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Constructing the “Price” of the Technology in IP Licensing Negotiations

Topics

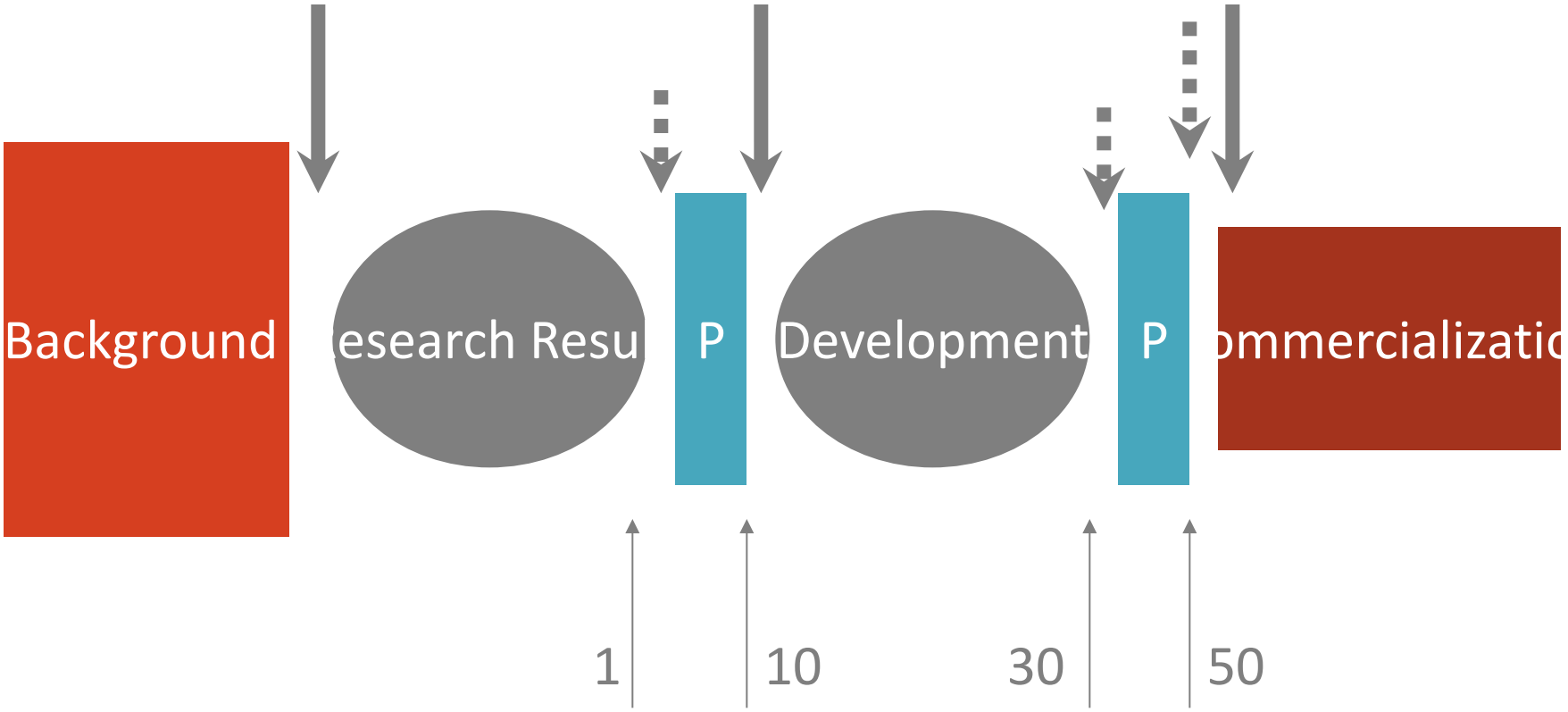
- What is Valuation
- Value and Price
- Key Terms of a Licensing Agreement
- Constructing the “Price”

IP Valuation

- Valuation – The process of identifying and measuring financial benefit of an asset.
- Valuation of Intangibles – The process of identifying and measuring financial benefit and risk of an asset, in a particular context.
- Risk
  - Time – What is the time needed to bring technology on the market? Sometimes even breakthrough technology can be « too early » for the market.
  - Money – How much more do we need to invest?
- Risk is a particularly important element in the valuation of early stage technologies – more time and money needed to bring technology on the market – less value.

Risk and Money?

Closer to the market, with and without financial partner –
the value of IP will be different for the same asset.



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Intangibles

What is so Different than Valuating Tangibles?

- Most intangibles are capable to generate more than one value stream simultaneously.
- In certain contexts the value is determinate by the authority, relevant laws (tax laws) or empirical experiences.
- It is important to define approach to value:
  - Understand actual value of an asset in use for actor,
  - Potential value in use,
  - Value construction – for negotiation purposes.

Intangibles
Value and Price

- The value of an intangible is the financial benefit that an asset can generate in a particular context, taking fully into account the risk that the investment in the development of the asset may be higher than realized value.
- The potential value of intangibles depends on the context in which that value will be realized.
- The price is not the value of an intangible asset, while the price of a tangible asset is usually the expression of the real value.
- The price is what is proposed to the other side of the deal and it depends on how « thirsty » is the other side for that particular technology.

Challenge 1. - Identifying Potential Asset

- **Potential Asset**
  - IP that can generate a value;
  - Separable ;
  - Differentiate technology;
  - Entity has a control over the future generated benefits – ownership or legal contract providing control – licensing.

R&D Context - Examples of Scoring Criteria

- **Internally developed ranking criteria, such as "8 leading factors":**
  - **Suitability for Suggested Application**
  - **Cost**
  - **Development Status**
  - **Exploitation Rights**
  - **Degree of Novelty**
  - **Marketing Interest of Partner**
  - **Quality of Technology Information**
  - **Sociability of Technology Provider**

- **Or**
  - **Patentability**
  - **Patent Strength**
  - **Status of Invention**
  - **Market Situation**
  - **Inventor's History – Supportive or not in the process of transfer?**
  - **Additional Services for the Partner (potential for continuation of collaboration)**
  - **To whom shall invention be licensed**

Elements of Ranking – IP Valuation, Wroclaw 2013, Team I

Each element has fixed weight, from 0,6 to 1,4

Element	Weight
Ease of collection	1
Market potential	1,4
Barriers of entry	1,2
Technology development	0,8
Competitors	1,2
Legal protectability	1,2
Relative technical experience	1,2
Communication skills of researches	1
Experience with business and industry	1
Interdisciplinary potential of technology	0,8

Challenge 2. Potential Value of IP for Licensee

- Does this IP correspond to my / licensee business objectives and business plan?
  - 1. Reduce the investment needed to access the marketplace,
    2. Accelerate market introduction,
    3. Minimize potential liability, ,
    5. Limit time commitment,
    6. Access markets otherwise inaccessible due to shipping restrictions or lack of a distribution system; or
    7. Acquire specific capabilities such as manufacturing, sales and distribution or business management
- Technical characteristics
- IP quality
  - scope of protection – “freedom of operation”;
  - can patents and trade secrets be easily circumvented; and
  - the projected cost to enforce patents and trade secrets
- Market potential

Challenge 3: Measuring the Value

- Quantitative methods attempt to calculate the monetary value of the IP and include:
  - Cost
  - Market
  - Income
  - “Rule of Thumb”
  - Monte Carlo
  - Industrial Standard
  - Real Option
  - Other Methods.

IP Valuation Methods and Approaches

- This method is more appropriate for tangible assets – where cost reflects the value of the asset.
- **Disadvantages of the Cost Method:**
  - Limited effect;
  - Does not show earning power of the technology and ultimate market share;
  - Cost to "create around" – not an indicator of the value of an asset as with the time needed the technology may become obsolete;
  - "Creating around" – there is a potential danger of an infringement of the model technology;
  - Cost of development – totally wasted or dramatically understated value of the product or service.

- In TT negotiation "cost of the development" of technology is rarely accepted as an argument – "I do not want to pay for an inefficient licensor!"

IP Valuation Methods and Approaches

- **Market Approach**

- Postulates intellectual property value as the amount for which equivalent IP was either sold or offered for sale on the open market.
- Two Steps Process:
  - Identification of the similar transaction;
  - Adjustment to the current case and specific context.
- As the cost approach, there is an assumption of the existence of intangible assets that are sufficiently **equivalent to those being valued.**
- Does not take into account that in the contractual context the **IP is valued in correlation with other key terms of the agreement** – exclusivity, territorial aspects, duration, available know-how, post contractual services, etc.
- The approach also suffers from the **scarcity of available information –** IP market is still not sufficiently developed.
- If a sale price / royalty rate is made public, the amount allocated to IP from the total purchase price is not reported or other terms of contract are unknown.
- **Useful:**
  - For tempering future-income-based forecasts;
  - For valuation of early stage technology – as a starting point in income based valuation, if there is no other indicators for determining the price of the future product containing new technology.

IP Valuation Methods and Approaches

- **Cost Method**
- Cost-based models approximate IP value by determining the replacement/creation around cost of equivalent IP.
- The approach, while useful in the situation where there is no other available data – wholly disregards the innovation and uniqueness of the IP.
- There is no “equivalent” or “identical” IP – that negates the novelty and inventiveness – that define intangible assets.
- Intangible assets tend to grow over time, use and investment so their full value is not apparent at inception – that is why it is so difficult to project a real commercial value of early stage technology.

IP Valuation Methods and Approaches

- **Cost Method**
- Correlation between the cost and value may arguably be used:
  - at the pre-commercialization outset of the IP;
  - as a starting point for licensor (R&D institution) in constructing a negotiation value of the IP – licensor would like to cover the costs of development of technology and protection of the IP;
  - helps to understand the position of the other negotiation party.

Income Method

Discounted Cash Flow Approach (DCF)

- DCF is the most frequently used approach of the Income Method;
- A projection of a **future net cash flow** expected from the commercial use of an intangible asset under review;
- Over a **period of the economic life of the IP**;
- “Discounted” by the time value of the money and **risk** (“discounted rate”);
- Objective: determination of the **Net Present Value** of the IP asset.

How DCF Calculation Work

$$PV = \sum_{t=1}^{n} \frac{CF(t)}{(1+r)^t}$$

Exercise :“Smart Turbine”

- Combination of “wind-solar” turbine technology was developed by the university and licensed to a big, well known multinational company;
- It was envisaged that the product will be ready for selling in 2013;
- Potential cash flow on 10 top markets for renewable energy was estimated on about 10,5 billion Euros in 2013, with the forecasted growth of 16% per year;
- Period under review – 6 years;
- Penetration rate – 10% of the potential market cash flow in the first year, 30% in the second, 60% in the two following years. Valuator estimated that the sales of the technology will decline in the last years under the review and that the “curve” of penetration will move towards 50% and than 40% of the market share;
- Discount (risk) rate was determinate to be 8% .

Period of the review (year)	2013	2014	2015	2016	2017	2018
Expected economic growth of total new turbine market (16%)	10.5 BE					
Market penetration rate for Smart Turbine tech.	10%	30%	60%			
Projected cash flow for Smart Turbine tech (in the frame of the penetration rate)						
Net Cash Flow(10%)						

Discount factor	$\frac{1}{(1.08)}$	$\frac{1}{(1.08)^2}$	$\frac{1}{(1.08)^3}$	$\frac{1}{(1.08)^4}$	$\frac{1}{(1.08)^5}$	$\frac{1}{(1.08)^6}$
Discounted value of 1 Euro	.926	.857	.794	.735	.681	.630
Discounted Cash Flow						
Net Present Value						

IP Valuation Methods and Approaches

- **Disadvantages of the Market Approach :**
  - Difficult to find similar transactions;
  - If used following comparability factors should be identified:
    - Relevant time period – the future is a focal point! Expected cash flow – not price paid!
    - Financial situation of the parties – are both parties on equal footing?
    - Relevant industry transactions – similar technology in a similar industry sector – each industry has a set of unique economic forces:
      - Consumer electronics – highly competitive;
      - Airlines – oligopolies;
    - Foreign transactions – relevant only in the countries with similar economic development and legal framework;
    - What are complementary asset investment requirements – high infrastructure pre investment will diminish the value of IP;
    - Non-monetary compensation – “grant backs”, “technology share”;
    - Independent status of the parties – negotiations are different if parties are in alliances and joint ventures (Merck & Co – Johnson & Johnson).

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Monte Carlo

- Monte Carlo Simulation – computer based sophisticated version of the multiple scenario DCF.
- For each DCF element it provides a range of possible values and different options for the distribution of these values.
- It provides projection of thousands scenarios and net present values, in a form of a frequency chart – easy to visualize the probabilities of net present outcomes.

Industrial Standard

- **Standard Industrial Royalties**
- Some industries have developed standard royalty rates over the years based on what could be considered “rules of thumb”.
- Inconvenient for IP – patents and other IP aren’t commodities and thus can not be accurately valued at a set rate.
- However, if a patent is being valued for an **external transaction** within an industry that traditionally applies standard royalty rates, then the use of this standard rate in the valuation can not be totally dismissed.
- For an internal valuation, the use of standard royalty rates is not recommended.

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“Les Nouvelles”

LESI Journal (September 2010)

Table 1. Running Rates by Agreement Type and Industry[1] Median (Average in Parentheses)

Agreement Type	Industry				
	All	Software	Hardware	Medical	Pharma
All Types	5.0% (8.2%) n = 2,963	10.0% (17.3%) n = 515	5.0% (7.0%) n = 489	5.0% (5.6%) n = 520	5.0% (6.2%) n = 1,439
Product/ Distribution[2]	10.0% (15.4%) n = 339	14.4% (18.9%) n = 180	6.0% (12.8%) n = 58	5.0% (7.9%) n = 44	8.0% (12.6%) n = 57
Development/JV[3]	6.5% (9.5%) n = 482	17.0% (21.2%) n = 65	4.0% (8.1%) n = 71	6.0% (6.7%) n = 53	6.0% (7.7%) n = 293
Acquisition[4]	5.7% (9.1%) n = 350	10.0% (16.4%) n = 90	5.0% (6.4%) n = 78	5.0% (6.1%) n = 56	5.0% (6.8%) n = 126
Settlement[5]	5.0% (6.1%) n = 87	4.6% (7.6%) n = 10	6.0% (7.1%) n = 12	5.0% (5.5%) n = 33	4.6% (5.9%) n = 32
Patent (+)[6]	4.5% (5.1%) n = 570	4.0% (4.4%) n = 17	4.4% (4.9%) n = 95	5.0% (5.4%) n = 109	4.5% (5.1%) n = 349
Research[7]	4.0% (4.4%) n = 118	5.5% (5.5%) n = 2	3.0% (5.3%) n = 5	3.6% (4.0%) n = 18	4.0% (4.4%) n = 93
Bare Patent[8]	3.0% (3.7%) n = 343	3.0% (3.3%) n = 17	3.5% (3.9%) n = 56	3.5% (3.9%) n = 73	3.0% (3.6%) n = 197
Other[9]	5.0% (8.9%) n = 674	11.6% (18.1%) n = 134	5.0% (6.9%) n = 114	4.0% (5.6%) n = 134	5.0% (6.9%) n = 292

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“Rule of Thumb”

- Licensor, as developer of the technology, considers as a fair deal to get 25% - 33% of the licensee’s **profit (**not income).
- Different opinions about the value of the method.
- In practice often used as an indicator.
- Recently formally forbidden in US litigation.

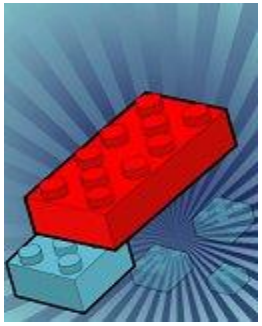
Challenge 4: Constructing the Price

- Once we “projected” the value - question to be asked – what is the percent of potential operational profit of licensee that you think you “deserve” as a generator of technology?
- Rule of Thumb”?
- 25 – 30 % of licensee operational profit?
- 30% of NPV?
- Subjective
- Experience is essential!

Elements of the Price of License

- Value of Technology
- Benefit and Risk - NPV
- Key Terms of Licensing Agreement
- Premium

Key Terms of a Licensing Agreement



The **key terms of a licensing agreement**

are the vital elements in the structure of the licensing agreement.

Key Terms and Business Objectives of Licensing Parties

- Key Terms are Inter - Related;
- Determined by Business Objectives of Negotiating Parties;
- What do you want to achieve with the licensing agreement will influence your options related to key terms!

Key Terms

I. Subject Matter: What is licensed?

II. Scope: What can you do with it?

III. Financial: What value is it?

IV. Upgrades and maintenance: What will happen with it in the future?

Example – “Smart Turbine”

- Smart Turbine (SM) is a wind and solar energy collector;
- Highly efficient due to specific turbine design, and also use of a new durable photovoltaic (PV) thin film;
- Both elements of the system are integrated by using software to measure the energy flow and to increase synergy between the wind and solar elements;
- Whenever the wind ceased, the solar collection intensify;
- Whenever the sky is cloudy, the wind system become dominant.

Subject Matter of the Imaginative “Smart Turbine” Licensing Agreement

Patent 1 (Turbine)	Patent 2 (Integration System)	Patent 3 (Thin Film)
1. Claim	1. Claim	1. Claim
2. Claim	2. Claim	2. Claim
3. Claim	3. Claim	3. Claim
4. Claim	4. Claim	4. Claim
5. Claim	5. Claim	5. Claim
6. Claim	6. Claim	6. Claim
7. Claim	7. Claim	7. Claim

Ind. design

Copyright
(Software, Schematics, Documentation)

Trade Secrets
Know-how

Trademark

I. What the Licensee Wants to License IN

Patent 2 (Integration System)
1. Claim
2. Claim
3. Claim
4. Claim
5. Claim
6. Claim
7. Claim

Patent 3 (Thin Film)
1. Claim
2. Claim
3. Claim
4. Claim
5. Claim
6. Claim
7. Claim

Copyright
(Software, Schematics, Documentation)

Trade Secrets
Know-how

Key Terms - Scope: What can you do with it?

- Variety of options:
- Exclusive – Non Exclusive (the price will not be the same, even for the same subject matter!!)
- Time – longer legal and economic life, higher price;
- Territory - worldwide is more valuable, if you have an adequate protection;
- Field of Use – specific field or all?
- Right to Sublicense
- Use of Know – How – very valuable.
- **The scope of the rights will influence significantly the price!**

Key Terms – IV. Upgrades and Maintenance: What will happen with it in the future?

- "Grant back" – very important and valuable non – monetary compensation ;
- Additional services – training and other support;
- Responsibilities and Guaranties of Parties – licensor that takes responsibility to enforce the IP, licensee that will monitor potential infringement of IP, guaranties for the quality of the product etc…

Key Terms – III. Financial Terms

- Forms of Payment
  - Lump Sum
  - Upfront payment
  - Installment payment
  - Royalty Rates
  - Combination

Constructing a Price

Objective Elements - influencing the price, measurable

- Value of Technology
- Key Terms Negotiated
- Financial Situation of Licensee – objective, if licensee can afford to pay !

Subjective Element

- How important this technology is for Licensee in the current context? Very Important for Price!

Constructing a Price

- Depends on your business objective
  - Creating a long term research collaboration?
  - Desperately in need for up front payment NOW!
  - Continuing royalty rates flow?

  Structure of the Payment
  - Higher upfront payment – reasonable lower royalties rate;
  - Higher instalment payments – in balance with RR.

Conclusions

- Constructing the price depends on objective and subjective elements;
- The “whole picture” has to be taken into consideration – technology, key terms, context and interest of other party, to create more or less accurate price;
- Experience is essential.

Thank you

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