The Vincent C. Ross Institute of Accounting Research
and
The Intangibles Research Project
at Stern School of Business
New York University

Present the 2nd Intangibles Conference

Intangibles: Management, Measurement and Organization

May 27-28, 1999

In New York City

Sponsored by
PricewaterhouseCoopers

ABOUT THE CONFERENCE

This is the second research conference fully devoted to intangible investments (intellectual capital). While the first conference (May 1998) focused on the relationship between intangibles and capital markets, this conference will be devoted to the managerial and organizational aspects of intangible investments. Specifically, we will examine the decision process concerning the initiation and continuation of investment in knowledge assets, the organizational arrangements conducive to successful investments, and the measurement, reporting and valuation of intangibles. The conference will conclude with a panel discussion of the progress we have made in understanding and furthering the management of intangibles. Panel members are executives, consultants and policy makers.

GENERAL INFORMATION

CONFERENCE LOCATION

New York University
Stern School of Business
Henry Kaufman Management Education Center (K-MEC)
44 West 4th Street
Room 2-60 (2nd floor)
New York, NY 10012
212-998-0010

PROGRAM SCHEDULE

Thursday, May 27, 1999		**Location**
11:30am - 12:45pm	-- Registration	Sosnoff Lounge, 1st floor K-MEC
11:30am - 12:45pm	-- Lunch	Cantor Boardroom K-MEC 11-75
12:45pm - 1:00 pm	-- Welcome & Opening Remarks	K-MEC 2-60
1:00pm - 3:45pm	-- Session One	K-MEC 2-60
3:45pm - 4:15pm	-- Break	Sosnoff Lounge, 1st floor K-MEC
4:15pm - 7:00pm	-- Session Two	K-MEC 2-60

7:00pm - 8:00pm	-- Reception	Cantor Boardroom, K-MEC 11-75

Friday, May 28, 1999		**Location**
8:00am - 8:30am	-- Continental Breakfast	Sosnoff Lounge, 1st floor K-MEC
8:30am - 10:30am	-- Session Three	K-MEC 2-60
10:30am - 10:45am	-- Break	Sosnoff Lounge
10:45am - 12:45pm	-- Session Four	K-MEC 2-60
12:45pm - 1:15pm	-- Lunch	Sosnoff Lounge
1:15pm - 2:45pm	-- PANEL DISCUSSION	K-MEC 2-60

THURSDAY, MAY 27, 1999

11:30am - 12:45pm Registration and Lunch

12:45 - 1:00pm Welcome and opening remarks: *Dean George Daly*
Paul Brown, Accounting Department Chair
Baruch Lev, Conference Organizer

First Session: NEW MEASUREMENT AND VALUATION TECHNIQUES
1:00 - 3:45pm

1. The Intangible Benefits and Costs of Computer Investments
Presenter: *Erik Brynjolfsson, MIT*

   In any "computerization" project, the computers themselves are only the smallest part of the total cost. Software, training and even changes in business processes and organization are also required. We model these associated costs as investments in intangible assets and show how to use data from financial markets to estimate their value. Using 8 years of data for nearly 1,000 public companies we find that, on average, a dollar investment in computers is associated with an increase of about $10 in the market value of the company. This provides direct evidence of the value of computer-related intangible assets. Implications for companies considering significant investments in IT will be discussed.

2. The Valuation of Technology Licensing By Real Options
Presenter: *Arvids A. Ziedonis, University of California at Berkeley*

   This study uses a unique and rich database on technology acquisitions: Berkeley University's data on more than 10,000 inventions, 2,000 patents and 4,000 agreements with corporations, to examine: (a) firms' decisions to acquire externally generated technology, (b) the delay of such a decision to reduce uncertainty (i.e., taking an option on the technology), and (c) the role of technological capabilities of firms in those choices. Throughout, the increasingly popular real options approach is used to analyze the examined questions.

3. Computers and Productivity
Presenter: *Kevin J. Stiroh, Federal Reserve Bank of New York*

   The "computer productivity paradox" refers to the apparent inconsistency between the massive investment of U.S. firms in computers (about $500 billion in the 1990s) and the meager economy-wide productivity growth (1.2% per year during 1979-1996 vs. 3.4% during 1948-1973). This study analyzes labor productivity growth in specific computer-using sectors and finds that productivity growth rates in manufacturing industries was impressive (5.7% in the 1990s), while productivity gains in the services lagged considerably. Analysis of reasons for the absence of strong computer benefits in services, such as banking will follow.

4. The Pricing of Environmental Intangibles
Presenter: *Don Cram, MIT*

Firms curtailing their damage to the environment create an intangible asset whose benefits accrue in the form of reduced regulatory intervention, increased demand by environmentally-conscious customers, and improved employee relations. This study assesses in an innovative way the implicit prices of creating environmental intangibles, based on the decisions of a large company. This company is both an environmental management leader and a large polluter, according to its EPA-reportable toxic releases. Detailed data supporting the company's decisions allow the pricing of the environmental intangibles.

Second Session: ORGANIZATIONAL DESIGN AND INCENTIVES ISSUES
4:15pm - 7:00pm

5. The Determinants of Corporate Venture Capital Success
Presenter*: Josh Lerner, Harvard University*

Entrepreneurs are chronically in need for funds. The two major sources of funds are venture capitalists and large corporations which form alliances or invest with the entrepreneurs. This study examines over 30,000 such transactions to determine the most successful form of organization, where success is measured by the probability of the entrepreneurial firm going public. In particular, the circumstances (e.g., the existence of strategic fit) conducive to each form of financing is examined in this study.

6. Raising Capital Through Intangibles-Targeted Securities
Presenter*: Baruch Lev, New York University*

The risk associated with basic research and early-stage product development is considerable. This risk, furthermore, cannot be shared or hedged, since markets for such investments generally do not exist. This leads many companies to avoid basic (fundamental) research, resulting in a considerable private and social loss.

In recent years several biotech and pharmaceutical companies issued securities targeted on portfolios of early-stage R&D projects. The experience with such an important device for intangibles risk-sharing and fundraising will be analyzed in this presentation, and conclusions will be drawn concerning the securitization of intangibles.

7. Does Value-Based (EVA) Management Discourage Investment in Intangibles?
Presenter: *Stephen F. O'Byrne, Shareholder Value Advisors*

O'Byrne, who served as the head of compensation consulting practice at Stewart-Stern, the company that introduced EVA, examines the effects of EVA-based performance measures and employee compensation systems on the incentives to invest in intangibles. EVA primarily rewards current performance, while intangibles create future growth. Hence the possible conflict. This presentation will use real life cases to analyze the relation between EVA systems and intangibles, and the conflicts between them.

8. Intangibles: Creating or Destroying Value in Diversified Companies?

Presenter: *Randall Morck, University of Alberta*

As a general rule, diversified companies underperform their focused peers. Researchers have estimated this "diversification discount" to be around 15% of market value. This study reports the reverse outcome for intangibles-intensive companies (R&D, brands). Product or geographic diversification creates value through synergies in the presence of significant intangibles. Specific reasons for such value creation will be highlighted.

FRIDAY, MAY 28, 1999

Session Three: MANAGEMENT OF KNOWLEDGE

8:30am - 10:30am

9. Managing Knowledge Capital: Lessons from Pharmaceutical R&D
   Presenter: *Iain Cockburn, University of British Columbia and NBER*

   R&D performance is a critical source of competitive advantage in the pharmaceutical industry, and to a large extent superior performance is driven by firms' ability to accumulate and manage knowledge capital in form of specific scientific and technical research capabilities. This study presents key findings from a long term examination of relationships between incentives, organizational processes, and research productivity in research-oriented pharmaceutical firms. The study focuses on managerial issues relating to the maintenance of linkages to external scientific and technical communities, and allocation of resources to research projects.

10. Human Resources, Knowledge Management and Firms' Performance
    Presenter: Mark Huselid, Rutgers University

    The benefits of investment in human resources and knowledge management are elusive, given measurement difficulties and the absence of firm ownership and control over the consequent assets (e.g., human capital). This study uses a unique sample of internal data from over 1,000 companies to study the impact of investment in human resources and knowledge management on company productivity and its stock performance.

11. Knowledge Management: Productivity Impact of Target Costing In the Japanese Camera Industry
    Presenter: *Kentaro Koga, Doctoral Candidate, Harvard Business School*

    Target costing is an extensive knowledge creation and management system that seeks to minimize product development costs. Target costing involves product development activities such as frequent cost estimations and revisions, frequent use of tables of cost related information, and intensive interactions among product designers, process engineers and procurement officers. This study empirically investigates whether use of target costing affects product development productivity. The sample includes 35 compact camera development projects of seven Japanese manufacturers between 1991 and 1996. Results highlight when and where such knowledge system succeeds and fails.

Session Four: MEASUREMENT AND REPORTING ISSUES

10:45am - 12:45pm

12. Firms' Experience with the Balanced Scorecard
Presenter: *Robert Kaplan, Harvard University*

The Balanced Scorecard is a widely used strategic measurement and management system that uses both financial and nonfinancial indicators. Kaplan, a co-developer of the scorecard will report on the effectiveness of this management tool for the early adopters, such as Mobil Marketing and Refining, Cigna Property and Casualty, Brown and Root Energy Services, and Chemical (now Chase) Bank. He will describe the experiences of these companies over the 3-4 year period subsequent to adoption.

13. Intangibles-Related Reporting Biases and their Consequences
Presenter: *Theodore Sougiannis, University of Illinois*

The immediate expensing of investment in intangibles is generally believed to be "conservative," namely understating profitability. This is a serious misconception. In fact, firms with a relatively low growth rate of intangible expenditures--the typical mature companies-- overstate their return on investment and earnings growth (momentum) when they expense intangible investments.

This study models the impact of expensing intangibles on reported and economic earnings and return on investment, and examines empirically on thousands of public corporations: (a) the circumstances under which the reported performance is under or over-stated, and (b) the extent to which investors are affected ("fooled") by the reporting biases. Evidence is provided of systematic mispricing of securities in capital markets.

14. The Impact of Capitalization vs. Expensing of Intangibles on Budgeting and Planning
Presenter: *Joan Luft, Michigan State University*

The measurement and reporting of intangible investments, in particular capitalization vs. immediate expensing, is crucial to managerial decision making. This study, based on experimental human judgement methodology, examines the ability of individuals to predict company profits for budgeting and planning when provided with alternative data on intangibles leading to quality improvement. The data provided characterizes intangibles as investment (capitalization) and alternatively as expenses. Results show that profit predictions are considerably understated when intangible investments are labeled as expenses. Implications for internal financial reporting and control will be discussed.

Final Session: PANEL DISCUSSION
1:15pm - 2:45pm

WHAT PROGRESS HAVE WE MADE IN THE MANAGEMENT, MEASUREMENT AND REPORTING OF INTANGIBLES (KNOWLEDGE ASSETS)?

PANEL CHAIR: ROBERT HERZ, PricewaterhouseCoopers

Panel Members

- Leif Edvinsson, *Vice President, Corporate Director Intellectual Capital & Skandia Future Centers, Skandia*
- Stephen Gerard, *Partner, PricewaterhouseCoopers*
- Christopher Meyer, *Director, Center for Business Innovation, Ernst & Young LLP*
- Mark Myers, *Senior Vice President, Xerox Research and Technology*
- Thomas A. Stewart, *Board of Editors, Fortune*
- Patrick H. Sullivan, *President, The ICM Group*
- Steven M.H. Wallman, *Senior fellow Brookings Institute & former SEC Commissioner*