The new era of Innovation Management

Markus Heinen

24. November 2011
I. The new normal

II. A Holistic Approach to Innovation Mgmt

III. Objectives of an ‘Innovation Strategy’

IV. Open Innovation Management

V. IP Management

VI. Credentials and Services
I. The new normal

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The new normal...
Global structural shifts

Demography

9 bn people: Every second 5 people are born and 2 die – 1987: 5 bn people living on our planet; 1999: 6 bn; by the end of 2011: 7 bn; until 2045: 9 billion people...

50%: half of the world’s population will live in Asia..., Africa’s population will double,

Aging population: in 2015 more people are above 65 than under 15

Scarce resources

5% / 23%: Currently 5% of the population consume 23% of the world energy

4 billion people in areas with scarce water resources

40 years: If consumption strays on today’s level, oil will be still available for 40 years, gas for 60 years

Climate Change: until 2100 global climate could change by 1.1 to 6. degrees - according to different prognoses, sea levels will rise

2020: Latest since Fukushima incident: Alternatives to atomic energy needed, changed perception of this source of energy worldwide; renewable energy production shall make up to 20% of the whole energy production until 2020 within EU

Globalization

270%: Number of subsidiaries increased by almost 270% in last decade

Production of steel increased by 50% between 2000 and 2008

In emerging markets the demand for luxury goods increases constantly

...
New Global Players & Innovators*

- Nearly one-third of the world’s 1,000 largest public companies by market capitalization are now based in rapid-growth markets.
- Over the last five years, the average annual sales growth rate of the 150 companies from rapid-growth markets is almost three times higher than our developed market sample (17% versus 5%).
- The average operating margin of the companies from rapid-growth markets reached 24%, compared with 18% for the companies from developed markets.
- Asian companies play important role in developing new technologies reflected in patent application (but note: patents reveal only a strong focus on technology, not organizational innovation)

Top 20 EPO Applicants**

1. SIEMENS
2. PHILIPS
3. BASF
4. SAMSUNG
5. QUALCOMM
6. PANASONIC
7. ROBERT BOSCH
8. SONY
9. LG
10. BAYER
11. MITSUBISHI
12. ERICSSON
13. GENERAL ELECTRIC
14. RESEARCH IN MOTION
15. HOFFMANN-LA ROCHE
16. ALCATEL
17. HITACHI
18. HUAWEI
19. 3M
20. JOHNSON & JOHNSON

*Globalization 3.0 - Competing for growth, Ernst & Young, 2011
** EPO represents 42% of international patent applications
The new normal...
New types of entrepreneurs

Innovation distinguishes between a leader ...and a follower.

“Steve Jobs
Co-Founder of Apple and inventor of applications to computers, portable devices or user interfaces that revolutionized the market.

“Innovation and technology should be used to make services and products available to consumers at the bottom of the pyramid.”

“Ratan Tata
Chairman of TATA group; steering several business models (from Jaguar to Nano)

Move fast and break things.
Unless you are breaking stuff, you are not moving fast enough.”

“Mark Zuckerberg
Founder of Facebook

“Innovation and technology should be used to make services and products available to consumers at the bottom of the pyramid.”

Move fast and break things.
Unless you are breaking stuff, you are not moving fast enough.”
The new normal...

From pure technology focus to new business models

Technological Evolution never happens without frictions...

... but only sustainable business models will survive!
The new normal... 
... increases the relevance of an integrated Innovation Management

Why is it important?

- Innovation is found to be the most important characteristic associated with success. It is enabled by strategically aligned and fully integrated innovation management practices (Department of Trade and Industry UK, 2003)
- Out of 500 companies making up S&P’s 500 list in 1957, only 74 remained on the list through 1997 (based on Foster and Kaplan, 2002)
- ‘We assume that 50% of revenue in 5 years’ time must come from sources that do not exist today’ (Ernst & Young study Connecting Innovation to profit, 2010)
- 6% of UK companies generated 50% of the new jobs created between 2002 and 2008. These companies had one thing in common: they have set a strong focus on innovation. (NESTA 2009, The vital 6 per cent)

<table>
<thead>
<tr>
<th>Costs</th>
<th>Cash</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pains of increasing pressure to innovate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complex organizational challenges</td>
<td>Decreasing margins; new competitors in emerging markets</td>
<td>R&amp;D / Innovation Pipeline has to be filled</td>
</tr>
<tr>
<td>IP portfolio not optimal managed</td>
<td>Long Time-to-Market delays cash generation</td>
<td>New business models needed</td>
</tr>
<tr>
<td>Thin capital base, communication on innovation projects not stakeholder oriented</td>
<td>New market segments have to be developed</td>
<td>Lack of skilled personal</td>
</tr>
<tr>
<td>Lack of evaluation process for new ideas</td>
<td>Technological platforms efficiently used</td>
<td>Lack of experience in new technological fields</td>
</tr>
<tr>
<td>New product and service development increasingly complex</td>
<td>New business promotion processes / governmental support not optimally used</td>
<td>Organizational Change has to be managed</td>
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<tr>
<td>Application of licensing</td>
<td></td>
<td>Fast changing environmental conditions to be used as opportunities</td>
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Gains of implementing a holistic innovation management approach

- Structured process to evaluate organizational challenges of new business models
- Implementation of IP strategy & management
- Stakeholder-oriented communication
- Open Innovation practices used to optimize cost structure
- Improved transparency on costs and expected returns
- Structured approach to observe new market developments and integration in financial planning
- Shortened Time-to-Market
- Exploration of new market segments increasing margins
- Technological platforms efficiently used
- New business promotion optimally used
- Improved R&D / innovation pipeline
- New business models generated and evaluated
- Improved cultural culture to attract skilled personal
- Open Innovation used to gain technological expertise
- Organizational and environmental change used as opportunity

Affecting your company’s costs, cash and growth
Content

I. The new normal

II. A Holistic Approach to Innovation Mgmt

III. Objectives of an ‘Innovation Strategy’

IV. Open Innovation Management

V. IP Management

VI. Credentials and Services
A Holistic Approach to Innovation Management

1. Innovation Strategy
2. Business Model Innovation
3. Idea Management
4. Organization & Infrastructure
5. Open Innovation
6. Innovation Processes
7. Innovative Marketing
8. IP Management & Valuation
9. Innovation Controlling
A Holistic Approach to Innovation Management

The 9 Innovation Management Modules

1. Innovation Strategy
   Creation of growth strategies based on innovation activities to explore future business opportunities.

2. Business Model Innovation
   Delivering value in a new way by redefining how products or services are used or distributed.

3. Idea Management
   Idea Management initiates processes guided, structured processes to generate ideas to capture, evaluate, classify them and actively manage an idea/project portfolio.

4. Organization and Infrastructure
   Describes all organizational prerequisites needed to create an effective and efficient innovation environment.

5. Open Innovation
   Open Innovation is a targeted approach to use knowledge in- and outflows to accelerate innovation processes and to expand markets for new products and services.

6. Innovation Process
   The innovation process describes all downstream activities to transfer an invention to an innovation.

7. Marketing Innovation
   Marketing Innovation includes the development of new markets for new or existing products and services invented by exploring new distribution and communication channels.

8. IP Management & Valuation
   IP management and evaluation focuses on the active creation, protection and evaluation of intellectual property of a company. It includes patent, brand and licence management.

9. Innovation Controlling
   Comprises all activities, tools and methodologies that are relevant for planning, analyzing, evaluating and reporting of strategic and operational innovation-related activities/processes/information/structures; quantitative and qualitative performance measurement and assessment (aligned to the corporate strategy and integrated in the overall Corporate Controlling).
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Objectives of an ‘Innovation Strategy’
The magic triangle: Innovation Vision, Strategy and Goals

Vision
Where are we focusing our Innovation efforts?
Why are we pursuing innovation?

Goals
How specifically are we trying to execute on our Innovation Strategy and Vision?

Innovation Management

Strategy
What are we doing to try and realize our vision?
Objectives of an ‘Innovation Strategy’

Innovation Strategy Definition, Objectives and Tools

**Definition**

- Innovation Strategy is a unified approach to the process of innovation that keeps all activities aligned with the overall business objectives
- Innovation Strategy is a key, which is based on innovation vision and goals
- Innovation Strategy is about the Why?, What?, Where? and When? questions and need to be answered by How.

**Objectives**

The Innovation Strategy performs two vital roles:

- It provides a direct link with the organization’s corporate strategy
- It provides a framework and guidance within which to direct the organization’s innovation efforts

**Tools**

- CANVAS
- EY Holistic Innovation Framework
- Innovation Maturity Model
Objectives of an ‘Innovation Strategy’

The Innovation Maturity Model

A rapid assessment comprising all core innovation management ‘pillars’ is a first step in evaluating the innovation maturity and readiness.

Level 1

REACTIVE

Individual heroic action
No formal process
Focus on growth
Defensive, in response to external shocks

Level 2

STRUCTURED

Senior management makes innovation a priority
Formalize and structure innovation activities
Increase overall innovativeness
Dedicated resources

Level 3

IN CONTROL

Companywide use of innovation tools
Consciously designed process
Flow measures and forecasts
Robust portfolio with range of projects

Level 4

INTERNALIZED

Implemented in an end-to-end holistic approach

Level 5

CONTINUOUSLY IMPROVING

Innovation culture drives business

Based on Braden Kelley, ‘Stoking your innovation bonfire’
Objectives of an ‘Innovation Strategy’
Business Model Strategies Define the Dominating Type of Innovation

**Implications:**
Different products and services with different underlying business model strategies may co-exist within an organization but need to be managed carefully.
The Business Model Canvas is an example of a structured and comprehensive way to design your innovation management system. The framework considers intangible goods and intangible competencies.
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Open Innovation Management
Definition and Objectives of Open Innovation

“The smartest people always work for someone else”

*Bill Joy, co-founder of SUN Microsystems*

Definition of Open Innovation

Open Innovation is a structured approach to identify, create and leverage internal and external 'value networks' of an enterprise.

Objectives

- Using novel ways to create value
- Establishing new innovation capabilities
Open Innovation Management
The Shift to Collaborative Networks

Benefits
- Access to external unique ideas, assets, data and capabilities
- Use of lacking capabilities and leveraging each partner’s capabilities
- Taking advantage of creativity and out-of-the-box thinking of often untapped contributors
- Improvement of efficiency and effectiveness of innovation processes
- Realization of measurable value by integrating external ideas

Challenges
- Precise and sustainable innovation strategy
- Change of the culture to live open innovation
- Structured identification, evaluation and concentration to select the right ideas, to allocate resources appropriately
- Prepared organization within the company to be able to handle open innovation
- More flexible use of IP
Open Innovation Management
Crowd sourcing - distributed problem solving

”Growth and innovation are rooted in the division of labour“

Adam Smith

Benefits:
- In rapidly changing environments and shortened product life cycles, externally sourcing tasks to an outside group (crowd) can accelerate the design and development process!
- Crowdsourcing moreover offers the opportunity to evaluate the best ideas and find new ways of distribution and commercialization.

Example:
”Proudly developed elsewhere“

Revenues
- Closed Innovation Model
- Open Innovation Business Model

Costs
- Manufacturing costs
- Int.+ext. R&D costs

New types of revenues
- New markets
- Spin-Offs
- Licensing

Higher innovation costs

P&G

connect + develop™
Open Innovation Management
Intermediaries as crowd sourcing platforms

The multitude of intermediaries (crowd sourcing platforms) reveals that there is a great need for distributed problem solving:

Open Innovation is highly profitable for organizations:

Costs in average for the solution seeker (per challenge): $60,000
Value generated: $10,300,000 → ROI: 2175%
Open Innovation Management
Two Strategies to pursue Open Innovation

Based on Diener and Pillar (2010)
Open Innovation Management
Business Innovation platforms: Financing/developing innovations

Differences in the 4 stages

- Innovation maturity
- Type of innovation
- Risk readiness
- Size of the investment

<table>
<thead>
<tr>
<th>Risk readiness</th>
<th>Type of innovation</th>
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</thead>
<tbody>
<tr>
<td>low</td>
<td>Core Business</td>
</tr>
<tr>
<td>high</td>
<td>Corporate Venture Capital</td>
</tr>
</tbody>
</table>

Small Cap Corporate Fund
Corporate Venture Capital
Incubator (intern/extern)
Core Business
Crowd sourcing
Open Innovation Management
Idea Valuation and Stage-Gate Process

Open Innovation Approach
- Internal ideas
- External ideas

Idea portfolio

Ideation Process
- Platform Categorization
- Idea valuation

4-stages platform concept
- Core Business
- Small Cap Corporate Fund
- Corporate Venture Capital
- Incubator (internal/external)

Stage-Gate Process & Business Modeling
- Controlling FI-KPIs Reports
- Reporting

Support Activities
- Infrastructure
- Human Resource Management
- Technology Development
- Procurement

Primary Activities
- Inbound Logistics
- Operations
- Outbound Logistics
- Marketing and Sales
- Service

Value Chain

Porter (1985)

Perspective
- Financial perspective
- Customer perspective
- Partner perspective
- Employee perspective
- Internal process perspective

Plan vs. Status
- Performance measurement
- Performance improvement
- Performance strategy

Jahresziel
- (Plan)
- Ist
- Delta
- Prognose
- Ziel
- Handlungsanempfehlung

Daten-Systeme (z.B. DWH)
- Analysen/Einschätzungen

Grundstruktur eines monatlichen Reportings (Bsp.)
### Open Innovation Management

**Value added of the different Business Innovation platforms**

<table>
<thead>
<tr>
<th>Example Business Innovations-Platforms:</th>
<th>Incubator - internally -</th>
<th>Incubator - externally -</th>
<th>CVC</th>
<th>Small Cap Corp. Fund</th>
<th>R&amp;D - Core Business -</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovation Source</strong></td>
<td>internally</td>
<td>externally</td>
<td>internally &amp; externally</td>
<td>internally &amp; externally</td>
<td>internally</td>
</tr>
<tr>
<td><strong>Goal</strong></td>
<td>Further development of former innovation management approaches</td>
<td>External development of former innovation management approaches</td>
<td>Development of disruptive or risk-oriented innovations in start-ups</td>
<td>Implementation of new business models</td>
<td>Internal development of proven innovation concepts</td>
</tr>
<tr>
<td><strong>platform concept</strong></td>
<td>internal, proprietary development platforms</td>
<td>Externally developed platforms</td>
<td>External investment platform</td>
<td>external participation platform</td>
<td>Internally integrated development platform</td>
</tr>
<tr>
<td><strong>Investment concept</strong></td>
<td>Seed-Capital - 100% EK -</td>
<td>Seed-Capital - Pro rata-</td>
<td>Development of investment concept together with shareholders</td>
<td>Joint Ventures (minority or majority participation)</td>
<td>Self-financing (budget)</td>
</tr>
<tr>
<td><strong>IP Status</strong></td>
<td>IP Ownership</td>
<td>IP purchase option/ participation option</td>
<td>Privileged IP utilization/ M&amp;A option</td>
<td>Cooperative IP utilization</td>
<td>IP Ownership</td>
</tr>
</tbody>
</table>

*Note: The table is not fully transcribed due to the limitations of the text extraction process.*

*Source: Ernst & Young*
Open Innovation Management
Examples how Open Innovation works in practice

Example of an emerging health ecosystem

Open Innovation at P&G
Open Innovation Management
Open Innovation Guiding Principles to Success

1. Detailed external actor landscape as a planning and navigation tool supporting internal competencies and resources
2. Open Innovation landscape as a sound basis for idea generation and solution development opportunities
3. Reflection of best practices (also cross industry) and tools to evaluate the success of open innovation processes and activities

… but: Open Innovation blurs the boundaries of the firm and requires also strategies to manage intellectual property!
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IP Management
IP Management along the Innovation Management Process

1. Innovation Strategy
2. Organization & Infrastructure
3. Business Model Innovation
4. Idea Management
5. Open Innovation
6. Downstream Innovation
7. Innovative Marketing
8. Network Management
9. Innovation Controlling

- Innovation Strategy
- Network Management
- Service Agreements
- Patents, Design Rights
- Copyrights, Trademarks
- Licenses / Franchise of IPR
- IP Value creation (intangible goods)
- IP Value creation (intangible competencies)

- Idea Management
- Culture / Talents
- Feasibility Study
- Development concept
- Planning
- Development
- Testing
- Product-Launch
- Upstream Innovation
- Macro-economic trends
- Industry trends
- Competitors
- Marketing

- Downstream Innovation
- Phase Preview
- Phase Preview
- Phase Preview
- Phase Preview
- Phase Preview
1. IP value creation along the innovation management chain
2. Characteristics of intangible assets
3. Innovation strategy’s positioning from a business model view
4. The ‘old economy’ is moving from patents to high value IP
5. New ways of organizing, Open Innovation & Cluster Promotion
6. Classification scheme: industrial and knowledge economy
How to balance intangible goods and intangible competencies…?
Aligning business strategy and IP strategy

Tools specialized on IP valuation

Objectives
- Finding forgotten treasure
- Building the foundations for an IP strategy
- Aligning business strategy and IP strategy
- Phasing out weak patents

What is evaluated?
- Finance (i.e. Turnover and cost)
- Legal status
- Licensing opportunities
- Technology
- Strategy
- Sales
- Suppliers
- Customers
- Competition
- Market conditions
- Products
- Projects
- Contracts
- Partners
- Litigation risk
- Radar profiles
- Diagnoses
- Charts
- Net present value

Record of results
- Strategic profiles
- Portfolios
- Charts
- Net present value

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Record of results
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Innovation self-assessment tools and tools for IP valuation are available for a measurement at company level.

Different benchmarks on corporate and national level are available, even though the issue of comparability may remain.
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Our Ernst & Young Innovation Management Services
... focus on an organization’s Cost, Cash and Growth considerations

Costs

- Taking into account internal and external uncertainties by analyzing scenarios as means of deciding on innovation measures.
- Optimal design of your innovation ecosystem and methodology to decide if to innovate in-house or in an open process to balance costs; lean R&D processes
- Targeted evaluation of ideas and definition of key performance indicators.
- Fulfilling the information needs of your stakeholders and investors to reduce finance costs of innovations.
- Creation of a motivating working environment to enhance creativity and productivity.

Cash

- Design of your business model(s) to exploit different or new customer segments.
- Information which of your innovation activities have really generated cash in the mid- or long-term.
- Stabilizing your cash flows to finance innovation.
- Check of your innovation planning process with respect to liquidity and expected cash flows.
- Check of innovation ecosystem and use of governmental support measures.
- Definition of innovation key performance indicators to link them with your strategic and operational success indicators.

Growth

- Scanning megatrends to incorporate new markets or technologies into your portfolio.
- Scanning your ecosystem for realizing new business models (e.g. Pharma 3.0 approach)
- End-to-end reporting that reflects all key aspects of your business model (using CANVAS approach)
- Ensuring that your innovation activities are supported by strong financial planning.
- Optimization of budgeting for innovation projects.
- Preparation of your organization for change.
- Change management for enhancing innovation activities / business model design.
Our Ernst & Young Innovation Management Services
... are integrated and customized to organizational requirements
Our Ernst & Young Innovation Management Services
... are based on sound methodologies
Thank you very much for your attention!