

# Changing the Innovation Game - Crowdsourcing in Incumbent Firms

1

FLEMMING BINDERUP GAMMELGAARD, Aarhus University  
CARINA ANTONIA HALLIN, Copenhagen Business School

---

## 1. INTRODUCTION

Crowdsourcing is an emergent interdisciplinary theory and methodology, which in recent years has become widely diffused, raising significant questions in the innovation management literature concerning the adoption of crowdsourcing as an open innovation practice. Building on seminal research on open innovation adoption in large organizations (Chesbrough and Brunswicker, 2013; 2014), the current study presents qualitative findings on the innovation practices and strategies of incumbent firms transitioning from traditional innovation to crowdsourcing for open innovation. We discuss the impact of crowdsourcing technologies and methodologies on 1) the innovation processes, 2) the innovation content and 3) the overall scope of innovation to discover different stages of maturity in the innovation governance structures of incumbent firms (Deschamps & Nelson, 2014). Our study thus contributes to research on the firm side of crowdsourcing, providing much needed insights into the processes, procedures and structures that support the implementation of crowdsourcing for open innovation (Lüttgens et al., 2014).

## 2. CROWDSOURCING

Information technologies form the backbone of the fourth industrial revolution, challenging organizations across sectors and economies to become and remain globally competitive by leveraging knowledge from different domains for continuous innovation (Cui et al., 2015; World Economic Forum, 2016). Information technologies are therefore more important than ever in the management of knowledge for innovation as organizations are increasingly tasked to increase their innovation capacity by managing knowledge flows across organizational units and boundaries (Chesbrough, 2017).

Relying on information technology to access, manage and integrate knowledge from diverse problem solvers, crowdsourcing constitutes a radical departure from traditional problem solving, which may significantly increase problem-solving effectiveness and innovation performance (Afuah & Tucci, 2012; Boudraou & Lakhani, 2013; Jeppesen & Lakhani, 2010; Poetz & Schreier, 2012). In crowdsourcing, decision makers broadcast their problems to diverse and often peripheral problem solvers in the form of an open call for solutions instead of solving problems internally in their own organization (Lakhani, 2006). As a result, crowdsourcing involves process innovation to make the transition from closed processes of internal innovation to distributed processes of open innovation, as well as organizational innovation to govern this systemic shift in how innovation is organized and managed. Consequently, crowdsourcing requires organizations to make substantial complementary changes to their innovation systems if they are to overcome internal barriers to their adoption of open innovation practices. The biggest challenges in implementing and managing open innovation approaches therefore lie within organizations, especially since firms frequently fail to align their innovation efforts with their overall strategies, and to develop and evolve appropriate innovation strategies (Pisano, 2015).

## 3. METHOD

We conducted a qualitative study performing semi-structured interviews with 69 top and middle managers from 50 of the 100 largest companies in Denmark ranked by revenue and number of employees. Based on the distribution across sectors of the 100 companies, 50 firms from the following sectors were selected in proportion to the number of companies from those sectors that were included in the top 100 list: 1) production, 2) service, 3) transportation, 4) energy, 5) agriculture and 6) finance.

We employed exploratory interview methodology to collect the interview data, which were recorded, transcribed and thematically analyzed in NVivo qualitative data analysis software to identify emergent themes and their interrelations. We initially reviewed the crowdsourcing literature to develop the interview guideline, and subsequently conducted semi-structured interviews with open-ended questions to ensure free expression of the views and experiences of respondents. Interviews were conducted on the phone, with interviews lasting 40 to 50 minutes, and we first asked for demographic information of respondents and their organizations. We then introduced them to the concept of crowdsourcing and the dominant modes of crowdsourcing before asking them about their understanding and use of crowdsourcing. We concluded the interviews with questions concerning their current innovation systems and the effects of outside pressures and leadership on innovation.

While working with the data material, we gradually developed a coding scheme based on the dimensions revealed by the interviews and relevant theory. Overall, we followed an iterative process of thematic content analysis to consolidate the coding scheme, and ensure consistent coding across the case data until codes could be aggregated into higher-dimensional categories, and theoretical saturation could be achieved (Glaser & Strauss, 1967; Corbin & Strauss, 1998).

#### 4. RESULTS

Denmark is one of the most technologically and economically competitive countries in the world (IMD International, 2017), and one might therefore reasonably expect the uptake of crowdsourcing technologies and methodologies to be exceptionally high among leading Danish brands and organizations. However, while 78 percent of respondents reported practicing open innovation in the survey by Chesbrough and Brunswicker (2013; 2014), which included 125 large companies in Europe and the United States, merely 47 percent of respondents in the current study reported using crowdsourcing. Open innovation is, of course, a broader concept than crowdsourcing, but interestingly, respondents in the current study included a range of open innovation and other practices that would not normally qualify as crowdsourcing in their application of the term even though a standard definition was provided at the beginning of the interviews. This indicates that the concept is vaguely defined and interpreted broadly by respondents to cover various forms of knowledge flows across organizational units and boundaries. This finding also corresponds with the fact that respondents generally rated their knowledge of crowdsourcing as relatively low (average score of 2.4 on a 5-point scale with sectors ranging from 1.0 to 3.2).

These conjectures are further substantiated in the interview data, which show that respondents generally lack a common language for and a shared understanding of crowdsourcing practices, and consequently have no common ground for their implementation. This is one of the significant organizational barriers to adoption discovered in the interviews, and summarized in Table 1.

**Table 1 - Organizational Barriers to Crowdsourcing Adoption**

Barriers to Adoption	Citations
<b>Ambiguity</b> Lack of common language and shared understanding leading to lack of common ground	"I don't know what to call it." "I don't know if this counts as crowdsourcing." "In my department, we know what it is. But we're only twelve people, and if you go to other departments, then they may know the term, but they definitely don't know what it is used for."
<b>Multiplicity</b> Diverse set of practices and approaches leading	"We're actually all over the place when we do this" "To be perfectly honest, our approach is rather random." "We don't have any systematic or comprehensive way of doing this."

to lack of coordination and consistency	"It is not an established practice yet. So, there are absolutely some people who'll think 'what is this?'"
<b>Complexity</b> Poor insight into own organization tied to lack of innovation mnmgt. and governance	"I doubt that we use much open innovation." "I don't know exactly what they do in R&D." "I think there are different kinds of crowdsourcing initiatives around the organization, but I don't know about them." "I have no idea what other departments have done."
<b>Inconsistency</b> Lack of combined efforts and priorities leading to lack of clear objectives and poor implementation	"We don't have anything to measure yet, and it's still very exploratory." "Our approach is immature, but that's just the way things are." "We tried to do something, then stopped again, but at least, it was something we experimented with." "I don't think we have fully understood how powerful this could be... if we were to become more structured in our approach."
<b>Uncertainty</b> Crowdsourcing is associated with conditions of risk and uncertainty	"You need courage to throw yourself out there because it is so different." "You could end up revealing everything that you are best at." "It requires a certain culture, trust culture to do crowdsourcing." "The biggest barriers are uncertainty and company culture - uncertainty or fear of the unknown."

The barriers discovered in the interviews are generally associated with lack of strategic governance, integrative vision and poor implementation. Based on the finding of these barriers, we conclude that organizational change is the most significant barrier to the adoption of crowdsourcing. Corresponding findings are reported in Lüttgens et al. (2014), who discovered a range of internal barriers to integrating crowdsourcing across organizational units. Despite its many merits, however, the Lüttgens study focused on the process of one crowdsourcing intermediary, and its findings are therefore specific to the stages of this process. In contrast, the current study provides a broad-based view of crowdsourcing in incumbent firms, providing missing evidence on organizational barriers to crowdsourcing adoption.

### 5. CONCLUSION

From the results, we conclude that Danish business leaders represented in the sample have knowledge of crowdsourcing, though this knowledge is limited in theory, and turning their knowledge into practice is less common. While we found that less than half of leading Danish brands and organizations had used crowdsourcing, consultants at eYeka reported in 2015 that 85 percent of the top 100 global brands had engaged in crowdsourcing (eYeka, 2015). A key finding of our study is consequently that Danish incumbents have considerable potential to increase their innovation capacity by implementing crowdsourcing in comparison with top global corporations that actively make use of crowdsourcing.

Transitioning from closed to open innovation can be challenging, however, as this transition is associated with a range of organizational changes, notably changes in innovation management and governance. While crowdsourcing technologies and methodologies have become increasingly sophisticated, innovation governance structures have typically not followed suit, producing a variety of barriers to innovation informed by lack of clarity and coordination, and leading, ultimately, to poor implementation and integration with the rest of the innovation system. Overall, the current study contributes to seminal quantitative research on open innovation adoption through pioneering qualitative research on the current state of crowdsourcing in incumbent firms. Analyzing key changes in the way that innovation is organized and managed in large organizations, we find that open innovation is changing the innovation game, and that the biggest barrier to innovation lies in navigating the uncertainties that crowdsourcing and other open innovation practices introduce into the innovation process and its governance.

## REFERENCES

- Afuah, A., and Tucci, C.L. 2012. Crowdsourcing as a solution to distant search. *Academy of Management Review* 37(3), 355-375.
- Boudreau, K. J., and Lakhani, K. R. 2013. Using the Crowd as an Innovation Partner. *Harvard Business Review*, 91(4), 60-69.
- Chesbrough, H., and Brunswicker, S. 2014. A fad or a phenomenon? The adoption of open innovation practices in large firms. *Research Technology Management* 57(2), 16-25.
- Chesbrough, H. 2017. The future of open innovation. *Research Technology Management*, 60(1), 35-38.
- Chesbrough, H. W., and Brunswicker, S. 2013. *Managing Open Innovation in Large Firms. Survey Report: Executive Survey on Open Innovation 2013*. Stuttgart, Germany: Fraunhofer Verlag. <http://openinnovation.berkeley.edu/managing-open-innovationsurvey-report.pdf>
- Corbin, J., and Strauss, A. 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd edition, London: Sage.
- Cui, T., Ye, H., Teo, H. and Li, J. 2015. Information technology and open innovation: A strategic alignment perspective. *Information & Management* 52(3), 348-358.
- Deschamps, J. P., and Nelson, B. 2014. *Innovation Governance: How Top Management Organizes and Mobilizes for Innovation*. Hoboken, NJ, USA: John Wiley & Sons, Inc.
- eYeka. 2015. The state of Crowdsourcing in 2015. Retrieved from eYeka website: <https://en.eyeka.com/resources/reports#CSreport2015>
- Glaser, B.G., and Strauss, A. L. 1967. *The Discovery of Grounded Theory*. Chicago: Aldine Publishing Company.
- Howe, J. 2006. The rise of crowdsourcing. *Wired Magazine*, Issue 14.06, 1-5.
- IMD International. 2017. *The World Competitiveness Yearbook 2017*. Lausanne, Switzerland: International Institute for Management Development.
- Lakhani, K. R. 2006. Broadcast Search in Problem Solving: Attracting Solutions from the Periphery. *Portland International Conference on Management of Engineering and Technology*, 6, 2450-2468.
- Laursen, K., and Salter, A. 2006. Open for innovation: The role of openness in explaining innovation performance among UK manufacturing firms. *Strategic Management Journal* 27(2), 131-150.
- Lüttgens, D., Pollok, P., Antons, D., and Piller, F. 2014. Wisdom of the crowd and capabilities of a few: Internal success factors of crowdsourcing for innovation. *Zeitschrift Für Betriebswirtschaft*, 84(3), 339-374.
- Pisano, G. P. 2015. You Need an Innovation Strategy. *Harvard Business Review*, 93(6), 44-54.
- Poetz, M. K., & Schreier, M. 2012. The Value of Crowdsourcing: Can Users Really Compete with Professionals in Generating New Product Ideas?. *Journal of Product Innovation Management*, 29(2), 245-256.
- World Economic Forum. 2016. *The Global Information Technology Report 2016*. Retrieved from World Economic Forum Website: [http://www3.weforum.org/docs/GITR2016/WEF\\_GITR\\_Full\\_Report.pdf](http://www3.weforum.org/docs/GITR2016/WEF_GITR_Full_Report.pdf)