsini. On another assignment I performed my work at SuperLab. The third assignment I performed over the telephone.

I was impressed with the work-process of SuperLab. Although Hitachi Consulting did not supply any of the business plans, I have no doubt Wilson Sonsini and FSX did provide suitable plans that would have tested the performance of SuperLab's Assessment System.

I was provided the results on each assignment as the Stress Test process proceeded. Upon hearing the successful results to date, namely eight out eight, I am impressed. I look forward to the final results on the last two assessments.

Very Truly Yours,



Chris Lord
Hitachi Consulting

To Other SuperLab Stress Test Steering Committee Members,

My firm is a member of the FSX National Investment Banking Association. Bob Spencer acting President of FSX early in April 2009 agreed that FSX would become a member of the SuperLab Stress Test Steering Committee. Bob authorized my participation on behalf of FSX.

On or about April 20th Mark Long, who I have known for 15 years and previously worked with at Ventana Global, contacted me concerning any help I could provide in locating suitable business plans for the Stress Test. I provided several business plans on companies organized in the early 2000's, funded and with current information about their progress or lack thereof.

SuperLab did perform four assessments. The first three were done in rapid succession (all three were done within 3 days) and provided me with summary conclusions and SuperLab scoring maps. The fourth assessment was done the first week of June. Mark Long represented that his assessments were done without using any information beyond the business plans provided. He further represented that he performed no research on the Internet of any kind on the first three companies. He did use Internet information on the fourth but he represents that such information was pre-July 2003 only.

Whether or not Mr. Long or his staff followed this protocol or not, I do not know. Mr. Long has assured me he did follow the protocol.

The SuperLab assessment scores and reports provided me were accurate predictions/forecasts on the actual performance these companies experienced as measured by the Stress Test's investor performance standards. The three companies had high tech based products/technologies and were in very different industries.

- Food Processing (founded in 2000)
- Audio Technologies for surround sound systems (founded in 2002)
- Digital Media Distribution (founded in 2003)

A fourth company was a medical therapy company revolutionizing drug and alcohol treatment programs. The Company was organized and capitalized through a reverse merger with a public shell.

Three of the business plans did have the names of the companies and one plan had the name of the company redacted. Mr. Long assures me that he neither knew about these companies nor violated any protocols of the Stress Test.

SuperLab scored the three private companies as "NO FUND" venture investments. SuperLab's assessments predicted none of these companies would provide early investors with a high ROI liquidity event through IPO or sale/merger within 7 years of launching.

This is an accurate assessment on the food processing and digital media technology companies for sure. The audio technology company is still in business and has one year remaining (year end 2009) to provide the 7 year high ROI/Liquidity event for its shareholders. However based on this company's cap table as of May 2009 (11 million shares issued and last preferred stock round sold at \$2.50 per share) it does not appear that this Company will meet the 7 year high ROI Liquidity event criteria.

The fourth company, which was public from the get-go in 2003, has not provided its early investors from 2003 any increase in its stock value. Shares in 2003 were priced at \$2.50. In 2008 the share price was \$2.00 and in 2009 was as low as \$.40 per share. The Company's revenues for 2007 were only \$44 million. The Company projected revenues by 2006 in excess of \$120 million. The Company claimed in 2003 that most of this \$120 million would come from prison systems. SuperLab assessed prison system outcome as "very doubtful." In fact, the Company as of 2009 receives little revenue from prison systems. Therefore SuperLab's assessment appears SOLID right now.

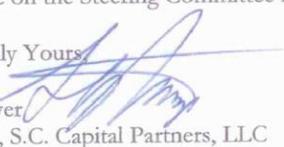
As a further point of interest the following has taken place:

- The food processing company has raised over \$50 million and is still in business but is not profitable as of May 2009. It missed its 7 year mark for high ROI/Liquidity event by 2 years already.
- The audio technologies company is still in business and has raised over \$4 million. As of year end 2008 it had \$5.6 million in revenues. This company's 2003 business plan projected \$33 million in revenues by 2008. The company is projecting \$7.1 million for 2009. If the company were to sell in its 7th year (2009) the sales price (if it could fetch 2X revenues) would provide, at best, a return of capital for all shareholders.
- The digital medial distribution business went out-of-business in 2006 and to my knowledge did not return any capital to its investors.
- The medical therapy company has yet to turn a profit and has had to raise an additional \$115 million to stay in business. In 2008, its share price was only \$2.00 (2003 share price was \$2.50).

I was happy to participate in this Stress Test. I am a big believer in tools that can help venture investors and investment bankers like myself improve our performance.

If anyone on the Steering Committee needs to talk with me about anything feel free to call.

Very Truly Yours,


Steve Fryer
Principal, S.C. Capital Partners, LLC
For FSX

cc: Bob Spencer, President FSX

Exhibit B

Summary Results of the Wilson Sonsini/ Hitachi Consulting/ FSX Test



What Was Assessed

The future performance of ten venture backed companies launched between 2000-2003. \$400 million was collectively raised by eight high tech companies, one consumer product company and one medical therapy company.

PredictionWorks
Silicon Valley Monitored Validation Tests – 10 for 10

(All start-ups were VC/Angel funded and in business over 7 years)

Company Profiles	PW's Invest/Don't Invest Decision and Score	Actual Results	Was PW's Prediction Correct or Not?
<p>Food Processing This new technology company developed a proprietary method for reducing and eliminating airborne and foodborne pathogens through its SEABAC system, which was made available to a target market in the Asian Pacific Rim, initially, and globally in the future. The SEABAC System is a “clean process” for seafood, meat and poultry, a shelf life extension process for “fresh” products, and a “re-work” process for food products already classified as “detained/rejected.”</p>	<p style="text-align: center;">Don't invest</p> <p style="text-align: center;">26 (Category Circumstances)</p> <p style="text-align: center;">17 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p style="text-align: center;">Correct Forecast</p>
<p>Digital Media Distribution This new software company developed hardware and software for a full-service digital content management and distribution infrastructure. This infrastructure included an online payment platform and provided content owners a log-in analysis function.</p>	<p style="text-align: center;">Don't Invest</p> <p style="text-align: center;">10 (Category Circumstances)</p> <p style="text-align: center;">20 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>Company <u>did not</u> generate a high ROI within 7 yrs through a sale</p>	<p style="text-align: center;">Correct Forecast</p>
<p>Managed Security and Threat Detection This new software company developed a proprietary data analysis engine to run on intranet and internet networks. The company's adaptive algorithms had detection and response functionality.</p>	<p style="text-align: center;">Invest</p> <p style="text-align: center;">79 (Category Circumstances)</p> <p style="text-align: center;">70 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>Company <u>did</u> generate a high ROI within 7 yrs through sale/IPO</p>	<p style="text-align: center;">Correct Forecast</p>
<p>Advanced Audio Systems This new software company used embedded software to solve acoustical distortions and multi-channel surround sound underperformance. The company's software was suited for digital signal processors in home theater, car, digital TV and other consumer devices.</p>	<p style="text-align: center;">Don't Invest</p> <p style="text-align: center;">0 (Category Circumstances)</p> <p style="text-align: center;">25 (Product Scope/Scale)</p> <p style="text-align: center;">70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p style="text-align: center;">Correct Forecast</p>

<p>Mobile Advertising</p> <p>This new software company developed an on-line service that B2B marketers can use to set up wireless internet sites that operate on the company's platform. Using this service, corporate advertisers are able to set up and attach their B2B advertisements.</p>	<p>Don't Invest</p> <p>62 (Category Circumstances)</p> <p>1 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Company Profiles</p>	<p>PW's Invest/Don't Invest Decision and Score</p>	<p>Actual Results</p>	<p>Was PW's Prediction Correct or Not?</p>
<p>WIFI for RV Parks</p> <p>This new hardware company developed WIFI networks for installation at the 16,000 RV Resorts in America. The company generated both a wireless 18P and hot spots.</p>	<p>Don't Invest</p> <p>66 (Category Circumstances)</p> <p>0 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Addiction Therapy</p> <p>This new therapy company developed proprietary and patented treatment regimens for addiction by treating the physiological and psychological components of addiction. The company's procedures focused on rapid detoxification, neuron adaption and aftercare treatments.</p>	<p>Don't Invest</p> <p>22 (Category Circumstances)</p> <p>0 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>Sales and Marketing Optimizer</p> <p>This new software company developed a revolutionary marketing science-based system for customer preference measurement. The company was working on "bundle patents." Testing was performed in over 80 companies with over 100,000 respondents.</p>	<p>Don't Invest</p> <p>22 (Category Circumstances)</p> <p>0 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>

<p>Golf Equipment</p> <p>The new manufacturing company was using patent pending technologies/designs to engineer and design a new category of golf bags and towels. Their new technology was Integrated Mobile Transport Technology (“IMTT”).</p>	<p>Don’t Invest</p> <p>0 (Category Circumstances)</p> <p>0 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>
<p>On-Line Investment Management</p> <p>This new software company developed a concept and technology for providing investment advice over the internet. The company’s electronic investment business model was supported by data integration efforts by several supply-chain partners.</p>	<p>Don’t Invest</p> <p>26 (Category Circumstances)</p> <p>0 (Product Scope/Scale)</p> <p>70 is a passing score</p>	<p>Company <u>did not</u> generate any high ROI within 7 yrs through sale/IPO</p>	<p>Correct Forecast</p>

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