- IMPROVE -

impact of gender on innovation

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November 2011
About the project

• Project **EFFINET: EFFiciency and INnovativion** power of homogeneous and heterogeneous inventor teams in R&D

• Analysis of the work environment and conditions in gender homogeneous and gender heterogeneous inventor teams in R&D
  – Homogeneous male inventor teams
  – Homogeneous female inventor teams
  – Heterogeneous inventor teams, male dominated
  – Heterogeneous inventor teams, gender balanced
About the project

• Do gender homogeneous and gender heterogeneous teams in R&D differ in their work conditions, their efficiency and their innovative power?

• Research methods
  – Statistical analysis of the European patent database
  – Qualitative approach (20 expert interviews)
  – Quantitative research (online survey with ~400 respondents)
The European perspective – Percentage of female researchers and inventors in the EU (2003)

(100% = sum of male and female researchers or inventors)
Survey results: child care (Germany)

"I work part-time/home office/parental leave"

- Female: 67% take use of, 3% occasionally/partly, 3% would like to take use of, 27% do not take use of
- Male: 5% take use of, 5% occasionally/partly, 9% would like to take use of, 87% do not take use of

"My partner takes care of the children"

- Female: 19% take use of, 21% occasionally/partly, 9% would like to take use of, 51% do not take use of
- Male: 81% take use of, 12% occasionally/partly, 1% would like to take use of, 6% do not take use of
Survey results: influence of child care on own innovation power (Germany)

Yes, very much: 64%
Yes: 58%
Rather not: 52%
No: 33%
I don't know: 10%

total female: 150
total male: 175
### Survey results: influence of child care on own innovation power (Germany)

<table>
<thead>
<tr>
<th></th>
<th>yes, a lot</th>
<th>yes</th>
<th>rather not</th>
<th>no</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>equally balanced</strong></td>
<td>28%</td>
<td>30%</td>
<td>22%</td>
<td>11%</td>
<td>9%</td>
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<tr>
<td><strong>male dominated</strong></td>
<td>32%</td>
<td>29%</td>
<td>18%</td>
<td>15%</td>
<td>6%</td>
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<tr>
<td><strong>homogeneous men</strong></td>
<td>10%</td>
<td>40%</td>
<td>32%</td>
<td>15%</td>
<td>3%</td>
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<tr>
<td><strong>homogeneous women</strong></td>
<td>39%</td>
<td>27%</td>
<td>20%</td>
<td>14%</td>
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Results

• There is an obvious gap between the percentage of female researchers and female inventors all across Europe.

• Childcare has a direct and significant impact on the female inventors’ innovation power (while hardly influencing the male inventors).

• In heterogeneous teams, there are different needs and priorities!

• In order to optimize the team performance, the organization, but also the individual in the team, needs to:
  • Gain awareness of the different needs
  • Identify these individual needs
  • Establish appropriate measures to meet the needs of each individual
Concret steps to take

I  Innovation encouragement
M  Manage Diversity
P  Project team building
R  Reintegrate experts
O  Organize mentoring
V  Value networking
E  Enhance efficiency
Thank you
Concret steps to take

Innovation encouragement
• Encourage active involvement of junior researchers in the innovation process
• Promote diversity in teams

Manage Diversity
• Encourage team members to perceive and communicate their personal requirements
• Secure strategic competitive advantage through the wise use of diversity
• Establish target agreements for management for adoption of diversity
Concret steps to take

**Project team building**

- Train managers on the management of team processes and in dealing with different needs within the team
- Create transparent achievement- and assessment criteria

**Reintegrate experts**

- Maintain regular communication between inventors on parental leave and their research team
- Integrate inventors on parental leave into project planning
- Encourage parental leave by both parents
Concret steps to take

Organize mentoring

• Support junior scientists with regard to transforming their inventions into patents
• Organize „meet & greet“ between young professionals and „old hands“

Value networking

• Provide time for spontaneous communication and networking within the project planning
• Critically examine common communication structures, e.g. late afternoon team meetings

Enhance efficiency

• Relieve researcheres from administraive tasks
• Actively design and manage a pool of knowledge across the organization
Survey results: amount of children

- **hom. Male**
  - 13% no children
  - 17% 1 child
  - 63% 2-3 children
  - 5% more than 3 children

- **hom. Female**
  - 42% no children
  - 27% 1 child
  - 31% 2-3 children
  - 2% more than 3 children

- **het. Male dominated**
  - 36% no children
  - 17% 1 child
  - 45% 2-3 children
  - 2% more than 3 children

- **het. Balanced**
  - 35% no children
  - 13% 1 child
  - 48% 2-3 children
  - 2% more than 3 children
Influence of heterogeneity on innovation

- Age
- Gender
- Profession
- Experience
- Nationality

- Männner: (strongly) increases
- Frauen: 66%
- Männer: 86%
- Frauen: 74%
- Männer: 89%
- Frauen: 5%
- Männer: 32%
- Frauen: 12%
- Männer: 8%
- Frauen: 12%

- Nationalität: 67% decrease
- Gender: 1%
- Profession: 3%
- Experience: 3%
- Age: 3%

- Influence on innovation:
  - Age: Increases
  - Gender: No impact
  - Profession: No impact
  - Experience: No impact
  - Nationality: Decreases