Innovation, Intellectual property and Financing

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Partially Adopted by IP4INNO II
“Knowledge to market”

Italy  Spain  Slovenia  Poland  Hungary  Czech Republic  Latvia
Estonia  Lithuania  Bulgaria  Belgium

Romania  Greece  Cyprus  Malta  Albania  Tunisia  Argentina  Dominican Republic  Haiti  India  Usa....
“Knowledge to market”

The dimension where this process takes place is regional...
Knowledge economy

Pre-Industrial Era 1

Knowledge

Capital

Labour

Industrial Era 2

Knowledge

Capital

Labour

Knowledge Driven New Economy 3

Knowledge

Capital

Labour
Innovation ～ R&D; information technology, technology development; invention, knowledge, talent ....
It seems that the efforts, to reduce to a single definition a domain so vast such as the innovation, look like the history of the “Blind men and the elephant”…
The innovation is based on the use of the explicit knowledge (codified) and tacit knowledge (not codified and not transmitted), ability and expertise gained through learning by doing...

Intellectual Capital

... Learning is an experience; everything else is just information.

Albert Einstein
Why does finance have to do with Innovation and intellectual Capital?

- It costs money to develop knowledge based solutions
- Most people do not have this money in their pocket so they have to raise it
… so innovation process

IDEAS
- Analysis of similar products/tech

DEVELOPMENT
- Technical development
- Commercial development, marketing

IMPLEMENTATION
- Target Market
- Valorisation - marketing

FEED-BACK
- Prior art
- Novelty search
- Patents, designs, trade marks
- Licensing; Assignment
- Company creation....
IP Financing Lifecycle

- Grants <€50k
- Friends, Family and Founders <€50k
- Technology Transfer Offices <€50k
- Net Cash Flow
- Basic Research
- Applied Research
- Patent Filing & Prosecution
- Proof of Concept
- Development - Prototype
- Development - Working Prototype
- Venture Capital/ Private Equity €2-€25M
- Bank Lenders €250k+
- Early Stage Venture Capital €500k-€2M
- Angel Investors <€50-€500k
- Founding Team
- IDEAS
- DEVELOPMENT
- IMPLEMENTATION
- FEED-BACK

Valley of Death
Early stage – high risks

- According to a study, on average it takes starting 3000 raw ideas to make 1 economically profitable new product.

- Same study claims, on average 4 to 100 completed R&D projects originate one commercial success.

- Highest project mortality is at earlier stages.
To identify the proper exploitation model (equity based model or licensed based model) the following topics should be taken into consideration: the market potentials, skills and expectations of the knowledge owner.

An error in the exploitation model result of the research can lead to frustration, do not allow the full capitalization of the knowledge produced.
Knowledge Intensive Companies (KICs)

KICs are small in numbers but cover a critical role

- strongly affecting employment
- playing an increasingly active part in Global Markets and Value Chains: initiators
A matter of culture:
Awareness raising  Scouting  Business shaping  Start up  Acceleration!
Knowledge Intensive companies

- Employment: in USA young companies generated roughly 2/3 of job creation, and fast growing young firms (less than 1 percent of all companies) generate around 10% of new jobs in any given year (source Reports of Kauffman Foundation)

- Dynamism of the economy: Nokia alone has changed Finland physiognomy and perception

- 75% of Fortune 500 did not exist 25 years ago
Main “issue”

Research (knowledge) + Finance = Innovation ?

What are the ways and means to enhance cooperation between research and finance in order to efficiently support innovation?

V/S

What are the ways and means to enhance cooperation between entrepreneurs, research(ers) and finance .....?
Source: Innovation Union Scoreboard 2010

www.meta-group.com
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It is important to understand that all forms of finance do not have the same aims.

Motivations, expectations and criteria of different funding parties will vary according both to the life cycle of the business idea and the related level of risk perceived.

This explains the Anglo-Saxon expression « All money is not the same ». 
Entrepreneurs need to have an understanding of the type of finance fitting best to the position of the enterprise in its life cycle.

The enterprise finance market can be divided in 5 segments:

- I Initial and unorthodox sources of funding;
- II Equity;
- III Debt finance;
- IV Combination of equity and debt
- V Public Finance
FINANCIAL CYCLE

Expansion

Second round
10/12 mio€

Expansion
Capital
10/50 mio€

Later stage (Venture Capitalist)

Pre-Seed
>0,5 mio€

Start up
5/10 mio€

Pre-Seed
>0,5 mio€

Seed
2/4 mio€

Seed
2/4 mio€

Early stage (Proof of concept funds, BAs, Seed Funds, Venture Capitalist)

Prototyping And product development

Commercial-scale manuf. And sales

Structuring commercial channels

Continuous ideas/concepts/products innovation

Company established but not invoicing

Business plan

Company established but not invoicing

Making Profits

Building up turnover

Equity risk capital

“Knowledge to Market”

Company life-cycle

Pre-business plan

Identification of Market potential

Scope
Financial tools (early stage financing) for knowledge based start ups

- Proof of concept funds
- Business Angels
- Seed funds
Early stage investors – evaluation approach

Proof of concept

- Innovativeness (+)
- IPR - Valorisation of research results
- Entrepreneurial spirit
Early stage investors – evaluation approach

Business angels

- Atmosphere of trust between individuals and positive feeling, confidence (+)
- Possibility of hands on intervention
- Credible business plan in the eyes of the Business Angel
- Availability of exit route
- Return on investment (capital gain)
Early Stage Risk Capital

Source: META Group
Early stage investors – evaluation approach

Seed capital funds

- Team (+)
- Clear Business model
- Intellectual capital
- Growth potential (High) - international dimension of market
- Availability of exit route
- Return on investment (capital gain)
IC Readiness of intangibles in KICs

What, we, investors look for is the intellectual capital (explicit + tacit knowledge) strategy:

- Monitoring of competitive products/technologies/patents
- Correctly employing the legal tools in protecting products/technologies and know how
- Ensuring key resources (including people) are available, valorised and protected

IP protection will augment early stage investors’ interests by providing further, strong, guarantees on future returns on investments!
Approaches in valuation of IP

IP valuation in seed capital deals

Case studies in high-growth sectors
IP valuation: why & What do we Evaluate

Why: Because I.P. could be significant element of market competition

What:
- Patents and utility models
- Trade Marks and design
- Copyright
- Know How & other unregistered I.P.
When Valuing Intangible Assets?

- Sale or license of patents (and related Know-How)
- Bank loan or financing secured by intangible assets
- Mergers and acquisitions
- Joint-venture creation and company’s valuation
- Equity investments
- Reward researchers
- ....
What to be considered

1. People
2. Market
3. Products
4. Technology
5. Legal
6. Buyer/seller
People

- Entrepreneurial spirit/Commitment
- Expectations/objectives
- Expertise/know how
The Market

- Does the IP owner know the market (market potentials, demand need, competitors...)?
- Is the IP owner familiar with the target markets?
- Does the owner know how to access the target markets?
- Is he/she able to face effectively the new situation?
The Product

- Does the potential products address to a market need?
- Distinctive elements?
- Does the IP owner the needed competences for implementing/manufacturing those products?
- Does he/she have a reputation for it?
- To what extend the new products affect our firm? (for Smes)
The Technology Characteristics

- To what degree is the technology developed
- Scalability?
- Are we dealing with a break through Technology or not? Is Know how needed?
- Is buyers infrastructure & Equipment related to the new technical needs
Type of Technology and Know how

- Is the patent innovative or an improvement?
- Product or process?
- What know how is needed to further turning the knowledge into a product?
- R&D costs involved (past) and future?
- Testing phase?
Legal

- Other I.P. involved? (Freedom to operate)
- Expiration date of I.P.’s
- Are the I.P.’s already granted? In Which Territory?
- Are the I.P.’s independent or not?
- Know how protection? Key people?
Buyer/seller ability

Exchanging or acquiring a license means a long cooperation between licensor and licensee during the “transition” period are the companies able to communicate and cooperate adequately?
Fair Value - the first brick

The price that property changes hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell, and both having reasonable knowledge of relevant facts.
Overview of the Different Methods

Cost-based

Market-based

Income-based

“Knowledge to Market”
IP Valuation Methods

- **Cost based methods**
- **Income based methods**
- **Market based methods**
Cost-Based Methods

a) Capitalization of Historical Costs

- How much was spent to develop technology

- Problems:
  - R&D costs are difficult to count (Which personal costs? over which period of time? Including failures?)
  - How to take into account inflation
  - Cost ≠ patent value
Cost-Based Methods

b) Replication / Replacement Costs

- Value of total costs to replace or re-create similar technology that may already exist

- Value paid \( \leq \) cost of re-developing it

- For the buyer:
  - avoids development effort
  - minimises risk
  - Avoids costs related to a delayed market entry
Income-Based Methods

Definition

\[
\text{IP Value} = \text{Ability of Technology to Generate Future Income}
\]

Fair Value of Patent = Present Value of the expected future income (cash flow) stream

Three key parameters:

1. Amount of the income stream
2. Duration of the income stream
3. Risk associated with the realization of the income

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Market-Based Methods

**Definition:** value is based on the transactions of other purchasers & sellers in the marketplace

- Licensee/buyer is not willing to pay more than others have paid for similar IPRs
- Fair value of a patent = Price paid in comparable, “arm’s length” transactions
○ Approaches in valuation of IP

○ IP valuation in seed capital deals

○ Case studies in high-growth sectors
Intellectual capital Vs Intellectual property
o Intellectual capital (IC) due diligence is part of a comprehensive due diligence audit

o When done properly, IC due diligence provides detailed information that may affect the price or other key elements of a proposed transaction or even aborting the further consideration of the proposed transaction.

o When done on behalf of a third party is called IC audit
(i) to assess the risk of entering into the transaction by obtaining sufficient information about the business operations and competitive position of the Target before proceeding with the transaction

(ii) to assist in establishing (and negotiating) the purchase price

(iii) to determine the that the Buyer may require of the Target in the transaction agreement.
Terms & Definitions

**Equity** means ownership interest in a company, represented by the shares issued to investors;

**Quasi-equity** investment instruments’ means instruments whose return for the holder (investor/ lender) is predominantly based on the profits or losses of the underlying target company, are unsecured in the event of default.
Terms & Definitions

**Risk capital** means equity and quasi-equity financing to companies during their early-growth stages (seed, start-up and expansion phases), including informal investment by business angels, venture capital and alternative stock markets specialized in SMEs including high-growth companies.
Terms & Definitions

**Early-stage capital** means seed and start-up capital;

**Seed capital** means financing provided to study, assess and develop an initial concept, preceding the start-up phase;

**Start-up capital** means financing provided to companies, which have not sold their product or service commercially and are not yet generating a profit, for product development and initial marketing;
Terms & Definitions

**Expansion capital** means financing provided for the growth and expansion of a company, which may or may not break even or trade profitably, for the purposes of increasing production capacity, market or product development or the provision of additional working capital;

Source: Community Guidelines -2006/C 194/02
Terms & Definitions

Venture capital means investment in unquoted (not listed on the stock exchange) companies by investment funds (venture capital funds) that, acting as principals, manage individual, institutional or in-house money and includes early-stage and expansion financing, but not replacement finance and buy-outs;

Buyout means the purchase of at least a controlling percentage of a company's equity from the current shareholders to take over its assets and operations through negotiation or a tender offer;
Thank you for the attention

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