Open Innovation: An Intellectual Property Rights Perspective

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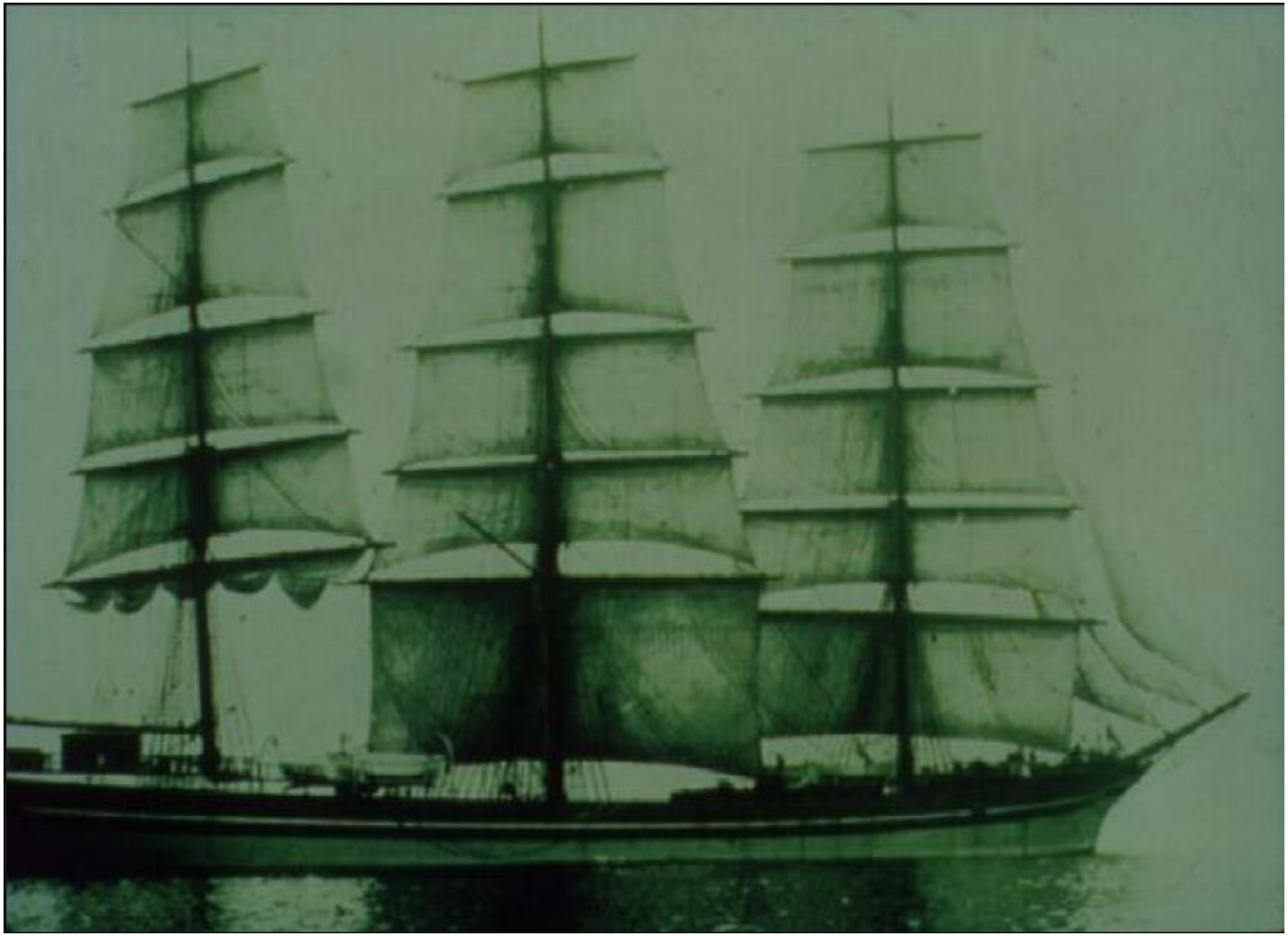
Agenda

- Why Innovate?
- Definitions
  - Open Innovation
  - Startup Company
- Thought Exercise
- What is the Opportunity?
- Building Open Innovation Ecosystem
  - Open Innovation Paradigm
  - What is the Opportunity?
- Navigating Intellectual Property Rights

Why Innovate?



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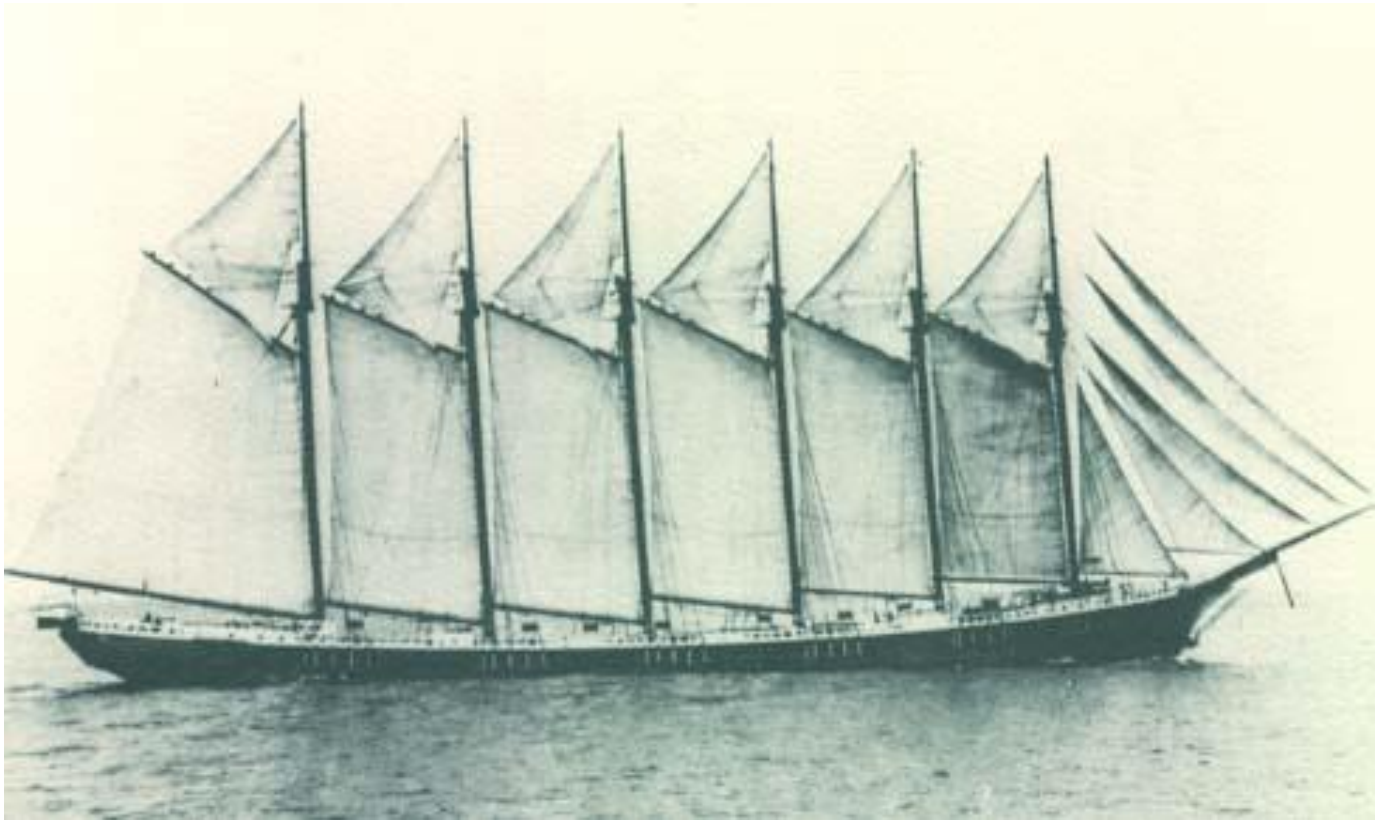

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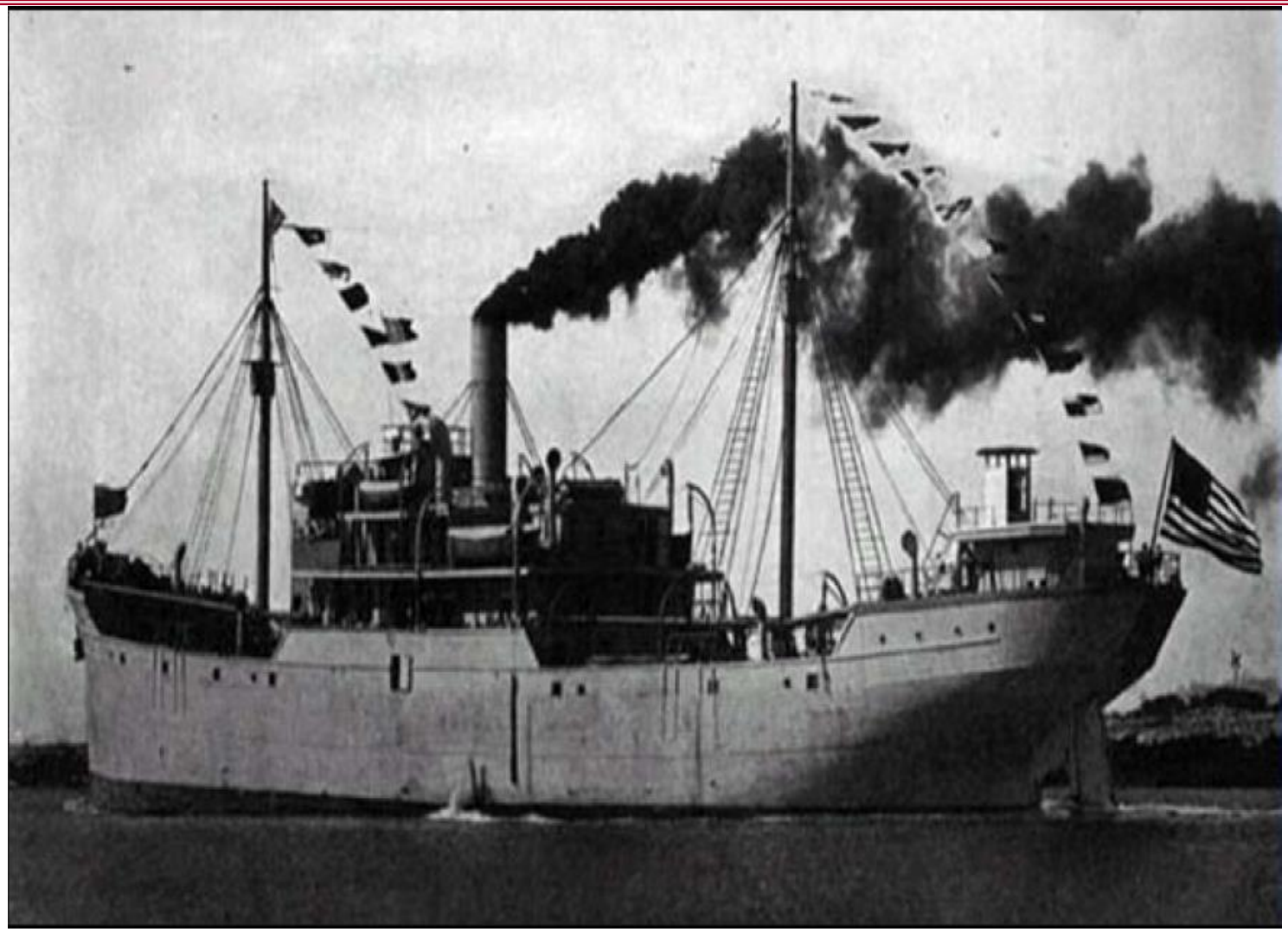


Open Innovation Paradigm

"Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. This paradigm assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology."

Dr. Henry Chesbrough, *Open Innovation: Researching a New Paradigm.* Oxford University Press (2006)

Open Innovation

- Rethinking Research and Development
- Re-Evaluating Value Chain Landscape
  - Current Market
  - New Markets
  - Technology Insourcing
  - Technology Spin-offs
  - Licensing
  - Other Opportunities

Open Innovation

- Rethinking Research and Development - R&D Open System
  - Employing Internal and External Technology
  - Use of Internal and External Ideas to Create Value
  - External Ideas and External Paths to Market on the Same Level of Importance as that Reserved for Internal Ideas and Paths to Market

Open Innovation: Startup Mode

"A startup company or startup is a company, a partnership, or temporary organization designed to search for a repeatable and scalable business model."

Steve Blank

What is the Opportunity?

- Developing Repeatable and Scalable Business Models That:
  - Re-evaluate the Value Chain Landscape
  - Employ Internal and External Technology
  - Generate Business Opportunities
    - Technology Insourcing and Outsourcing
    - Technology Spin-offs
    - IP Assets
    - Licensing
    - Other Opportunities

How Much is it Worth?

$1,000

In Roy We Trust

$1,000

How Much is it Worth?

How Much is it Worth?

- To a scrap metals trader (seller) about $2,500
  - $1/kg (950 kg)

- To a collector (buyer)…More information
  - 1954 375 Ferrari Plus Grand Prix Roadster
  - one of only six made
  - one of four that exist

How Much is it Worth?

$15,000,000

What is the Opportunity?

- Developing Repeatable and Scalable Business Models

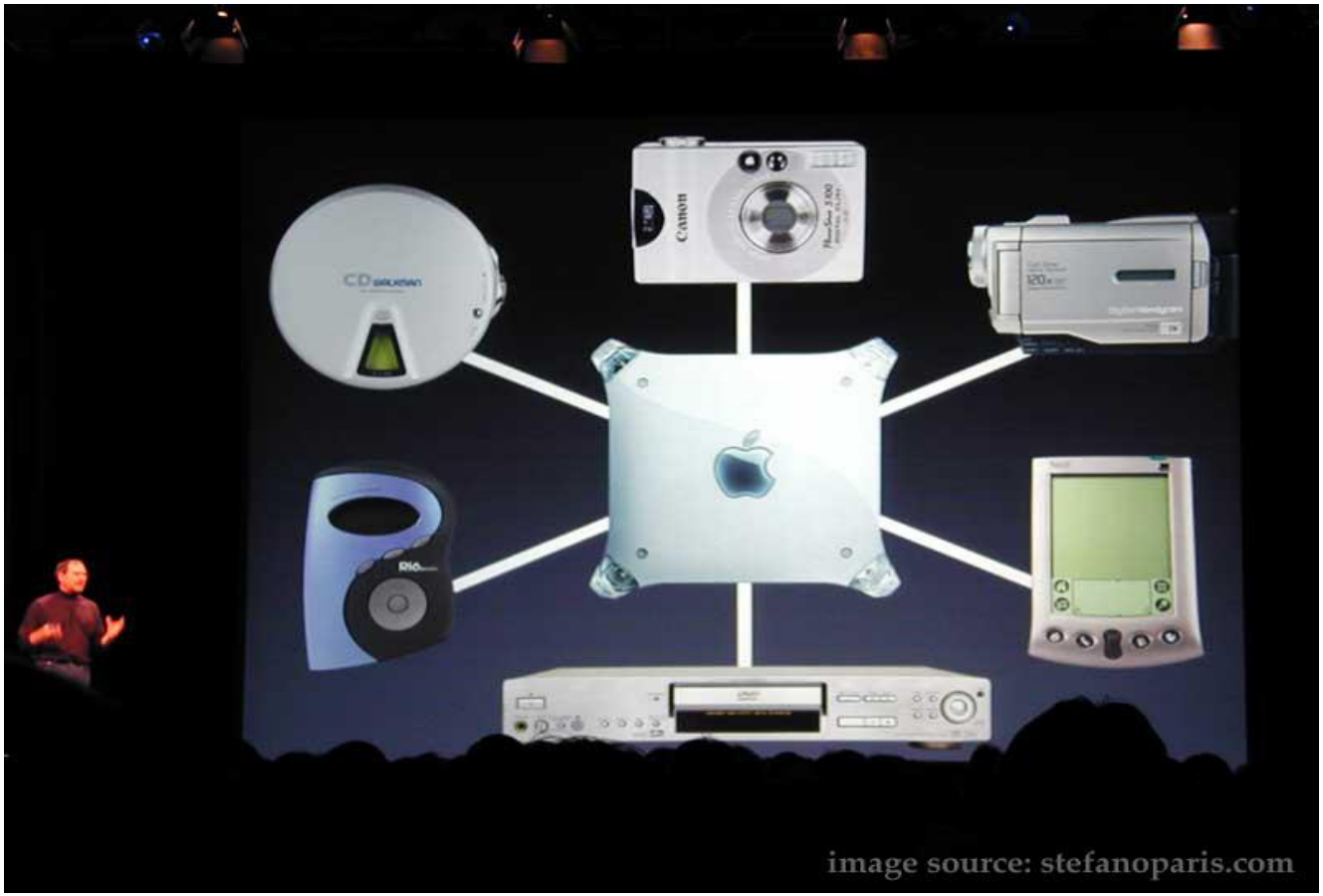
What is the Opportunity?

- Think Systematically
  - Concept
  - Business Model
  - System

Edison's Electric Light System

- Think Systematically
  - Concept - Electrical system that would be successful commercially
  - Business Model - Conditioned by cost analysis
  - System – Demonstrated system in a foothold market that he secured by working with legislators and regulators
  - **Edison combined technology, business model, market adoption and policy to make his system work.**

The Digital Hub Strategy (January 2001)



Building Open Innovation Ecosystems

- Growth Blueprint that details sources of growth, goals, target portfolio mix, guidelines and boundaries, and strategic opportunity areas

*David Duncan, INNOSIGHT

Building Open Innovation Ecosystems

- Production Systems that transform the raw materials for innovation-driven growth – ideas – into new opportunities for growth

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Building Open Innovation Ecosystems

- Governance and Controls that guide strategic resource allocation and help the factory to function at scale

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Building Open Innovation Ecosystems

- Leadership, Talent, and Culture that feature the right people, in the right roles, with the right skills, doing and saying the right things

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Building Open Innovation Ecosystems

Best Practiced for Successful Collaborations*

- Practice 1: Define the Project's Strategic Context
- Practice 2: Select Knowledge Acquisition & Dissemination Project Managers
- Practice 3: Explain How the Collaboration can Help Your Enterprise

* Pertuzé et al., Sloan Management Review 51 (4), 83-90 (2010).

Building Open Innovation Ecosystems

Best Practiced for Successful Collaborations*

- Practice 4: Invest in Long-Term Relationships
- Practice 5: Establish Strong Communication with Collaborators and Partners
- Practice 6: Build Broad Awareness of the Project Within Your Enterprise
- Practice 7: Support the Work Internally Both During and After the Contract

* Pertuzé et al., Sloan Management Review 51 (4), 83-90 (2010).

What is the Opportunity?

- IP Creations as an Open System
- Developing Repeatable and Scalable Business Models
- The Business Model acts as the Prime Directive
  - Guiding Principle for Evaluating Opportunities (Value Creation)
  - Guiding Principle for Value Capture

What is the Opportunity?

1. Sustaining Innovations to improve on existing products
2. Disruptive Innovations that bring high-end services to mass markets
3. Transformative Innovations based on performance breakthroughs
4. Commercial Innovations to enhance the consumer experience

*http://www.innosight.com/impact-stories/procter-and-gamble-growth-factory-case-study.cfm

Break

Agenda

- Evaluating Potential Assets
- Developing Assets
- Ownership and Control of Assets

What is the Opportunity?

- Developing IP Assets?
  - Patents
  - Trademarks/Trade Dress
  - Trade Secrets
  - Copyrights
  - Other intangible assets
    - Know-how
    - Business relationships

IP assets are often bundled

Who Evaluates Opportunity?

- Angel and Venture Capital (VC) Investors
  - Large number of high-risk investments in early stage technology
  - Broad perspective of market
- Corporations
  - Low number of targeted low-risk investments
  - Deep understand of market and technology
  - Evaluation of internally and externally generated opportunities
    - Patent based financing (Example – Fortress Investment Group)
- Governments (Federal/State)
  - Federal entities
  - State entities
- Organizations
  - Open standards based technology

Who Evaluates Opportunity?
Healthcare/Medical Device Industry Example

- Angel and Venture Capital Investors
  - Early stage technology
  - Prototyping
  - Pre-clinical and possible clinical/regulatory approval process (Europe/US)
  - Reimbursement (coverage, coding, and payment under Affordable Care Act)
- Corporations
  - Acquisition of proven/low-risk external technology
  - Development of internal technology (R&D)
- Governments (Federal/State)
  - Federal - national perspective
    - Military based grants
    - Institutes (National Institutes of Health (NIH))
    - Regulations (FDA)/Reimbursement (Medicare)
  - States
    - Public university system (local perspective)

Developing Assets: Should It Be Protected Scoring?

		Point Value	Score
1.	STATE OF COMMERCIAL USE	15 Max	
	(A) The invention will be in use within 18 months.	15	
	(B) The invention has some probability (>10%) of being in use in 18 months.	10	
	(D) The product may be used in the foreseeable future (< few years).	5	
	(E) Product will not be used in the foreseeable future.	0	
2.	SIZE OF MARKET	20 Max	
	(A) There is large market size (used universally/reoccurring problem).	20	
	(B) There is a moderate market size.	15	
	(C) There is a small market size (infrequent use).	5	
3.	CORE TECHNOLOGY	10 Max	
	(A) The invention probably be a core technology in an industry.	10	
	(B) The invention may be a core technology in an industry.	5	
	(C) The invention will not be core technology in an industry.	0	
4.	MARKET LIFE OF INVENTION	15 Max	
	(A) The invention will probably have market life > 5 yrs.	15	
	(B) The invention will probably have market life 3-5 yrs.	10	
	(C) The invention will probably have market life < 3 yrs.	5	
5.	POTENTIAL FOR INDUSTRY GROWTH	15 Max	
	(A) The invention has many applications.	15	
	(B) The invention has some applications.	10	
	(C) The invention has few applications.	5	
6.	ALTERNATIVES TO INVENTIONS	12 Max	
	(A) There are no reasonable alternatives.	12	
	(B) There are few reasonable alternatives.	5	
	(C) There are many reasonable alternatives.	0	

Total _____

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Developing Assets: Should It Be Protected ? Scoring Continued

- State of Commercial Use
  - The invention will be in use within a short period of time / in the foreseeable future / not in the foreseeable future
- Size of Market
  - Large market size (used universally / reoccurring problem) / moderate market / small market size (infrequent use)
- Core Technology/Broad Spectrum Technology
  - The invention **is** a core technology / **possibly** a core technology / **not** a core technology

Developing Assets: Should It Be Protected? Scoring Continued

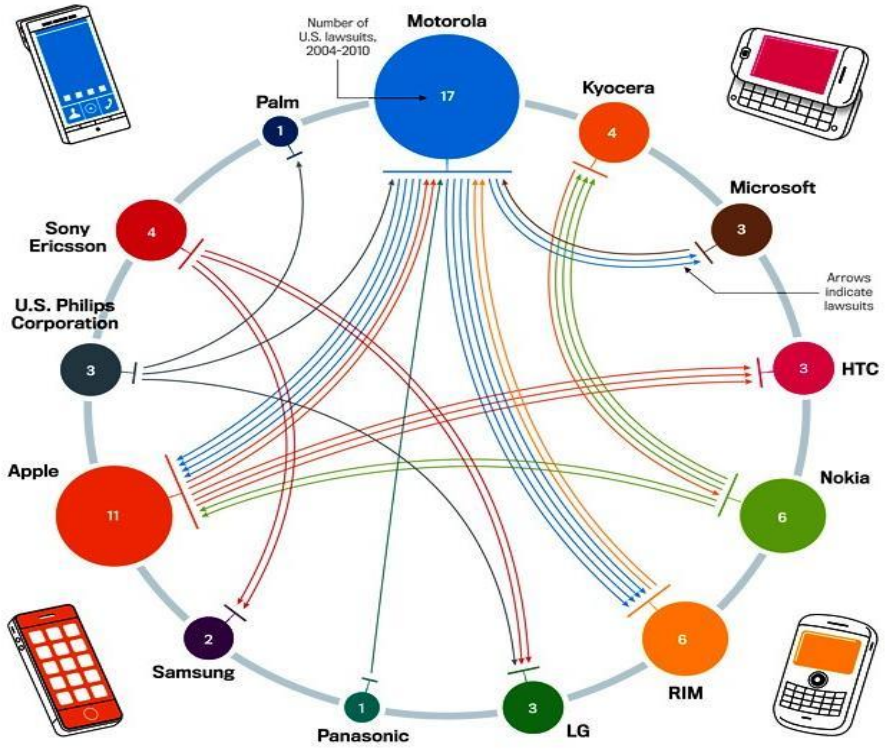
- Market Life of Invention
  - The invention will probably have a specific market life
- Potential for Industry Growth
  - The invention has many applications / some applications / few applications
- Alternative to Invention
  - There are no reasonable alternatives / a few reasonable alternatives / many reasonable alternatives

Developing Assets: Should It Be Protected?

- Due Diligence for Identified Assets
  - Ownership
  - Patentability
    - Statutory Subject matter - 35 USC 101 analysis
    - Available patent protection - 35 USC 102/103 analysis
      - Prior art landscape analysis
  - Freedom to operate/market study
    - Develop and sell products
    - Cross-licensing opportunities
    - Litigation (defensive patent position)

Developing Assets: Should It Be Protected?

Market Study - Look at the Value Chain



Developing Assets: Should It Be Protected?

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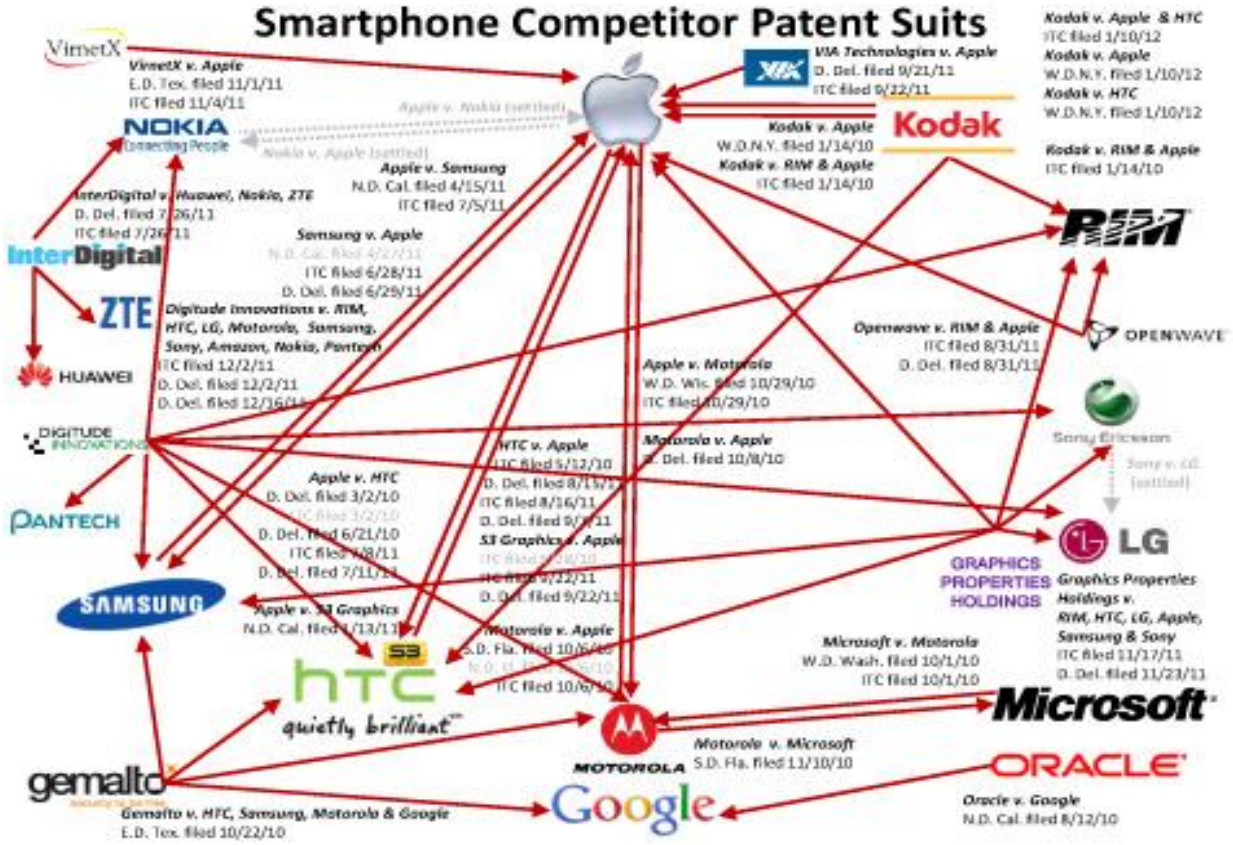

Developing Assets: Should It Be Protected?

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Developing Assets: Should It Be Protected? Software Industry Example

Example 1

- Software Developer
  - Informs management of technology to be evaluated for protection
- Management
  - Decides that technology should be protected
  - File patent application(s)
- Technology Protected!

Developing Assets: Should It Be Protected? Software Industry Example

Example 2

- Software Developer
  - Hates patents!
  - Does not disclose inventions to management
- Management
  - Unable to evaluate technology
  - Unable to file patent application(s)
- No Patent Protection!

Developing Assets: Should It Be Protected? Software Industry Example

Example 3

- Software Developer for Financial modeling
  - Informs company of new financial modeling algorithms/systems for possible patent protection
- Legal
  - Evaluate technology and enforceability (e.g., detect infringement)
  - Evaluate whether new technology protectable under *Alice Corp. v. CLS Bank (2014)*
    - (1) Is claim directed to abstract idea?
    - (2) If yes to (1), is a combination of the claims elements sufficient to ensure that the claim amounts to more than the abstract idea itself? If no, the claim is not directed
- Trade Secret Protection or Patent Protection

Developing Assets: Should It Be Protected? Software Industry

- Information must reach decision maker
  - Formal process with each level of employees to ensure assets are properly considered
    - Software developer and programmers
      - Create assets
    - Project managers
      - Monitor development of assets
    - Decision makers
      - Determines whether and how to protect assets
- Promoting protection of assets
  - Company policies that encourage protection of IP
  - Employment agreements

Developing Assets: Should It Be Protected?

- Transaction
  - Licensing (standard-essential patent)
  - Acquisition (offensive or defensive position)
  - IP based financing
- Joint Ventures/Strategic Partnerships
  - Payments/Ownership (example, Zeltiq/Massachusetts General Hospital)
  - Combat Non Practicing Entities – Google (LOT Network – 2015)
- Financial Reporting
  - Public financial statements (SEC filings)
- Litigation
  - Damages (design v. utility patents) and Injunction
  - decrease in litigation due to Ebay (injunction), Octane Fitness (attorney fees), and post grant proceedings (IPR, CBM, PGR)
- Bankruptcy
  - Dispose of assets/reorganization (distressed assets lose value)

Developing Assets: How Much is it Worth?

- Why are we valuing the asset?
- What is the asset?
- How will the asset be used?
- Who will buy the asset?
- Potential attacks on assets?
- Examples
  - Investors (Angels/VCs/Corporate) – Foundry/Twelve $35 million (2015)
  - Acquisitions - Google/Nest for $3.2 Billion
  - Monetization
    - IP backed financing - Fortress/Inventergy $10 million (2014)
  - Litigation/partnerships/licensing
    - Medtronic/Edwards litigation – > $1 billion (May 2014) license
    - Edwards subsequently buys CardiAQ $350 million (July 2015)

Ownership and Control

- Fruits of the Collaboration-Who owns what?
  - Joint ownership
  - Licensor/licensee
  - Donated to public/disclaimed (e.g., Tesla)
- Who controls IP/technology?
  - Intellectual Property
    - Patent management
      - Where to file and what to protect
      - Day to day decisions
    - How to protect interest of each party?
  - Financial burden (R&D, IP costs, etc.)

Ownership and Control
Long-term Planning based on 20 Year Patent Term

- Marketplace changes
  - Technology driven (mobile technology)
  - Consumer driven (social media)
  - Government (healthcare industry)
- Planning for marketplace changes
  - Ownership and control of improvements (Agreements)
  - How do marketplace changes affect payments (royalty rates), fields of use, term of agreements?
  - How do advances in technology affect ownership and control?
- Planning for unforeseeable events
  - Opening innovation (patent pools, cross-licensing, standards)
  - Ability to acquire technology/IP (options)
    - License on Transfer Network – royalty-free license for patents that are sold to non-participants of LOT Network

Questions?

Open Innovation and Intellectual Property Rights

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