Agile software development and benefits management: A perfect match

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Based on:

What are key characteristics of software projects (digitalization projects)?

• Exposed to a **fast-changing world** (technology, needs, opportunities)
• Producing **innovations** (never constructing the same twice)
• **Transformation** projects (change of work processes)
• Enables **agility** (such as scope flexibility, less upfront planning and specification work, frequent deliveries, late changes)
• **Continuous development** (the organization of software development work as a project is by more and more software professionals believed to problematic.)
What is benefits management in software development?

• A set of processes, optimally including:
  – Identify and estimate benefits (and costs)
  – Develop a plan for when and how to realize benefits
  – Allocate responsible for the realization of the benefits
  – Continuous delivery, prioritization and management of benefits during the project execution
  – Evaluation of realized benefits

• Large variation in how (and if) these steps are implemented
What does it mean to succeed and to fail with software development?
Software project success

Success is a combination of, amongst others:

- Client benefits delivered
- Cost control
- Time control
- Development efficiency
- Software properties (technical quality)
- Learning
Our studies on benefits management:

- Nine surveys, with 50-200 participants each, representing around 1000 Norwegian software projects in the public and the private sector.
- In-depth, interview-based examination (case studies) of 35 software projects in the public sector of Norway.
- Ongoing studies in two large organization on benefits management in large scale agile.
Success and failure rates found in our studies

All studies give similar results:
• Around 50-60% successful projects
• Around 30-40% problematic (but not failed) projects
• Around 10% failed projects
How is agile and benefits management connected?
It helps to work agile, but …

<table>
<thead>
<tr>
<th></th>
<th>Agile</th>
<th>Frequent delivery to production</th>
<th>Flexible scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client benefits</td>
<td>16%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>Technical quality</td>
<td>21%</td>
<td>6%</td>
<td>32%</td>
</tr>
<tr>
<td>Budget control</td>
<td>2%</td>
<td>22%</td>
<td>29%</td>
</tr>
<tr>
<td>Time control</td>
<td>8%</td>
<td>11%</td>
<td>24%</td>
</tr>
<tr>
<td>Efficiency</td>
<td>11%</td>
<td>5%</td>
<td>24%</td>
</tr>
</tbody>
</table>

… only when including frequent delivery to production and flexible scope.
Agile projects not including these two practices were LESS successful than non-agile projects! These two practices are strongly connected to benefits management.

Similar results in our follow-up surveys and studies
Benefits management helps, especially during the project execution …

Survey 1:

<table>
<thead>
<tr>
<th>Benefit management practices</th>
<th>Proportion</th>
<th>Increase in success rate (wrt benefits)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-benefit analysis (up front)</td>
<td>47%</td>
<td>6%</td>
</tr>
<tr>
<td>Benefit responsible appointed</td>
<td>57%</td>
<td>22%</td>
</tr>
<tr>
<td>Plan for benefit management</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td>Benefit management during proj. execution</td>
<td>53%</td>
<td>34%</td>
</tr>
<tr>
<td>Evaluation of benefit during/after proj. exec.</td>
<td>31%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Survey 2 (in-depth study):

<table>
<thead>
<tr>
<th>Benefit management practices</th>
<th>Present</th>
<th>Not present/don’t know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost-benefit analysis (up front)</td>
<td>31% with problems</td>
<td>22% with problems</td>
</tr>
<tr>
<td>Benefit responsible appointed</td>
<td>28% with problemer</td>
<td>29% with problems</td>
</tr>
<tr>
<td>Plan for benefit management</td>
<td>29% with problems</td>
<td>28% with problems</td>
</tr>
<tr>
<td>Benefit management during proj. execution</td>
<td>20% with problems</td>
<td>35% with problems</td>
</tr>
</tbody>
</table>
Successful benefits management in a changing world requires agile development.
Agile software projects with benefits management practices during project execution seem to be less affected by large project size.
Time & material type of contracts much better for both the client and the provider. Why is that?

**First study**: Extremely negative results for Fixed price contracts.

<table>
<thead>
<tr>
<th></th>
<th>Fixed price</th>
<th>Time &amp; Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client benefits</td>
<td>0% (success rate)</td>
<td>59%</td>
</tr>
<tr>
<td>Technical quality</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>Budget control</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td>Time control</td>
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<tr>
<td>Efficiency</td>
<td>0%</td>
<td>19%</td>
</tr>
</tbody>
</table>
Success pattern: Interaction between contract, agile and benefits management ...

Time & material contracts

- Stronger emphasis on evaluation of skill, less emphasis on low price, in selection of provider
- Stronger client involvement in management (monitoring, selection) of resources
- Project scope changes and scope flexibility perceived as an opportunity
- Stronger client and stakeholder involvement in project management
- More use of agile development with frequent deliveries to production and flexible scope
- More focus on benefit management during the project execution
- More, earlier and better feedback from users and other stakeholder

- Less risk of opportunistic behaviour of provider
- Higher likelihood of competent provider and skilled developers
- Higher likelihood of good quality and productivity
- Higher likelihood of delivering the expected client benefits
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- Higher likelihood of delivering the expected client benefits
- Higher likelihood of project success
Conclusions

- There are success and failure patterns, not isolated success and failure factors
- Agile development, with its frequent deliveries and flexibility in scope, enables good benefits management during project execution
- Other factors, especially choice of contract, supports or limits the ability to implement good benefits management practices in agile development.
- It is essential that the client is strongly involved in the planning and execution of benefits management