Dominika Latusek-Jurczak
Kaja Prystupa-Rządca
Kozminsky University, Poland

COLLABORATION
AND TRUST-BUILDING
IN OPEN INNOVATION
COMMUNITY
Abstract

Growing popularity of open innovation communities poses various challenges for business practice. One of them is trust, which facilitates social interaction, provides basis for risk-taking and strengthens cooperation. In virtual environment traditional mechanisms of its development are unavailable. However, in many companies using virtual teams trust is created, maintained and capitalized, which provides indication that it may be developed in other ways.

In this paper, the authors present a study of work within testing community in computer game industry based on two-year qualitative fieldwork, which may serve as an example of trust emergence in virtual environment.

Keywords: open innovation community, trust, virtual teams.

Introduction

The advancement of the web and mobile communications has led to a globally shifting movement away from business’ brick and mortar team structures to innovative technical teams working with more interactively connected technologies. The growing popularity of open innovation communities is grounded in the idea that “firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology” (Chesbrough, Vanhaverbeke, West, eds., 2006). However, the use of open innovation communities poses various challenges for all actors engaged. One of them is trust, which is particularly difficult to create, maintain and repair in virtual environments (Cook, Snijders, Buskens, Cheshire, eds., 2009; Knights, Noble, Vurdubakis, Willmott, 2001).

This paper applies a two-year qualitative fieldwork within the computer game industry testing community to develop a newly applied understanding of trust challenges in the open innovation communities.

Trust facilitates social interaction, provides basis for risk-taking and strengthens cooperation. Trust is a necessary component of team environments supporting and executing innovation. Traditionally, trust building processes are enabled by mechanisms such as repeated interaction (e.g. ensuing familiarity) and stabilizing third parties (e.g. institutions in various forms). In the context of distributed teams (Bosch-Sijtsema, Fruchter, Vartiainen, Ruohomäki, 2011) and
cooperation taking place in virtual environments (Cook et al., eds., 2009), these
traditional mechanisms are usually unavailable.

The open innovation community can be defined as “as a group of unpaid
volunteers who work informally, attempt to keep their processes of innovation pub-
lic and available to any qualified contributor, and seek to distribute their work at no
charge” (Flemming and Waguespack, 2007, p. 166). The model gained popularity in
knowledge-driven sectors, inter alia through game development companies. Tak-
ing into account rapidly changing industry trends and customers’ preferences,
the game development market is considered risky business venture, since ultima-
tely the game may not meet customers’ preferences, and such preferences
may be more nuanced and difficult to understand across virtually diverse com-
unities (Prato, Feijoo, Nepelski, Bogdanowicz, Simon, 2010). To minimize
such risk companies customarily test their products before officially launching
them by engaging people from outside of the organization.

Game production companies use different strategies of implementing exter-
nal gamers’ into their projects. They vary in their decision about when to engage
the outsiders, from where to acquire them, how to communicate with them, and
how they should protect their product legally. The number of game testers in
focus groups differs according to the size of the game; however, business prac-
tice suggests it not smaller than several dozen. Smaller organizations possessing
limited budgets cannot afford to pay for testing, and they often seek volunteer
testers. At the same time, for small companies, the need for rigorous testing
phase is even more essential; due to limited resources, they depend much more
than on the success of each single game than big companies do.

This creates an interesting situation where, on the one hand, a company
needs to guard its intellectual property since its loss would be equal to the failure
of the product. On the other hand, however, the company needs to disclose sen-
sitive information about the game to the group of volunteers who cannot be ef-
effectively monitored and controlled.. Prior research indicated that trust is the al-
ternative mean of control in the case when legal or official protection is
unavailable. However, the development of trust in virtual environment is more
complicated than in traditional circumstances of cooperation. Therefore the aim
of this research is to examine the how is trust created, maintained and capitalized
on in open innovation communities. The study has exploratory nature as this
issue has not been examined at large (Fleming and Waguespack, 2007).

In the first section of this article we examine possible sources of trust in
case of no prior experience with peers which is the situation common in open
innovation communities. In the empirical part we present the case of Cubicon, the company that engaged the community of gamers in testing of their new product. In the discussion part we use the concept of swift trust to explain the process of trust building in the specific circumstances of the case.

1. Types of trust

Trust can be defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer, Davis, Schoorman, 1995, p. 712). Trust is usually a product of repeated interaction; it is gained in time through mutual group member experience in collaboration and is supported by stable environments and third parties. But contemporary life has situations where participation and collaboration is required without any prior knowledge of partners (Latusek and Cook, 2012). Existing research indicates three possible sources for trust in situations when previous experience is unavailable:

- Stable institutions (Latusek and Cook, 2012),
- ‘Generalized trust’ (Sztompka, 1999),
- ‘Swift trust’ (Meyerson, Weick, Kramer, 1996).

2. Stable Institutions

Networks are a key source of social capital, and they reflect how rich in social capital that the society is (Cook, Hardin, Levi, 2005; Lin, 2001). In complex environments characterized by uncertainty, as are most contemporary societies, exchanges may occur among actors who are able to restrict or limit uncertainty to a level that makes the risk of cooperation acceptable. This security may be provided either by some form of reliable institutional backing when trust is unavailable. In modern societies, where most exchanges are impersonal, institutions play a crucial role (North, 1990).

Note that in those settings where trust matters most (under high uncertainty and obvious risk) individuals are least likely to rely on trust and most likely to require more formal mechanisms of coordination and control (Cook, Rice, Gerbsyi, 2004). ‘Reliability’, however, does not equate to requirement of trustworthiness, and we know that partners may be reliable due to institutional forces.
(Cook et al., 2005). Supporting this claim empirically, Yamagishi, Cook, Watabe (1998) experimentally separated assurance relations from trusting relations. It is important to remember that those institutions may lead to more secure and cooperative behavior, they may not automatically produce trust (e.g. Latusek and Cook, 2012; Sitkin and Roth, 1993; Yang, 2007).

3. Generalized Trust

People exhibit different levels of trust; some of people are more trusting, and some are less trusting (Fink and Kessler, 2010; Fukuyama, 1995; Putnam, 1993; Putnam, 2000; Yamagishi and Yamagishi, 1994). The propensity to trust which Tanghe Wisse and van der Flier (2010) define as the extent to which people have a general belief in the goodness of human nature is an amalgamation of various factors, but, to a large extent, it is also a culturally learned attitude (Mayer et al., 1995; Tanghe et al., 2010). Cultural attitudes emerge from accumulation of collective experiences shared by groups of people; in other words, they are a product of history (Sztompka, 1999). As part of collective framework of perception and interpretation, trust governs individuals’ behavior.

In Poland, the level of ‘generalized trust’ is comparatively low (Gerbsa and Latusek, 2012). Such research finding of this is explained usually through the country’s history (Sztompka, 1999). Today, Poland is still transitioning out of its time under communist rule, even though it has been 20 years from the start of transformation. The socialist state fostered a culture of suspicion and hostility, and the little social capital that remained after decades of life under Soviet domination was subsequently destroyed by transformation to a capitalist state of the early 1990’s. Under the socialist state, there was a strong reliance on closed networks of trust. Individuals accomplished many everyday tasks outside of the state system through networks of trusted associates (Marin, 2002). The uncertainty that accompanied the transition away from socialist rule reinforced this reliance on interpersonal bonds, which provided security and continuity. While closed networks, such as a person’s relationship with their family members, provided a safety net during times of change and uncertainty, an individual’s reliance on these networks had negative consequences; this created a base for corruption and cronyism (Peev, 2002; Rose-Ackerman, 2001a; Rose-Ackerman, 2001b). The patterns of social life formed under Soviet domination turned out to be a two-folded problem, because, in one way, distrust towards the state and reliance on personal connections was a useful defense against oppression and
provided shelter from totalitarian control. In comparison, it also did not contribute to building a more open society (Baier, 1986; Cook and Gerbasi, 2009; Hardin, 2002; Meyerson et al., 1996; Williamson, 1993)

4. Swift trust

In an environment where traditional way of trust emergence is hindered by time restraints or limited interaction between actors (e.g. temporary groups), researchers have proposed a notion of ‘swift trust’ (Meyerson et al., 1996). It is portrayed as a unique form of collective group members’ perception and relating that is capable of managing issues of vulnerability, uncertainty, risk and expectations’ (Meyerson et al., 1996). ‘Swift trust’ emerges in circumstances where there is limited pool of possible coworkers, which increases the speed of diffusion of information about each performance; in turn, this makes an individual’s reputation more vulnerable. For instance, freelancers, who being part of an industry-specific network, are very vulnerable to others’ opinions because it may affect their future employment possibilities. Moreover, a contractor’s reputation, for instance team leader, plays an important role in the team development and acceptance process as he or she is entrusted with selection of team members (Kawin, 1992). In other words, team members presume that their engagement in a project was measured on conscious criteria.

Task-related work enhances role-based interaction and emergence of more stable and standardized expectations based upon terms of task and specialties (Meyerson et al., 1996). Moreover, cooperation in such circumstances ensures more interactions that are frequent and provide immediate experience with another partner. If there was a possibility of many immediate disappointments in cooperation after this experience, a more rapid development of trust or distrust would be expected (Gambetta, 1988).

‘Swift trust’ will appear in situations where uncertainty is high and unacceptable, and there are premises showing trustworthiness, as social situations provide a cultural expectation of good will rather than ill will (Meyerson et al., 1996). To reduce uncertainty, people rely on predisposition, categorical assumptions and implicit theories to move them toward the greater certainty of trust or distrust (McKnight, Cummings, Chervany, 1998). Moreover, ‘swift trust’ emerges in situations where the risk of disappointment is smaller than the value of advantages associated with taking this risk
5. Method

The aim of this research was to discover how trust develops in open innovation community. The research question was exploratory in nature, as mechanisms of trust development in such environment were not examined in prior research. For this purpose, the authors used qualitative approach based on grounded theory (Glaser and Strauss, 1957; Konecki, 2000). According to this methodology, the development of theory is the derivative of empirical data analysis, which directly refers to observed reality. The nature of the research question that examines social process induced the author’s decision to use qualitative analysis.

The authors decided to choose Cubicon case for several reasons. First, it describes the development of product which was later recognized by the public as one of the best games worldwide of in its’ niche. Second, it serves as example of successful virtual collaboration. Third, Cubicon embodies common ambitions of many indie developers a group of friends with ambitious goal to manage small development studio and design worldwide-known games.

As the method of qualitative analysis, the authors followed a case study approach (Yin, 2003). The basic techniques of data collection were semi-structured interviews, a company blog, and an online forum. The interviewees were asked about: game development process, launch and functioning of the community, management of critical situations in the project and reactions of other members, premises of trust development towards others, and risk associated with cooperation.

Blogs are particularly useful in qualitative research as they allow researchers to examine social processes over the time, having insight into everyday life of the team members (Hookway, 2008). Whereas, online forum was a rich source of evidence of community members interactions. The interviews were conducted in the period of April-June 2012 with all employees of the company; the documents used in the analysis were from the period 20.11.2006-29.07.2012, consisting of around 450 pages of documentation.

Data was coded and analyzed with qualitative research software Dedoose. To maintain credibility of the results, the authors used the data triangulation method. The identities of the interviewees in the text are coded according to the agreement between the researchers and the organization under its study.

6. The case

Cubicon was a small game development company with four full-time contractors based in Poland. A young Polish game designer Greg Grudzinski and his
previous coworker, graphic designer, Lena Czerwona, launched it in 2011. The rest of the small team worked from a distance. Uwe Andreassen, a Norwegian programmer who became acquainted with Greg through an online community devoted to Wizzardy. They already had a chance to work on one project. The other specialist hired, Bob Eastman, was a British music composer who also worked earlier with Greg and maintained contact with him through community. The founder, Greg, himself was an experienced game designer who worked both for small and big Polish companies, starting his professional carrier at the age of 16.

The company focused on development of games from the niche genre called visual novel, targeting the segment of well-educated women of the age 20-35. Despite being experienced in game development, the team disposed limited knowledge about this particular genre. However, the decision to enter the segment was based on several premises. Namely, visual novels had lower production cost and were developed quicker than other games, such as, for example, RPG*, the demand exceeded supply, and the team would be able to present their unique graphic skills. The team fought to compensate the lack of knowledge and experience by conducting market research through reading different forums, blogs and playing games. Because of the investigation results, they developed project called The Snow White. Not having enough experience in visual novels, Greg decided to engage a gamers’ community to test the project.

7. Motivations to engage Cubicon’s online gaming community

Greg started active participation in the gamers’ community when he was 10 years old. He was not only playing games, but also commenting others work. He admired people who non-professionally developed games. Finally, Greg decided to give himself a chance and designed small RPG game, Wizzardy. In similar vein as other developers he consulted it with the gamers’ community. Finally, he published the game on his own website and launched forum, in order to receive more feedback.

Online forum, where the game was discussed, was not only a place for bug reporting, but also served as a general discussion about Wizzardy and other interesting games. Some of forum members volunteered for beta testing. Among them was Uwe, who had dual motivation in helping.

* RPG – role-playing game, where the gamers takes the role of a character in fictional setting.
“I was fascinated with that game, but it had many bugs. I wanted to see a better version of it. […] That time I planned to develop my own game. Beta-testing seemed good opportunity to get useful experience”. (Uwe)

Uwe respected Greg for the effort and courage that he presented by improving his game.

Meanwhile, Greg started his professional career at the biggest Polish game company as a game tester. The company presented a completely different strategy towards knowledge sharing than he had been accustomed to in his online Cubicon’s gaming community. His new employer also organized beta testing sessions before each product launch. However, the procedure looked different than he experienced earlier. Testers were invited to a big conference room; they could not leave the room unsupervised before the official end of game beta testing. Moreover, the company introduced various procedures to secure confidentiality and intellectual property of their products. Greg did not appreciate this approach and decided that he would have never followed such methods. When Greg decided to start his own business, he was sure about engagement of the gamers’ community in the project. The online community gathered around his earlier production was a ready-made solution.

8. Members of the Cubicon’s community forum

The forum was opened for everyone interested in Greg’s productions. The primary condition permitting access to discussion was registration, which required electronic submission of a nickname, surname, and email address. The profile was verified through email confirmation. The demo version of the game was available for all after it was published on website of the company. However, the access to more advanced versions was restricted to those community members who expressed interested in testing. The finished game was not available online, but it was transmitted to each person individually via email.

Participants of the forum were from different countries, backgrounds and professions (Table 1). Membership included gamers as well as small game producers of various experience levels and industries. As the forum was primary dedicated to a genre of RPG games, the fans of visual novels started to join gradually. Information about the new visual novel production was spreading through various online communities. Individuals fascinated with this genre and actively participating in online communities were a rather small group where most members knew each other through online interactions.
Table 1. Resume of bios of some community members

<table>
<thead>
<tr>
<th>Participant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Game producer with 12 years of experience in the industry; journalist of one of the biggest international game portals; winner of East Design Contest</td>
</tr>
<tr>
<td>B</td>
<td>23-years old biology student; fan of RGP and visual novels living in U.S. California</td>
</tr>
<tr>
<td>C</td>
<td>23-years old American studying Japanese linguistic in Japan; fan of visual novels</td>
</tr>
<tr>
<td>D</td>
<td>18 year old American; started playing RPG games; presently fan of visual novels</td>
</tr>
<tr>
<td>E</td>
<td>20-years old; lives in the East of U.S.; poetry lover</td>
</tr>
<tr>
<td>F</td>
<td>Australian who finished programming at the university; tried to develop games on his own</td>
</tr>
<tr>
<td>G</td>
<td>22-years old British programmer from big international game development company</td>
</tr>
<tr>
<td>H</td>
<td>Norwegian consultant; afterhours game developer</td>
</tr>
<tr>
<td>I</td>
<td>16 years old American, developing games since the age of 10</td>
</tr>
<tr>
<td>J</td>
<td>Teacher of mathematics form Louisiana</td>
</tr>
</tbody>
</table>

As on most of online forums, Greg introduced a post calculator that enabled track frequency of each member’s participation in discussion. The number of posts written on the forum was deciding about the rank of each participant. Thus, testers could easily determine the engagement of others participating in discussions of community. Moreover, being active on the forum allowed to build reputation among gamers.

9. Rules of the community

Greg did not impose any rules by himself to community operation. At the very early beginning of forum existence, one of the community members posted general rules of behavior, which were standard requirements in the virtual environment.

“These are the general forum rules: no spamming, no insulting, no bad words, no flaming don’t go off-topic in topics, no nudity, no other bad things you can think of that they're bad. Please follow these rules and everything will be fine”. (A, posted on 29.03.2007)

Rules were not violated by the community members. Interestingly, the topic presenting the rules had been viewed only 2596 times (data from December 2012) which made it one of the least popular topics broadcasted by forum members.

While working on The Snow White, Greg maintained a style of interaction on the forum as when he was working on Wizzardy, leaving space not only for his project. Often, as a seasoned game developer, he served as a mentor providing development advice and assistance. He kept his responses as immediate as possible, to
maintain trust, and in cases of prolonged silence, always apologized. Open for criticism, Greg answered all questions and discussed reasoning of his decisions.

“Hey, sorry for a bit late reply to this. Major thanks for the feedback. Posts like this are very useful for me as a developer. I can't promise I'll fix everything in The Snow White (I'll try though) (…) [responses to propositions –AUT]:

3) This is actually a technical limitation resulting from how the scene system was made. The game is able to rewind only within the current scenario (a mini segment of a scene). I know it can be a problem and I'll try to find a solution for it eventually. It's something that is more likely to happen in the future project, though.

4) Okay, I can add that. It's a bit more complex, so I'm not sure if I'll do it in The Snow White or in the next game” (Greg, posted 11.07.2012)

In his opinion, any advice required comment since individuals devoted their time to prepare it. Following such principles required great effort from Greg; sometimes, he barely had time to implement recommended corrections.

Greg tried to compensate from vague community support by sharing details of the game development and releasing upgraded versions. He discussed personalities of the characters and possible scenarios, as those were aspects of the community gamers’ interest. Participating in the decision-making process engaged community members even more in the game.

10. Findings

For many game producers, the knowledge about product details is guarded by security systems. Employees are obliged not to disclose information about ongoing projects. Nevertheless, some small firms as Cubicon consciously take the opposite strategy and share their project with a wide range of people by engaging gamers’ communities in testing from the very beginning of production process. Yet, a company risks loss of their product. As discussed in prior sections, the company possesses little control over the behavior of community members. The relation between the company and community is based on mutual risk and trust bets.

The risk that Greg took was quite immense. Seasoned community members could have easily stolen, copied, or illegally distributed his game idea. Although, formally, his intellectual rights were secured, within the legal jurisdiction system in Poland, potential misconduct of one of testers would most probably have gone
Greg’s forum for discussion about The Snow White enabled him to receive many helpful suggestions from the testing community. Moreover, he compensated his lack of knowledge about the visual novel niche through community members who provided him with segment preferences. As a result, the game won awards in various game contests and gained popularity among online gaming players. Moreover, Greg gained valuable information about marketing activities available for indie developers, like his company, Cubicon, and the methods of negotiation within different publishers. Thus, he was able to plan the promotion and effective development of the game, and he modified the overall company strategy more efficiently.

Community members entrusted Greg with their time and online reputations. Some of them even financially contributed to the game by pre-ordering his game and paying online. When the company started lacking financial resources, they believed that Greg would finish the project, and their contribution would not be wasted. Their trust was put to the test a few times due to the often changing the project deadlines.

“Do you still plan to release the Snow White? As a customer, which purchased the pre-order, i start to worry”. (online forum member, 12.04.2012)

When some of the forum members started to ask whether the game was going to be published, Greg devoted a lot of attention to such posts and tried to explain the delays. “We’re very sorry that the development takes longer that it was planned. […] We try to make good game, and we are stuck with correcting it […] the money that you gave us allowed to pay electricity bills in November”. (Greg posted on 12.04.2012)

In addition Greg started to publish on the company’s blog the descriptions of the project progress and more screens from the game. He also was transparent with the money he received providing financial information on how he spent the donations.

11. Discussion

As the case indicates, in the open innovation community that we studied, the traditional mechanisms facilitating trust building were missing. The fieldwork, however, indicates that trust indeed existed between members of the online gaming community, and the collaboration resulted in the successful launch of the product, a visual novel named The Snow White.

In this concluding section of the paper, we would like to describe how elements from three concepts related to trust building were creatively used by
community. First, as far as institutions are concerned, the issue of reputation in online interactions should be discussed. People participating in the forum had risked their reputations online and offline, as they willingly disclosed their identities and made tangible contribution to the development of the game. Moreover, through participation in the forum, they built their recognition and credibility among other gamers occupying the niche (Jemielniak, 2013). The process was time-consuming as the registration on the forum required no confirmed credentials, which in prior research were indicated as a condition of effectiveness of social activities (Johnson, 1997). The recognition in the community is important from the point of creating an expert position, but also, it provides insight into possibilities of future cooperation within a team, such as in the case with Uwe and Bob.

Second, considering “generalized trust”, the phenomenon of choosing environments that are collaboration friendly, where the available context, (in the case: Poland) is characterized by a low-level of generalized trust (Gerbasi and Latusek, 2012). Transfer of interactions to virtual reality and international composition of the group allowed the online community to overcome difficulties associated with the national cultural framework.

Finally, “swift trust” interactions within the community we studied were focused on a role-task approach, which reinforced the professionalization processes within the group (Meyerson et al., 1996). Specific behaviors displayed by Greg and his online Cubicon gaming forum collaborators included keeping short-term promises, applying quick response time to messages between members, and having a goal-orientation motivation bring to mind the tools facilitating the emergence of “swift trust” within the online gaming community.

This research brought interesting insight to the debate about necessity of development of interpersonal trust in online communities. While some authors (Jones and Bowie, 1998; O’Leary, Orlikowski, Yates, 2002) underline its’ significance other researchers (Jemielniak, 2013) claim that in may be substituted by bureaucratized procedures. The Cubicon case indicates that trust may be formed as a mixture of institutional measures and norms ruling the cooperation of open innovation community.

Presented study has some limitations. The chosen method of inquiry, i.e. qualitative approach based on single case study method, does not allow for statistical generalization of the results. Therefore there should be conducted more elaborated research that would operationalize the presented model of trust development in open innovation communities and verify it on a larger population. Moreover, authors following this research method should be careful with pre-
senting recommendations for practitioners as the obtained results may be context sensitive. Therefore, researcher should supply readers with dense description (Lincoln and Guba, 2009), in order to allow them to measure the degree of transferability of findings into particular context.

Nevertheless, the result of this comprehensive literature review and analysis will help future virtual team leaders and gaming founders fully understand respond to the leadership challenges of trust and communication in open innovation communities, further opening expansive networks of connective solutions that encourage an inspire innovation.

Acknowledgements:
The project was financed from the funds of National Center of Science upon decisions no DEC-2011/01/N/HS4/04414.

References


