SECTION 1. Macroeconomic processes and regional economies management

Kurt Matzler (Italy), Johann Füller (Austria), Katja Hutter (Austria), Julia Hautz (Austria), Daniel Stieger (Austria)

Crowdsourcing strategy: how openness changes strategy work

Abstract

Strategy development has traditionally been exclusive and secretive. Social software offers new opportunities to harness the collective intelligence of the crowd within organizations and allows more open, participatory modes of strategizing. This paper describes this new phenomenon of open strategy though crowdsourcing and discusses its implications for research and practice. It draws on first examples of crowdsourcing strategy and is further based on observations and theoretical reflections. To understand the phenomenon with its requirements and consequences, a number of questions and challenges are identified which remain to be investigated. These include how the process of opening up needs to be designed, how individuals can be motivated to engage, for which topics and under which conditions crowdsourcing strategy is a suitable approach, how strategies emerge in such initiatives, the appropriate role of management, and how corporate culture affects and is affected by crowdsourcing strategy. Open strategy through crowdsourcing is a newly emerging empirical phenomenon, which seems to fundamentally change the strategist's work. More open and inclusive ways of strategizing not only offer new opportunities, but also create some challenges for organizations. This paper deepens the insights in this new phenomenon and identifies seven topics critical for research and management practice.

Keywords: strategy, crowdsourcing, collective intelligence.
JEL Classification: M19.

Introduction

Due to the advent of social software technologies, firms are increasingly relying on the participation of large crowds of individuals in a variety of value-creating business tasks (Prpić et al., 2015). The term "crowdsourcing" thereby refers to a company's or institution's activity of outsourcing a function once performed by specific employees or departments to an undefined (and generally large) network of people in the form of an open call on the Internet (Howe, 2006). Research has shown that engaging a large crowd can be leveraged in business processes such as the generation and diffusion of innovation, marketing activities and sales support (Bernoff et al., 2008; Afuah et al., 2012; Bayus, 2013).

But also information systems and strategizing practices have become inseparable (Whittington, 2014). As organizations are increasingly adopting social software technologies, new opportunities for leveraging the knowledge of the "internal crowd" of employees also in strategy processes emerge. The potential of a company's workforce outside of exclusive top management teams as valuable source for input in the strategy process is not well considered yet. However, social software or – in the context of organizations – Enterprise 2.0, supports the collection of ideas, group interaction, the establishment of communities, and the creation and the exchange of content (von Krogh, 2012). There is a reason to believe that crowdsourcing based on social software radically changes the way companies formulate and implement strategies, and allow a more open and participatory mode of strategizing through including a larger number and variety of individuals within organizations. These new approaches – variously labeled as "democratizing strategy" (Stieger et al., 2012), "open strategy" (Whittington et al., 2011), "open-source strategy" (Newstead et al., 2010), or "strategy as a practice of thousands" (Dobusch et al., 2012) – involve a large number of diverse people in generating, discussing, and evaluating strategy ideas. By enabling peer production and unbounded collaboration, social software systems allow employees to engage in conversations and collaborations across functions, regions and hierarchical levels (Huang et al., 2013). These systems are built on easy to use and intuitive applications like blogs, wikis, social bookmarking, or editing platforms, and utilize infrastructure and open platforms that reap considerable economies of scale.

The idea of democratizing strategy and increasing scope of inclusion and participation is not new. Almost two decades ago, C.K. Prahalad said in an interview: "Strategy is not only created by people at the top of a company or its planning department. Strategy needs

Kurt Matzler, Faculty of Economics and Management, Free University of Bolzano, Italy.
Johann Füller, Department of Strategic Management, Marketing and Tourism, Innsbruck University School of Management, Austria; Hyve AG, München, Germany.
Katja Hutter, Department of Marketing, Salzburg University, Austria.
Julia Hautz, Department of Strategic Management, Marketing and Tourism, Innsbruck University School of Management, Austria.
Daniel Stieger, Department of Strategic Management, Marketing and Tourism, Innsbruck University School of Management, Austria.

the wealth of information and knowledge possessed by people at the `coalface` to make it happen, by people who are continually dealing with customers, competitors, technologies, and suppliers. Democratizing strategy creates a new way of thinking about a process for pooling collective knowledge and commitment in an organization and channeling it" (Prahalad, 1995, p. 132). In a similar vein, Gary Hamel wrote: "Strategy making must be democratic [...] The capacity to think creatively about strategy is distributed widely in an enterprise" (Hamel, 1996, pp. 75-76). Interestingly, these revolutionary thoughts on strategizing remained unheard in theory, as well as in practice. Strategy is still believed to be formulated deliberately at the top and implemented below (Mintzberg, 2009). Strategy development has traditionally been exclusive, i.e., the job of the top management team, and secretive, to protect competitive advantages (Whittington et al., 2011). However, strategy work is changing dramatically. The ideas of open innovation (Chesbrough, 2003), crowdsourcing (Howe, 2006), and collective intelligence (Surowiecki, 2004; Page, 2007) have had a profound impact on how organizations create value, how they externally and internally collaborate, and how they make decisions. Chesbrough and Appleyard (2007) introduced the idea of open innovation to strategy. They argue that the notions of intellectual commons, peer production, and collective innovation require a rethinking of how companies formulate and implement their strategies.

Crowdsourcing requires the collaboration of a large number of people to tap into the collective intelligence of an organization. Until recently, this has been costly and difficult. However, social software offers new opportunities for collaboration and allows the involvement of a larger crowd – with little effort and at low cost. Information systems are enablers and shapers of crowdsourcing (Majchrzak et al., 2013). Social software tools increase outreach and information richness, enable remote and asynchronous collaboration, and allow for cognitive diversity, independence, and additive aggregation (which are requirements for the wisdom of the crowd, see Surowiecki, 2004).

Strategy work is being revolutionized. It seems that a number of forces (societal, cultural, organizational and technological) push companies to open up their strategy processes and include a greater variety of more diverse individuals. Open strategy based on crowdsourcing might become a major new phenomenon in strategy research and practice, raising many questions to be answered (Whittington et al., 2011). Strategy work can be opened internally (e.g., involving employees) and externally (e.g., involving external stakeholders). This paper focuses on internal forms of open strategy, on crowdsourcing strategy among employees which, for example, include jamming or blogging approaches (Whittington et al., 2011). Social software enables companies to tap into the power of collective intelligence, bringing employee involvement in strategy processes to the next level (Stieger et al., 2012).

The open strategy approach seems to have two major benefits. First, it allows companies to gather knowledge and expertise from all parts of the organization, and to tap into the wisdom of the crowd (Surowiecki, 2004). Under certain parameters (i.e., diversity, independence, decentralization, and correct aggregation of information), large groups of people can be better at problem solving, fostering innovation, coming to wise decisions, and predicting the future than an elite few (Surowiecki, 2004) diversity trumps ability (Page, 2007). This observation should be particularly significant for strategy processes. Indeed, it has been acknowledged recently that the paradigm of collective intelligence and crowdsourcing (which usually is used for external sourcing, e.g., open innovation) can be applied inside a company as well (Bonabeau et al., 2001; Bonabeau, 2009). To understand whether and how social software based crowdsourcing changes, strategy work is an important question for research.

Second, strategy rarely is a product of an individual strategist or a homogenous strategy team. Rather it is a process of social interactions, based on the beliefs and shared understandings of an organization's members (Mintzberg et al., 2009). It is also known that if the "implementers do not own the strategy," strategy implementation is likely to fail (Giles, 1991). Insufficient buy-in or insufficient understanding of the strategy among those who implement it is a common reason for poor implementation. Hence, involvement of a larger number of employees in the strategy process has long been recognized as a means to create a shared understanding, stronger commitment, and effective implementation (Sterling, 2003). Crowdsourcing strategy and broadly involve employees might be an important means to increase implementation commitment and improve execution. Social technologies help to remove communication barriers and promote inclusion, enabling an organization-wide dialogue. Employees can participate in open discussions, contribute their ideas, and comment on their peers' opinions and, thus, collectively develop and contribute to strategies.

This paper explores the phenomenon of open strategy through crowdsourcing. Whereas initial experiences show that social technology features (e.g., transparency, inclusion, independence, peer review, etc.) positively influence the quality of strategy ideas, identification, and implementation commitment (Gast et al., 2012), there are also a number of potential risks

and challenges to be considered, e.g., discussions can evolve in unpredictable ways, management might have to decide against the "crowd", critical knowledge or secrets are difficult to protect, etc. (Stieger et al., 2012). We argue that in order to understand the phenomenon of crowdsourcing strategy with its requirements and consequences, a number of questions remains to be investigated. These include how the process of opening up strategy through crowdsourcing needs to be designed, how individuals can be motivated to engage and contribute, for which topics and under which conditions crowdsourcing strategy is a suitable approach, how strategies emerge in such initiatives, the appropriate role of management, and how corporate culture affects and is affected by opening strategy work. In this paper, we identify critical issues and challenges for research and managerial practice associated with crowdsourcing in the strategy process.

1. Opening up the strategy process through crowdsourcing

Before discussing these issues and challenges on increased openness and crowdsourcing in strategizing processes in detail, first, empirical examples on open strategy will be introduced. Based on these examples, it will, then, be discussed how the introduction of more participatory modes of strategizing challenges established assumptions not only concerning involvement and participation in strategy processes, but also regarding social, hierarchical, political, motivational, and power structures in organizations.

Most recently, more and more corporations are experimenting with more open, participatory crowdsourcing modes of strategizing. Thereby open strategy is not limited to large multinational organizations. An Austrian medium-sized automation supplier, for example, has relied on crowdsourcing principles in its strategizing attempts (Stieger et al., 2012). In order to broaden perspectives and increase diversity in its strategy formulation process, an Intranet-based platform was set up and all employees were invited to discuss four central strategy topics (success factors/strengths, future customer solutions, process improvement, new technologies). Social software was specially developed and tailored to the demands of an intra-company crowdsourcing initiative (Stieger et al., 2012). The platform listed the central topics, which were expected to be discussed by the crowd of employees. These topics led to major questions that employees should further contribute to and work on. Participants could thereby start threads and assign them to one of the central topics. Each thread covered a new direction of discussion that had not been addressed before and included a specific dialogue among employees focusing on one central idea. Participants could state their opinions and take part in the dialogue by adding posts to such a thread. By implementing a feature for anonymous publishing, fear of exposure and evaluation was minimized. Asynchronous communication was supported by storing the threads, which allowed each participant to view the contributions of others and respond to them anytime (Stieger et al., 2012). Out of 370 employees, 216 registered, whereas roughly half of them actively contributed to the strategy dialogue. During the first day the platform was online, 22 threads and 203 comments on those threads were posted. After two weeks, 135 threads included a total of 1,374 comments (Stieger et al., 2012).

The German Bank Hypo Vereinsbank (HVB) is an example of crowdsourcing strategy in the service sector. HVB placed great importance on engaging their employees in an open strategy project with the title "If I was my customer …" (in German: "Wenn ich mein Kunde wär' …") (Berger-Baader-Hermes, 2012). This project was the first phase of the initiative "Excellent customer experience" (in German: "Exzellente Kundenerlebnisse"), was launched as a consequence of the financial crisis, which put enormous pressure on the banking sector to win back customers' trust and loyalty (Koch, 2013). HBV intended to do so by improving customer services (Koch, 2013). An active involvement and integration of employees in the development and implementation of customer services standards was expected to be especially beneficial in the service sector, where customer satisfaction is heavily dependent on employees' performance (Berger-Baader-Hermes, 2012; Matzler et al., 2014). The open strategy initiative gave 8,000 employees and managers – responsible for private customers and small and medium sized enterprises (SMEs) – the opportunity to jointly develop and define future service and consulting standards, which should later be implemented in their daily work routine. Over six weeks, employees were invited to describe an excellent customer experience based on real-life examples, thereby focusing on the employees' behaviors rather than processes, products or systems of the bank. Nearly 2,600 employees participated and contributed 900 new standards and 1,500 comments. The initial "If I was my customer …" project soon turned into an industry-wide best practice example. A follow-up project "You are the bank" (In German: "Du bist die Bank"), was launched with the goal to successfully implement the jointly developed and predefined service and consulting guidelines through all branches in the country by again actively including employees from all hierarchical levels (Berger-Baader-Hermes, 2012).

The third example concerns a company-wide idea contest set up by a German multinational engineering and electronics company. The intranet-based contest platform was intended to generate ideas and gather

validation for a strategy concept within a particular organizational sector. This strategy would have the scope to impact 25,000 employees, and the organization wanted to engage the employees in the development process in order to gain as much buy-in as possible. The contest targeted the entire work force from one sector to submit strategies for creating and validating new business opportunities. The contest launched mid of April, 2011 and ran for two months. In total, more than 400 employees submitted more than 100 ideas. Further employees provided more than 600 evaluations and 350 detailed suggestions for improvements related to submitted concepts and ideas. At the end of the contest period, five sector experts within the organization picked the top 50 ideas, which were presented to the board, who selected three winners. The three winning ideas were further developed and business plans prepared.

Table 1. Cases of crowdsourcing strategy

	BM (anonymized Austrian automation supplier)	Hypo Vereinsbank (HVB)	EEC (anonymized engineering and electronics company)
Strategy issue	Understand success factors and identify new technological solutions. Create a dialogue with employees.	Implement "Excellent customer experience" strategy and derive service standards that can be implemented.	Submit strategies for creating and validating business opportunities with growth potential in sector X.
Means	Intranet-based corporate-wide platform with social software functionalities	Intranet platform with social software functionalities: 2 phases: 1) define service standards ("If I was my customer..."), 2) then implement them ("You are the bank").	Intranet-based crowd contest platform
Openness	The intranet platform was accessible for two weeks to discuss four questions: 1. Success factors/strengths? 2. Future customer solutions? 3. Process improvement? 4. New technologies? During that time-span, participants were free to start new threads, assign them to one of the four topics, and comment on other people's posts	Open non-stop, giving 6,000 employees and managers the chance to post ideas, discuss and modify them, exchange experiences with colleagues, and describe everyday customer experiences in order to derive concrete service standards that can now be implemented.	Open for eight weeks to all employees from one business sector. Participants could submit ideas, evaluate ideas, or actively engage in discussions about submitted idea proposals, or chat with other participants by leaving messages on other members' profiles.
Results	♦ Of the 370 employees, 216 registered ♦ 135 threads; 1,374 comments ♦ 2 new, so far unknown technological issues were brought up	♦ 2,592 employees took part ♦ In six weeks, the service standards were defined and summarized in six major categories ♦ Currently, the company is in the middle of implementing using the "You are the bank!" platform (employees discuss standards and contribute to implementation)	♦ 466 participants ♦ 138 ideas were submitted ♦ 355 suggestions for improvements ♦ several ideas have been tested, patents examined, project strategies developed, and business plans drawn up

Table 1 summarizes the three examples with their strategy objectives, means, kind of openness, and the results.

2. Crowdsourcing strategy – research issues and challenges for practice

2.1. Participation (inclusion vs. exclusion). One objective of crowdsourcing strategy is to involve a larger number of employees in strategy projects. There are many positive effects of increasing the scope of involvement in strategy processes, such as "improved strategy execution, higher quality decisions, better understanding of deliberate strategy, enhanced organizational learning, stronger organizational commitment, higher job satisfaction, more adaptive core competencies, the development of competitive advantage and improved organizational performance" (Collier et al., 2004, p. 67). In all three examples, participation rates were high. However, as has been observed in open source and online innovation communities before, participation levels are not evenly distributed (Füller et al., 2014). Typically a small, dense, active core of participants dominates crowdsourcing strategy initiatives, complemented by a large, passive "periphery". In the first case, of the medium-sized automation supplier, an "impact factor" was calculated as a measure of active participation and impact of contributions. Based on the number of citations a post received, participants were rewarded with points for their contributions (Stieger et al., 2012). The top three participants achieved an impact-factor of 1,700, 1,480 and 1,120, respectively, achieved for starting two discussion topics, which attracted high numbers of comments by others. 51 participants (i.e., 20% of the participants) generated an impact factor above 100 and one third of all registered participants generated an impact above 30 points. 130 participants (i.e., half of the participants) did not receive any points at all; they did not write any comments and/or no other person commented on their posts.

Hauptmann and Steger (2013) argue that social networks within organizations create a kind of "parallel world". This might exclude many organizational members (e.g., digital natives versus elder cohorts), and individuals who are active in these networks do not necessarily represent the whole organization, but rather an exclusive section of organizational members. Hence, while on the one side

social software-based open strategy initiatives enable the inclusion of more employees in strategy processes, there still remains the inclusion-exclusion problem (Hauptmann et al., 2013). Some employees might feel excluded, because they do not have sufficient access (e.g., in production plants) (Stieger et al., 2012). Further, studies have shown that an important barrier to the adoption of a new technology is peoples' perceptions and attitudes towards it, as well as disinterest in the topics addressed (Matzler et al., 2014). Other employees might be excluded, because they lack skills for participation, have a fear of exposure or feel that they do not have enough time to be devoted to such an initiative outside their daily work routines (Füller et al., 2009). Hence, the adoption and implementation of technically advanced open strategy initiatives is dependent on the management of the technical, as well as the social components. Studies show that when (middle) managers are excluded from strategy-related conversations, this leads to alienation, lack of commitment and motivation to implement strategies, and intra-organizational conflict (Wooldridge et al., 2008). The inclusion-exclusion problem in open strategy projects based on crowdsourcing might, therefore, be a serious issue and needs strong attention in research and in practice.

The negative effects of exclusion together with the fact that only a small, dense, active core contributes most to open strategy projects raise the question of how employees can be further incentivized to participate and to contribute. Companies can rely on different kinds of incentives (monetary and non-monetary) to foster sufficient crowd activity on open strategy platforms. Also diverse allocation mechanisms exist, as incentives can be given to the most active contributors that generate the most influential contributions or to the best contributions that are selected and implemented. As these platforms are built to draw on the collective intelligence of a crowd of employees, they facilitate interaction, information exchange, topic-related discussion, and community building and, thus, cooperation. However, if incentivized through monetary or non-monetary rewards, a certain degree of competition among the participants will occur. This competition can be spurred by incentives or by employees' desire for recognition, career prospects, and reputation gains. In that case, open strategy projects are characterized by cooperation and competition, a phenomenon that has been labeled "communitition" (Hutter et al., 2011) in the context of innovation communities. Diverse fields of literature such as economics (Greenhalgh et al., 2006), game theory (Brandenburger et al., 1996), knowledge sharing (Tsai, 2002), team performance (Beersma et al., 2003), innovation (Quintana-García et al., 2004), and problem solving (Qin et al., 1995), studied the question of whether competition or cooperation is more beneficial. Social interdependence theory (Deutsch, 1949; Johnson et al., 2005) argues that the structure of interdependencies among individuals determines cooperative and competitive behavior among them. Positive levels of interdependence lead to cooperative interactions via higher expectations of assistance and support, harmony, and trusting and friendly relationships, whereas negative interdependencies result in competitive interactions such as pursuing individual goals and win-lose rewards, increasing mistrust, and restricting information and resource exchange (Ghobadi et al., 2011). Studies in innovation communities found ambiguous results regarding hybrid structures (for a review, see Bullinger et al., 2010), and it remains to be studied how cooperation and competition among employees in crowdsourcing strategy projects influences the quality of contributions and acceptance of strategies.

2.2. Contributions to strategy. The preliminary examples showed that through projects on crowdsourcing strategy companies also intended to break established routines and thinking attaining new perspectives and ideas. In these cases, many idea submissions came from the "far reaches" of the organizations, and executives were surprised how widely the ability to think creatively about strategy was distributed in the company. Daimler's car sharing business model was an outcome of the web-based initiative (Daimler, 2011b, 2011a); in the case of the Austrian automation supplier, two new technologies were brought to the surface by employees. These outcomes confirm Gary Hamel's view on strategy as a revolution: "Strategy making must be democratic ... The capacity to think creatively about strategy is distributed widely in an enterprise. It is impossible to predict exactly where a revolutionary idea is forming" (Hamel, 1996). The use of social software, where individuals can contribute, comment, criticize and evaluate ideas, allows more cognitive diversity, which improves the ability of a group to process information, as it increases variety in knowledge and perspectives (Kellermanns et al., 2011). The focus of the three cases analyzed was on different phases of strategy formulation. The first case (automation supplier) and the third case (EEC) focused on strategic analysis and identification of ideas (e.g., success factors, strengths and weaknesses, future solutions), the second case focused on strategy implementation (i.e., involving employees to develop ideas to operationalize the strategy and contribute ideas for implementation). Although in all three cases valuable contributions were made by the employees, the question arises for which strategy topics social software-based open strategy is most suitable.

This leads to an issue discussed in the innovation contest literature: all problems are suited for crowdsourcing (Boudreau et al., 2013). Some authors argue that the tasks given to a crowd should be of a modular, self-contained, closed solution type (Afuah et al., 2012; Majchrzak et al., 2013). This has led some researchers to suggest that crowdsourcing tasks should be split into phases, e.g., invite contributors to suggest ideas, let these ideas be evaluated by the crowd or by a jury, then, re-invite the crowd to discuss specific questions and develop ideas further (Hutter et al., 2011). Such staged approaches could work well in strategy projects. In the case of HBV, a stepwise approach has been chosen with a first phase to source ideas, while in the second phase the implementation of jointly developed guidelines and standards was at focus (Berger-Baader-Hermes, 2012). However, based on her experience, Waltraud Kaspar-Hieke responsible for service quality management at HBV, encourages to go even further with staged approaches for opens strategy initiatives "…for increased identification with the results, the next time I would prefer a stepwise aggregation and selection with multiple votings…" (Kaspar-Hieke in Leichsenring, 2012, part 3). However, specific research is needed to understand which problems are suited for open strategy and how the process can be structured and managed.

2.3. Social structure. Stieger et al. (2012) argue that social technologies and collaboration software allow companies to tap into the crowd of their employees on a greater scale than ever before and to integrate the organization's members in a strategy dialogue. This allows companies to start dialogues across hierarchies and departments. Hence, these more open forms of strategy-making that lead to more transparency and more inclusion of different actors (Whittington et al., 2011) provide more opportunities for social interaction and exchange, thereby changing systems of social structures within organizations. "Jumping" of traditional hierarchies when interacting and communicating might challenge power structures and assumptions of traditional strategic roles of managers. In particular, middle managers have been viewed as very critical for strategies, as they synthesize, facilitate, champion, ratify and implement (Burgelman, 1991; Floyd et al., 2000). In traditional strategy processes, middle managers are uniquely positioned in the evaluation of information, as they have more knowledge of the strategic situation of the organization than operating managers and are more familiar with operational matters than top managers (Floyd et al., 2000). The fact that social software-based open strategy allows communication across hierarchies and departments raises the question of how roles and power structures in such forms of strategizing change.

The identification of strategically relevant and influential individuals within organizations is difficult and problematic, and understanding why some organizational actors are more influential and involved in strategy processes is still an important issue in strategy research (Pappas et al., 2007; Wooldridge et al., 2008). When log file data are available, social software-based open strategy projects further allow the use of social network analysis to investigate the social structure of relationships and interactions, favorable positions and influential people in the network, as well as their behavior in strategizing.

Research in online innovation communities has further shown that interaction and collaboration establish social relationships and create a sense of community (Abfalter et al., 2012; Gebauer et al., 2013). Communities develop a shared language, a joint history, and, over time, possibly common values and beliefs (Lakhani et al., 2003). The formation of a sense of community across hierarchies, departments, and organizational units might have a number of positive effects, but might also lead to dysfunctional behavior, e.g., when there is disagreement between the community and management decisions. Da Cunha and Orlikowski (2008) have shown that, in the context of a long-time change project in a major company, employees in online forums developed three practices through which they vented their negative emotions and tensions: constructing counter-narratives, sharing protest stories, and expressing solidarity. Promising and important questions, therefore, concers how social software-based open strategy projects foster a sense of community among employees and the positive and negative consequences of such a collective.

2.4. Unpredictability (consensus vs dissensus). Companies that open their strategy processes through crowdsourcing must be aware that in such projects discussions can evolve in unpredictable directions. The "crowd" might reveal topics that are slumbering under the surface or come up with strategies or solutions management is not prepared for (Stieger et al., 2012). Controversial issues that emerge might create endless discussions and tensions. Literature on strategic consensus assumes that shared strategic thinking improves coordination and integration of collective efforts, smoothes implementation of strategy and ultimately enhances organizational performance (Bourgeois, 1980; Kellermanns et al., 2011). Sam Palmisano, former CEO of IBM, described his experience with IBM's Innovation Jam to include all employees in the formulation of corporate values this way: "They [the employees] were thoughtful and passionate about the company they want to be a part of. They were also brutally honest. Some of what they wrote was painful to read, because they pointed out all the bureaucratic and dysfunctional things that get in

the way of serving clients, working as a team or implementing new ideas. But we were resolute in keeping the dialogue free-flowing and candid. And I don't think what resulted-broad, enthusiastic, grassroots consensus-could have been obtained in any other way" ("Our Values at Work on Being an IBMer" www.ibm.at cited in Skarzynski and Gibson, 2008). Management has to be prepared for harsh critique, and for employees to directly and bluntly address issues they consider important. In an open strategy process, where "employees would feel free to share their thoughts and opinions, however politically charged they might be" and where "the internal debate about strategy, direction, and policy would be open, vigorous, and uncensored" (Hamel, 2007) unpredictable issues might emerge, and employees might take sides in debates and identify with and commit to controversial issues. There is a high risk that, when debates and disputes persist for a longer time, community members will become divided and polarized into different and incompatible groups (Smith, 1999), whereby members become disengaged and alienated (Mortensen et al., 2001). In the context of an online discussion forum-based change management project, Da Cunha and Orlikowski (2008) found that employee engagement in online forums can have the paradoxical effect of resisting and facilitating implementation at the same time. The online forum facilitated expression of resentment, frustration, and solidarity and, thus, provided an outlet for the employees' emotions, while this, at the same time, defused negative emotions and frustrations and dampened interest to openly resist the change program.

In crowdsourcing strategy projects, dissensus among employees and between employees and management might emerge and it remains to be studied how such dissensus can be solved, as well as how such dissensus across hierarchies and departments influences strategy projects and their success.

2.5. Misuses. Social media platforms can blur the line between private life and work life (Hauptmann et al., 2013) and this may lead employees to misapply social media for private conversations, congesting crowdsourcing platforms with irrelevant content, as evidenced by this statement: "Other participants did have fun posting topics like canteen food" (Stieger et al., 2012). While there is a lot of evidence that increased involvement in strategy leads to stronger visions, increased rationality, and enhanced adaptiveness, there is also evidence that increased involvement may lead to more politics, cultural inertia and more constraints imposed on strategy (Collier et al., 2004). In their study on the use of social software within organizations, Denyer et al. (2011) come to a very disillusioning conclusion: "The use of the technology to serve political ends by those within the organization may include power, suppression, hiding behind the technology or other forms of abuse" (Denyer et al., 2011, p. 388). Research on middle management has shown that there are several specific ways in which middle management hindered strategy implementation, including foot-dragging and sabotage (Guth et al., 1986). Also, middle manager perceptions of the strategy process can be colored by individual and unit self-interest. As crowdsourcing strategy widens the scope of involvement, the question arises how employees (middle managers, and employees in the lower ranks) might misuse such platforms, form coalitions, politicize, pursue self-interest, etc. Hence, questions like "What is opening strategy's impact on politization?" and "What is the influence of, e.g., transparency, anonymity, etc.?" need utmost attention in future research.

2.6. Management role and responsiveness. Studies on employee involvement in strategy process have shown that it has a positive effect on employees' motivation and implementation of strategic plans. Through their involvement they feel that they are taken seriously, which increases their understanding and acceptance of the strategy and foster collective sensemaking and organizational commitment (Mantere et al., 2008). This results in high engagement and can lead to an overwhelming number of ideas, which – as has been shown by Stieger et al. (2012) – can create a serious problem for managers, especially if their role in the open strategy initiatives is not clearly specified and they are not prepared for dealing with so many different ideas. Hence, the question remains how senior management should engage in such initiatives and discussions. From the employees' perspective, not adequately responding to ideas and contributions can lead to frustration and bewilderment. In the case of HBV, nominating at least one advocate in the executive board, who embodies, supports, and sponsors the initiative was identified as crucial success factor (Koch, 2013). Appropriately, reacting to ideas, recognition, clarifying roles of managers, etc., are important issues that have to be addressed in open strategy projects.

2.7. Culture. Stieger et al. (2012, p. 65) argue that the critical challenge for crowdsourcing strategy is not related to "the technological infrastructure, but in creating a suitable process to encourage and guide employees in their participation". The executive vice president of Strategy and Marketing at Red Hat, a company that introduced an open strategy process, said: "A traditional strategic planning model would not work at Red Hat. Red Hat had a deeply entrenched and open source-inspired culture that prized transparency and collaboration" (Yeaney, 2011). Besides technological, societal, and organization issues, Whittington et al. (2011) also see cultural change as a driver of opening up the strategy process. Postmodern-skepticism and the belief that knowledge is no longer

organized hierarchically in organizations or in society is a cultural force that drives companies to open their strategy processes. Hence, an open culture that emphasizes transparency and open dialogues, where employees have no fear of exposure, seems to be an important prerequisite for open strategy. Obviously culture matters, and it remains to be researched which cultural environment best fits an open strategy approach, what topics are suitable for open strategy projects, and how opening strategy changes the culture within an organization.

Table 2 summarizes our identified seven issues and associated challenges for research and practice.

Table 2. Identified issues and challenges

Issue	Challenges for research and practice
Participation	How does the inclusion-exclusion phenomenon influence the success of crowdsourcing strategy? How does "communitition" influence the quality of contributions and acceptance of crowdsourced strategies?
Contributions to strategy	For which strategy topics are crowdsourcing strategy projects based on social software-based most suitable (see also the problem of knowledge leakage)?
Social structure	How does increased openness in strategy processes through crowdsourcing changes the social structure within organization? How do roles and power structures in strategizing change? Who are the influential people and positions in open strategizing?
Unpredictability of evolution and outcomes	What are the effects of consensus/dissensus that may emerge among employees and management?
Misuses of the platform	What is the impact of increased openness on politization? What is the influence of, e.g., transparency, anonymity, etc.?
Role and responsiveness of management	What is management's role when opening up the strategy process through crowdsourcing? How can managers effectively react to overwhelming numbers of contributions?
Culture	How does organizational culture influence opening up strategy and vice versa?

Conclusion

Opening up the strategy process internally through crowdsourcing seems to fundamentally change the strategist's work (Whittington et al., 2011). More open and inclusive ways of strategizing offer new opportunities to tap into the knowledge of a large crowd of employees, regardless of position, and to create more identification with and more commitment to a strategy. However, crowdsourcing strategy also creates some challenges for organizations. This paper describes three cases of crowdsourcing strategy and identifies seven critical issues based on our observations and on our theoretical reflections. These issues raise important questions and have wide implications for managerial practice. It remains to be studied how crowdsourcing strategy influences the outcome of strategy work (i.e., quality of strategy and quality of execution). As knowledge is increasingly democratized, strategies that are built on the "wisdom of the crowd" (i.e., knowledge of all organizational members) may be more realistic and executable. Strategy formation is a process of social interaction, based on the beliefs and shared understandings of an organization's members (Mintzberg et al., 2009). Involving all employees in strategy making might increase identification and commitment and, as a consequence, improve execution and performance.

In open strategy projects, the role of top management is changing from authors of strategy to editors of strategy (Skarzynski et al., 2008). The more inclusive approach to strategy also changes the role of employees from implementers of strategy to active shapers of strategy. Managers might not have to "sell" their strategy anymore to employees, who, having been part of its formulation, "own" the strategy. Middle managers' role in strategy has been described as synthesizing, facilitating, championing, and implementing (Burgelman, 1991; Floyd et al., 2000). A major question to study is how roles of managers and employees on all levels change when strategy dialogues across hierarchies, departments, and organizational units are made possible. How does crowdsourcing strategy foster a sense of community among employees, and what are the positive and negative effects?

A third major challenge relates to predictability. A big advantage of an exclusive and secretive strategy process is that it is easier to manage and to control. In this regard, crowdsourcing strategy entails major risks. How can and should managers react to unforeseen and uncomfortable ideas and discussions? What is their role? How should they intervene? How can dissensus among employees, departments, etc., be solved when individuals and groups commit themselves to opposing ideas? How does such dissensus influence the quality of a strategy and its implementation?

Crowdsourcing strategy also poses some significant threats to organizations. Users of social software can organize within online communities and "develop a life of their own" (Wiertz et al., 2007). This may also be the case in open strategy projects and politization, bullying, and misusing the open strategy platform for private and irrelevant topics are potential consequences. Management is challenged with understanding which interventions are beneficial vs. obstructive in building vibrant and effective platforms and communities (Haefliger et al., 2011).

While it seems that involving employees in strategy projects on a large scale increases their motivation and their commitment, management has to be aware that it cannot appropriately react to all suggestions and ideas. As employees publicly expose themselves with their contributions, neglecting or rejecting suggestions, ideas, or contributions might have contrary effects. As has been observed in the cases, managers had to deal with an overwhelming number of contributions. Hence, it has to be studied how employees can be kept motivated and engaged during and after an open strategy project. This especially involves the role of managers in reacting to contributions, selecting ideas, recognizing contributions, and dealing with them. Opening up strategy process thorugh crowdsourcing does not imply that decisions are democratized: "Openness refers to the sharing of views, information and knowledge, not a democracy of actual decision making" (Whittington et al., 2011). Hence, decision making power remains with top-management. Whether and how top management can decide against the opinion of a "crowd" involved in the process, and how involved employees react to such decisions, is to be studied. Studies in the context of involving users in co-creation projects via open innovation communities show how strong reactions can be when participants, who during the initiative develop a sense of community, perceive the sponsoring company's decision as unfair (Gebauer et al., 2013).

This paper explores crowdsourcing strategy within organizations. However, open strategy may also involve external stakeholders, e.g., customers, suppliers, or other external partners. Whittington et al. (2001) distinguish between internal and external openness of strategy where in the latter case external actors are included (Dobusch et al., 2013). Opening strategy to externals adds much complexity to the process and likely leads to new questions and concerns, e.g., the issue of knowledge leakage (Hustad et al., 2008) or the management of community boundaries, for which current strategy literature offers little guidance (Haefliger et al., 2011). In this context, von Krogh (2012) points out two important issues: 1) how can critical knowledge be protected from spilling over with social software and 2) how can the value of knowledge, and, in turn, the value of a knowledge-intensive company, be ensured when this value rests on "the quality, distinctiveness, and ownership of data, information, and knowledge" (p. 158)?

Finally, crowdsourcing strategy requires an open culture. Not every company and not every problem might be suitable for such an initiative. Cultural antecedents and consequences for using crowdsourcing in the strategy process seem to be another major challenge for management in this context.

This paper closes with a final consideration. Crowdsourcing strategy might have the potential to disrupt the consultancy industry. Consulting firms are hired for their specialized knowledge and for their capabilities, however, "as access to knowledge is democratized, opacity fades and clients no longer have to pay the fees of big consulting firms" (Christensen et al., 2013, p. 7). Social-media supported platforms might be the enabling technology to effect this change. Companies might start with small and simple open strategy projects (e.g., SWOT-Analysis, idea generation) and learn the benefits of the approach, improve processes, extend the scope and step-by-step realize that fewer and fewer strategy problems require consultants. A McKinsey study from 2011 (Bughin et al., 2011) found that companies that use social technologies (e.g., social networking, blogs, Wikis) do so to scan the external environment (73%), find new ideas (73%), manage projects (55%), and develop strategic plans (43%). In these companies, open strategy has already gotten a foothold.

Acknowledgement

This work was supported by the Austrian Science Fund (FWF), project "Crowdsourcing Strategy", project number P 27445.

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