Crowdsourcing und Crowdwork: 
The Future of Digital Work?

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Agenda

1. WHO WE ARE

2. WHAT IS CROWDSOURCING AND CROWD WORK?

3. THE WAY INTO THE FUTURE ?! – OUTSTANDING ISSUES
Topics of the Competence Center Crowdsourcing

**CROWDSOURCING**
- Crowdsourcing in software development and testing
- Agile innovations
- Crowdfunding
- New Forms of work organization

**DATA SCIENCE**
- Development of data-based innovations
- Text mining
- Automation & Crowdsourcing
- Acceptance of predictive models and automated decisions

**INTERNET ECONOMY • GAMIFICATION • SERVICE ENGINEERING**
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Our Partners
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What is Crowdsourcing?

- Origin: Jeff Howe, Wired Magazine (2006)

**CROWDSOURCING ≠ OUTSOURCING**

- Broadcasting tasks to an undefined mass of Internet users

- Key components:
  - OPEN CALL
  - VOLUNTARY PARTICIPATION
Crowdsourcing as «Workforce-as-a-Service»

Workforce-as-a-Service Scales to Meet IT Staffing Needs on Demand

What if you could scale your IT personnel requirements as you would computing resources? Using a workforce-as-a-service model lets you add a skilled, vetted and insured workforce when you need it and release it when you don’t.

By Sharon Florense
Mon, September 30, 2013

CIO — One of the major benefits of a services-delivery model such as software-as-a-service (SaaS) or the Cloud is the capability to quickly scale computing resources - networking, storage, bandwidth, for instance - on an as-needed basis. IT simply adds more resources when they’re needed and removes them when they aren’t. What if you could do the same with personnel resources, that is, add teams of skilled tech pros on-demand and release them once a project is completed?

Peter Cannone, CEO of OnForce, says, his company allows for just that kind of service.

Similar to this Article
• IT Careers: Why You Should Register with an IT Staffing Firm
• IT Recruiters Mine Social Media for Hidden Tech Talent
• 8 Hot IT Skills for 2014
Crowdsourcing as «Wisdom of Crowds»

Organizations often search in a particular search areas for solutions.

The best solutions however are often outside the search focus of organizations.

POTENTIAL OF CROWDSOURCING

Performance

Technology

Test methods
Different Forms of Crowdsourcing

Crowd Workers donate
Crowdfunding
Crowd Workers make evaluations
Crowdvoting
Crowd Workers develop and design problem solutions
Crowdcreation

Effort for Crowd Worker

Threadless
Kickstarter
Testbirds
Employees as Crowd: IBM Innovation Jam

- Since 2001 IBM has organized Innovation Jams for developing future innovations
- Target group: 300,000 IBM employees
- Results: Creation of 10 new business areas (100 Mio. USD investment)
(Anonymous): Internet users as crowd: External programming contests

Deliver faster for your business through crowdsourcing.

With a community of over 1,000,000 design and technology experts, Topcoder provides on-demand capability, bandwidth, and velocity so you can do more.

- Crowdsourcing Contest
- 30 solutions with at least same performance (up to factor 1000)
- 2,864 h accumulated development time in 2 week contest
- Costs: 6,000 $
Crowd X

Primary Activities:
- Inbound Logistics
- Production
- Marketing & Sales
- After Sales
- Research & Development
- Finance
- Infrastructure

Supporting Activities:
- CROWD FUNDING
- CROWD TESTING
- CROWD INNOVATION

Crowd X Activities:
- CROWD DELIVERY
- CROWD PRODUCTION
- CROWD PROMOTION
- CROWD SUPPORT

Brands:
- checkolin.com
- topcoder
- dm
- Telstra
Internal vs. External Crowdsourcing

(I) Outsourcing

OUTSORCER \[\rightarrow\] OUTSOURCING PROVIDER

(II) „Internal“ Crowdsourcing

CROWD SOURCER \[\leftrightarrow\] INTERNAL CROWDSOURCING PLATFORM \[\rightarrow\] CROWD WORKER

(III) „External“ Crowdsourcing w/o Mediation

CROWD SOURCER \[\leftrightarrow\] INTERNAL CROWDSOURCING PLATFORM \[\rightarrow\] CROWD WORKER

(IV) „External“ Crowdsourcing with Intermediary

CROWD SOURCER \[\leftrightarrow\] CROWDSOURCING INTERMEDIARY \[\rightarrow\] CROWD WORKER
How does the Crowd work?

### FORMS OF CROWD WORK

#### TOURNAMENT
- Principle of competition
- Crowd Worker work independently from each other

#### OUTPUT-ORIENTED
- Only the best solution(s) is/are rewarded
- Reward is determined in advance
- e.g.: *TopCoder*, *InnoCentive*

#### TIME-ORIENTED
- Time-oriented competition: "first-come-first-serve"
- Remuneration of all solutions that meet the (quality) requirements
- e.g.: *Upwork*, *Testbirds*

#### COLLABORATION
- Crowd Worker team up
- Submitting a joint solution
- e.g.: *Dell Idea Storm*
What is Crowd Work?

**WORK** „Effort for accomplishing a task“

**PAID WORK** „Goal-directing effort for creating income“

**DIGITAL WORK** „Effort to create digital goods or that make substantial use of digital tools“

**CROWD WORK** “Digital gainful employment based on Crowdsourcing”

**CROWDSOURCING**

**PAID**

**UNPAID**
Crowd Work as new form of digital work

CROWD WORK …

- Is based on crowdsourcing as organization principle
  - Open call
  - Voluntary participation
  - IT-enabled platforms
- Is Paid
- Creates digital goods or uses digital tools

“Crowd Work is a digital form of paid work, in which an undefined mass of people create digital goods via an open call. Substantial parts of the value creation takes place on IT-supported platforms.”
Legal Framework

INTERNAL CROWD WORK

- Employees remain employees
- Employees retain
  - All protective rights
  - Work council
  - Participation rights
  - Collective agreements

EXTERNAL CROWD WORK

- Legal relationship with third parties
- Platform as intermediary between both (market) sides
- External Crowd Worker
  - Self-employed
  - No employees
Perception of Crowd Work - Study on German Crowd Workers

- **SURVEY OF 434 CROWD WORKERS**

- **CROWD WORKER DEMOGRAPHICS**
  - 35 years on average
  - 53% are single
  - 56% are male
  - 66% are employed or self-employed
  - 70% have highest German School Graduation (“Abitur”)

- **CROWD WORKER WAGES**
  - 50% of the total income via Crowd Work
  - 534 EUR/month on average via Crowd Work

- **CROWD WORK**
  - is perceived as being cognitive demanding
Chances of Crowd Work

**CROWDSOURCER**

- On-demand access
- Speed of task execution
- (More) effective problem solutions
- Potential for cost reductions

**CROWD WORKER**

- Accessibility of Work
- New employment opportunities
- Higher self-determination by self-selection
- Higher flexibility
- «Cherry Picking» for experienced Crowd Workers
## Challenges of Crowd Work

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<thead>
<tr>
<th>CROWDSOURCER</th>
<th>CROWD WORKER</th>
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<tbody>
<tr>
<td>- Hidden Costs (task definition, evaluation of solutions)</td>
<td>- Digital Reputation</td>
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<td>- Losing control and know-how</td>
<td>- Low wages and monotonous tasks</td>
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<td>- Incentivization</td>
<td>- Surveillance</td>
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<td>- Resistance by internal staff</td>
<td>- Lack of legal framework</td>
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<td>- Risk of being self-employed</td>
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Size of the Crowd Work Market

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<th>Year</th>
<th>Platform Revenue (in billion)</th>
<th>Platform Revenue (in million)</th>
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<tbody>
<tr>
<td>2013</td>
<td>2</td>
<td>48</td>
</tr>
<tr>
<td>2016</td>
<td>4.8</td>
<td>48</td>
</tr>
<tr>
<td>2020</td>
<td>25</td>
<td>112</td>
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World Bank (2013)
Digital Work 2020?

Die Computer-Revolution
Fortschritt macht arbeitslos
The way into the future ?! – Outstanding Issues

- CROWD WORK PLATFORMS as digital Labor Markets
- FAIR CROWD WORKING CONDITIONS
- CHANGES IN WORK ORGANIZATION of Organizations
- MAKE-BUY-OR-CROWDSOURCE
- EMBEDDING CROWD WORK in internal / existing processes
In a nutshell

1) The Crowdsourcing phenomenon is already **applied in many business areas**

2) Crowd Work is a **new form of digital work organization** that is as **heterogeneous** as the crowd itself

3) There are **chances and challenges** that needs to be addressed in the future to provide appropriate working conditions
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