

INTANGIBLE ASSETS - HOW TO RECOGNIZE UNDERSTAND AND VALUE A VITAL SOURCE OF CORPORATE WEALTH

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Nothing can have value without being an object of utility. If it be useless, the labour contained in it is useless, cannot be reckoned as labour, and cannot therefore create value.

Karl Marx (1818-1883) Capital 3 [1867-1883], pt. 11, ch. 3

What is a cynic? A man who knows the price of everything, and the value of nothing.

Oscar Fingal O'Flahertie Wills Wilde (1854-1900)

These are the times that try men's souls. The summer soldier and the sunshine patriot will, in this crisis, shrink from the service of their country; but he that stands it now, deserves the love and thanks of man and woman. Tyranny, like hell, is not easily conquered; yet we have this consolation with us, that the harder the conflict, the more glorious the triumph. What we obtain too cheap, we esteem too lightly; it is dearness only that gives everything its value. Heaven knows how to put a proper price upon its goods; and it would be strange indeed, if so celestial an article as Freedom should not be highly rate.

Thomas Paine (1727-1809) The American Crisis, no. 1 [December 23, 1776]

It is easier to discover a deficiency in individuals, in states, and in Providence, than to see their real import and value.

Georg Wilhelm Friedrich Hegel (1770-1831) Philosophy of History [1832], 3 introduction

We might as reasonably dispute whether it is the upper or the under blade of a pair of scissors that cuts a piece of paper, as whether value is governed by utility or cost of production.

Alfred Marshall (1842-1924), Principles of Economics ([1890]

Life being all inclusion and confusion, and art being all discrimination and selection, the latter, in search of the hard latent value with which it alone is concerned, sniffs round the mass as instinctively and unerringly as a dog suspicious of some buried bone.

Henry James (1843-1916) Preface [1907-1909] The spoils of Poynton

They wonder much to hear that gold, which in itself is so useless a thing, should be everywhere so much esteemed, that even men for whom it was made, and by whom it has its value, should yet be thought of less value than it is.

Sir Thomas More (1478-1535) Utopia [1516]. Of Jewels and Wealth

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Mankind, by the perverse depravity of their nature, esteem that which they have most desired as of no value the moment it is possessed, and torment themselves with fruitless wishes for that which is beyond their reach.

Francois de Salignac de la Mothe Fenelon (1651-1715) Telemaque [1699], bk. VII

The echo began in some indescribable way to undermine her hold on life. Coming at a moment when she chanced to be fatigued, it had managed to murmur, "Pathos, piety, courage--they exist, but are identical, and so is filth. Everything exists, nothing has value." If one had spoken vileness in that place, or quoted lofty poetry, the [echo's] comment would have been the same--"Ou-boum."

Edward Morgan Forster (1879-1970) A Passage to India [1924]

Entrepreneurial profit . . . is the expression of the value of what the entrepreneur contributes to production in exactly the same sense that wages are the value of expression of what the worker "produces." It is not a profit of exploitation any more than are wages.

Joseph Alois Schumpeter (1883-1950) The Theory of Economic Development [1934], ch.4

The supreme value is not the future but the present. The future is a deceitful time that always says to us, "Not yet," and thus denies us. The future is not the time of love; what man truly wants he wants now. Whoever builds a house for future happiness builds a prison for the present.

Octavio Paz (1914-) Postscript (posdata) [1970]

Economists' View of Traditional Elements of Production

I.

- up until the early 18th century, the economy was primarily based upon agriculture the manors/plantations of this era held 3 types of assets - land, capital and labour - all of which could be classified as being tangible in nature
- this economic period lasted until the beginning of the "canal age"

II.

- the 1740's saw many new changes to the components of production - there was now a need for transportation systems, so that products could be delivered to market - brought in "outsiders" for financing - financing capital was expanded - where all funding was originally provided by the founders/entrepreneurs, financing was now being sought from outside investors, and in time from bankers
- there was a separation amongst the labour force, as some workers specialized in building, while others specialized in operations
- land was now being subdivided
- more experienced labour force was now required
- construction projects were now being done by contractors, who once they completed one job would move on to their next project

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- management skills came from experience in the army
- this period also introduced the need for specialized consultants (i.e. surveyors, lawyers, etc.)

III.

- professional managers came onto the scene in the early 1900's
- now began to see a split between the ownership and management of companies

IV.

- by the 1920's, professional management took on a heightened degree of importance
- companies realized a growing need for added managerial skills, operating systems and professional marketing
- the 1940's and 1950's saw the beginning of multinational enterprises, as companies entered new, unchartered international markets

V.

- in the 1960's, companies were now becoming part of "systems", both industry systems and company systems (i.e. automotive companies - Honda, Toyota; healthcare system and pharmaceutical companies being prime examples)
- this was quickly becoming a business norm, rather than the exception
- by the 1980's and 1990's, business had truly entered the computer age, with knowledge now becoming the key component to doing business
- growth of systems came at the same time as the growth of "intellectual capital"
- in today's competitive marketplace, competition may be defined as the ability to deliver to your customers "what they want, when they want"
- there are 3 ways for a company to compete ... price, quality or service
- intellectual capital helps to improve the effectiveness of an operation (not it's efficiency)...it helps to determine what "should" be done in order to be more competitive...it helps people work "smarter"

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INTRODUCTION

This seminar is interactive; please feel free to interrupt anytime you may not understand an issue or concept, or would like to give the group the benefits of your own experience. When we get to them, please fill in the pages which have been left blank within your handouts.

This presentation is not intended to be a cooking class. Valuation is an art, not a science, and every conclusion must pass a "justification for purchase" test; a sanity check "would you recommend a client to pay that amount"?

In his book, "Capital", Karl Marx said,

Nothing can have value without being an object of utility.

This is the basis of our view of Intangible Assets. We also concur with Lord Kelvin's statement,

When you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind.

However, the Appraiser must be the opposite of the Cynic, whom Oscar Wilde defined as:

A man who knows the price of everything, and the value of nothing.

One must always be aware of what Alfred North Whitehead, a distinguished British Scientist, described as: "...the fallacy of misplaced concreteness" and also of "unsupportable accuracy". Don't accept the output of the model that gives a value to a dollar. They are almost always ranges, rounded to the closest one percent; this means \$10,000 for amounts up to \$ 1 million, \$50,000 for amounts from \$1 million to \$5 million, and so on.

In preparing this presentation, I have drawn on my own experience and years of extensive reading in which many of the ideas have originated. In particular, I want to acknowledge the work of: Shannon P. Pratt, DBA, CFA, FASA; his partner, Robert F. Reilly, CPA, CFA, ASA; Thomas A. Stewart of Fortune magazine and the major international practitioner of Intellectual Capital, Leif Edvinsson of Skandia, a Swedish financial services company. Finally, I wish to thank C. Ian Kayer, PhD, LIB, 1994 President of the Computer Law Association, for comments on Intellectual Property law.

KEY INNOVATIONS

The April 7, 1997 issue of Forbes ASAP magazine, was completely devoted to Intellectual Capital, a major category of the intangible assets of a business. One article, by James Burke, the well-known host of the PBS television program, "Connections", set out the key innovations in western history and their approximate dates. Each of them involved not only tangible assets, but also intangibles. Mr. Burke's list is:

- Stone Ax - about one million five hundred thousand BCE
- Writing - about 5000 BCE
- Stirrups - about 800
- Ship's Rudder - about 1150
- Perspective by Al Hazen - 1423
- Printing Press by Johannes Gutenberg - 1455
- Steam Engine by James Watt - 1765
- Waterproofing by Charles Macintosh - 1845
- Artificial Dyes by Heinrich Caro - 1859
- Telephone by Alexander Graham Bell - 1876
- X-Rays by Wilhelm Roentgen - 1895
- Computer at the University of Pennsylvania - 1944

To these, we would add Ceramics (about 9000 BCE), the Wheel (about 4000 BCE), Metal Smelting (about 3000 BCE), the Internal Combustion Engine by Karl Benz (1878), Electrical Generation and a successful Light Bulb by Thomas Edison (1879), and the Transistor by Bell Labs (1946).

THE ECONOMISTS' VIEW

Traditional Elements of Production 5000 BCE-1740

Until the mid-18th Century, all the economies in the western world were based on agriculture. This industry had two main elements: the first were organizations such as the Greek or Roman villa, the Manor and the Plantation, which produced a "surplus" of items which could be sold, as well as enough for their own consumption; the other was the small land owner, tenant farmer or peasant who was lucky if he could feed his family throughout the year.

At various times substantial trading took place and a fair number of people were engaged in mining, grain milling, retailing and simple manufacturing, such as cloth making, pottery, metal working and ship building. However, even at the height of the Roman Empire, these tasks probably did not employ much more than 10% of the population.

In this framework, land, capital and labour really represented the elements of production and wealth generation. Slightly expanding their definitions allows them to cover the activities of nearly all businesses of those eras.

Land

- Farms
- Warehouses
- Shops
- Mines
- Docks
- Roads

Capital

- Cash
- Mortgages
- Ships
- Equipment

Labour

- Apprentices
- Journeymen
- Craftsmen
- Household Servants
- Stewards
- Masters
- Miners
- Seaman
- Serfs
- Slaves (an early form of Human Capital)
- Professionals (Doctors, Lawyers, Priests, Engineers, Soldiers, Teachers)

Most of the three elements of production were represented by tangible assets in one way or another. Apprentices, for example, were contractually bound to their master for up to seven years, and in fact paid a "premium" to be taught the trade.

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Peasants and Serfs were legally tied to their villages. In parts of France, for example, the peasants had to settle part of their taxes by "donating" hours of work to the repair of the roads. Slaves of course were bought and sold like chattels, not human beings.

The Economists' View - Elements of Production 1740-1990

In the 1740s, the Industrial Revolution started with the introduction of canals, first in Britain, followed by Europe, and then in North America. The ability to deliver heavy goods to markets, at a reasonable price, was essential before it was profitable to move work from the home or small scale shop to a "factory".

Once the steam engine became available, canals were followed by railways, the first real new product of the Industrial Revolution. Previously, efforts were devoted to making traditional products more efficiently by standardizing their design and manufacture.

Such large scale enterprises required more funds than one individual had or even a small group of partners could normally provide; therefore, outside sources of capital, such as bankers, investors and lenders were needed. The combination of this demand and the increased supply of money as a result of the need to invest the profits being generated by factories, resulted in the increase in the importance of the banker. The factories' profitability came from the application of the concept of "division of labour". This allowed individuals to become more efficient in producing items by specializing in one particular function; the concept was applied not only to manufacturing but also construction and transportation.

In Britain, groups of "navies" would move from place to place building first canals and then railroads. In the course of which they became expert earth movers and erectors of bridges. The transportation link would be operated by others with the appropriate skills. They subsequently moved on to east of Europe, building more canals and railroads.

Professional managers first came on the scene in the early 1800's, when large scale enterprises required the skills of more than one or two individuals. These firms generally adopted the techniques of the European armies, as, until the canals and railroads, these were the only organizations with large numbers of employees undertaking complex tasks. By the 1920's professional management took on a heightened degree of importance, especially as industrial enterprises such as automobile manufacturing became the largest and most complex organizations in existence. They required operating systems, professional marketing and scores of specialized consultants. The trend continued as companies from nearly every country entered new uncharted foreign markets in the hope of improving profits.

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To fit more complex activities into the three traditional elements of production, each of them had to be further expanded. In particular, labour became a diffuse category with, the inclusion of professional managers and technical specialists, as ownership became separated from authority.

Land

As before plus

- Canals
- Railroads
- Electric Generating Stations & Powerlines
- Coal Gas Supply Plants & Distribution Lines
- Telephone & Telegraph Systems
- Water & Sewage Systems

Labour

As before (excluding serfs and slaves) plus

- Experienced Workforce
- Union Members
- Supervisors
- Professionals
- Managers
- Entrepreneurs

Capital

As before plus

- Bankers
- Lenders
- Investors

The last entry may appear odd, but it is based on a comment by Joseph Schumpeter, Vienna and Harvard's answer to Keynes'.

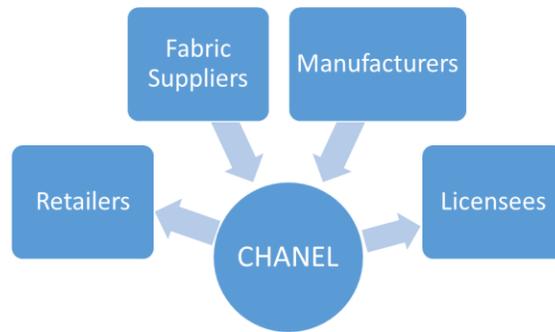
Entrepreneurial profit . . . is the expression of the value of what the entrepreneur contributes to production in exactly the same sense that wages are the value of expression of what the worker "produces."

In the 1980s and 1990s, large complex businesses found that they could lower costs by outsourcing functions and becoming "systems" as opposed to "organizations". The leaders in this have been the Japanese automobile manufacturers, though a number of other industries have followed the same pattern.

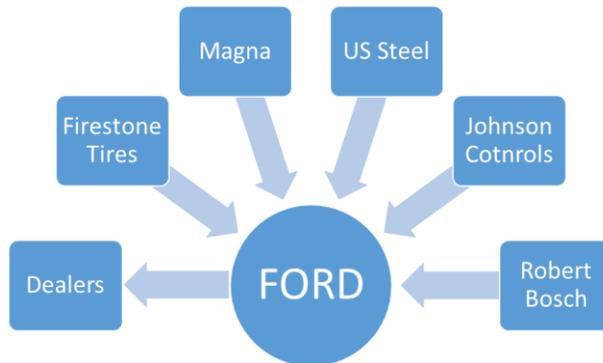
GALAXY OF FIRMS

Relationship building is the essence of strategy, not a by-product of it.
Tsun-yan Hsieh, McKinsey & Company

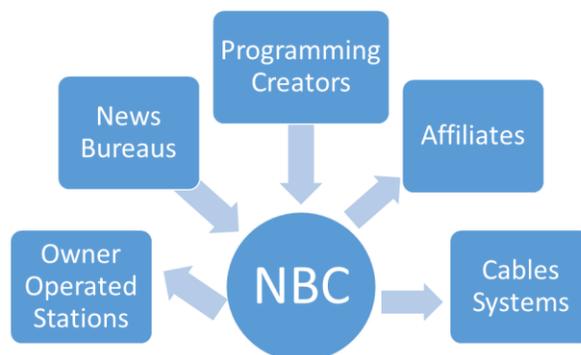
Apparel



Automobile



Broadcasting



THE ECONOMISTS' VIEW TODAY

This should really be a blank page! There is no consensus.

Most Economists consider that with some tweaking the three traditional elements of production are still valid. A growing minority believe that there are now four rather than three elements of production; I am of this school. They are:

Resources

This includes all the items previously considered to be land, plus subcontractors and distribution channels, that together make up the system of the firm including outsources.

Finance

This element represents everything previously considered to be Capital, together with the whole financial organization of the business, including not only its lenders and insurers, but also those of its dealers and contacts as well as its benefit providers.

People

Everybody whose activities were previously considered to be labour, as well as the contract employees, consultants, and advisers that are essential to the activities of the business.

Knowledge

The information technology, operating systems, patents, trademarks, etc. that are essential to carrying on the business. As Francis Bacon, who some people think wrote Shakespeare's plays, stated: "Knowledge is Power."

Another view of the role of knowledge comes from Bill Gates:

We win because we hire the smartest people. We improve products based on feedback, until they're the best. We have retreats each year where we think about where the world is heading.

On the Financial Statements:

The first two elements, Resources and Finance, are **TANGIBLES**

The last two elements, People and Knowledge, are **INTANGIBLES**

WHAT INTANGIBLES ARE ASSETS?

Tangible assets are aggregated into a number of generally accepted and well understood categories, such as cash, receivables, inventory, land, buildings and equipment. In the same way, intangible assets can be aggregated into categories; these, unfortunately, are less well understood and not yet generally accepted.

Traditionally, the essential characteristics of an asset have been that they are resources controlled by an enterprise as a result of past events and from which future economic benefits are expected to flow. Intangible assets were those that remain represented after all tangible assets have been identified. These assets, for many years, were lumped together in the "Big Pot Theory of Goodwill". To be properly managed, Intangible Assets must be identified; for an intangible item to be considered an asset from a legal, accounting, and valuation point of view, it must:

- Be separately identifiable and describable
- Exist through legal or defacto rights
- Have a reasonably determinable life
- Generate economic benefits

Separability

An intangible item does not necessarily have to be separable from a business to have value. However, to measure the value of an intangible asset as distinct from the business as a whole, the asset must be separable. Therefore, some well-known intangible items with considerable value, such as market share, do not qualify as an intangible asset. However, market share is normally attributable to one or more brands. These are separable and the value of the market share will form part of their value.

Analysis of the value chain of a business will indicate the extent to which different functions contribute. One intangible asset maybe inextricably joined to another with a different function, such as a brand being linked to the technical know-how required to manufacture the product. In these circumstances, one would normally define and value such intangible assets together.

For brands where customer loyalty is an important attribute, the model will normally include manufacturing know-how, inventory and the distribution channel which includes both the logistical functions and the network of consumer relationships needed to deliver the product. An example is Coca Cola.

The problem of separability is particularly difficult for brand names in service industries. The intangible asset can be narrowly defined, as a trademark without the supporting employees, or broadly considered as a "package", that groups the brand name with key people, know-how, and systems.

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Properly defined and packaged, most intangible items can be transferred from one owner to another; in some cases, the sale may require the consent of a third party, but very few are totally inseparable from the enterprise. Even the major elements of "going concern value" such as, a trained and assembled work force or established distribution system can be saleable if combined with some tangible assets.

Manner of Acquisition

Intangible assets can be acquired in a number of ways. Most commonly, they are developed internally, such as brands, patents, copyrights. Alternatively, they may be purchased individually, licensed from a domestic or foreign owner, or be obtained in a business combination.

Life

Some commentators believe that an intangible item can only be an asset if:

1. It has been created or has come into existence at an identifiable time or as the result of an identifiable event, and,
2. It is subject to being destroyed or a termination of existence at an identifiable time or as the result of an identifiable event.

We take a slightly different view and recognize that the lives of intangible assets can be:

- Limited by law or contract
- Related to human or economic factors
- Of indeterminate duration

CLASSIFICATIONS OF INTANGIBLE ASSETS

After more than 35 years of analyzing and valuing companies, their assets and securities, we believe that the most useful way of looking at intangible assets is by their source rather than other characteristics. We therefore have developed the following hierarchy of categories descending from those granted to governments to items created internally.

License/Franchise Rights

These are granted by either some level of government (federal, state or local) or a regulatory non-government organization (NGO), such as a State Board of Accounting or a Stock Exchange.

Intellectual Property

This category consists of six classes of rights specifically granted by law: Patents, Copyrights, Trademarks, Industrial Designs, Integrated Circuit Typographies and Plant Breeding Rights.

Location

This category includes all intangible rights relating to a particular location, not only rights granted by governments, such as Zoning, but also those from the owner, such as a lease granting an exclusive right of occupancy.

Contractual Relationships

This is the largest category; it covers a wide range of agreements between commercial parties, everything from a McDonald's Franchise to a Share Purchase Warrant.

Intellectual Capital

As knowledge is becoming accepted as an element of production, is the codification of knowledge as a significant corporate asset. This is now often known as Intellectual Capital, which we divide into three classes: Human, Structural and Customer Capital.

THE ACCOUNTANTS' VIEW

Accounting is an old and honourable profession. Inventory records from antiquity are as least as old as recorded laws, while modern accounting is about the same age as our continent. The concept of double entry bookkeeping, which some believe was already in use by the Romans, was first published in Venice by Luca Pacioli, in 1494. The modern corporation would not be manageable or even possible without the debits and credits that give a coherent picture of the many different streams of goods and money that flow through a firm.

For hundreds of years, the Balance Sheet was the key document. In 1821, the Hudson's Bay Company (incorporated in 1672 and still going strong, with its flagship store two blocks north of my office in downtown Toronto) acquired the Northwest Company in one of the most important mergers in the early modern era. At that time, the Balance Sheet was the Bay's only reported Financial Statement; it was prepared on a "replacement" rather than historic cost basis, with all assets being revalued every three years on a rotating basis.

The Income Statement in its current form resulted from the Securities Act of 1933 that created the SEC. The objective was to provide investors with full and fair disclosure and prevent fraud. The SEC believed that this could only be met by the disclosure of the operating results of the business as well as a Balance Sheet indicating its value.

Since then, thanks to various Standards setting bodies, Financial Statements have become much more sophisticated and disclosed a great deal about the activities of the firm.

However, to quote Baruch Lev in Forbes ASAP:

Accounting is the last vestige of those who believe that things are assets and that ideas are expendable. The profession should know better. In recent decades the usefulness of financial reports of public companies has steadily declined, despite their increased gloss and girth. One indicator: In the 1960's and 1970's, about 25% of the differences in stock price changes could be attributed to differences in reported earnings. But by the 1980's and early 1990's, this figure had dropped to less than 10%.

THE JENKINS COMMITTEE

A partial solution exists in "Improving Business Reporting - A Customer Focus" prepared by the Jenkins committee of the AICPA. This set out a Business Reporting Model that includes both financial and non-financial data. The latter is a key element in assessing and valuing the intangible assets of a business.

The following summary, of disclosure recommendations by the Jenkins committee "Comprehensive Business Reporting Model" is drawn from the Journal of Accountancy, February 1997:

Financial and nonfinancial data

- Financial statements and related disclosures.
- High-level operating data and performance measurements that management uses to manage the business.

Management's analysis of the financial and nonfinancial data

- Reason for changes in the financial, operating and performance related data and the identity and past effects of key trends.

Forward-looking information

- Opportunities and risks, including those resulting from key trends.
- Management's plans, including critical success factors.
- Comparison of actual business performance to previously disclosed opportunities, risks and management's plans.

Information about management and shareholders

- Directors and management compensation, major shareholders and transactions; relationships among all related parties.

Background about the company

- Broad objectives and strategies.
- Scope and description of business and properties.
- Impact of industry structure on the company.

In summary, this Business Reporting Model recommends:

- Forward Looking Information (with safe harbour) YES
- Financial Forecasts NO

THE TAX CODE'S VIEW

The IRS Code has a number of sections relating to the treatment of Intangible Assets.

Section 167(a)

This allows a depreciation deduction as a reasonable allowance for the exhaustion, wear & tear, and obsolescence of property used in a trade or business or held for the production of income.

Under Subsection (a)-3, it specifically permits the depreciation of any Intangible Asset, except Goodwill and Going Concern Value, if the Taxpayer can establish that it meets a three part test.

- The Asset must be isolated and separated from residual Goodwill.
- The Asset will have value in the production of income for only a limited period.
- The length of that limited period must be susceptible to being estimated with reasonable accuracy.

The term "limited period" mentioned in this section is normally the same as the "Remaining Useful Life" ("RUL") of an Intangible Asset; this is an essential to determinant of value.

The nature of the RUL is established by the type of Intangible Asset.

Type	Length	Type of Asset
Legal/Statutory	Definite	Patents/Copyrights
Judicial	Definite	Documents
Contractual	Definite	Loans/Leases
Physical/Functional	Subjective	Engineering Drawings
Technological	Subjective	Computer Software
Economic	Quantitative	Computer Software
Analytical	Quantitative	Credit Card Portfolios

Value is inversely related to RUL. A longer RUL means a higher value; if the RUL is less than 10 years the impact of changes is very high; if the RUL is more than 20 years the impact is low.

Section 197

This establishes a uniform 15 year amortization period for specified Intangible Assets acquired after August 10, 1993. On an elective basis, it can be applied to all property acquired after July 25, 1991.

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Intangible Assets that must be amortized over 15 years:

- Covenants to compete and franchises
- Customer and supplier based intangibles
- Goodwill
- Going concern value
- Information base
- Know-how
- Licenses
- Permits
- Rights granted by a governmental agency
- Trademarks or trade names
- Work force in place

Section 1060

This deals with the allocation of the purchase price in business combination and its reporting on Form 8594. Temporary regulations 1.338(b)-2T(c)(1) requires the allocation of the purchase price to four tiered categories of assets of the Target; it specifically states that the basis allocated to assets, except those in Class IV, cannot exceed their Fair Market Value.

The four tiers are:

- | | |
|-----------|--|
| Class I | Cash, demand deposits and other items designated by the Service |
| Class II | Certificates of deposits, U.S. Government securities, readily marketable stock or securities, foreign currency and other items designated by the Service |
| Class III | all remaining assets of the target corporation, both tangible and intangible, excluding Class I, Class II, and Class IV |
| Class IV | Intangible assets in the nature of goodwill and going concern value |

THE VIEW FROM THE SEC

The following quotations are from a 1997 interview with Commissioner Steven Wallman by Rich Karlgaard, Editor, Forbes ASAP. Mr. Wallman, a SEC Commissioner since 1994, was previously a partner at Covington & Burling's Washington law office.

You could argue that we don't need financial statements at all, because without them you'd still find a way. But, in fact, financial statements do end up being the thing that keeps the discussion of information and exposure of information honest. Financial statements provide that kind of integrity check. If we start to get further afield so that the financial statements become less and less useful and are measuring less and less of what it is that is truly valuable in a company, then we start to eliminate the ability of that scoreboard--that integrity check--to be as useful as it has been. Because of the uncertainty, in the knowledge sector you see tremendous volatility.

Clearly what [higher] volatility does is increase perceived risks. The investor demands a higher return. If you demand a higher return, you increase the cost of capital. It creates an increased cost of capital for that whole sector. The question is, Can you reduce that cost of capital by reducing the volatility, by reducing the perceived risk, by allowing companies to provide better disclosures that will--when you go through this whole cycle--reduce their cost of raising capital? That's critical. If you can reduce the cost of capital, you can have more jobs, you can pay better, you can have more customers, with products that you sell at a lower cost.

One clear driver of wealth production in a company is customer satisfaction. People have found that if you have higher levels of customer satisfaction, you have higher retention level, you can also charge more, and you've got more loyalty. Lots of things flow through high levels of customer satisfaction. Firms like J.D. Power and others are capable of measuring that in surveys.

Employee satisfaction measures are also starting to come to the fore. People are starting to feel reasonably comfortable with a number of those. These can be anything from very objective, simple measures, like how many days of absenteeism are there, to measures that relate to more psychologically gratifying issues of how happy people are at work and things like that.

What you'll see over the next two, three, four years is the development of new methods, new theories, new constructs, where some will gain currency and some won't. The ones that gain currency eventually will find their way into exposure.

Once you give shareholders the knowledge [about] what it is that the company is doing, and they decide that R&D spending by a company is not a good thing, they can put pressure on the company to come up with some other way of doing R&D, or give it back to shareholders and let shareholders

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invest in small start-up companies. That's fine. What we're talking about is providing that kind of information.

I can envision something in the future, but it is still 5 or 10 years away, where you'd have a very different kind of financial reporting system. We have today a lot of disaggregated information being compiled and aggregated by accountants, then categorized and presented in a financial statement, which, as you say, the analysts then take and spend a lot of time disaggregating, trying to get back to the basics. So you end up with this sort of discounted process. Disaggregated information being aggregated just so people can spend all their time trying to disaggregate it again. This was necessary before electronic delivery. But if you extend this out, as you think about it in 5 years or 10 years-as we get better database technology, faster and more powerful computers, and greater bandwidth to disclose information through the Internet and through other kinds of communication networks-then you are in a position where you can imagine not going through the aggregation process at all. You could see having the auditor function, certifying the information going into a database, certifying whether cash was received on a certain day. But after that, people like you or me or an institution would then have our own application program we could buy off the shelf. Microsoft would sell it.

You, as an investor, might value employee satisfaction or customer satisfaction. I might value brand integrity and patents. Another person might value the financial incentive of managers as defined by the number of options they hold and the strike price. I might value some intangibles more highly than you might, or less highly, or not at all. But at least I would have access to it, and be able to place it into my own grid and assign some multiple that made sense to me.

THE UNION'S VIEW

Unions are being aware of the Human Capital of organization and that they have a major stake in it. Business Week, April 7, 1997 has an article "Look Who's Pushing Productivity", on which this section is based. After decades of suspicion and hostility, some unions now are actively embracing partnerships with employers. Their goal is to protect workers' jobs and pay by making their employers more competitive.

A leader in this is Arthur Coia, President of the Labourers International Union of North America, which has set up a foundation with contractors to train construction workers in specialized skills. He commented:

The days of 1950s style table-banging aren't gone yet, but that's the easy way for union leaders. It's a lot harder to ask: 'What does the employer need to stay competitive with union wages, and then help them to achieve it.

The Labourers' foundation, which is staffed equally by union and industry officials, also offers to supply trained union workers to contractors who pay union wages but use the service only when they wish; even non-union companies are eligible. This is a huge shift for a construction union, which typically consider non-union contractors the enemy. The payoff is more work for its members.

The program has paid off for contractors, too. Radian International, an environmental cleanup joint venture between Dow Chemical and Hartford Steam Boiler Inspection & Insurance, was having a difficult time finding workers with the extensive training required for a new contract to clean up lead on an Environmental Protection Agency Superfund site in Missouri. They finally hired through the Labourers foundation which qualified people in this acts like a temp service.

By developing expertise in new work systems, unions have a chance to make themselves valuable to employers battling today's intense global and domestic competition. Partnerships also could help to dilute the antagonism many executives feel toward unions. In Las Vegas, for instance, the Hotel Employees & Restaurant Employees Union has forged cooperative relations with once hostile big hotels by wiping out cumbersome work rules. Managers now have flexibility to schedule extra room cleanings when many customers show up at once.

Of the Hotel Employees Union Arthur Goldberg, of Hilton Hotels says:

They typify what the labour leaders of tomorrow will be. They'll tell us some of our problems before we even realize them and work to solve them.

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In other strongly unionized industries, Union leaders are also aware of the importance of Human Capital. For example the International Association of Machinists (IAM) has opted for a soft-sell approach, marketing itself as a resource for employers. Three experts from its school in Hollywood, MD, scour the country for IAM locals and companies willing to sign on for high performance training. Interested parties take a week long course at the school, where plant managers and local union officers study side by side, learning everything from the history of high performance systems to new accounting methods to measure them.

MANAGEMENT'S VIEW

In most companies, the management of Intangible Assets is still an uncharted territory. Managers from many leading-edge firms, such as Skandia and Northern Telecom, recognize the important role of Intellectual Capital in obtaining a competitive advantage. However, most senior executives do not realize that to operate effectively, in an economy which includes knowledge as an element of production, a firm must:

- Acquire or develop critical knowledge resources
- Implement business practices to ensure the retention and growth of its Intangible Assets
- Capture performance measures that provide a sense of the firm's capabilities

According to Peter Currie, chief financial officer of Northern Telecom:

As a technology company, much of our ability to differentiate ourselves from our competitors depends on being about to market new product solutions more quickly than anybody else. For this we rely on our Intellectual Capital.

In the low tech economies of the earlier agricultural ages, Intellectual Capital took a back seat to energy, whether from flexed muscles, coal or oil. Today an organization can grow very quickly solely with Intellectual Capital such as a good idea and excellent management.

To management, the key accounting question is how to put a dollar value on the information in the heads of the business's employees. Another firm trying to do this is the Canadian Imperial Bank of Commerce, which began measuring its Intellectual Capital some three years ago. To do this, the Bank endeavours to give new meanings to old metrics. Counts of employee skills are used to compile competency inventories that identify strengths and weaknesses in various aspects of its business.

The next three pages set out responses from senior executives of 102 US Fortune 500 and 151 Canadian Financial Post 300 firms, with respect to various questions relating to Intellectual Capital. They have been adapted from a 1997 study "Nonfinancial Performance Measurement: A Study of Fortune 500 (US) and Financial Post 300 (Canada) Firms" by Bonnie P. Stivers, PhD, CPA, and associates, of Kennesaw State University. These views differ from the Skandia Intellectual Capital metrics that follow.

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Knowledge Management Business Practices

	Canada	US
Our company links pay to specific knowledge and skills required for organizational success.	77	79
Mechanisms are in place to ensure that intellectual assets are retained by the company. *(D)	70	81
Knowledge is our company's most critical resource.	77	80
Our information system allows us to capture and share collective knowledge.	65	62
Intellectual capital is an integral focus of our performance measurement system.	61	64
Human resources are viewed as the key element in our strategic plan.	74	75
Our company does everything possible to retain high performers. *(D)	70	75
Our company rewards people for acquiring new knowledge, skills and abilities.	69	72
Our company has effective procedures in place to identify high performers. *(D)	71	74

Scale: 100 strongly agree.

(D) Indicates a statistically significant difference between Canadian and US responses.

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Importance of Nonfinancial Performance Factors Used in Planning

	Canada	US
<i>Customer Service</i>		
Customer satisfaction	92	95
Delivery performance/customer service	92	92
Product/process quality *(D)	83	90
Service quality	86	83
<i>Market Performance</i>		
Market effectiveness	80	80
Market growth		80
Market share	84	85
<i>Innovation</i>		
New product development *(D)	71	83
Manufacturing flexibility *(D)	62	76
Technological capability *(D)	76	81
R & D productivity *(D)	59	73
Innovation *(D)	73	81
<i>Goal achievement</i>		
Productivity *(D)	84	88
Environmental compliance	77	79
Strategic achievement	80	80
<i>Employee involvement</i>		
Employee satisfaction	78	81
Employee turnover	68	71
Employee education/training	79	80
Core competencies	81	84
Internal recognition	73	73
Morale and corporate culture	81	82

Scale: 100 strongly agree.

(D) Indicates a statistically significant difference between Canadian and US responses.

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Contribution of Intangible Assets to Competitive Advantage in the Year 2000

.	Canada	US
<i>Reputation</i>		
Company reputation	80	80
Product reputation	80	84
<i>Intellectual property</i>		
Contracts and licences	62	61
Intellectual property rights *(D)	53	65
Trade secrets *(D)	47	60
Research/technology centres	64	70
<i>Public values</i>		
Statements of strategic goals	74	74
Statements of corporate ethics	66	72
Statements of corporate values	70	75
<i>Information systems</i>		
Databases	79	78
Information systems	84	83
<i>Know-how</i>		
Employee know-how	83	84
Supplier know-how	74	72
Distribution know-how	66	65

Scale: 100 strongly agree.

(D) Indicates a statistically significant difference between Canadian and US responses.

THE LAWYERS' VIEW

Lawyers deal with contracts and rights granted by laws. Therefore, there is established law on nearly all types of intangible assets except Intellectual Capital. Judging by the interest being shown in the subject by the SEC, this deficiency will be filled before long.

Intellectual Property Law dates back to antiquity. As early as 500 BCE in the Greek colony of Sybaris, any cook who created a unique dish had exclusive rights to the profits from it for one year. In the 14th Century, European monarchs started granting temporary monopoly privileges, in documents called "Letters Patent", to encourage local industry. As the printing press fostered the worldwide distribution of the printed word, judges created the concept of Copyright under common law.

The protection of Intellectual Property is based on the notion of fairness and the community's need to encourage creative intellectual endeavours. The first principal has been disputed for many years. In declining the offer of a Patent for his stove, Benjamin Franklin stated:

As we enjoy great Advantages from the Inventions of others, we should be glad of an Opportunity to serve others by the Invention of ours, and this we should do freely and generously.

The second argument is based on the idea that both economic incentives and security of financial return are required to encourage creative activity. In particular, it is often argued that Intellectual Property Rights are fundamental to the competitiveness of any business, industry or even country. If adequately protected, they promote investment, transfers of technology, and international trade.

A common criticism of Intellectual Property Rights is that they protect the interest of those with the resources to pursue litigation rather than the individual inventor. Thomas Edison was granted more than one thousand patents, a record; yet he described a patent as nothing more than an "invitation to a law suit":

My electric light inventions have brought me no profits, only forty years of litigation.

Perhaps this was because Edison did not have the first Patent on the electric light bulb, which was granted to a Canadian in 1874.

GOODWILL

In listing the categories of Intangible Assets, I'm sure that you all noticed that "Goodwill" was not mentioned. This is not because we don't acknowledge its existence, but because in most cases it in fact relates to one or a number of Intangible Items.

In its most basic legal sense, goodwill relates to a reputation that will probably generate future business. In 1810, Lord Elgin in *Crutwell v. Lye*, stated:

The goodwill, which has been the subject of sale, is nothing more than the probability that the old customers will resort to the old place.

One hundred and sixteen years later, in 1926, Justice Benjamin N. Cardozo, while Chief Judge of the New York Court of Appeals, in *re Brown*, expanded this view:

Men will pay for any privilege that gives a reasonable expectancy of preference in the race of competition. Such expectancy may come from success in place or name or otherwise to a business that has won the favour of its customers. It is then known as goodwill The chief elements of value upon any sales of a goodwill are first, continuity of place; and, second, continuity of name.

Lord Elgin's Goodwill is part of the Intangible Asset category "Location", while Judge Cardozo's is covered by the categories "Location" and "Intellectual Property - Trademark".

Accountants have generally adopted the Big Pot Theory of Goodwill and record it only when an entire business is purchased. GAAP does not usually consider internally developed goodwill to be an Intangible Asset, because it is not specifically identified, has an indeterminate life and cannot be separated from the enterprise. Valuers obviously do not always agree.

COMPETITIVENESS

Every business has competitors; not only those that sell the same product or service but also those selling alternatives, such as gas and electrical utilities. A business is only competitive if, it can satisfy the needs of its customers as they arise, by selling them what they want, when they want it, at a satisfactory price.

There are basically three strategies for achieving this:

Price

Competing on price, as is shown by the incentives used by automobile manufacturers, generally leads to higher volumes but lower margins. However, UNUM, the industry leader in disability insurance, successfully competes on price by establishing the relative risks for detailed categories and basing the rates on them. Its competitors use broader groups which allows UNUM to cherry pick higher margin sales.

Quality

Competing on quality was introduced to US consumers by Honda and Toyota, who obtained significant shares of the automobile market by offering more features and better manufacturing quality for prices only slightly higher than the North American firms. As Peter Drucker said:

The gaps between Japanese and US quality redefined the basics of both economies, closing that gap has redefined the basics of US management.

Service

Service is the most effective means of competition; most buyers are willing to pay a premium for it. Progressive Insurance, a specialist in high risk drivers, has used superb customer service in claims processing to obtain one of the highest profit margins in the industry. Its claims adjusters are equipped with cellular phones, computers, and police scanners. In many cases, they arrive at the accident before the constables and often settle the claim and issue the cheque before the wreck is towed away.

Irrespective of which strategy is adopted, the key to effectively carrying it out are the core processes of the Organization which are reflected in its Intellectual Capital.

INTELLECTUAL PROPERTY

Intellectual Property is now receiving the attention it deserves. In the past, such rights were given scant attention when setting up, operating, or selling a business; **THOSE DAYS ARE GONE.**

"Eureka!" has been the cry of the inventor since Archimedes; "Voila!" of the painter when laying down his brush and "30" marks the end of a manuscript. These statements signify the end of the creative stage and the start of its "exploitation". Intellectual Property law gives rights to the creators of things that "embody new ideas or ways of expressing ideas," and to those who use certain marks to distinguish their product or service. The objective is that the "exploitation" is controlled by the creator.

Not all ideas adequately fit into the traditional "legal cubby holes", of Intellectual Property Law. Although they may be commercially useful, they may not be protectable. Examples include: scientific principles, mathematical theorems, other people's ideas, surgical techniques, and business methods.

Six types of Intellectual Property Rights are generally protected by statute: Patents, Copyrights, Trademarks, Industrial Designs, Integrated Circuit Typographies, and Plant Breeders Rights. A seventh, "Trade Secrets" is protected by contract and common law. The owner of the Intellectual Property must take steps to protect and enforce those rights. Protection is obtained by following established procedures; enforcement requires action in Court.

Intellectual Property Rights are covered by a series of bilateral and multilateral agreements. These are loosely administered by the World Intellectual Property Organization, a United Nations affiliate with the hope that everybody, foreigners and nationals alike, receives the same degree of protection. While intellectual piracy, particularly of computer software, is rampant in parts of Asia, the work of residents of such countries is fully protected in the United States.

When valuing a business that depends on Intellectual Property, it is essential to identify the rights involved and their ownership. If the business is a subsidiary, the key question is: "Does it own the rights or are they effectively only licensed to it?" In particular, the legal and moral rights of everybody who contributed to the code of a computer software program must be identified and the transfer of these rights to the "owner", or their waiver, confirmed. Care must be taken with respect to the ownership of reused "code", either from developers' notebooks or from another project.

Patents

In every country, patents protect functions: the way the parts of a machine or product functionally interact (product patent) or the functional steps of a method (process patent); in the US they also protect designs. A patent gives the inventor of a new and useful product the exclusive right to make

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and sell that product in a particular country for a fixed period (normally 20 years). The monopoly period begins on the date the patent application is filed but is not enforceable until the patent is granted, usually two to three years later.

A Patent Application must be made in every country, or group of countries, in which protection is required. It contains two parts:

- The disclosure that describes how the product is made or the best way to perform the process or method.
- The claims, which in a similar manner to a mining claim, define the boundaries of the monopoly.

Before being issued, the Application is compared by the Patent Office with other products and processes known to it. These are called "prior art" and are in the form of other patents or literature in the field. During the review process, the application is often rephrased to have it more properly reflect the innovative aspects of the new product.

The rules as to what is patentable vary from country to country. For example, computer software can be patented in the United States and Canada but not in the United Kingdom. The US law on patentable subject matter in biotechnology is diverging from that of other developed countries. Here, patents can be obtained not only on microorganisms and biological material but also on plants and animals, while in Europe the latter are not granted.

Although more and more software related patents are being issued, patenting is becoming less relevant to high technology industries for two reasons: the first is that technology changes so rapidly that it can be easily obsolete by the time the patent is granted. The second is that many young companies do not have the financial resources to apply for, maintain, and protect patents. Most such enterprises therefore tend to rely on Trade Secrecy Law.

Because of this, some countries such as West Germany and Australia, provide a "Petty Patent" which grants "utility" protection to inventors and small companies while they are negotiating with investors and other enterprises to commercialize their work.

Copyright

Copyright protects the form of an expression of an idea but does not protect the idea itself. It applies to a wide range of media covering paintings, drawings, sculptures, photographs, recordings, films and broadcasts as well as literary and musical works.

Copyright arises automatically when the "original" work is created. No registration is needed to create copyright, however registration of copyright is recommended as it simplifies litigation and

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the recovery of damages. The time covered by copyright varies among countries; the minimum is 25 years, the maximum is 50 years after the creator's death.

Under exceptional circumstances, it is possible to copyright unpublished works after an individual's death. For example, in the 1960's, some unperformed portions of Don Carlos, an opera by Giuseppe Verdi, who died in 1901, were found in the archives of the Paris Opera and promptly copyrighted by his publisher.

Copyright law is about original expression of ideas. Even though it has been in existence for many hundreds of years, new technology has tended to revolutionize it. The incorporation of computer programs into copyright statutes has transformed copyright law from an instrument used primarily for cultural protection and support to one that encourages industrial activities.

This segment of the law has not only spawned an entire generation of specialists but also provided many examples of the laws and inability to keep pace with changing technology. In particular, although the problem of the "look and feel" of computer software has been settled in the United States, there is still doubt whether copyright protection extends to procedures and methods of operation.

In most countries, Copyright and Industrial Design are mutually exclusive; if a design is capable of being registered as an industrial design, then it is not protected by copyright. In the United States, where designs are can be protected by Patents, they may also be covered by copyright.

Trademarks

A Trademark is a word, design, symbol, graphic or logo that alone, or in combination, is used to distinguish one person's product or service from those of others. It can be the brand name of a product or service. It cannot be the generic name of the product or service itself. Companies like Kimberly-Clark, the producer of Kleenex, and Xerox strive to prevent these product names from becoming generic and thus being buried in the graveyard of lost distinctiveness.

As a result, the habit has arisen of creating compound words with odd capitalization that can be trademarked. As an example, "astrological advice" is the generic name of a commonly available service; AstroAdvice is the Trademark of one of our clients.

Application must be made for a Trademark registration, at which time it must be demonstrated that the proposed Trademark is not so confusingly similar to another that is actually in use, that it would cause confusion in the mind of a prospective purchaser. Once granted, a registration gives the owner the exclusive right to use that Trademark in association with the goods and services specified in it for a period of 15 years. Registration can be renewed repeatedly for further 15 year terms so long as the use of the Trademark continues.

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Protecting Trademarks is important. The firm, Chanel, owners of one of the most famous perfume brands "Chanel No. 5" is so sensitive about the misuse of its name that, in 1991, it objected to a French mother christening her baby "Chanel" and sought a Court Order requiring her to change the name. I understand that this happened after a payment of 50,000 Francs.

Common law rights are acquired in an unregistered Trademark by the owner using it in association with his product or service. These common law rights may be limited geographically by the area in which the use occurs. To the Appraiser, the ownership of the Trademark, whether registered or common law, on a local or world-wide basis, is of extreme importance in the valuation of a Brand.

The distinctiveness of a new Trademark is judged as of the commencement of any proceedings challenging it. Throughout the life of a registered Trademark, the registration is subject to being held invalid if the Trademark is not distinctive at the time proceedings began. A trademark that is distinctive is one that actually distinguishes the goods or services to which it is applied by its owner, from the goods or services of others, or is adapted so to distinguish them.

Industrial Designs

In the United States, Industrial Designs can be protected by Design Patents. In most other countries, there is a separate category of Intellectual Property, known as a Registered Industrial Design. These protect the form of industrial products, such as their shape, pattern, or ornamentation. Unlike Design Patents, they do not protect any functional aspect of the design.

In Canada, an Industrial Design registration lasts for five years and is renewable for a second five year term. All products ornamented, or otherwise using, a registered Industrial Design must bear the proper marking to indicate it is protected.

Integrated Circuit Typographies

Again, the United States differs from the rest of the world in the protection given to the design of computer chips. This is commonly done by a specific category of Intellectual Property known as a registered Integrated Circuit Typography, which covers the three dimensional configuration of the electronic circuits embodied in integrated circuit products or layout designs.

You may not be familiar with this type of protection which is used in Canada and most of the rest of the world where such protection is available. In the United States, the Semiconductor Chip Protection Act of 1984, a Chapter of the Copyright Act, prevents the unauthorized reproduction and distribution of computer chips. That law requires counterpart legislation in other countries in order that foreign chip designers and producers may be protected in the United States.

This Intellectual Property Right is one of the most important as a new family of semiconductor integrated designs can cost several hundred million dollars to design and more than a billion dollars

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to build a sophisticated fabrication plant. However, the owner of a chip foundry, using reverse engineering, can copy the same chips for less than \$10 million.

Plant Breeders' Rights

Plant Breeders' Rights apply to protect new plant varieties, seeds and other propagating material; they require the use of a distinct generic name when selling the seed or propagating material.

Trade Secrets

Trade Secrets and confidential information are data or "know how" that are collected or created by a person for his or her use. They may be, for some reason, disclosed to another, who is obliged not to disclose them to anyone else. The obligation arises either by contract or because of the legal relationship between the parties. A contract is an agreement between two or more parties who agreed to do something (exchange information with each other, yet retain the information as confidential) or not do something (not compete, or not use the information, unless specifically authorized to do so).

Obligations as to Trade Secrets apply to all confidential commercially valuable information, such as, concepts, ideas, as well as factual data. Trade secrecy law applies to any person who has acquired confidential information from its owner but not to third parties who have no relationship with the person holding the Trade Secret.

Trade Secrets are in many ways the most important form of Intellectual Property yet in most countries the least protected; the owners usually have to rely on common law. Very few countries have followed the example of the United States, where Trade Secrets are protected by a statute, the Uniform Trade Secrets Act, which codifies the common law.

As the importance of knowledge grows, many high tech organizations, in the United States and other countries, believe that the trade secret law should be strengthened and that criminal law remedies should be made available. In some jurisdictions the theft of intangible information - possibly even a valuable Trade Secret - may be unpunishable by criminal law. However, as in a well-known California case, common law remedies, through the civil courts, can be applied to correct the effects of a criminal law acquittal.

INTELLECTUAL CAPITAL

According to Thomas A. Stewart, the author of one of the two books published in early 1997, under the title "Intellectual Capital":

Perhaps the best way to appreciate the role of Intellectual Capital is metaphorical. If we picture a company as a living organism, say a tree, then what is described in organization charts, annual reports, quarterly statements, company brochures, and other documents is the trunk, branches, and leaves. The smart investor scrutinizes this tree in search of a ripe fruit to harvest.

But to assume that this is the entire tree because it represents everything immediately visible is obviously a mistake. Half the mass or more of that tree is underground in the root system. And whereas the flavour of the fruit and the colour of the leaves provides evidence of how healthy that tree is right now, understanding what is going on in the roots is a far more effective way to learn how healthy that tree will be in the years to come. The rot or parasite just now appearing thirty feet underground may well kill that tree that today looks in the prime of health.

That is what makes Intellectual Capital--the study of the roots of a company's value, the measurement of the hidden dynamic factors that underlie the visible company of buildings and products--so valuable.

Intellectual Capital is a major contributor of value to a firm. Charles Handy, a management thinker, estimates that the intellectual assets of an enterprise are usually worth three to four times the firm's tangible book value; he also believes:

In the age of intellectual capital, we need to rethink the constitution of our corporations to give a proper voice to those who really own that capital - the core workers.

In this he is echoing Karl Marx, who said: "The owners of the tools of production determine economic structure." Mr. Handy was describing Human Capital, one part of Intellectual Capital; the other two are Structural Capital and Customer Capital. Crucially, Intellectual Capital is not created by summing Human, Structural and Customer Capital but arises from the interplay among them.

CONTRIBUTIONS TO VALUE

Human Capital

Human Capital is the sum of the capabilities, information, knowledge, and wisdom of the people involved with an organization. It is important because it is the source of innovation and renewal. Smart individuals don't necessarily create smart enterprises. Betty Zucker, of the Gottlieb Duttweiler Foundation comments:

Universities are a collection of brilliant people, but not examples of collective brilliance. Because there is little knowledge flow, the university is not intelligent as a whole. On the other hand, the people who work at McDonald's have an average IQ, if that, but it's a very intelligent organization, able to provide the same quality cross-culturally. They modularized and standardized their knowledge.

The proportion of American workers, whose job primarily involves dealing with things or delivering personal services, has fallen by more than a half during this century, compared with people who spend their working time dealing with information and ideas. Dennis Swyt of the US National Bureau of Standards gives the following figures for the distribution of employment in 1900, 1940, and 1980; we extended the trends to the year 2000:

Year	Production Workers	Personal Service	Managerial & Administrative	Technical & Professional
1900	73.4%	9.0%	13.3%	4.3%
1940	57.2	11.7	23.6	7.5
1980	34.3	13.3	36.3	16.1
2000E	22.7	14.1	42.8	20.4

Not only do more people do knowledge work, but the knowledge content of all work is increasing irrespective in which category one is employed. According to Kiichi Mochizuki, a former Japanese steel executive, now with the Pacific Institute in New York City:

These days, with computerized factories and digitally controlled machines, mathematics are very important for factory operations. When you talk about skill-the word 'skill' is wrong: It implies manual dexterity to carve the wood or hit something with a hammer. Now skill is mental rather than manual.

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A number of factors have come together to force new kinds of organizational design and managerial methods:

- Explosion of scientific & technical knowledge.
- Rapid diffusion & increasing power of Information Technology.
- Firms increasing dependence on professionals.
- Balkanization of expertise.
- Tendency to "lose the recipe".
- Development of islands of knowledge.
- Supervisors' lack of comprehension of the work of subordinates.

Each of these is simultaneously a cause and an effect.

For years, CEOs have mouthed the phrase: "people are our most important asset". Yet accountants still think of employees in terms of pay, their cost rather than the value of investing in them. Smart workers work smarter. A 1995 report for the National Centre on the Educational Quality of the Workforce, based on a sample of more than 3,100 US work places, showed that, on average, a 10% increase in workforce education level led to an 8.6% gain in total factor (labour, materials & equipment) productivity, while a 10% rise in capital stock (equipment) increased productivity 3.4%.

Machines perform routine tasks well, often better than any human being, but they do not invent. Routine, low skilled work, even if done manually, does not generate or employ human capital for an organization. Frank Ostroff of Perot Systems recalls a summer job:

We'd spend eight hours a day doing something completely mindless like applying glue to rubber to tire after tire, the same thing all day long. And then these same people would go home and spend their evenings and weekends rebuilding entire cars from scratch or running volunteer organizations.

His employer got eight hours work from that group but all the benefits from their minds were kept to themselves. To use more of what people actually know, firms need to create opportunities for private knowledge to be shared and tacit information made explicit.

Skills gained by a group of engineers who designed a product two years ago might be unknown to the team attacking similar problems elsewhere in the organization today. Alternatively, the new group, knowing the solution adopted but not knowing how it was reached might not see its applicability or trust the work.

STRUCTURAL CAPITAL

Communicating and sharing knowledge, as well as leveraging it for the benefit of the organization, requires structural frameworks, such as information systems, laboratories and market research; these include both tangible and intangible assets; the latter make up its Structural Capital. These systems are an essential part of the process of consolidating individual know-how into assets of a business. Like Human Capital, Structural Capital only exists in the context of a strategy.

Thomas A. Stewart defines it as the organizational capabilities of a business to meet market requirements; it is intended to avoid the situation he describes at Fortune magazine:

...each of us spends the equivalent of two or three weeks a year searching information that others have already.

The role of Structural Capital is to permit Human Capital to be used again and again to create ideas and processes, just as a die can stamp out part after part. As Sid Caesar put it:

The guy that invented the first wheel was an idiot; the guy who invented the other three, he was a genius.

Structural Capital is comprised of the intangible components of the systems that allow the continuous recycling and creative utilization of shared knowledge and experience in a firm. It can be described as "packaged competence"; it is made up of computer programs, databases, process descriptions, manuals, and so on, that ensure the competence remains when the employees go home. Either sometimes directly or through an internal market, it encourages the sharing of the employees' knowledge with their colleagues, hence allowing their Human Capital to become more productive and the firm to achieve sustainable growth.

Physical inventories are inspected, bar coded, warehoused and monitored; intellectual inventories, which may be far more important are scattered, hard to find and likely to accidentally be thrown out. The first function of Structural Capital is to supply an inventory of the knowledge of the organization, so that it can be converted, adapted, transferred and reused. Its second function is to connect people to data, experts and knowledge as and when required.

To quote Andrew Carnegie:

The only irreplaceable capital an organization possesses is the knowledge and ability of its people. The productivity of that capital depends on how effectively people share their competence with those who can use it.

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As with any resource, it is possible to have too much of a good thing. Structural Capital must be managed to have the greatest likelihood of supporting key people and the least danger of stifling them by overwhelming them with trivial information.

CUSTOMER CAPITAL

Customer Capital is an organization's relationship with the people with whom it does business. Hubert Saint-Onge, formerly with the Canadian Imperial Bank of Commerce, defines it as:

...the depth (penetration), width (coverage) and attachment (loyalty) of our franchise.

Leif Edvinsson uses a more simplistic definition which is almost the same as that traditionally given to Goodwill:

It's the likelihood that our customers will keep doing business with us.

We take a different view, considering it includes all the elements that reflect the firm's relationship with its customers. The benefits of more sales to existing customers are lower selling and marketing costs. The better the relationship, the more likely the buyer is to share its plans and expertise with the seller in an effort to lower overall costs. Customer Capital is the present value of the financial benefits customers can offer. Judith A. Cumby, CA, and Dr. James G. Barnes have developed a useful "Total Customer Benefits Model".

Type of benefit	Monetary	Nonmonetary
ALLOCATABLE	<ul style="list-style-type: none">• Current sales• Historic sales	<ul style="list-style-type: none">• Customer satisfaction• Word-of-mouth revenues• Benefit by association• Reference group affiliation
NOT ALLOCATABLE	<ul style="list-style-type: none">• Referral sales• Repeat business• Growth in sales• Earning power projections	<ul style="list-style-type: none">• Loyalty/goodwill• Corporate image• Positioning

This model starts with determining the criteria used by a particular business to distinguish a valuable customer. These include not only historic revenues, gross margin contributions, and credit history, but also may include estimates of the:

1. Percentage of the customer's business received.
2. Reluctance of the customer to pass on discounts.
3. Willingness of the customer to form a partnership.
4. Ability of the customer to add to the supplier skills.
5. Future revenue growth.
6. Contribution to word-of-mouth advertising.

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One industry that is acutely aware of the importance of certain customers is banking, which realizes that it looks good to have certain such people on the books. These individuals will receive a higher level of service than is warranted by their contribution to revenues. This holistic approach to evaluating Customer Capital supports making sizeable loans to medical students on the basis of their prospective earnings.

The traditional thinking towards customers has been the "do what it takes" syndrome; if they desire more service, it will be delivered. Without a system designed to monitor service costs and relate them to individual customers and customer segments, firms may devote an inordinate amount of service to customers from whom a satisfactory return is unlikely. To establish Consumer Capital, a firm must identify all the costs that relate to its customers.

Barnes & Cumby also have a Service Quality Costs Model:

Type of cost	Monetary	Nonmonetary
ALLOCATABLE	<ul style="list-style-type: none"> • Discounts • Samples 	<ul style="list-style-type: none"> • Time spent with customers • Direct remuneration
NOT ALLOCATABLE	<ul style="list-style-type: none"> • Training • Recruiting • Excessive Compensation • Manager's time coaching employees & providing feedback 	<ul style="list-style-type: none"> • Service quality efforts • Motivation • Lost goodwill • Aggravation or grief

For many firms, Customer Capital is the difference between all monetary benefits and all allocatable service quality costs. To be meaningful, reasonable estimates of the costs and benefits should be based on careful analysis of demographic information. This process is not appropriate for all companies, such as those that deal with anonymous customers or whose business has little room for variations in service.

An analysis of Customer Capital on an individual basis for large customers and by category for smaller ones, should allow:

1. Strategic discrimination in the level of service offered.
2. Awareness of changes in customer relationships.
3. Identify unprofitable customers.

Who are the customers? The firms which purchase the goods or the end users? American Express knows when my wife shops at Marshall Field's, but the store may not be aware of it. In this case does she contribute to its Customer Capital?

SKANDIA INTELLECTUAL CAPITAL METRICS

Skandia, a Swedish insurance and banking enterprise, established in 1855, publishes an "Intellectual Capital" supplement to its Annual Report. It covers key financial and non-financial operating ratios for each of the major entities making up Skandia AFS (Assurance & Financial Services).

The following listing was adapted from "Intellectual Capital" by Leif Edvinsson, Vice President, Corporate Director of Intellectual Capital & Skandia Future Centers, Skandia AFS, and Michael S. Malone, a US Journalist.

Financial

- Total assets (\$)
- Assets/employee (\$)
- Revenues/total assets (%) - Asset Turnover
- Profits/total assets (%) - Return on Assets
- Revenues from new business (\$)
- Profits from new business (\$)
- Revenues/employee (\$) - a key factor
- Customer service time/employee attendance (%)
- Profits/employee (\$)
- Lost business revenues compared to market average (%)
- Revenues from new customers/total revenues (%)
- Market capitalization both Debt and Equity (\$)
- Market/Book Value of Equity (#)
- Return on net asset value (%) - Return on Equity
- Return on net assets from new business (\$)
- Value added/employee (\$)
- Value added/IT-employees (\$)
- Total Investment in Information Technology (\$)
- Annual Investment in IT
- Change in annual IT Invested
- Revenue per physical factor such as square feet of selling space

Customer

- Market share for each major product or service (%)
- Number of customers (#)
- Annual Revenues/customer (\$)

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- Customers lost (#)
- Average duration of customer relationship (#)
- Average order size (\$)
- Customer rating (%)
- Average purchases/customer (#)
- Days visiting customers (#)
- Customers/employee (#)
- Field salespeople (#)
- Field sales management (#)
- Average time from customer contact to sales response (#)
- Sales closed/sales contact (%)
- Satisfied customer index (%) - survey
- IT investment/salesperson (\$)
- IT investment/service & support employee (\$)
- Support expense/customer (\$)
- Service expense/customer/year (\$)
- Service expense/customer/contact (\$)

Process

- Administrative expense/total revenues (%)
- Cost of administrative errors/related revenues (%)
- Processing time, payments (#)
- Contracts filed without error (#)
- Function points/employee-month (#)
- PCs/employee (#)
- Laptops/employee (#)
- Administrative expense/employee (\$)
- IT expense/employee (\$)
- IT expense/administrative expense (%)
- Administrative expense/gross profit (%)
- IT capacity [CPU & DASD] (#)
- Change in IT inventory (\$)
- Corporate quality goal (#)
- Corporate performance/quality goal (%)
- Discontinued IT inventory/IT inventory (%)
- Orphan IT inventory/IT inventory (%)
- IT capacity/employee (#)
- IT performance/employee (#)

Development

- Competence development (training) expense/employee (\$)
- Satisfied employee index ((#)
- Marketing expense/customer (\$)
- Training/total hours (%)
- Share of development hours (%)
- Employee's view (empowerment index) (#)
- R&D expense/administrative expense (%)
- Training expense/employee (\$)
- Training expense/administrative expense (%)
- Business development expense/administrative expense (%)
- Share of employee below age 40 (%)
- IT development expense/IT expense (%)
- IT expenses on training /IT expense (%)
- R&D resources/total resources (%)
- Customer base (#)
- Average customer age (#)
- Average customer education (#)
- Average customer income (\$)
- Average customer duration with company (months)
- Training investment/customer (\$)
- Direct communications to customer/year (#)
- Non-product-related expense/customer/year (\$)
- New market development investment (\$)
- Industry development investment (\$)
- Value of EDI system (\$)
- Upgrades to EDI system (\$)
- Capacity of EDI system (#)
- Ratio of new products (less than 2 years old) to full line (%)
- Ratio of new products (less than 2 years old) to each product family (%)
- R&D for basic research (%)
- R&D for product design (%)
- R&D for improved processes (%)
- Investment in new product support and training (\$)
- Average age of company patents (#)
- Patents pending (#)

Human

- Leadership index (#)
- Motivation index (#)
- Empowerment index (#)
- Number of employees (#)
- Employee turnover (%)
- Average employee years of service with company (#)
- Number of managers (#)
- Number of women managers (#)
- Average age of employees (#)
- Share of employees less than 40 years (%)
- Time in training (days/year) (#)
- Number of directors (#)
- Number of women directors (#)
- Number of full-time or permanent employees (#)
- Average age of full-time or permanent employees (#)
- Average years with company of full-time or permanent employees (#)
- Annual turnover of full-time permanent employees (#)
- Per capita annual cost of training, communication, and support programs for full-time permanent employees (\$)
- Full-time or permanent employees who spend less than 50% of work hours at a corporate facility (#)
- Percentage of full-time permanent employees (%)
- Per capita annual cost of training, communication, and support programs (\$)
- Number of full-time temporary employees (#)
- Average years with company of full-time temporary employees (#)
- Per capita annual cost of training and support programs for full-time temporary employees (\$)
- Number of part-time employees or non-full-time contractors(#), average duration of contract (#)
- Company manager with advanced degrees: business (%), science and engineering (%), liberal arts (%)

TYPES OF INTANGIBLE ASSETS

Earlier we discussed the categories of Intangible Assets, which are listed below divided into classes. Will you all please, think about them for the next ten minutes and come up with as many examples as you can.

License/Franchise Rights

- International
- Federal
- State
- Municipal
- NGOs

Intellectual Property

- Patents
- Copyrights
- Trademarks
- Industrial Designs
- Integrated Circuit Typographies
- Plant Breeding Rights
- Trade Secrets

Location

- Statutory Rights
- Contractual Rights

Contractual Relationships

- Financial
- Market Expansion
- Product Development
- Cost Containment

Intellectual Capital

- Human Capital
- Structural Capital
- Customer Capital

EXAMPLES OF INTANGIBLE ASSETS

The following lists set out examples of Intangible Assets based on those we have in practice, as well as large number we have read about. We also include an "Economic Phenomena" that some commentators consider to be Intangible Assets, but we do not.

License/Franchise Rights

International

- Airline routes
- Fishing quotas

Federal

- Airport gates and slots
- Airline routes & landing rights
- Broadcast licenses
- Fishing quotas
- Import quotas
- Judicial awards and judgements (not an Intangible Asset)
- Environmental rights
- Financial intermediary licenses
 - mutual funds sales agent
 - SEC Registered representative
- Participation in Government loan and grant programs (not an Intangible Asset)
- Government registrations
- Licenses of right (i.e. pharmaceutical)
- Pilot licenses
- Mineral Production rights (not an Intangible Asset)
- Regulatory approvals (not an Intangible Asset)

State

- Occupational licenses
 - Auto mechanic
 - Building renovator
- Electrical contractor
- Certificates of need
- Judicial awards and judgements (not an Intangible Asset)
- Financial intermediary licenses
 - real estate agent/broker

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- life insurance agent/broker
- casualty insurance agent/broker
- mortgage broker
- Utility franchises
- Participation in Government loan and grant programs (not an Intangible Asset)
- Government registrations
- Liquor licenses
- Regulatory approvals (not an Intangible Asset)
- Use rights (air, water, land)
 - truck licenses (not an Intangible Asset)
 - Insurance Underwriting licenses

Municipal

- Business licenses
 - convenience store
 - grocery store
 - variety store
 - public garage
 - parking lot
 - refreshment
 - restaurant
 - taxi
 - tow truck
- Cartage truck transport licenses
- Development rights
- Building permits (not an Intangible Asset)

NGOs

- International Standards Organization Certification (ISO-9000)
- State Law Societies
- State Boards of Accounting
- Medical Boards
- Hospital Accreditation Organizations
- Trade Publication Product Awards
- Stock Exchange Memberships
- Intellectual Property

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Patents

- Patent applications
- Process patents
- Product patents

Copyrights

- Book titles
- Computer software
- Database listings
- Film exhibition rights
- Film libraries
- Publishing imprints
- Literary works
- Newspapers and mastheads
 - Magazines
 - Manuscripts
- Musical composition libraries
- Photographic libraries
- TV/radio programme listings
- Subscriber/advertiser lists
- Telephone listings

Trademarks

- Consumer brand names (Coke, Kleenex, Hoover)
- Industrial brand names (Euclid, Champion)
- Service brand names (Fed Ex)
- Corporate names (Ford, Xerox)
- Trademarks (including name, logo, device, packaging colour combination)
- Trade names

Industrial Designs

- Blueprints
- Engineering drawings
- Product designs
- Packaging

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Integrated Circuit Typographies

- Masks and masters

Plant Breeding Rights

- Hybrid corn
- Canning tomatoes

Trade Secrets

- Recipe for Coca Cola
- Location

Statutory Rights

- Airspace rights
- Easements
- Mining claims/ore deposits
- Zoning
- Tree farm licenses

Contractual Rights

- Claims (not an Intangible Asset)
- Leasehold interests
- Location values
- Mineral exploitation rights
- Natural resources (not an Intangible Asset)
- Possessory interests (not an Intangible Asset)
- Options to purchase real estate

Contractual Relationships

Financial

- Assets under administration
- Bank core deposits (savings and current)
- Buy-sell agreements
- Joint venture (Tangible Asset)
- Non-compete covenants
- Non-diversion agreements
- Royalty agreements
- Security interests
- Shareholder agreements

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- Options
- Stocks, Bonds, Warrants (Tangible Assets)

Market Expansion

- Co-operative agreements
- Distribution rights
- Franchise agreements
- Distribution channels (not an Intangible Asset)
- Government contracts
- Personality endorsement contracts
- Retail shelf space
- Solicitation rights
- Strategic relationships

Product Development

- Collaborations (not an Intangible Asset)
- Drilling rights
- Licensing agreements
- Technology sharing agreements

Cost Control

- Supplier contracts
- Defense production contracts
- Service & support (7/24) arrangements
- Natural gas take-or-pay supply contracts
- Mineral ore toll smelting contracts
- NG liquids/sulpha stripping contracts
- MIS outsourcing contracts

Intellectual Capital

Human Capital

- Collective expertise
- Creative capability
- Employee knowledge (not an Intangible Asset)
- Employment contracts
- Entrepreneurial and managerial skills
- Laboratory notebooks
- Management contracts

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- Old fashioned experience (not an Intangible Asset)
- Staff leadership
- Technical know-how
- Trade secrets (Intellectual Property)
- Trained and assembled workforce
- Unpatented technology (Trade Secrets - Intellectual Property)

Structural Capital

- Book libraries
- Chemical formulations
- Computerized data warehouse
- Corporate culture (reflected in, but not an Intangible Asset)
- Corporate name
- Corporate practices and procedures
- Credit information files
- Food flavourings and recipes
- Historical documents
- Impact of information technology on operations
- Insurance expirations
- Management philosophy
- Management process
- Methodologies and processes (such as for assessing risk, managing a sales force),
- Databases of information on market or customers,
- Communication systems (Tangible Asset)
- Proprietary processes
- Proprietary products
- Proprietary technology
- Procedural manuals
- Schematics and diagrams
- Technical and specialty libraries
- Technical documentation
- Training manuals

Customer Capital

- Advertising campaigns and programs
- Bank customers - deposit, loan, trust, credit card
- Company name recognition
- Customer base

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- Customer contracts
- Customer contacts
- Customer lists
- Customer loyalty (not an Intangible Asset)
- Customer relations
- Customer support reputation (i.e. for service excellence)
- HMO enrollment lists
- Insurance in force
- Market share
- Marketing manuals
- Open orders
- Positioning within competitive consumer marketplace
- Production backlogs
- Proposals outstanding
- Purchase orders
- Repeat business percentage
- Subscription lists
- Transaction database

APPROACH TO VALUATION OF INTANGIBLE ASSETS

Valuation is a subjective process, especially for items such as intangible assets when there is no open market. For a valuation to be feasible, the appraiser needs to have enough information as to form a reasonably reliable view regarding:

- The definition of the Intangible Asset; this may comprise more than one item, such as a trademark with packaging and an industrial design.
- The prospects for its future commercial exploitation.
- The parameters, including risk profile and useful life that should be applied to capitalize the cash flows or earnings attributable to such future operations.

The Value of an asset or business is based on three principles:

1. The Principle of Alternatives: in any contemplated transaction each party has alternatives to completing it.
2. The Principle of Substitution: the value of anything tends to be determined by the cost of acquiring an equally desirable substitute.
3. The Principle of Future Benefits: "All values are anticipations of the future." Oliver Wendell Holmes.

These principles are usually reflected in three approaches.

Cost Approach

This is based on the principle of Alternatives. It assumes that one equally desirable alternative to the asset being valued is either an exact duplicate (reproduction) or an asset supplying the same functions (replacement).

Commonly used for tangible assets, this approach is not usually applicable to intangible assets with the exception of computer software. In that case, it is normally possible to establish the time and then the cost of building the product. Provided the "time to market" and "mean time to customer satisfaction" are also considered, a "build or buy" decision is often applied in this industry to establish a programme's value.

Market Approach

This is based on the principle of substitution; it uses information from transactions in other intangible assets, generally similar to the one being appraised, to give market derived multiples, are applied to the actual asset to generate a value. This method is almost always used in valuing financial and tangible assets, such as Warrants and Options where markets exist in similar products. It is also helpful in valuing non-competition agreements.

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Another way of looking at this approach is that of the implicit royalty. If a firm did not own a particular item of Intangible Asset which is advantageous to its business, what percentage of sales would it be willing to pay for the right to use it? A large number of items are licensed constantly and a review of reported transactions can often give a reasonable indication of the appropriate payment.

Investment Approach

Most valuations of intangible assets adopt an investment based approach which is based on the principle of future benefits. This is because cost based valuations are, in most cases, inappropriate as the economic value is normally independent of cost, either historical, reproduction or replacement. At the same time, due to lack of information market based valuations are frequently impractical.

Several investment based methodologies are in general use. All have objectives. To establish the net present value of the benefits (incremental cash flows or earnings) attributable to the ownership of the particular intangible asset.

The conceptually superior method is the Discounted Cash Flow Value. This is most successful when reliable financial projections are available and there is a reasonable basis for "separating out" the incremental Cash Flows. From a practical standpoint, and particularly for existing use valuations of established intangible assets in mature markets, the Capitalization of maintainable cash flow is a satisfactory alternative.

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USUAL VALUATION APPROACHES - SELECTED INTANGIBLE ASSETS

This table, based on one by Robert Reilly, shows which approaches are usually applied to the most commonly occurring Intangible Assets.

Intangible Assets

Intangible Asset	Cost Approach	Market Approach	Investment Approach
Customer Lists			X
Corporate Practices & Procedures	X		
Contracts			X
Computer Software	X		X
Copyrights			X
Franchises		X	
Goodwill			X
Licenses & Permits		X	
Patents--Active			X
Patents-Inactive	X		
Proprietary Technology	X		X
Trademarks and Trade Names	X	X	X
Trade Secrets			X
Trained and Assembled Workforce	X		

ALTERNATIVE CONTEXTS OF VALUE

The value of Intangible Assets is extremely dependent on context; much more than Tangible Assets. The same item of Intellectual Property has a much higher value in a well-established organization with existing distribution channels than in a start-up. It is for this reason that many early stage companies in Computer Software are acquired for what appear to be very high prices.

In preparing a Valuation Report, we consider four Contexts of Value; these apply to both Tangible and Intangible Assets:

Value in Use

The contributory value of the Assets to a business that is generating income.

Value in Place

The contributory value of the Assets "en bloc" to a business that is not yet generating income.

Value in Exchange

The contributory value of the Assets to third parties, if they are sold individually by a willing seller to a willing buyer, with normal exposure to the market.

Value in Liquidation

The amount obtainable by a seller, under compulsion to deal, from the piecemeal sale of the Assets to the highest bidder.

IRS REVENUE RULINGS

Whenever looking at a valuation problem, it is absolutely essential to consider the various IRS Revenue Rulings. Revenue Ruling 59-60 is in many ways the cornerstone of our profession and should be re-read by every business appraiser at least once a year.

In this section, we quote from a number Revenue Rulings solely with respect to Intangible Assets.

Revenue Ruling 59-60

The key section of this document relating to Intangible Assets is Section 4.02(f) which states:

In the final analysis, goodwill is based upon earning capacity. The presence of goodwill and its value, therefore, rests upon the excess of net earnings over and above a fair return on the net tangible assets. While the element of goodwill may be based primarily on earnings, such factors as the prestige and renown of the business, the ownership of a trade or brand name, and a record of successful operation over a prolonged period in a particular locality, also may furnish support for the inclusion of intangible value. In some instances it may not be possible to make a separate appraisal of the tangible and intangible assets of the business. The enterprise has a value as an entity. Whatever intangible value there is, which is supportable by the facts, may be measured by the amount by which the appraised value of the tangible assets exceeds the net book value of such assets.

The underlined portion was subsequently withdrawn by Revenue Ruling 65-193.

Revenue Ruling 65-192

The preamble to this Revenue Ruling is very interesting as it deals with "the Formula Approach", sometimes described as the "Excess Earnings Method". The Revenue Ruling makes it quite clear that the Formula Approach may only be used if there is not a better method.

The general approach, methods and factors outlined in Revenue Ruling 59-60, C.B. 1959-1, 237, for use in valuing closely-held corporate stocks for estate and gift tax purposes are equally applicable to valuations thereof for income and other tax purposes and also in determinations of the fair market values of business interests of any type and of intangible assets for all tax purposes.

The formula approach set forth in A.R.M. 34, C.B. 2,31 (1920), and A.R.M. 68, C.B. 3,43 (1920), has no valid application in determinations of the fair market values of corporate stocks or of business interests, unless it is necessary to value the intangible assets of the corporation or the intangible assets included in the business interest. The formula approach may be used in determining the fair market values of intangible assets only if there is no better basis therefor

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available. In applying the formula, the average earnings period and the capitalization rates are dependent upon the facts and circumstances pertinent thereto in such case.

A.R.M. 34 was specifically aimed at the valuation of the Intangible Assets of distilling brewery and related companies as of March 31, 1993, the date of the introduction of "Prohibition". The text of that document, which is set out below, makes its third formula applicable to almost any kind of enterprise. Revenue Ruling 65-192 confirms that Revenue Ruling 59-60 sets forth the proper approach to use in the valuation of closely held corporate stocks. It reiterates the statement in that Ruling that:

No formula can be devised that will be generally applicable to the multitude of different valuation issues.

A.R.M. 34

For interest we have reprinted the text of this document and A.R.M. 68 in their entirety:

Where deduction is claimed for obsolescence or loss of good will or trade-marks, the burden of proof is primarily upon the taxpayer to show the value of such good will or trade-marks on March 1, 1913. Of course, if good will or trade-marks have been acquired for cash or other valuable considerations subsequent to March 1, 1913, the measure of loss will be determined by the amount of cash or value of other considerations paid therefor, and no deduction will be allowed for the value of good will or trade-marks built up by the taxpayer since March 1, 1913. The following suggestions are made, therefore, merely as suggestions for checks upon the soundness and validity of the taxpayers' claims. No obsolescence or loss with respect to good will should be allowed except in cases of actual disposition of the asset or abandonment of the business.

In the first place, it is recognized that in numerous instances it has been the practice of distillers and wholesale liquor dealers to put out under well-known and popular brands only so much goods as could be marketed without affecting the established market price therefor and to sell other goods of the same identical manufacture, age, and character under other brands, or under no brand at all, at figures very much below those which the well-known brands commanded. In such cases the difference between the price at which whisky was sold under a given brand name and also under another brand name, or under no brand, multiplied by the number of units sold during a given year gives an accurate determination of the amount of profit attributable to that brand during that year, and where this practice is continued for a long enough period to show that this amount was fairly constant and regular and might be expected to yield annually that average profit, but capitalizing this earning at the rate, say, of 20 per cent, the value of the brand is fairly well established.

Another method is to compare the volume of business done under the trade-mark or brand under consideration and profits made, or by the business whose good will is under consideration, with

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the similar volume of business and profit made in other cases where good will or trade-marks have been actually sold for cash, recognizing as the value of the first the same proportion of the selling price of the second, as the profits of the first attributable to brands or good will, is of the similar profits of the second.

The third method and possibly the one which will most frequently have to be applied as a check in the absence of data necessary for the application of the preceding ones, is to allow out of average earnings over a period of years prior to March 1, 1913, preferably not less than five years, a return of 10 per cent upon the average tangible assets for the period. The surplus earnings will then be the average amount available for return upon the value of the intangible assets, and it is the opinion of the Committee that this return should be capitalized upon the basis of not more than five years' purchase--that is to say, five times the amount available as return from intangibles should be the value of the intangibles.

In view of the hazards of the business, the changes in popular tastes, and the difficulties in preventing imitation or counterfeiting of popular brands affecting the sales of the genuine goods, the Committee is of the opinion that the figure given of 20 per cent return on intangibles is not unreasonable, and it recommends that no higher figure than that be attached in any case to intangibles without a very clear and adequate showing that the value of the intangibles was in fact greater than would be reached by applying this formula.

The foregoing is intended to apply particularly to businesses put out of existence by the prohibition law, but will be equally applicable so far as the third formula is concerned to other businesses of a more or less hazardous nature. In the case, however, of valuation of good will of a business which consists of the manufacture or sale of standard articles of every-day necessity not subject to violent fluctuations and where the hazard is not so great, the Committee is of the opinion that the future for determination of the return on tangible assets might be reduced from 10 to 8 or 9 per cent, and that the percentage for capitalization of the return upon intangibles might be reduced from 20 to 15 per cent.

In any or all of the cases the effort should be to determine what net earnings a purchaser of a business on March 1, 1913, might reasonably have expected to receive from it, and therefore a representative period should be used for averaging actual earnings, eliminating any year in which there were extraordinary factors affecting earnings either way. Also, in the case of the sale of good will of a going business the percentage rate of capitalization of earnings applicable to goodwill shown by the amount actually paid for the business should be used as a check against the determination of good will value as of March 1, 1913, and if the good will is sold upon the basis of capitalization of earnings less than the figures above indicated as the ones ordinarily to be adopted, the same percentage should be used in figuring value as of March 1, 1913.

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A.R.M. 68

The Committee, in the memorandum in question, undertook to lay down a rule for guidance in the absence of better evidence in determining the value as of March 1, 1913, of good will, and held that in determining such value, income over an average period in excess of an amount sufficient to return 10 per cent upon tangible assets should be capitalized at 20 per cent. Manifestly since the effort is to determine the value of the good will, and therefore the true net worth of the taxpayer as of March 1, 1913, the 10 per cent should be applied only to the tangible assets entering into net worth, including accounts and bills receivables in excess of the accounts and bills payable.

In other words, the purpose and intent are to provide for a return to the taxpayer of 10 per cent upon so much of his investment as is represented by tangible assets and to capitalize the excess of earnings over the amount necessary to provide such return, at 20 per cent.

A.R.M. 34, A.R.M. 68 and Revenue Ruling 65-192 was superseded by Revenue Ruling 68-609.

Revenue Ruling 68-609

The question presented is whether the "formula" approach, the capitalization of earnings in excess of a fair rate of return on net tangible assets, may be used to determine the fair market value of the intangible assets of a business. The "formula approach may be stated as follows:

A percentage return on the average annual value of the tangible assets used in a business is determined, using a period of years (preferably not less than five) immediately prior to the valuation date. The amount of the percentage return on tangible assets, thus determined, is deducted from the average earnings of the business for such period and the remainder, if any is considered to be the amount of the average annual earnings from the intangible assets of the business for the period. This amount (considered as the average annual earnings from intangibles), capitalized at a percentage of, say, 15 to 20 percent, is the value of the intangible assets of the business determined under the "formula" approach.

The percentage of return on the average annual value of the tangible assets used should be the percentage prevailing in the industry involved at the date of valuation, or (when the industry percentage is not available) a percentage of 8 to 10 percent may be used.

The 8 percent rate of return and the 15 percent rate of capitalization are applied to tangibles and intangibles, respectively, of businesses with a small risk factor and stable and regular earnings; the 10 percent rate of return and 20 percent rate of capitalization are applied to businesses in which the hazards of business are relatively high.

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The above rates are used as examples and are not appropriate in all cases. In applying the "formula" approach, the average earnings period and the capitalization rates are dependent upon the facts pertinent thereto in each case.

The past earnings to which the formula is applied should fairly reflect the probable future earnings. Ordinarily, the period should not be less than five years, and abnormal years, whether above or below the average, should be eliminated. If the business is a sole proprietorship or partnership, there should be deducted from the earnings of the business a reasonable amount for services performed by the owner or partners engaged in the business. See *Lloyd B. Sanderson Estate v. Commissioner*, 42F2d 160(1930). Further, only the tangible assets entering into net worth, including accounts and bills receivables in excess of accounts and bills payable, are used for determining earnings on the tangible assets. Factors that influence the capitalization rate include (1) the nature of the business, (2) the risk involved, and (3) the stability or irregularity of earnings.

The "formula" approach should not be used if there is better evidence available from which the value of intangibles can be determined. If the assets of a going business are sold upon the basis of a rate of capitalization that can be substantiated as being realistic, though it is not within the range of figures indicated here as the ones ordinarily to adopted, the same rate of capitalization should be used in determining the value of intangibles.

Accordingly, the "formula" approach may be used for determining the fair market value of intangible assets of a business only if there is no better basis therefor available.

A CAUTIONARY TALE

Thomas A. Stewart, in his book "Intellectual Capital", tells the following story about Intangible Assets:

Seldom does a market ascribe value to intellectual assets--and often, then, it gets the number wrong. In 1976, Andrew Lloyd Weber, the composer/creator of the musicals *Cats*, *Evita*, *Phantom of the Opera*, and *Sunset Boulevard*, among others, formed The Really Useful Company Limited, which held the rights to all his work. Whatever you think of Webber's music, The Really Useful Company's leader has written Really Successful Stuff.

In 1986, Webber took the company public on the London Stock Exchange. Its assets: the Palace Theatre in London, worth about £2 million, the rights to Webber's musicals and songs (chiefly *Cats*), a seven-year contract with Webber, and an insurance policy on his life (he was thirty-seven). The deal was done; the total value of all the shares, including a sizable chunk Webber retained, was £35.2 million. Four years later (in 1991), Webber bought it back. Based on what he paid for the shares he didn't already own, the value of the company was now £77.4 million--a figure derived chiefly from calculations by investment bankers who used established ways to evaluate intellectual property like copyrights and patents.

A year later, (in 1992) Webber sold 30 percent of the company to the record company PolyGram. The price: £78 million, more than the entire operation was supposedly worth a year before. Webber's *Sunset Boulevard* had opened in the meantime, but that did not turn out to be the main reason the company more than tripled in value. Rather, the City's best analysts had grievously underestimated the revenue and hence the worth of the old copyrights--intellectual assets for which formulas exist, tried but not always true.

EXAMPLES OF BRAND VALUATION METHODS

Brands and Brand Names (trade marks) are one of the most common forms of Intangible Assets that require valuation; as mentioned previously, brands achieve their maximum value by being bundled with the inventory and means of production. Some of them, such as Microsoft, are of immense worth; others in the same industry, such as IBM, contribute little or nothing to the value of their organization.

In this presentation, we will discuss both an investment and a market royalty approach to valuing of a group of related Brands. The numbers are based on a real case; the Canadian operations of a European multinational which had a number of trademarks. Two of them were for related products sold in many countries; they dominated both the Canadian market the business, representing over 65% of Sales and 165% of Profits before taxes.

Either approach requires the appraiser to not only separate the sales arising from the Brand to be valued, but also separate its contribution to profits. Under the Investment method, the appraiser must identify a normal or "utility" cost of manufacturing a comparable unbranded product. In this example we have arrived that this is the same as the actual costs; usually it is somewhat more.

The foreign parent owned all the Brand names, used anywhere in the world, through a central depository which licensed them to the operating units; the royalty was the lesser of 7.00% of sales or one-third of profits. However, the local rights to use the Brand names, even after the royalty, had significant value, due to their market share which exceeded 70%

The table on the next page shows the arithmetic. As far as the values are concerned, the Capitalization Rate selected for the total company is 7%; this is a 15% premium over that of the parent which was selling at a Price/Earnings Ratio of 16.8X (equal to a Capitalization Rate of 6.0%). The Capitalization Rate used for the Brand Contribution, after tax and royalties is 35%, reflecting the lack of ownership of the Intellectual Property.

The Market approach to valuing a Brand is the Relief-from-Royalty Method; this is well established for Intellectual Property. It applies an implicit royalty, based on actual examples, to projected revenue and determines the present value of the payments after tax.

Our Brand has revenues of \$31,870,000 that are projected to grow by 15% for the first four years, 10% for each of the next five, and nothing thereafter, has a present value of \$11,730,000 using this method. This assumes: (a) Royalty rate of 3%, reflecting the payments to its parent; (b) tax at 45%; and (c) a discount rate of 10%.

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\$'000	Major Brands	Other Lines	Total Company
Sales	31,870	16,970	48,840
Cost of Manufacturing	<u>(10,840)</u>	<u>(13,580)</u>	<u>(24,420)</u>
Contribution	21,030	3,390	24,420
Market Maintenance	(5,750)	(3,050)	(8,800)
Market Development	(3,230)	(1,720)	(4,950)
Administration	<u>(5,270)</u>	<u>(2,650)</u>	<u>(7,920)</u>
Pre-tax Profit before Royalty	6,780	(4,030)	2,750
Add Market Development	<u>3,230</u>		
Brand Contribution	10,010		
Less Royalty to parent lesser of 7% of Sales or 1/3 profit	<u>(2,231)</u>		<u>(920)</u>
	7,779		1,830
Income Tax blended rate	<u>(3,890)</u>		<u>(790)</u>
Net Income	<u>3,889</u>		<u>1,040</u>
Capitalization Rate	35%		7%
Book Value	<u>11,112</u>		<u>14,857</u>
Goodwill			3,360
			<u>11,497</u>

CASE STUDY - MARTINI YARN CORP. - PART 1

Johnny Walker, CPA, is the Partner in Charge of the Appraisal Practice of Caesar & Cleopatra, LLP, Certified Public Accountants. Between Christmas and New Year's 1996, he was asked to come to Beantown to meet Joe Green, a prominent local investor. Mr. Green had numerous interests in traditional industries, such as textiles and furniture. His approach in business was to buy firms out of Chapter 11 and revitalize them by substantially reducing employment and increasing output through the introduction of new working methods and improved equipment.

Caesar & Cleopatra were not auditors of any of Mr. Green's enterprises and Johnny Walker was pleased to be invited to meet him. At the meeting, Mr. Green explained that his practice was to encourage Management to invest in his enterprises with his stake being limited to a maximum of 80%.

For a number of years, the Green group's textile interests had included the Martini Yarn Corp. which operated a cotton spinning mill in Bigtown, South Carolina. Martini had been established as a secure source of yarn for a towel company owned by the Green group. Over the years, both the towel operation and Martini had been expanded so that the internal consumption represented only about 25% of Martini's output.

Additional towel capacity was coming on stream, so, in September 1994, the group purchased Manhattan Yarns, Inc. from an integrated manufacturer which was just emerging from Chapter 11. This firm operated a cotton spinning mill located in Smalltown, South Carolina. Recently, Greed & Co., a venture capital firm, had brought them the opportunity to purchase, with no cash investment, the assets and business of Bell's, a long established (since 1988) cotton spinning mill located in Milltown, North Carolina, which had become insolvent.

In conjunction with Greed & Co., the Green group had established Bell's Yarns LLC and Green-Bell Real Estate LLC. In early December 1996, these firms purchased the inventory, buildings and equipment of Bell's through the assumption of bank loans and payables, the obtaining of a first mortgage and the issue of a secured note and preferred shares to the vendor. Greed & Co. undertook to supply \$1 million in cash for working capital and accepted that the Intellectual Capital to be transferred by Martini would represent a controlling interest.

Mr. Green asked Johnny Walker to review the operations of Martini, Manhattan and Bell's so as to advise him as to what proportion of the equity of the LLC's Greed & Co. should receive for its cash. On behalf of his firm, Johnny Walker accepted this engagement.

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As Johnny Walker was unfamiliar with the cotton spinning industry, Mr. Green asked Al Smith, Vice President & General Manager of the Green group's textile interest, to tell him about the operations.

Cotton Spinning

Al Smith started with a little history; spinning, the process by which short fibres, either from plants or synthetic, are converted into a continuous yarn, is nearly as old as mankind; traces of yarns and woven fibres have been recovered by archaeologists from stone age sites.

Cotton first appeared in India about 5000 BC, and for centuries, the only way to convert its fibres into yarn was by drawing them through one's fingers, twisting them by hand and winding the resulting product onto a spindle. Around 300 BC, Indian spinners invented an early version of the spinning wheel to handle the twisting and winding, but this did not spread to Europe until the 14th century.

Modern spinning started with the development of the Saxon wheel by Johann Juergen of Nuremberg in about 1560, which incorporated a flyer developed by Leonardo Da Vinci. Mechanization of spinning developed rapidly in England during the 18th century. Between 1737, when John Wyatt and Lewis Paul first used rollers to draw fibres, and 1782, when James Watt's steam engine was adapted to drive textile machinery, improvements were made nearly every year.

The process of converting raw fibre to usable yarn as practised by the Companies can be broken down into four stages: Opening, Carding, Drawing, and Spinning. These must all be balanced to each other; insufficient capability at any stage leads to bottlenecks, while excess capacity results in unnecessary costs.

Fibre Supply

A key component in the production of first class yarn is to obtain suitable fibre. The US Department of Agriculture (USDA) has a program by which it samples and tags nearly every bale of cotton produced in the country and then attaches a label with its characteristics. For a small premium, the Green group can establish its specifications, and through merchants, purchase appropriate bales through merchants from areas of Louisiana and the Carolinas which produce the desired high quality product.

To stabilize prices, the Green group actively hedge their future requirements; this is handled by Joe Green Jr. At the time of the conversation, both Martini and Manhattan had hedged 75% of their estimated consumption through July 1997. Raw material inventories are small, approximately four days' consumption. Finished goods are maintained at about one-and-a-half weeks' sales, which allows most orders to be filled within three days.

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Opening

The "opening line" breaks down the compressed layers and clumps of cotton fibre into small tufts so as to facilitate transport by air pressure. The equipment for this, at both the Martini and Manhattan plants was supplied by a German firm considered to be the premiere vendor of such machinery. An opening line handles approximately twenty-nine five-hundred pound bales of cotton at one time; these arrive wrapped in plastic to keep out dampness and prevent fungus. The bales are opened by hand, the last time the cotton will be touched by a human until the thread is packed for shipment. Cotton is taken from many bales on a rotating basis, in order for the opening line to blend their fibre tufts and form a consistent homogeneous mix, which allows more efficient cleaning. The Bell's mill had a mix of various opening lines including some from the German firm.

Carding

This stage consists of cleaning, aligning and condensing the fibres into slivers without human assistance. The cleaning process removes seeds and other unwanted contaminants, such as dust, very short fibres, with centrifugal forces through a combination of beating and airflow, as generally the desired fibre is lighter than the contaminants.

Drawing

The processing of the fibre through a Draw Frame blends and levels the slivers into a round flat ribbon, which is combed to straighten the fibres' alignment and remove the very short ones. The combed slivers are wound onto a bobbin, which is then transferred to the spinning machines.

Spinning

The spinning process turns the slivers into finished thread by twisting them and then winding them on a bobbin. The Companies use German automated rotor spinning equipment. In the process, separate fibres are reassembled and linked up to form a thread by rotating the open end of the yarn. The first commercial rotor spinning frame was built in Czechoslovakia in 1965, with fully automated units being introduced in Germany during 1979. Although the technology has been improved over the years and most new installations produce open end thread, traditional ring spinning frames, developed originally in 1828, still dominate the market.

One advantage of the German equipment is that it will satisfactorily operate over a wide range of yarn thicknesses. These are measured by the "count number", based on the length of yarn from one pound of fibre; count one is 840 yards to the pound, while count 10 is ten times that, or 8,400 yards to the pound. The bulk of Martini's production is count 20, but it can go down to count 40; Manhattan mainly produces coarser products in the range of count 10 to count 14.

A new version of the spinning equipment is introduced about every two years; the latest version, the Mark X came to North America in 1996. The Company always installs the latest equipment at Martini and transfers older units to Manhattan. As there is an active market in used Mark VII,

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Mark VIII and Mark IX units, equipment that is no longer suitable for the group's production requirements can easily be sold.

Industry Production

Johnny Walker asked about the industry and Al Smith referred him to the latest statistics in the 1995 Annual Report on Yarn Production by the US Department of Commerce. This stated that total yarn production in the United States in 1995 was 7.9 billion lbs., down 2.6% from 8.1 billion lbs. in 1994. No figures were yet available for 1996, but Mr. Smith felt a further small decrease was likely.

Cotton is by far the major yarn fibre; its production increased 1.6% to 4.4 billion lbs., or 55.7% of the total; the second largest category was poly-cotton (17.2%), with nylon (10.1%) and polyester (6.9%) being the only other segments of more than 500 million lbs.

Most yarn production (64%) comes from vertically integrated organizations, either for internal use or on commission; only 36% or 2.9 billion lbs. is manufactured for sale. In the group's market, "spun weaving yarn", about 220 million lbs. of cotton and 18 million lbs. of poly-cotton, were produced for sale; the remainder was used internally.

Competition

On the subject of competition, Mr. Smith stated that the group's produced both 100% cotton and poly-cotton yarns. There were 28 other US suppliers of 100% cotton spun yarn; for poly-cotton, a total of 25 other producers were listed, only four of which did not also offer 100% cotton products; therefore, the Green group had 32 competitors.

Market Outlook

Mr. Smith felt that the outlook for the yarn market in 1997 was mixed. There was a great deal of pressure on the "open end" market. Prices were generally depressed; these problems were likely to continue until some of the industry players had not modernized and stayed current with their technology, had been forced to go out of business.

The Martini Mill

Martini was acquired in the 1983 recession to be an assured source of supply to other Green textile firms. At that time it produced about 100,000 lbs a week with more than 600 employees. By 1994, related firms only absorbed 25%, with the majority of sales being to knitters and weavers through agents in New York, Los Angeles, North Carolina and Europe.

The largest segment is 100% cotton products, which represent 45% of sales; this is slightly lower than 100% cotton's share of US production. Specialty yarns, which mix different qualities as well as colours, are 30% of sales; in this area, a newly developed blue/white cotton yarn for knitting is

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proving extremely successful, and is in demand from major US designers; other sales are poly-cotton.

The plant, which is leased from an affiliated company at a fair market rent, is a 200,000 square foot, three storey, brick building. There have been numerous additions to the original structure, which dates back to about 1910. Production runs 24 hours a day, seven days a week, with normally two one-week shut downs per year. At the end of 1996, there were 190 hourly employees and 50 salaried staff, with an output of approximately 900,000 lbs. a week. While the hourly employees are members of a Union, labour relations are good, and the considerable reductions have been achieved through attrition rather than wholesale firings.

Workers make an average hourly wage of \$9.70 by working three twelve-hour shifts, then having two days off. Overtime is voluntary, the requests are posted, and there are always enough applicants. Saturdays are paid a 33% overtime premium, and Sundays, 50%; the second shift gets a premium of 5% and the third shift 15%.

Quality Control

In September 1996, Martini obtained an ISO 9002 Certification; one of the few yarn mills to have achieved this in North America. An important part of obtaining this Certification was the extremely well equipped laboratory, which tests output on a daily basis; in that way, output from every piece of equipment is checked at least once a week. To maintain quality, all employees have not only the right, but are encouraged to stop a machine if faulty work is detected.

The Manhattan Mill

In 1994, to lower costs, the Green group decided that it should purchase an existing facility as a dedicated source of yarn supply. When Manhattan was acquired it was producing 250,000 lbs. of "open end" and 250,000 lbs. of "ring spun" yarn a week with 300 hourly paid employees. Ring spun production was discontinued and the equipment sold. After a major reorganization of plant management, manufacturing processes, equipment layout and operating systems together with the introduction of new spinning machinery, Manhattan is now producing approximately 470,000 lbs. a week with 86 hourly employees in an efficient and profitable manner.

Manhattan is not unionized and has good employee relations. It pays \$9.70 an hour, a small premium to the going rate at local mills. It operates from a 147,000 square foot plant, of which 112,000 square feet are used for manufacturing and 35,000 for warehousing. There is substantial room for expansion, and Mr. Smith believes that Manhattan will be ISO 9002 Certified in 1998.

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Group Strategy

In their conversations, Johnny Walker and Al Smith discussed the yarn strategy adopted by the Green group. This has five elements:

1. Acquisition of assets on favourable terms, either at a low point of a business cycle, or from an insolvency.
2. Continuous modernization and additions of equipment, thereby obtaining greater capacity and lower costs, using supplier financing rather than full recourse secured debt.
3. Focus on adding value to all products.
4. Selling to a market niche of small to medium sized customers.
5. Building a reputation for quality and service tailored to individual customer requirements.

Al Smith explained that both Martini and Manhattan were acquired at low points of a business cycle, for purchase prices well below the replacement costs of the facilities and equipment. As a result in the group has the financial strength to introduce modern and efficient equipment in planned stages. Al Smith confirmed that the group purchased Bell's on a similar basis.

Johnny Walker immediately realized the benefits of this strategy were not only lower cash costs per unit of output, but also allowing fixed costs to be spread over a larger volume. Nearly all textile equipment suppliers provide vendor financing with 20% to 25% down, the balance being paid over five years, with title to the equipment as security. Martini and Manhattan have been able to use the new equipment to generate additional cash flow that not only services the vendor financing, but also helps fund future modernization and expansion. Al Smith stated that the competitors in general have not constantly updated their equipment and are therefore faced with the choice of massive modernization projects or a gradual phase-out of their yarn business.

When discussing the third segment of the group strategy, Al Smith explained that along with its continuous equipment modernization, the group believes in expanding its product range. In the last five years, Martini has moved from a producer of basic white cotton and poly-cotton yarns to a supplier of a broad line of blends of white, black, blue and other coloured fibres oriented to the requirements of particular customers. With a blend of US and foreign marketing expertise, Martini has been able to identify potential new products and in many cases pioneer them in its markets.

Al Smith went on to explain that most American yarn companies maximize their profits through long runs. They prefer to dedicate production to large customers and are usually unwilling to satisfy the individualistic orders, delivery schedules or product characteristics required by smaller clients. As Martini's modern equipment can produce small runs at satisfactory efficiency levels, it has specialized in meeting the needs of its customers for a wide variety of yarns tailored to specific manufacturing and marketing requirements.

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Johnny Walker knew that Joe Green's philosophy, shared by all his businesses is to develop and maintain close relationships with the customers, so as to know their needs. Al Smith said that this approach was in force at Martini and Manhattan; he confirmed that experience had shown that customers are willing to pay a premium for fast delivery of the exact product they needed.

At this point, Johnny Walker agreed that Caesar & Cleopatra would accept the assignment and stated that Lorna Doone, CPA, would act as Manager on the Engagement. He arranged that she would come to Beantown in a month, when the year-end Financial Statements would be available.

1. Why did the Green group purchase Bell's?
2. What Intellectual Property does Martini own?
3. What Intellectual Capital does Martini own?
4. How would Martini transfer these items to Bell's?

CASE STUDY - MARTINI YARN CORP. - PART 2

When Lorna Doone, CPA of Caesar & Cleopatra, arrived at the Head Office of the Green group in early February 1997, Greed & Go. enquired as to when their stock would be issued. After being introduced to the group's chief accountant, Mr. Marley, she was given the Financial Statements of Martini and Manhattan. Those for the years 1994 and 1995 had been audited by a local CPA firm, the 1996 Statements were still in draft, and Budgets had just been approved for 1997 and 1998.

As a first step, she prepared the following spreadsheet for Martini:

\$'000	1993	1994	1995	1996	1997	1998
	(audit)	(audit)	(audit)	(draft)	(budget)	(budget)
Sales	<u>41,740</u>	<u>52,060</u>	<u>55,571</u>	<u>69,541</u>	<u>76,780</u>	<u>86,220</u>
Gross Profit	12,564	14,212	12,337	16,829	18,810	21,470
Margin	30.1%	27.3%	22.2%	24.2%	24.5%	24.9%
Expenses	<u>9,932</u>	<u>10,409</u>	<u>9,259</u>	<u>11,673</u>	<u>12,320</u>	<u>13,890</u>
Pre-tax Profit	<u>2,632</u>	<u>3,803</u>	<u>3,078</u>	<u>5,156</u>	<u>6,490</u>	<u>7,580</u>
Pre-tax Margin	<u>6.3%</u>	<u>7.3%</u>	<u>5.5%</u>	<u>7.4%</u>	<u>8.5%</u>	<u>8.8%</u>

Secondly, she analyzed the spread sheet by comparing these margins with those published by Robert Morris Associates. (As these are copyright, they cannot be used in the Case). She found that Martini's Gross Margins averaged 11.3 percentage points above those reported for "Manufacturers - Yarn Spinning Mills (SIC 2281) in RMA's Annual Statement Studies; on a net basis, the average spread was 3.9 percentage points. This demonstrated significant Intellectual Capital.

Turning to Manhattan, Ms. Doone prepared a similar spread sheet for the period the mill had been operated by the Green group, which is shown on the next page. All the output of Manhattan is used internally by the Green group and therefore it has no sales or marketing costs and limited downtime for changes in output. Sales are made at competitive prices quoted by others. This results in its Gross Margins being substantially lower than those of Martini, but the Pre-tax Margins and Return on Capital were trending higher as volume increased and the level of expenses remained fixed.

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\$'000	1994	1995	1996	1997	1998
3 months	(audit)	(audit)	(draft)	(bgt)	(bgt)
Sales	<u>6,507</u>	<u>23,087</u>	<u>23,729</u>	<u>26,930</u>	<u>33,450</u>
Gross Profit	208	1,489	3,079	3,520	4,810
Margin	3.2%	6.4%	13.0%	13.1%	14.4%
Expenses	<u>540</u>	<u>1,350</u>	<u>1,511</u>	<u>1,670</u>	<u>1,860</u>
Pre-tax Profit	<u>(332)</u>	<u>139</u>	<u>1,568</u>	<u>1,850</u>	<u>2,950</u>
Pre-tax Margin	n/a	60.0%	6.6%	6.9%	8.8%

She then turned to the acquisition of Bell's. This had been a family operated mill specializing in hosiery yarns, which it manufactured using German spinning equipment similar to that of Martini and Manhattan. The Green group had purchased Bell's through two LLCs whose Balance Sheets on the purchase date, December 10, 1996, were:

Assets	Yarn	Real Estate
Cash	1,000	
Inventories at cost	1,400	
Equipment	6,100	
Land & Buildings	<u>-</u>	<u>2,000</u>
	<u>8,500</u>	<u>2,000</u>
Liabilities		
Bank Loan assumed	2,400	-
Payables assumed-estimated	2,000	-
First Mortgage	-	1,000
Second Note to Vendor	<u>-</u>	<u>400</u>
	4,400	1,400
Shareholder Investment		
Advance from Greed & Co.	1,000	-
Preferred Shares to Vendor	3,000	600
Common Shares	<u>100</u>	<u>-</u>
	<u>4,100</u>	<u>600</u>
	<u>8,500</u>	<u>2,000</u>

During the 11 months of 1996 to the date of sale, Bell's had lost over \$2 million on sales of about \$20 million. One unrecorded asset was the Customer Capital represented by relationships with 150 hosiery and 75 knitting manufacturers; Martini does not currently serve the hosiery market.

Ms. Doone was told by Al Smith that the Division management expects to be able to substantially lower costs at the Bell's Mill by improving operating procedures and reducing staff; this would

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require modest capital expenditures. They also were looking forward to additional sales of hosiery and knitting yarn to both Bell's existing customers and firms being served by Martini.

As part of its due diligence, management had prepared the following budgets for Bell's in 1997 and 1998.

\$'000	1997	1998
Sales	<u>31,610</u>	<u>42,750</u>
Gross Profit	4,940	7,160
Margin	15.6%	16.7%
Expenses	<u>2,970</u>	<u>3,320</u>
Pre-tax Profit	<u>1,970</u>	<u>3,840</u>
Pre-tax Margin	<u>6.2%</u>	<u>9.0%</u>

Using these figures, Ms. Doone prepared another spread sheet:

\$'000	1996	1997	1998
	(actual)	(budget)	(budget)
Sales			
Martini	69,541	76,780	86,220
Manhattan	23,726	26,930	33,450
Bell's		<u>31,610</u>	<u>42,750</u>
	<u>93,267</u>	<u>135,320</u>	<u>162,420</u>
Gross Profit			
Martini	18,829	18,810	21,470
Manhattan	3,079	3,520	4,810
Bell's	-	<u>4,940</u>	<u>7,160</u>
	<u>21,908</u>	<u>27,270</u>	<u>33,440</u>
Pre-Tax Profit			
Martini	5,156	6,790	7,580
Manhattan	1,568	1,850	2,950
Bell's	-	<u>1,970</u>	<u>3,740</u>
	<u>6,724</u>	<u>10,610</u>	<u>14,270</u>
Gross Margin			
Martini	24.2%	24.5%	24.9%
Manhattan	13.0%	13.1%	14.4%
Bell's		<u>15.6%</u>	<u>16.7%</u>
Weighted Average	<u>21.3%</u>	<u>20.2%</u>	<u>20.6%</u>
Pre-Tax Margin			
Martini	7.4%	8.5%	8.8%
Manhattan	6.6%	6.9%	8.7%
Bell's		<u>6.2%</u>	
Weighted Average	<u>7.2%</u>	<u>7.6%</u>	<u>8.8%</u>

Plant Visit

While Lorna Doone was investigating the financial situation, Manon Lescaut, PE, was visiting the Bell plant. When she arrived, she was greeted by Jimmy Carter, the Vice President & General Manager of the Green group's Yarn Division. He described what actions had been taken as soon as the Purchase had closed.

At that time, Bell's had 155 hourly paid and 58 salaried employees, for a total of 213. It was producing 33,000 lbs. of cotton yarn a week, utilizing the equipment at approximately 65% efficiency. Because of the losses and cash shortage, the spare parts inventory had been allowed to become unbalanced and some equipment was not operable.

Mr. Carter said that immediately after the Green group took over, all the machines were shut down for two weeks and the orders transferred to Martini and, to a small extent, Manhattan. During the shutdown, a five part reorganization was undertaken. They discussed the reorganization and Ms. Lescaut enquired as to what specific actions were taken.

Jimmy Carter told her the following specific actions:

Sales

Martini only has three sales staff and mainly uses agents, while Bell's had a large in-house organization. During the due diligence phase, an analysis had been made of the profitability of sales to each of the ten largest customers. The remaining 215 customers, many of whom had not issued orders for a number of months, were divided into five groups depending on the nature of their business, location and size of orders.

A representative of Martini personally visited the buyer at each of the ten largest customers; he explained that Martini now managed Bell's and wished to work with them. He explained the analysis of their profitability and discussed future business which would be handled by the Martini sales organization, thus making available all of Martini's capabilities, including the just-in-time inventory and small order programs.

Other customers were divided between Martini's outside agents and the three most successful of the Bell's sales force. Each customer was called and their future order pattern discussed; as a result 20 were discontinued. The other salesmen and most of the support staff were now surplus and terminated.

Maintenance

With production shutdown, all the equipment was dismantled, parts replaced when necessary and reassembled under the supervision of Martini's maintenance manager. As part of this, the

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manufacturer's supplied software on the spinning machines was replaced by Martini's proprietary version.

Work Flow

Management believed that many of Bell's problems were due to poor workflow, which resulted in the need to manually transfer products at various stages. Three new draw frames and considerable material handling equipment was installed, with the existing spinning units being realigned so that it was unnecessary to handle any product until the spindles, containing the finished yarn, were removed from the spinning frames.

Training

All the hourly paid employees were put through an intensive training program staffed by line workers from Martini and Manhattan. The employees understood not only were they learning from their peers but that at the end of the training period there would be both written and practical examinations by the trainers. Only 118 employees were expected to be retained, of whom 95 would be line workers. The examination results would be the sole means of determining whether the individual's employment would continue.

Administration

As a part of the Green group, Bell's did not require its own administrative organization. A local area network was installed linking all the PCs at Bell's with each other; as part of the installation, equipment was upgraded where necessary. A dedicated line was then obtained to link this LAN with those at Martini and Manhattan.

With the LAN, Bell's would be able to tie in to all the systems developed by Martini, including production planning, inventory balancing, quality control, shipping, collection and accounting. As a result, the number of administrative employees required was reduced from ten to three.

After hearing about all the changes, Manon enquired what results had been achieved. Jimmy Carter responded that the first full week after the reorganization was that ended January 11, 1997. In it, operating 24 hours a day, production amounted to 360,000 lbs. at 80% efficiency, with 118 employees.

He went on to say that during the first three months of the year, the objective was to increase production to over 405,000 lbs. per week, at a 90% efficiency. Ms. Lescault asked what was the Martini level? Mr. Carter replied that it was over 95% and that Bell's should achieve this level by the second half of the year.

When asked about capital spending, Jimmy Carter said that initially it had been small with only Draw Frames and some material handling equipment purchased. However, in the last quarter of

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1997 and the first half of 1998, as sales are built up, a major increase in capacity is planned. At that time, a number of spinning frames, not currently in use, will be brought on line; while the output of the currently utilized spinning equipment will be increased by the installation of higher powered electric motors.

Manon asked if any new equipment was required for the program. The response was that four Mark IX spinning frames would be added, together with five additional draw frames in the latter stages. The spinning frames would come from Martine, where four new Mark X units were to be installed. By the end of 1998, management expected capacity to be over 700,000 lbs. a week, compared with about 450,000 lbs. now. At that time, there will be about 160 hourly paid employees, out of a total of 183.

Questions

1. What procedures did Lorna Doone ignore?
2. What Risks might affect the companies' 1998 budgets?
3. What Intangible Assets did Martini transfer to Bell's?
4. What approaches would you use to value them?
5. What is the value of the reorganized Bell's?
6. What percentage of the common shares should go to Greed & Co.?

Financial Position - Martini and Manhattan

In her analysis, Lorna Doone ignored the Balance Sheets of Martini and Manhattan at December 31, 1996, which are set out below in \$'000. Did this matter?

	Martini	Manhattan
Assets		
Cash	-	156
Receivables	7,865	1,997
Inventories	2,980	747
Prepays	446	5
Capital – Net	14,110	3,582
Deferred Tax	<u>207</u>	<u>288</u>
	25,608	6,775
Liabilities		
Bank	4,805	-
Payables &	4,736	2,618
Taxes Due	781	-
Term Debt on	6,324	2,621
Deferred Tax	<u>1,896</u>	<u>438</u>
	<u>18,542</u>	<u>5,677</u>
Shareholders	<u>7,066</u>	<u>1,098</u>
	<u>25,608</u>	<u>6,775</u>

CONCLUSION

The valuation of Intangible Assets is one of the most fascinating activities that I have ever been involved in. I always tell friends we have the best job in the world. We are well paid to go to interesting places, meet fascinating people and get to understand leading edge technologies.

In doing this, while we try to accurately assess all the risks, it is essential to avoid a trap of Hegel's philosophy:

It is easier to discover a deficiency in individuals, in states, and in Providence, than to see their real import and value.

THANK YOU.