PIERCE LAW

Eleventh Annual Advanced Licensing Institute
July 2002

"Intellectual Property Valuation"

by Gordon V. Smith
AUS Consultants

Mr. Smith is President of AUS Consultants, located in Moorestown, New Jersey. A graduate of Harvard University, he has been in the valuation profession for nearly forty years. His consulting practice includes advising clients as to the value of all types of intellectual property, as well as business enterprises and closely-held stock. He also consults with clients on royalties and in support of business transactions as well as litigation.

He has written extensively on a variety of valuation subjects and has lectured in North and South America, Europe and Asia. Mr. Smith is Chairman of the Advisory Board, Licensing Economics Review, and serves on the Pierce Law Advisory Committee on Intellectual Property. He is an Adjunct Professor at Pierce Law and is the Founding Director of the Intellectual Property Management Institute.

An Accredited Senior Appraiser of the American Society of Appraisers, Mr. Smith is also a member of the International Trademark Association and active in committee work with that organization. Other memberships include the Licensing Executives Society.

Mr. Smith is the author of Corporate Valuation - A Business and Professional Guide, and Trademark Valuation. He is co-author of Valuation of Intellectual Property and Intangible Assets (currently in its third edition and translated into Korean and Japanese), Intellectual Property - Licensing and Joint Venture Profit Strategies (in second edition), and a contributing author to Transfer Pricing Handbook and Intellectual Property Assets in Mergers and Acquisitions, all published by John Wiley & Sons.

I. SOME INTRODUCTORY COMMENTS

A. LICENSING

Many have considered licensing to be an "art form" to be learned only by experience, as one might have been apprenticed to Antonio Stradivari in order to learn violin making. While this is true to some degree, I believe there are tools in use in the financial community that can be very helpful in the process.

Licensing is not just a legal exercise, it is a commercial transaction whose objective is to exploit intellectual property for the economic benefit of licensor and licensee.

B. WHY IS IT NECESSARY TO CONSIDER *VALUE* IN LICENSING?

There is an essential relationship between the value of property and the amount that would be paid for the right to use it. The amount of rent that is paid for the right to occupy real estate is related to the market value of the property.

This is also true for royalties paid for the right to use intellectual property. Royalty considerations are an essential part of the licensing process.

II. UNDERLYING PRINCIPLES – The Business Enterprise

A. LICENSE = $

A license, just like intellectual property, does not by itself create economic benefit.

Intellectual property must be teamed with complementary assets.

The resulting asset portfolio is analogous to a business enterprise.

B. MICROSOFT EXAMPLE

Investors and auditors have quite a different opinion about the "value" of the Microsoft business.

Is this a real difference of opinion or a difference in underlying definition?

We can also observe a surprising change in the value of Microsoft - $73.8 billion in 4 months.

Which of Microsoft's assets took the hit?

1. The enterprise value equation:
   Enterprise value = value of debt and equity = value of monetary, tangible and intangible assets.
2. Loss in value was mostly in the intangible asset classification

C. HOW DOES ENRON (et al) FIT THIS EQUATION?

Non-obvious debt absorbs business enterprise value, to the detriment of common equity (stock) value.

Non-obvious interest expense reduces apparent profits

What if "sales" aren't really sales?

The new FASB 141 & 142 accounting rules and "impairment of goodwill"

D. THE BUSINESS ENTERPRISE

Every business enterprise, large or small, is comprised of three elements: monetary assets, tangible assets, and intangible assets.

E. SPECIFIC ELEMENTS OF THE BUSINESS ENTERPRISE

1. Monetary Assets

Monetary assets comprise inventories, cash investments, work in process, accounts receivable, less current liabilities. Some refer to this asset as "net working capital".

2. Tangible Assets

These assets include land, buildings, machinery and equipment, mineral reserves, and the like.

3. Intangible Assets

Included in this category is computer software, assembled work force, patents, trademarks, copyrights, proprietary technology, customers, favorable contracts, and goodwill.

F. INTANGIBLE ASSETS

1. Rights

   a. Contractual

2. Relationships

   a. Non-Contractual

3. Intellectual Property

4. Undefined

   a. Goodwill

   b. Elements of a Going Concern

G. BUSINESS ENTERPRISE CHARACTERISTICS

1. The business enterprise is a portfolio of assets - analogous to an investment portfolio.

2. Important Characteristics of Risk, Financing, and Liquidity

a. Monetary Assets

Monetary assets tend to be liquid and versatile, can often be financed with debt, and are relatively low-risk assets to own, requiring a relatively low rate of return on investment.

b. Tangible Assets

Tangible assets can be either general or special purpose, with a corresponding range of liquidity. Debt financing is usually available for general purpose tangibles, and return rates approximate mortgage or corporate bond rates.

c. Intangible Assets

Intangible assets tend to be non-liquid, with a very narrow market, and command the highest rates of return because of their increased risk and their degree of specialization.

H. ESSENTIAL RELATIONSHIP OF EARNINGS AND VALUE

There is an essential and very important concept which relates the value of a business enterprise to the value of its underlying assets. If a business is persistently not earning an adequate return on the value of its underlying assets, the value of the enterprise is best realized in a disposal of those assets in some form of liquidation value. As the earnings of the business rise, so does the value of the underlying assets, to a maximum of their replacement cost. Increases in the value of the enterprise after that point result from the creation of new intangible assets or unidentified goodwill.

It is very important to keep this relationship in mind and to continually test the valuation of specific business assets with the value of the business enterprise as a whole. The sum of the parts must be commensurate with the value of the whole.

Is this an outmoded concept in the "dot-com" New Economy?? NO. Recent trends in the markets have again proved that earnings and value are interdependent.

III. UNDERLYING PRINCIPLES – What is Value ?

A. PREMISE OF VALUE

This is an essential specification in the appraisal process and one without which an appraisal assignment cannot proceed. Value does not exist in the abstract and must be addressed within the context of time, place, potential owners, and potential uses. This is often put in the form of a question -- value "to whom and for what purpose?".

1. Cost of Reproduction New

This refers to the cost, as of the appraisal date, to construct identical property.

2. Cost of Replacement

This is the cost that would be incurred to obtain a property with equivalent utility to the subject.

3. Book Value

This is sometimes referred to as book cost or net book value and refers to the original cost of an asset reduced by accounting depreciation. Since property accounting practices vary widely and original costs can change markedly over time, this is not really a measure of value, though it is often referred to in those terms.

Tax Basis

This is the original coast of property reduced by tax depreciation. The tax laws of most nations specify depreciation rates or periods that are often different than those used for accounting purposes.

4. Market Value

This is an often misunderstood term and is often used synonymously with "fair market value", "fair value", 'true value", or "exchange value" which terms are often found in appraisal literature, the law, and in court decisions.

We utilize two definitions of market value, one which embodies the concept of an exchange of property and describes the conditions of that exchange, and another definition which presents market value in economic terms as being represented by all future benefits of ownership compressed into a single payment.

IV. UNDERLYING PRINCIPLES – Valuation Methods

A. THE THREE BASIC METHODS

1. Cost Approach
2. Market Approach
3. Income Approach

B. COST APPROACH

The cost approach seeks an indication of asset value by estimating the cost of reproduction or cost of replacement of the asset, less an allowance for loss in value due to physical, functional, and economic causes.

1. Cost Approach Applied to Intellectual Property

a. Trended Historical Costs

If one can determine, from accounting or other cost records, the amount of costs expended in the development of the intellectual property, together with the date at which those costs were expended, one can develop an indication of the current reproduction cost by the use of price trends for the types of labor and other expenses incurred. One must know something about the derivation of the price trends used, in order to form an opinion as to whether the result represents reproduction cost or replacement cost.

b. Estimates of Current Cost

An alternative method is to estimate the number of man hours of work effort that would be required by the various skills involved to develop the subject asset using the skills and technology of today. The hourly cost of those various skills, including base salary, benefits, overhead, and the like, are utilized to develop the total current cost.

2. Cost Approach Cautions

Trending historical costs may bring forward the costs of inefficiencies incurred in the original development of the intellectual property. It may also bring forward the costs of outmoded technologies, operating inefficiencies, and will reflect whatever accounting techniques were utilized at the time to record the costs.

One must remember that the objective is to estimate the cost to replace the or functionality of the asset.

C. MARKET APPROACH

The market approach seeks an indication of value from the exchanges of comparable property in an active marketplace.

There are relatively few instances where the market approach can be utilized for intangible assets and intellectual property. Intangibles are not commonly exchanged free of other assets in arms-length transactions of sufficient number to provide a "market." In addition, the determination of comparability can be quite difficult.

1. The Market Approach as a Check

The market approach can be useful as a check when one is developing an indication of value for intellectual property by another method. If the subject is comparable enough to assets that are sold in the market place, value indications by an income or cost approach can be checked against the market prices for similar property which should set the upper limit of value.

D. THE INCOME APPROACH

1. Income Capitalization

The income approach seeks to value property by calculating the present value of the future economic benefits of ownership in a capitalization of income process.

The underlying theory behind the income approach is to calculate the present value of a future stream of earnings by a direct capitalization (which assumes that the income will continue unchanged forever) or a technique of calculating the present value of discrete amounts of income to be received in the future (a discounted cash flow process).

In order to utilize this technique one needs to know the: (a) amount of income, (b) the duration of the income, and (c) the amount of risk of achieving it.

This technique can also be used for early stage projects. In this instance, there may be some period of time during which cash flows from the product will be negative (due to development and marketing expenses) and then some period of time of income growth after the product is introduced to the marketplace. Income forecasts are more difficult to quantify in this situation, but the technique can still be used.

2. Understanding Present Value

   a. Time value of money concept. ("A bird in the hand...")

   b. Direct capitalization

   c. Direct capitalization with growth

   d. Discounting

3. The Impact on Value of Time and Interest Rate

4. Applying the Income Approach

   a. Quantifying the economic benefit - investigate what the [P does to the business - the "but for..." principle - "follow the dollars" technique.

   b. Quantifying the risk - identify the risk elements - go to the market for risk surrogates.

   c. Quantify the economic remaining life - be alert to the possibility of a transfer of protection between forms of IP.

   e. A more complex cash flow model. The base case presents the business enterprise value without the benefit of the IP technology, and then we measure the business enterprise value with the technology.

      We can then allocate the economic benefit in the form of a license.

      The terms of the license will control the allocation.

V. UNDERLYING PRINCIPLES – The License

A. *THE MOST BEAUTIFULLY CRAFTED LICENSE IS A FAILURE UNLESS IT ENABLES COMMERCIAL SUCCESS*

B. EXPLOITATION INVOLVES INVESTING CAPITAL AND LABOR FOR THE PURPOSE OF EARNING A RETURN

   1. A fundamental law of nature (certainly of business!)

C. LICENSING TRANSACTIONS MUST BE EVALUATED THE SAME WAY THAT WE EVALUATE OTHER COMMERCIAL TRANSACTIONS.

D. BASIC INVESTMENT TRANSACTIONS

   1. Investment for a Return

      a. Labor and capital invested

      b. Return of and return on

   2. Business Plan as Surrogate

      a. Usually covers all the steps

E. BASIC LICENSE TRANSACTION

1. USE OF INTELLECTUAL PROPERTY IN RETURN FOR CASH, RIGHTS, ETC.

a. An exchange of rights for cash. This is the basic licensing transaction. We must also remember that both licensor and licensee may have income and expenses associated with the transaction, but not a part of it. They also have their own particular situation with respect to taxes, business strategy, emotions.

b. "Bundle of Rights"

c. Licensing economics - every licensing clause and term has some economic impact on one or both of the parties.

d. The growing importance of IP

VI. UNDERLYING PRINCIPLES - Royalties

A. WE MUST REMEMBER THAT A ROYALTY IS:

1. A payment in exchange for rights
2. A sharing of the economic benefits of exploitation

B. EXAMINING THE VARIOUS INCOME STREAMS ASSOCIATED WITH IP IN A LICENSING SITUATION

1. Applying the cost, market and income approaches. Cost approach ignores the EBA and ignores the concept of sharing between licensee and licensor. The market approach suggests that you use the same EBA and sharing scheme as others. The income approach focuses on the EBA and the sharing process.

C. THE RELATIONSHIP OF VALUE AND ROYALTY

D. THE LICENSE CONTROLS THE ALLOCATION OF VALUE BETWEEN LICENSOR AND LICENSEE

1. "Water Rights"

a. A licensing analogy – the relationship of underlying asset value and royalties.

b. A licensing analogy - how the license controls the allocation of economic benefit and value.

c. Just like Hoover Dam.

E. USING THE COST, MARKET AND INCOME APPROACHES

1. Cost Approach – not recommended

2. Market Approach – use with caution

3. Income Approach – strongly recommended because it focuses on defining the economic benefit and the sharing of that between licensor and licensee.

F. USING DCF FOR ROYALTY RATE ANALYSIS

1. Base case

2. Introducing the economic benefit

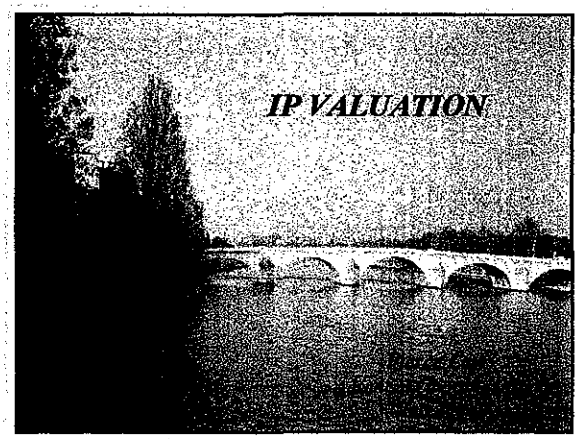
3. Calculating a royalty

G. SHARING THE ECONOMIC BENEFIT

1. What determines the sharing % ? Risk, amount of investment, success prospects AND the structure of the license. You can't determine the royalty until the major license terms are decided.

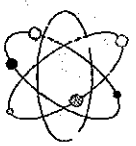
H. THE ECONOMICS OF THE LICENSEE'S BUSINESS IS CONTROLLING

I. UNLESS YOU'RE MICHAEL JORDAN, MICKEY MOUSE OR TIGER WOODS



LICENSING IS BOTH

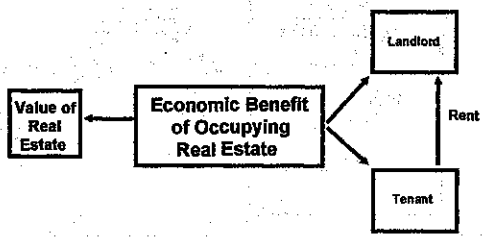
ART.....and.....SCIENCE



and.....MAGIC 

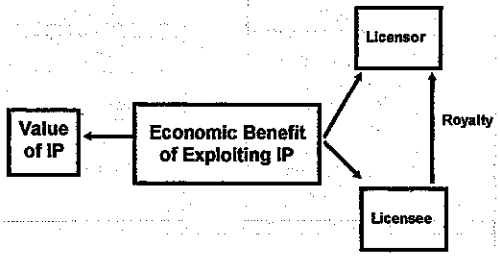
2

WHY DO WE TALK ABOUT VALUATION IN A LICENSING SEMINAR ?



3

WHY DO WE TALK ABOUT VALUATION IN A LICENSING SEMINAR ?



4

UNDERLYING PRINCIPLES -

The Business Enterprise

5

Turning a License into $

Rights obtained by license + Complementary Assets (*Money, Buildings, Machinery, People, Customers, Products, Services*) = $

6

Turning a License into $

Complementary Assets

Money
Buildings
Machinery
People
Customers
Products
Services

=

BUSINESS ENTERPRISE

7

ON 12/31/2001,
INVESTORS THOUGHT MICROSOFT STOCK WAS WORTH $ 356.8 BILLION

MICROSOFT's FINANCIAL STATEMENTS SAID IT WAS WORTH $ 48.1 BILLION

WHO WAS RIGHT ??

8

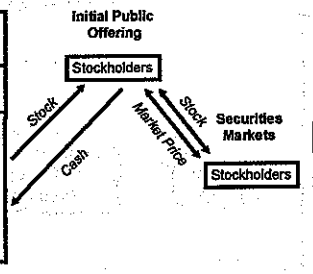
Microsoft Balance Sheet

Current Assets $39.6 bill	Current Liabilities $11.1 bill
Plant, Property and Equipment $2.3 bill	Long-Term Debt $0
Other Assets $17.3 bill	Stockholder's Equity $ 48.1 bill

9

Microsoft Balance Sheet

Current Liabilities $11.1 bill
Long-Term Debt $0
Stockholder's Equity $ 48.1 bill



10

Microsoft Value Balance Sheet

Current Assets $39.6 bill	Current Liabilities $11.1 bill
Plant, Property and Equipment $2.3 bill	Long-Term Debt $0
Other Assets $17.3 bill	Stockholder's Equity $ 345.7 bill
Intangible Assets $308.7 bill	
$367.9 bill	**$367.9 bill**

11

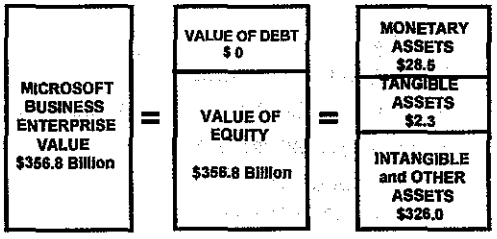
ON 12/31/2001,
INVESTORS THOUGHT MICROSOFT STOCK WAS WORTH $ 356.8 BILLION

FOUR MONTHS LATER,
INVESTORS THOUGHT MICROSOFT STOCK WAS WORTH $ 283.0 BILLION

WHAT HAPPENED TO $ 73.8 BILLION ??

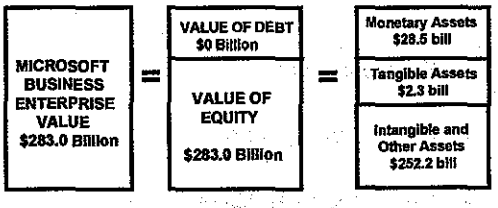
12

12/31/01 Microsoft Value



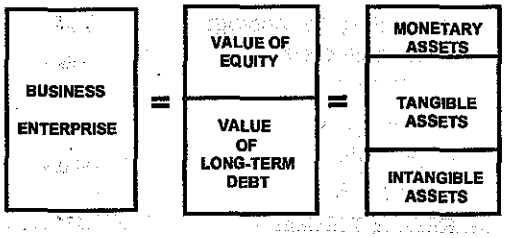
13

4/30/02 Microsoft Value



14

Business Enterprise



15

ELEMENTS OF THE BUSINESS ENTERPRISE

MONETARY ASSETS

Cash, Inventories, Work in Process, Finished Goods, Accounts Receivable

LESS:

Accounts Payable and other Current Liabilities

"Net Working Capital"

16

ELEMENTS OF THE BUSINESS ENTERPRISE

TANGIBLE ASSETS

Land, Land Improvements, Buildings Machinery and Equipment, Vehicles

"Plant, Property and Equipment"

17

ELEMENTS OF THE BUSINESS ENTERPRISE

INTANGIBLE ASSETS

Computer Software, Assembled Workforce, Favorable Contracts, Customer Relationships, Intellectual Property

"Goodwill or (ugh!) Going Concern Value"

18

INTANGIBLE ASSETS

- Rights
- Relationships
- Intellectual Property
- Undefined Intangibles

19

Rights

- Leases
- Distribution Agreements
- Employment Contracts, Covenants
- Financing Arrangements
- Supply Contracts
- Licenses, Certifications
- Franchises

20

Relationships

- Trained and Assembled Workforce
- Customer Relationships
- Distribution Relationships

21

Intellectual Property

- Proprietary Technology
  Trade Secrets
  Know-how
- Patents
- Copyrights
- Trademarks
- Right of Publicity

22

Proprietary Technology

- **Formulas, Recipes, Specifications**
- **Management, Accounting, Mfg. Procedures**
- **Formations, Plays, Training programs**
- **Marketing Strategies**
- **Artistic Techniques**
- **Customer Lists, Routes, Demographic Studies**
- **Job Files, Product test results**
- **Business Knowledge - Suppliers, Lead times, Cost and pricing data**

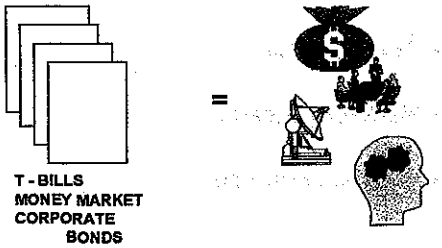
23

Undefined Intangibles

- Goodwill
- Elements of a Going Concern
  ("going concern value")

24

BUSINESS ENTERPRISE is a PORTFOLIO



T - BILLS
MONEY MARKET
CORPORATE BONDS
EQUITIES
LOTTERY TICKETS

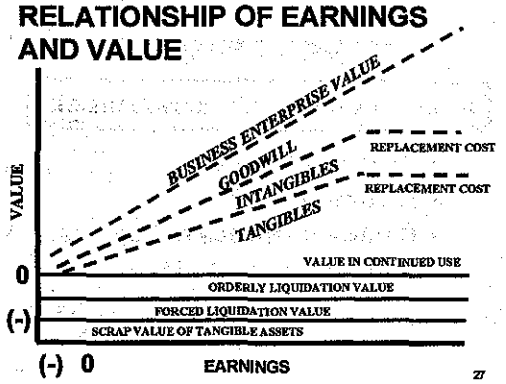
25

BUSINESS ASSET CHARACTERISTICS

	MONETARY	TANGIBLE		INTANGIBLE
	CASH, RECEIVABLES, INVENTORY	GENERAL PURPOSE	SPECIAL PURPOSE	TECHNOLOGY, RIGHTS, TRADEMARKS
RETURN REQUIREMENT	8 - 10 %	10 - 15 %		15 - 40 %
FINANCING	DEBT		EQUITY	
INVESTMENT QUALITIES	LIQUID, VERSATILE		NON-LIQUID, NARROW MARKET	

26

RELATIONSHIP OF EARNINGS AND VALUE



27

UNDERLYING PRINCIPLES -

What is Value ?

28

PREMISE OF VALUE

- Cost of Reproduction
- Cost of Replacement
- Book Value
- Tax Basis
- Market Value

  Fair Market Value, Fair Value, Exchange Value Orderly / Forced Liquidation Value, Investment Value

29

PREMISE OF VALUE

MARKET VALUE

"The amount at which a property would exchange between a willing buyer and seller, neither under compulsion, each having knowledge of the facts, and with equity to both."

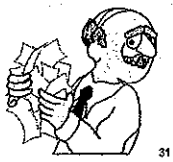
or

"The present value of the future economic benefits of ownership."

30

UNDERLYING PRINCIPLES -

Valuation Methods



31

VALUATION METHODS

- Cost Approach
- Market Approach
- Income approach

32

COST APPROACH

Cost of Reproduction or
Cost of Replacement

Less: Physical Depreciation
Less: Functional Obsolescence
Equals: Replacement Cost Less Depreciation

Less: Economic Obsolescence

Equals: MARKET VALUE

33

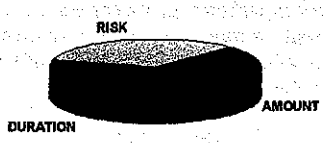
MARKET APPROACH

Analyze evidence of transactions of:

- Comparable Property
- At Arm's Length
- Contemporaneous to Appraisal
- In an Active, Public Market

34

INCOME APPROACH



35

PRESENT VALUE (direct cap)

DIRECT CAPITALIZATION

$$PV = \frac{\text{AMOUNT (\$)}}{\text{RATE (\%)}}$$

Used when we are to receive an unchanging amount in each period into perpetuity

36

PRESENT VALUE (direct cap with growth)

DIRECT CAPITALIZATION with GROWTH

$$PV = \frac{\text{AMOUNT} \times (1 + \text{Growth Rate})}{(\text{Rate} - \text{Growth Rate})}$$

Used when we are to receive a constantly growing amount each year into perpetuity

37

PRESENT VALUE (discounting)

DISCOUNTING

$$PV = \frac{\text{AMOUNT 1}}{(1 + \text{Rate})} + \frac{\text{AMOUNT 2}}{(1 + \text{Rate})^2} + \frac{\text{AMOUNT 3}}{(1 + \text{Rate})^3} + \cdots$$

Used when we are to receive varying amounts in each period for a finite number of periods.

38

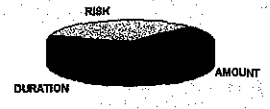
PRESENT VALUE of $ 300,000

To be received in:

	1 YEAR	2 YEARS	5 YEARS	10 YEARS
@ 4%	$288,000	$277,000	$246,000	$201,000
@ 15%	258,000	223,000	142,000	68,000
@ 25%	234,000	183,000	87,000	25,000

39

INCOME APPROACH (NPV = PV future benefits..)



= NET PRESENT VALUE

"The present value of the future economic benefits of ownership."

40

QUANTIFYING THE ECONOMIC BENEFIT

Enables the use of lower cost materials
Enables the use of less material
Reduces the amount of labor
Increases speed of production
Improves quality / Reduces defects
Eliminates or reduces environmental and/or safety hazards
Results in premium pricing
Provides economies of scale
Provides purchasing power
Relieves the owner of the cost to create

41

"FOLLOW THE DOLLARS" TO THE ECONOMIC BENEFIT

Sales Revenue	← *Premium Price*
Cost of Goods Sold	← *Economies of Scale*
	← *Labor, Mat'l Savings*
Gross Profit	
Selling, Gen'l & Admin.	← *Operating Exp. Benefit*
Pre-tax Profit	
Taxes	
Net Income	

42

INCOME RISK

- WILL WE RECEIVE IT ?
- WILL WE RECEIVE IT IN THE EXPECTED AMOUNT ?
- WILL WE RECEIVE IT WHEN EXPECTED ?
- MUST WE INVEST TO GET IT ?
- MUST WE INVEST IN "BIG LUMPS" ?
- HOW LONG MUST WE WAIT FOR INCOME TO START ?

43

RATES OF RETURN

1.9% - Money market
2.00-3.00% - Short-term Treasury Notes, Bills
4.75% - Prime rate
4.90% - 5-year CD's
5.90% - 30-year Treasury bonds
6.30% - 30-year mortgage commitments
7.00-10.00% - Corporate bonds
9.00-12.00% - High-yield bonds
9.90-10.90% - Large company equities (Treasury plus 4-5%)
4-5%)
11.90-13.90% - Small company equities (plus 6-8%)
20% - 2nd or 3rd stage venture capital
40% - Venture capital, early commercialization
50% - Venture capital, early stage

44

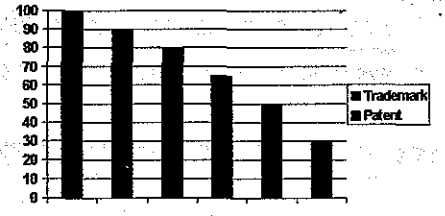
INCOME DURATION (economic life vs. legal...)

ECONOMIC LIFE = the period during which it is profitable to use an asset

MAY OR MAY NOT BE =
Legal Life
Physical Life
Technological Life
Depreciable Life

45

TRANSFER OF VALUE BETWEEN FORMS OF INTELLECTUAL PROPERTY



46

DISCOUNTED CASH FLOW MODEL - BASE CASE

SALES	$10,000	$11,000	$12,000	$14,000	$15,000
COST OF GOODS SOLD	4,000	4,400	4,800	5,600	6,000
GROSS PROFIT	6,000	6,600	7,200	8,400	9,000
OPERATING EXPENSES	3,000	3,300	3,600	4,200	4,500
GENERAL & ADMINISTRATIVE	1,500	1,650	1,800	2,100	2,250
INCOME BEFORE TAXES	1,500	1,650	1,800	2,100	2,250
INCOME TAXES	600	660	720	840	900
NET INCOME	$ 900	$ 990	$ 1,080	$ 1,260	$ 1,350
DEPRECIATION	200	200	200	300	300
ADDITIONS TO NWC	0	50	100	200	50
ADDITIONS TO PLANT	50	50	150	75	75
NET CASH FLOW	$1,050	$1,090	$1,030	$1,285	$1,525
PRESENT VALUE	$979	$884	$726	$788	$813
TOTAL PRESENT VALUE	$4,190				

47

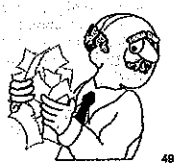
DISCOUNTED CASH FLOW MODEL - WITH TECHNOLOGY BENEFIT

SALES	$10,000	$11,000	$12,000	$14,000	$15,000
COST OF GOODS SOLD	4,000	4,400	4,800	5,600	6,000
TECHNOLOGY BENEFIT	-400	-440	-480	-560	-600
GROSS PROFIT	$6,400	$7,040	$7,680	$8,960	$9,600
OPERATING EXPENSES	3,000	3,300	3,600	4,200	4,500
GENERAL & ADMINISTRATIVE	1,500	1,650	1,800	2,100	2,250
INCOME BEFORE TAXES	1,900	2,090	2,280	2,660	2,850
INCOME TAXES	760	836	912	1,064	1,140
NET INCOME	$ 1,140	$ 1,254	$ 1,368	$ 1,596	$ 1,710
DEPRECIATION	200	200	200	300	300
ADDITIONS TO NWC	0	50	100	200	50
ADDITIONS TO PLANT	50	50	150	75	75
NET CASH FLOW	$1,290	$1,354	$1,318	$1,621	$1,985
PRESENT VALUE	$1,203	$1,098	$929	$994	$1,005
TOTAL PRESENT VALUE	$5,229				

48

UNDERLYING PRINCIPLES -

The License



49

The Most Beautifully Crafted License

is a Failure ... Unless

it Enables Commercial Success

BASIC INVESTMENT TRANSACTION

SALES
COGS
OPER. EXP.
TAXES
CAPITAL COSTS

RETURN ON INVESTMENT

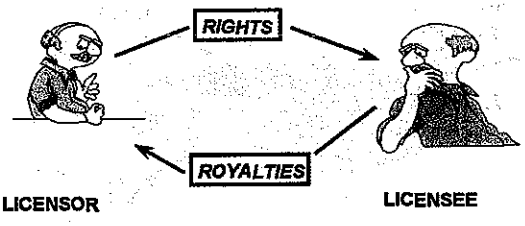
51

BASIC INVESTMENT TRANSACTION

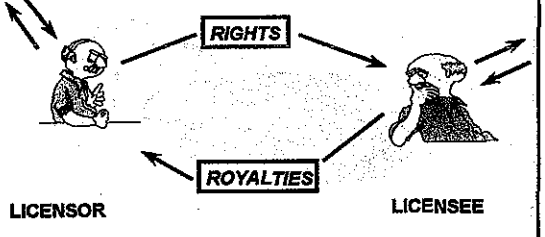
SALES
COGS
OPER. EXP.
TAXES
CAPITAL COSTS

RETURN ON INVESTMENT

52

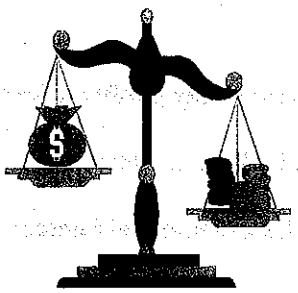


53



54

LICENSING ECONOMICS



ALMOST EVERY CLAUSE HAS SOME ECONOMIC WEIGHT

55

Financial Impact of License Clauses

	PRESENT VALUE
Primary Royalty Stream	$520,000
Technology Grantbacks	35,000
Sublicense Royalties	75,000
Administration, auditing, quality control	(90,000)
Providing technical assistance	(50,000)
Indemnification - best case	(25,000)
Indemnification - worst case	(250,000)
NET PRESENT VALUE	$465,000
NET PRESENT VALUE	$240,000

56

UNDERLYING PRINCIPLES -

Royalties

57

ROYALTY :

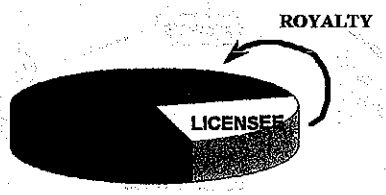
A PAYMENT IN EXCHANGE FOR RIGHTS

or

A SHARING OF THE ECONOMIC BENEFITS OF EXPLOITATION

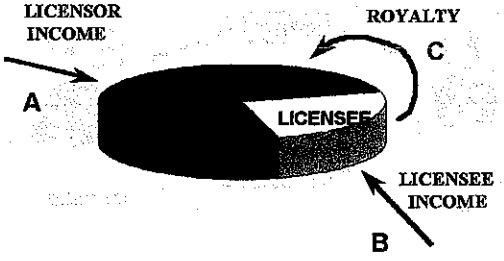
58

THE LICENSING TRANSACTION



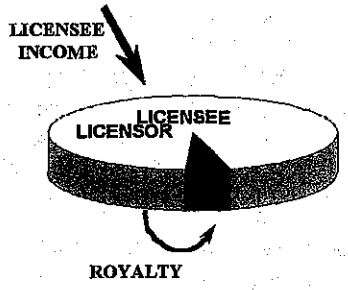
59

THE LICENSING TRANSACTION



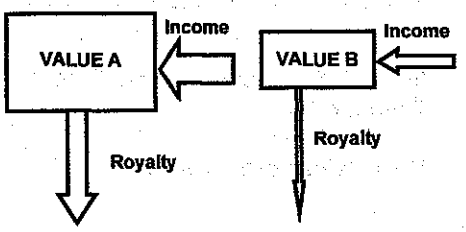
60

THE LICENSING TRANSACTION



61

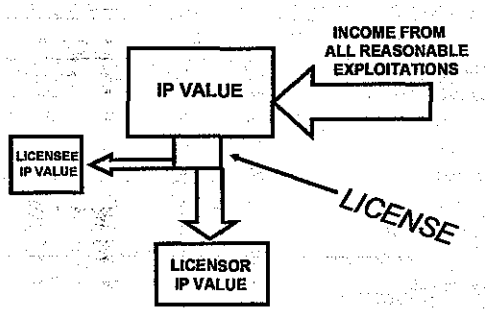
Relationship of Value and Royalty



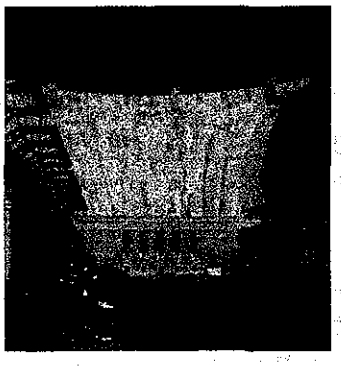
INCOME : VALUE
ROYALTY : INCOME
ROYALTY : VALUE

62

LICENSE CONTROLS THE ALLOCATION OF VALUE



63



HOOVER DAM

COST APPROACH ROYALTY

What did it cost to develop the IP ?

Set a royalty that will recoup the cost.

NO !!

65

MARKET APPROACH ROYALTY

What royalties have others paid or received ?

What is the "industry standard" ?

MAYBE !!

66

INCOME APPROACH ROYALTY

What is the economic benefit to the licensee ?

What is our proper share ?

YES !!

67

DISCOUNTED CASH FLOW MODEL - BASE CASE

SALES	$10,000	$11,000	$12,000	$14,000	$15,000
COST OF GOODS SOLD	4,000	4,400	4,800	5,600	6,000
GROSS PROFIT	6,000	6,600	7,200	8,400	9,000
OPERATING EXPENSES	3,000	3,300	3,600	4,200	4,500
GENERAL & ADMINISTRATIVE	1,500	1,650	1,800	2,100	2,250
INCOME BEFORE TAXES	1,500	1,650	1,800	2,100	2,250
INCOME TAXES	600	660	720	840	900
NET INCOME	$ 900	$ 990	$ 1,080	$ 1,260	$ 1,350
DEPRECIATION	200	200	200	300	300
ADDITIONS TO NWC	0	50	100	200	50
ADDITIONS TO PLANT	50	50	150	75	75
NET CASH FLOW	$1,050	$1,090	$1,080	$1,285	$1,525
PRESENT VALUE	$979	$884	$728	$788	$813
TOTAL PRESENT VALUE	$4,190				

68

DISCOUNTED CASH FLOW MODEL - WITH BENEFIT OF IP

SALES	$10,000	$11,000	$12,000	$14,000	$15,000
COST OF GOODS SOLD	3,600	3,960	4,320	5,040	5,400
GROSS PROFIT	6,400	7,040	7,680	8,960	9,600
OPERATING EXPENSES	3,000	3,300	3,600	4,200	4,500
GENERAL & ADMINISTRATIVE	1,500	1,650	1,800	2,100	2,250
INCOME BEFORE TAXES	1,900	2,090	2,280	2,660	2,850
INCOME TAXES	760	836	912	1,064	1,140
NET INCOME	$ 1,140	$ 1,254	$ 1,368	$ 1,596	$ 1,710
DEPRECIATION	200	200	200	300	300
ADDITIONS TO NWC	0	50	100	200	50
ADDITIONS TO PLANT	50	50	150	75	75
NET CASH FLOW	$1,290	$1,354	$1,318	$1,621	$1,885
PRESENT VALUE	$1,203	$1,098	$929	$994	$1,005
TOTAL PRESENT VALUE	$5,229				

69

DISCOUNTED CASH FLOW MODEL - WITH ROYALTY PAYMENT

SALES	$10,000	$11,000	$12,000	$14,000	$15,000
COST OF GOODS SOLD	3,600	3,960	4,320	5,040	5,400
GROSS PROFIT	6,400	7,040	7,680	8,960	9,600
ROYALTY EXPENSE 4.0%	400	440	480	560	600
OPERATING EXPENSES	3,000	3,300	3,600	4,200	4,500
GENERAL & ADMINISTRATIVE	1,500	1,650	1,800	2,100	2,250
INCOME BEFORE TAXES	1,500	1,650	1,800	2,100	2,250
INCOME TAXES	600	660	720	840	900
NET INCOME	$ 900	$ 990	$ 1,080	$ 1,260	$ 1,350
DEPRECIATION	200	200	200	300	300
ADDITIONS TO NWC	0	50	100	200	50
ADDITIONS TO PLANT	50	50	150	75	75
NET CASH FLOW	$1,050	$1,090	$1,030	$1,285	$1,525
PRESENT VALUE	$979	$884	$726	$788	$813
TOTAL PRESENT VALUE	$4,190				

70

Options for Sharing the Economic Benefit

Business Enterprise Value		
with technology benefit	$	5,229
without technology benefit	$	4,190
Economic Benefit Attributable to Technology	$	1,039
Assume 50-50 Split		
economic benefit retained by licensor	$	520
economic benefit granted to licensee	$	520
Options for Payments to Licensor		
Running Royalty on Net Sales		2 percent
Lump-sum Upfront Royalty		$520
Five equal annual payments		$240
Royalty "holiday" for 1 year, then Running Royalty		2.5 percent

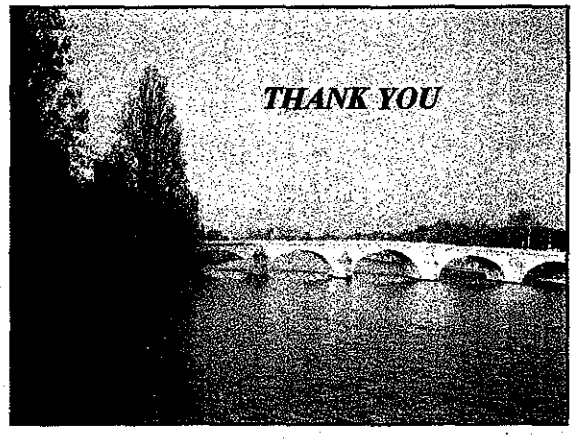
71

THE LICENSING TRANSACTION IS CONTROLLED BY THE ECONOMICS OF THE LICENSEE'S BUSINESS

unless . . . .

72


YOU ARE . . .
73


THANK YOU