Four Challenges for Implementing Open Innovation
Final report of an Atos Consulting benchmark study

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In our dataset, Open Innovation increases company revenues and improves the success rate of new product or service introductions.

However, most companies face four challenges when implementing Open Innovation.

**The mindset challenge**: how do you ensure that Open Innovation wins the hearts and minds of personnel?

**The intellectual property challenge**: how do you make money of intellectual property that your company does not put to commercial use?

**The tools challenge**: how do you make optimal use of tools that support Open Innovation?

**The management challenge**: how do you ensure that the correct management processes support company staff in their Open Innovation efforts?
Content

- Open Innovation
  - Research method
  - Results: Innovative performance
  - Results: Management processes
  - Results: Management processes in detail
  - Conclusion
Innovation – traditional approach
For years companies innovated using a Closed Innovation perspective.

Closed Innovation refers to a situation in which all innovation is developed internally and kept inside the company. No knowledge flows into or out of the company.

Source: Chesbrough (2003)
Open Innovation – new approach
Companies revise their innovation strategy by moving towards an Open Innovation model.

“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.”

Source: Chesbrough (2003, 2006)
Open Innovation – contrasting principles

Recent developments, e.g. higher R&D costs, caused companies to change their innovation strategy towards the Open Innovation concept.

<table>
<thead>
<tr>
<th>Closed innovation principles</th>
<th>Open innovation principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ The smart people in the field work for us</td>
<td>▪ Not all the smart people work for us</td>
</tr>
<tr>
<td>▪ To profit from R&amp;D we must discover, develop and ship it ourselves</td>
<td>▪ External R&amp;D can create value; internal R&amp;D is needed to claim a portion of that value</td>
</tr>
<tr>
<td>▪ If we discover it ourselves, we go to market first</td>
<td>▪ We don’t have to originate the research in order to profit from it</td>
</tr>
<tr>
<td>▪ If we are the first to commercialize an innovation, we will win</td>
<td>▪ Building a better business model is better than getting to market first</td>
</tr>
<tr>
<td>▪ If we create the most and best ideas in the industry, we will win</td>
<td>▪ If we make the best use of both internal and external ideas, we will win</td>
</tr>
<tr>
<td>▪ We should control our IP so that our competitors don’t profit from our ideas</td>
<td>▪ We should profit from others’ use of our IP and vice versa</td>
</tr>
</tbody>
</table>

Source: Chesbrough (2003)
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Research method – research questions
What is the state of affairs of Open Innovation?

Research questions

- To what extent is Open Innovation implemented in companies?
- Does the implementation of Open Innovation differ for distinct industries?
- Which management processes support Open Innovation?
- How effective are these management processes?
Research method – research process

The translation from theory to our Open Innovation questionnaire.

<table>
<thead>
<tr>
<th>Research process</th>
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</thead>
<tbody>
<tr>
<td>▪ A literature study revealed five elements to look at:</td>
</tr>
<tr>
<td>▪ The maturity of the innovation strategy</td>
</tr>
<tr>
<td>▪ Mechanisms to acquire knowledge from outside the organization (outside in)</td>
</tr>
<tr>
<td>▪ Mechanisms to commercialize unused knowledge from inside the organization (inside out)</td>
</tr>
<tr>
<td>▪ The extent to which employees and companies are externally oriented (mindset)</td>
</tr>
<tr>
<td>▪ The success rate of innovation</td>
</tr>
<tr>
<td>▪ Developing a validated 64 question survey</td>
</tr>
<tr>
<td>▪ Gathering data from innovation and R&amp;D managers</td>
</tr>
<tr>
<td>▪ Online survey</td>
</tr>
<tr>
<td>▪ Personal interviews</td>
</tr>
<tr>
<td>▪ Analysis of the data</td>
</tr>
</tbody>
</table>
Research method – dataset

The results of our study are based on a sample containing 92 companies.

- **Number of respondents:** 92; response rate: 29.6%
- **Companies:** a mix of different company sizes
- **Country of origin:**
  - About 70% of companies is Dutch
  - 11% USA
  - Other companies mainly from Western Europe
- **Six different industries are represented in our dataset**
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Innovative performance – use of external knowledge

The majority of companies do not incorporate external knowledge in their products and services.

- 47% of the companies score in the lowest category (no or limited use of external knowledge)
- However, companies indicate that they have sufficient internal knowledge to make adequate use of the knowledge acquired externally
- Electronic companies use more external knowledge than the other industries
- The transport sector is behind with the use of external knowledge
Innovative performance – success rate of new products

There is a considerable spread between companies in the success rate of new product introductions.

- 31% of respondents indicate that about half of their product introductions becomes a success.
- The next processes are particularly helpful in raising the success rate: organization of knowledge management, evaluation of research projects and brainstorms with clients.
- Electronics, chemicals, oil & gas, and pharmaceuticals have higher success rates than other industries.
Innovative performance – revenue from new products

There are remarkable differences in the amount of revenue companies generate from new products.

- 30% of respondents generate more than 20% of revenues from new products and services.
- This high figure could be expected because the sample focuses on innovative companies. However…..
- …… 26% of respondents generate only 0 – 5% of revenues from new products and services.
- Electronic companies have higher revenues from products introduced in the last three years than other industries.
Innovative performance – use of patents
A large amount of patents is not used and remains on the shelf.

- 65% of patents are not used for creating new products/services
- Possible reasons: pre-emptive patents, patents as bargaining chip, patents are connected to tacit knowledge…
- …but also: strategy to patent everything, strategic refocusing makes certain patents less relevant
- The latter reasons indicate valuable knowledge may be left unused
- This holds for every industry; there is no industry that performs significantly better

% of patents a company uses to create new products/services

<table>
<thead>
<tr>
<th>% of respondents</th>
<th>% of patents a company uses to create new products/services</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>0-20%</td>
</tr>
<tr>
<td>10%</td>
<td>21-40%</td>
</tr>
<tr>
<td>20%</td>
<td>41-60%</td>
</tr>
<tr>
<td>30%</td>
<td>61-80%</td>
</tr>
<tr>
<td>40%</td>
<td>81-100%</td>
</tr>
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</table>
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- **Results: Management processes**
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Management processes – spider web of overall results
The results for each area are very different.
Management processes – main conclusions spider web
Companies are on their way with Open Innovation but there is still room for substantial improvement.

Main conclusions

- Innovation strategies are relatively well-developed compared to the other areas of our research (inside out, outside in, mindset).

- Companies have implemented management processes (e.g. supplier involvement) for bringing external knowledge into the company, with the exception of new techniques like crowdsourcing, information intermediaries and Corporate Venture Capital.

- Companies have hardly implemented inside out management processes.

- The innovation mindset is not developed strongly; top management supports Open Innovation but employees are not rewarded for it.

- The five companies that have implemented the most Open Innovation principles score higher on almost every question than the other companies.
  - Cooperation with suppliers, use of crowdsourcing and use of brainstorms show no significant difference between high and low scorers.
Management processes – spider web of overall results
Different industries show no major distinctions.

1. Innovation Strategy

1.1 Innovation strategy
1.2 Lead or lag
1.3 Value chain strategy
1.4 Innovation management
1.5 Knowledge management
1.6 Product portfolio development
1.7 Evaluation
1.8 Problem solving
1.9 External knowledge
1.10 Business models
1.11 Business model vs time to market

2. Outside in

2.1 Customers
2.2 Suppliers
2.3 Universities
2.4 Enter in funnel
2.5 CVC in start-ups
2.6 Crowdsourcing
2.7 Information intermediaries
2.8 Alliances
2.9 Brainstorms
2.10 Innovation climate in region
2.11 Collaboration in region
2.12 In-license IP
2.13 Licensing partners

3. Inside out

3.1 Exit from funnel
3.2 External sales channels
3.3 CVC to create new companies
3.4 External VC for spin-offs
3.5 Out-licensing of IP
3.6 Licensing partners
3.7 IP protection
3.8 Time to license IP
3.9 Information intermediaries
3.10 Collaboration in region
3.11 Alliances

4. Mindset

4.1 Company support of open innovation
4.2 Top management support
4.3 Legal department
4.4 Sharing ideas externally
4.5 Rewards
4.6 Problem solving
4.7 CVC management
4.8 Alliance management

19 - Open Innovation: Four Implementation Challenges
Data analysis shows some differences between industries.

- The electronics industry is ahead of the other industries regarding the implementation of the Open Innovation principles.
- The electronics industry performs significantly better on the inside out approach, especially IP management, than other industries.
- The transport sector lags behind with the implementation of Open Innovation.
- The telecommunications and media sector make less use of ideas of customers and universities.
- Manufacturing companies benefit more from outside in and especially inside out approaches than service companies.
- All industries score higher on outside in than on inside out.
Management processes – top and bottom five
The five most used and five least used management processes.

<table>
<thead>
<tr>
<th>Five most used management processes</th>
<th>Five least used management processes</th>
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<tr>
<td>▪ Use of knowledge from suppliers</td>
<td>▪ Use of crowdsourcing</td>
</tr>
<tr>
<td>▪ Integrating external knowledge</td>
<td>▪ Use of external venture capital</td>
</tr>
<tr>
<td>▪ First mover strategies</td>
<td>▪ Use of corporate venture capital to</td>
</tr>
<tr>
<td>▪ Cooperation with universities</td>
<td>create spin offs</td>
</tr>
<tr>
<td>▪ Support of top management for the use of external ideas</td>
<td>▪ Use of corporate venture capital to invest in external start-ups</td>
</tr>
<tr>
<td></td>
<td>▪ Use of information intermediaries</td>
</tr>
</tbody>
</table>
Management processes – benefits of Open Innovation
Does it pay to implement Open Innovation principles?

Companies that have implemented Open Innovation...

- ... successfully combine internal and external knowledge
- ... have a statistically significant higher success rate of new product introductions
- ... generate statistically significant more revenue from recently introduced products
- ... are more satisfied with their innovation performance
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Management processes in detail – innovation strategy

Companies are able to profit from external knowledge, but they do not evaluate their projects very well.

- **Strong areas:** Companies know how to integrate external knowledge and they have a clear view on their innovation strategy.
- **Weak area:** Innovation projects are not evaluated very well.
- The policy side of innovation is well developed.

![Diagram](image-url)
Management processes in detail – outside in

The view that cooperation with external parties is useful is widely shared, but new techniques for this are hardly implemented.

- **Strong areas:** Cooperation with customers, suppliers and universities
- **Weak areas:** The latest innovation techniques are hardly implemented (CVC, crowdsourcing, intermediaries); companies are not very active with licensing
Management processes in detail – inside out
Processes to bring knowledge outside the company are not widely implemented.

- Strong area: Companies export knowledge in many phases of the funnel
- Weak areas: None of the management processes that aim at bringing knowledge outside are widely implemented
- Together with the finding that a majority of patents are not used, this indicates that a potential revenue stream from selling (unused) knowledge is untapped
Management processes in detail – mindset
Top management supports using external ideas but does not reward this.

- Strong area: Top managers support the use of external ideas
- Weak areas: Low scores on the management of external ideas (CVC, alliances, reward for external ideas)
- Top management supports the use of external ideas, but has not implemented the supporting management structure
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Conclusions – Four implementation challenges
Most companies appear to face four difficulties when implementing Open Innovation.

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<th>Mindset challenge</th>
<th>Formal innovation strategies are well-defined… but they have not yet won the hearts and minds of people.</th>
</tr>
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<tbody>
<tr>
<td>IP challenge</td>
<td>Companies know how to bring external knowledge inside… but not the other way round. IP is underutilized.</td>
</tr>
<tr>
<td>Tools challenge</td>
<td>Traditional techniques for Open Innovation have been implemented…but the latest tools have scarcely been applied.</td>
</tr>
<tr>
<td>Management challenge</td>
<td>Top managers support the use of external ideas…but have not implemented the supporting management processes.</td>
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</table>
Conclusions – contact
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