Towards a goal-oriented taxonomy for crowdsourcing initiatives

Ulysse Rosselet
*University of Lausanne, HEC, Information Systems Institute, ulysse.rosselet@unil.ch*

Follow this and additional works at: [https://aisel.aisnet.org/acis2013](https://aisel.aisnet.org/acis2013)

**Recommended Citation**
[https://aisel.aisnet.org/acis2013/166](https://aisel.aisnet.org/acis2013/166)

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2013 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.
Information Systems: Transforming the Future

24th Australasian Conference on Information Systems, 4-6 December 2013, Melbourne

Proudly sponsored by

nab
RMIT UNIVERSITY
CITRIX®
GS1 Australia
ACS Australian Computer Society
ACS Foundation
ACPHIS
AAIS
Towards a goal-oriented taxonomy for crowdsourcing initiatives

Ulysse Rosselet
Information Systems Department
Faculty of Business and Economics
University of Lausanne
Lausanne, Switzerland
Email: ulysse.rosselet@unil.ch

Abstract
Crowdsourcing (CS) is an emerging concept and better understanding and analysis of the requirements, mechanisms and critical factors of CS initiatives are needed for both academics and practitioners. With this in mind, we designed a goal-oriented taxonomy of CS grounded in existing literature and aiming at the identification of classes of CS initiatives in terms of goals, task and crowd. This taxonomy was applied to a set of 130 CS initiatives. Using cluster analysis techniques, this dataset was divided in 6 classes of CS initiatives. This paper provides valuable contributions such as the taxonomy of CS initiatives, the types of CS initiatives and the validation through replication of previous research.

Keywords
Crowdsourcing, taxonomy, design science, clustering, empirical

Introduction
Crowdsourcing (CS) is an emerging concept that has received a great deal of attention over the last years (Pedersen et al. 2013). Better analysis and understanding of the requirements, mechanisms and critical factors of CS initiatives are needed for both academics and practitioners. In order to integrate previous research efforts and devise a methodology to guide practitioners in CS initiatives, our research aims at answering the following: based on specific goals and tasks, how should an initiator organization set up a specific crowdsourcing initiative?

In order to tackle this issue, it is necessary (i) to identify the relevant features of the task and goals involved in setting up a CS initiative, and (ii) to apprehend the impact and role of these features on a CS initiative, seen as one process going from writing the initial brief and enrolment of the crowd up to the valorisation of the initiative’s outcomes.

This paper recounts our efforts at identifying types of CS initiatives in terms of goal, task and crowd. To this end, we developed a taxonomy based on these three elements. We described a set of 130 CS initiatives using this taxonomy and used a clustering method to classify them into empirical groups. To make the link with the way a CS initiative is conducted – the CS process – we described our dataset with an existing taxonomy of CS processes by Geiger et al. (2011), and classified it using the same clustering method. By discussing the output of the two clustering procedures, we hope to shed light on the relationships between the types of CS initiatives in terms of task, goal and crowd and the types of CS processes of Geiger et al. (2011).

The following section presents the definitions of CS and taxonomy used in this research as well as our approach to taxonomy development. Next, we briefly expose the adopted taxonomy of CS processes before going into a detailed explanation of our taxonomy of CS initiatives and its construction process. Next comes the description of the data collecting process and the discussion of the data classification results. Finally, we conclude with a general discussion of this stage of our research.

Definition of crowdsourcing
First coined by Howe (2006), crowdsourcing (CS) is a term referring to a range of phenomena related to new modes of externalization (Lebraty 2007). There is an important debate around defining CS and framing precisely what it means. This issue is relevant from the researcher’s as well as from the practitioner’s point of view because it determines the boundaries within which contributions are relevant. An important integration effort has been made by Estellés-Arolas and González-Ladrón-de-Guevara (2012) when reviewing and evaluating the most important CS definitions:

“Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company [which we will call the initiator] proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a
task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge and/or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage that what the user has brought to the venture, whose form will depend on the type of activity undertaken. "(Estellés-Arolas and González-Ladrón-de-Guevara 2012)

Besides its comprehensiveness, this definition of CS has the advantage of providing eight necessary characteristics an initiative should possess to be considered as CS, namely: there is a clearly defined crowd (a), there exists a task with a clear goal (b), the recompense received by the crowd is clear (c), the crowdsourcer is clearly identified (d), the compensation to be received by the crowdsourcer is clearly defined (e), it is an online assigned process of participative type (f), it uses an open call of variable extent (g), and it uses the internet (h). We used these characteristics during the data collection stage of our research to ensure that only initiatives respecting the CS definition were included.

Building on existing taxonomies

A taxonomy refers to a classification system that categorizes phenomena into mutually exclusive and exhaustive sets with a series of discrete decision rules (Doty and Glick 1994). It consists of "a set of dimensions each consisting of a set of mutually exclusive and collectively exhaustive characteristics that describe how the objects under consideration differ" (R. C. Nickerson et al. 2010 in Geiger et al. 2011). It can be developed using an inductive (determining dimensions and characteristics from empirical observations), deductive (deriving dimensions and characteristics from theory or conceptualization) or intuitive approach (ad hoc, based on the researcher's perceptions) (Nickerson et al. 2010). According to the IS theory classification of Gregor (2006), a taxonomy is a theory for analysing. The purpose of the classification – which is the meta-characteristic of the taxonomy (Nickerson et al. 2010) – is of primary importance and critically impacts the resulting taxonomy. In our case, the meta-characteristic is the identification of classes of CS initiatives in terms of goal, task and crowd to design adequate CS processes. With this in mind, we combine characteristics of existing taxonomies of CS to build our own.

The development process of our taxonomy was the following: we first considered a CS operation as the coordination of five elements: (1) task, (2) motive, (3) crowd, (4) filtering mechanism, and (5) motivation scheme. We used these five elements during a workshop with participants from the IT industry, technology enthusiasts and bloggers at the Lift’11 conference in Geneva. These 5 elements were organized on a canvas that the participants used to invent new CS operations. We realized during this workshop that the two primary elements for a CS operation are what is being outsourced (task) and why it is being outsourced (goal). The answers to these questions determine who is susceptible to contribute to the CS operation (crowd), for which kind of retribution (motivation scheme) and how to filter the submissions. We hence assume that the goal and task characteristics are central to determine the crowd of potential contributors. Considering that the task is entrusted to the crowd to achieve the desired goal, our assumption is that these three elements together shape the CS process of any given CS initiative. Following the quality criteria of conciseness, inclusiveness, comprehensiveness and extendibility (Nickerson et al. 2009), we chose to structure our taxonomy of CS around these three main dimensions, namely goal, task and crowd. These three dimensions constitute the basic core elements for any CS operation (conciseness); these consist of dimensions and characteristics which are of interest to the setup of CS initiatives (inclusiveness); these dimensions allow for characterization of any initiative meeting the adopted CS definition (comprehensiveness); if needed, these can be complemented with new dimensions or characteristics as part of an iterative research process (extendibility).

The Goal corresponds to the initiator’s decision to set up a CS initiative – using its own systems or relying on an existing intermediary platform – is driven by underlying business reasons that constitute the goal or the motive of the operation. Its sub-dimensions are:

- **Value type** refers to the expected impact of the operation’s results on the initiator’s business. This impact can take the form of innovation – obtain solutions to specific problems or research and development challenges (Lebraty and Lobre 2010); authenticity – the goal of the company is to build a feeling of authenticity with the crowd of contributors (Lebraty and Lobre 2010) and the CS operation is a means to collect data about existing or potential customers and engage them in brand-related activities; cost reduction – the goal of the CS operation is to reduce the production cost or production time of goods, services or internal processes of the initiator company (Lebraty and Lobre 2010); or risk reduction – the goal of the CS operation is to reduce risks. For example, the risk of new product development by providing estimates of potential sales early in the product development process (Ogawa and Pillar 2006).
Main beneficiary represents the side of the CS operation who captures most of the value. In effect, value capture in CS operations is often asymmetric and can be in favour of the initiator or of the crowd/community depending on who is the main beneficiary in terms of financial gains, intellectual property of other information goods (Rouse 2010).

Tolerance of inputs refers to range of accepted submissions in terms of expected results; i.e. whether the initiator expects precisely predefined results with only little freedom in the form and content of submissions – characterized as low tolerance of inputs – or whether it is looking for open, potentially unexpected submissions for which a predetermined result is hardly foreseeable because of many degrees of freedom – characterized as high tolerance of inputs (Piller et al. 2010). As CS operations can potentially result in a considerable number of primary results, it is vital to establish an efficient selection mechanism to screen contributions and retain only the best submissions according to the initiator’s criteria.

The Task refers to the activity, product or service that the company wants to externalize by entrusting it to the crowd. This element is taken into account by most existing taxonomies (Corney et al. 2009; Doan et al. 2011; Malone et al. 2010; Quinn and Bederson 2011; Rouse 2010; Schenk and Guittard 2011; Zwass 2010). Its sub-dimensions are:

- **Type** refers to the nature of the task. This aspect is taken into account by most taxonomies (Corney et al. 2009; Doan et al. 2011; Malone et al. 2010; Rouse 2010; Schenk and Guittard 2011; Zwass 2010). When it comes to our meta-characteristics, we favour the characteristics used by (Corney et al. 2009). Even if their work is focused on micro outsourcing, we consider as relevant to the general CS cases the distinction between creation – the contributors are required to create something and provide content such as ideas, designs, text, media files, and so on (Corney et al. 2009); evaluation, in which the contributors are required to evaluate something and contribute to the CS operation by ranking ideas and commenting contents (Corney et al. 2009); and organization which is a very specific subset of tasks where contributors are required to provide possible arrangements for objects. For example, to find a way of arranging different objects in a box (Corney et al. 2009).

- **Dependencies** refer to the relationship between tasks carried out by different contributors among the crowd. As pointed out by (Kittur et al. 2013), this sub-dimension impacts the coordination process as regards managing shared resources and managing task/subtask relationships (Malone and Crowston 1994). The tasks are considered as decoupled when the different contributions are independent and need not be coordinated/adapted to fit the submissions of other contributors; or as coupled when the different contributions are dependent upon each other and the results produced by the different contributors need to be coordinated and sometimes reconciled.

The Crowd refers to the group of individuals composing the network of contributors to whom the activity is submitted. This dimension is present in most CS taxonomies (Corney et al. 2009; Doan et al. 2011; Lebraty and Lobre 2010; Zwass 2010). Its sub-dimensions are:

- **Contribution type** indicates whether the crowd contributes by providing content or by providing its opinion/perspective on something (Doan et al. 2011). For instance, the contents produced by a crowd of designers can be curated by another – not necessarily disjoint – crowd composed of designers, potential customers and other individuals; or a crowd of potential users can provide its opinion on potential features of a product or service.

- **Main motivational driver type** refers to the nature of the recompense obtained by the contributors to the CS initiative. This recompense is often used to ensure adequate participation of the members of the crowd, which is considered essential for any CS operation (Howe 2009; Lebraty and Lobre 2010; Rouse 2010; Simula 2013). Indeed, given the open call for contributions, members of the crowd pick CS initiatives in which they want to participate. The motivation system must also be adapted to the crowd in the sense that it must stimulate participation not only on the short term but also on the long term as inappropriately designed incentives might drive the more skilled and value providing individuals out of the marketplace (Rouse 2010). Three types of motivation used in psychology (Deci and Ryan 2000) are relevant to CS initiatives. Firstly, intrinsic motivations are related to the task itself which is realized in order satisfy the individual’s needs in terms of competence and autonomy. Secondly, extrinsic motivations are related to the context of the task because of what can be obtained as a result of the task. Thirdly, internalized extrinsic motivations are related to the reinforcement of the ego and the valorisation feeling that can be brought about by the realization of the task. Depending on the characteristics of the activity and of the crowd, the appropriate balance of these three types of motivators is assumed to be a critical success factor for CS operations, as evidenced by the basic business model depicted by Lebraty and Lobre (2010). Different typologies of motivations are in use when it comes to CS, e.g. (Leimeister et al. 2009; Rouse 2010), however, these are particular cases of the more general three types of motivation described above. Intrinsic or extrinsic motivations are not observable per se in CS operations. For this reason, we use the observable benefits
gained by contributors. Extrinsic motivators take the form of tangible rewards: financial or equivalent retribution with two levels of compensation: token compensation for something of relatively minor value, such as an MP3 player, a free product, or a small cash prize (Rouse 2010) and market compensation for payment for services that go beyond a small monetary prize, where the compensation is likely to be used by the provider to make a living (Rouse 2010). Internalized intrinsic motivations can take the form of social status & reputation (Rouse 2010) when the perception of the peers is driving the contributors. So are the possibilities for self-promotion and career opportunities. Intrinsic motivations are mobilized when the pleasure, challenge and achievement found in performing the task drive contributors by yielding personal achievement & learning (Rouse 2010). A variant of this last motivator is the entertainment lever, where the task is presented as a game and is performed because of the pleasure it brings.

The dimensions, sub-dimensions and characteristics of our taxonomy are summarized in Table 1.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Sub-dimensions</th>
<th>Characteristics</th>
<th>Related references</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Main beneficiary</td>
<td>Initiator</td>
<td>(Rouse 2010)</td>
</tr>
<tr>
<td></td>
<td>Crowd / community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value type</td>
<td>Innovation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Authenticity</td>
<td></td>
<td>(Lebraty and Lobre 2010; Ogawa and Piller 2006)</td>
</tr>
<tr>
<td></td>
<td>Cost reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerance of inputs</td>
<td>Low</td>
<td></td>
<td>(Piller et al. 2010)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>Type</td>
<td>Creation</td>
<td>(Corney et al. 2009)</td>
</tr>
<tr>
<td></td>
<td>Evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependencies</td>
<td>Decoupled</td>
<td></td>
<td>(Kittur et al. 2013)</td>
</tr>
<tr>
<td></td>
<td>Coupled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crowd</td>
<td>Contribution type</td>
<td>Opinion / perspective</td>
<td>(Doan et al. 2011)</td>
</tr>
<tr>
<td></td>
<td>Content</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main motivational driver</td>
<td>Tangible reward</td>
<td></td>
<td>(Rouse 2010)</td>
</tr>
<tr>
<td></td>
<td>Personal achievement and learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social status and reputation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entertainment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As stated above, the meta-characteristic of our taxonomy is to identify classes of CS initiatives in terms of goal, task and crowd with the aim of designing the CS process according. When it comes to the description of the CS process – i.e. how a CS initiative is conducted – we adopted the taxonomy of CS processes of Geiger et al. (2011). The meta-characteristic of their taxonomy is to distinguish among CS processes, and it combines existing relevant CS taxonomies in the four following dimensions: preselection of contributors, accessibility of peer contributions, aggregation of contributions, and remuneration for contributions.

**Evaluation and application of the taxonomy**

We carried out an inductive classification using cluster analysis in order to discover potential types of CS initiatives, in a similar way as (Geiger et al. 2011). We have collected a sample of 130 CS initiatives corresponding to the adopted definition of CS. This dataset contains the 32 CS initiatives used by Geiger et al. (2011) meeting the definition of CS, other relevant CS initiatives identified in different scholarly publications and CS initiatives found in online CS directories. All these initiatives were described in terms of goal, task and crowd with our taxonomy as well as using the variables of Geiger et al.’s taxonomy.

In order to see if the types of CS processes (Geiger et al. 2011) could be corroborated by our dataset, we first applied the classification procedure on the CS processes taxonomy variables only. This verification consists in a replication with one degree of freedom where the same theory and method are applied in a different context.
We applied the same clustering procedure with the characteristics of our taxonomy as input. As we assume that the goal and tasks characteristics determine the crowd of potential contributors and that these three elements together are supposed to shape the CS process used for a given CS initiative, we classified the initiatives based on the variables from the task, goal and crowd dimensions of our taxonomy. The number of clusters is six for a good silhouette measure of cohesion and separation. The detailed results of the clustering are reproduced in Appendix A and the companies composing each cluster in Appendix B. Here is the description of the clusters:

**Ad hoc temporary hiring:** this cluster corresponds typically to the outsourcing aspect of CS. It is characterized by the willingness to reduce costs by entrusting decoupled content creation tasks for a tangible reward to the crowd. CS initiatives in this group are mainly implemented in three forms of CS processes: integrative sourcing with fixed remuneration (37%), selective sourcing with crowd assessment (31%) and selective sourcing without crowd assessment (31%). If we consider only the aggregation of contributions dimension of the process, we see that there is a slight favor towards selective (60%) versus integrative (40%) aggregation in this group.

**Curating ideas and features:** this cluster corresponds to evaluation tasks where the crowd provides its opinion on products, services or ideas submitted by the initiator. The vast majority of CS initiatives in this group are implemented according to the integrative sourcing without remuneration process (65%). The remainder initiatives use the selective sourcing with crowd assessment (17%) and integrative sourcing with fixed remuneration (13%) processes. If we consider only the aggregation of contributions dimension of the process, we see that almost only selective aggregation is used in this group (94%).

**Sourcing specific digital goods:** this cluster corresponds to the reduction of costs through sourcing of specific contents in return for tangible rewards. Three approaches in terms of CS process are mainly present in this group, namely: integrative sourcing with success-based remuneration (33%), integrative sourcing with fixed remuneration (29%) and selective sourcing without crowd assessment (24%). A small share of these initiatives relies on the integrative sourcing without remuneration process (14%). If we consider only the aggregation of contributions dimension of the process, we see that integrative aggregation is clearly predominant in this group (76%).

**Sharing authentic experiences:** this cluster corresponds to a crowd producing authentic contributions that can be useful to the rest of the crowd or general community. The members are driven by social status and reputation in this community. The majority of CS initiatives in this group are implemented according to the integrative sourcing without remuneration process (53%), followed by selective sourcing with crowd assessment (21%) and integrative sourcing with success-based remuneration (21%) If we consider only the aggregation of contributions dimension of the process, we see that integrative aggregation is clearly predominant in this group (79%).

**Problem solving:** this cluster corresponds to the submission of specific problems requiring innovative solutions from the crowd, with tangible rewards in return. The vast majority of CS initiatives in this group are implemented according to the selective sourcing without crowd assessment (59%). The remainder initiatives use the selective sourcing with crowd assessment (35%) process. If we consider only the aggregation of contributions dimension of the process, we see that almost only selective aggregation is used in this group (94%).

**Relationship building through user generated content:** This cluster corresponds to the initiator remunerating the crowd for producing authentic content. This content is used as a means to create proximity and build a relationship with the initiator’s community of users. Two CS process types are mainly present in this group, namely: selective sourcing without crowd assessment (40%) and selective sourcing with crowd assessment (40%). A small share of these initiatives uses the integrative sourcing with fixed remuneration process (13%).
we consider only the aggregation of contributions dimension of the process, we see that integrative aggregation is clearly predominant in this group (83%).

**Discussion and future work**

As we see, the distribution of the different CS processes types among the clusters obtained with our taxonomy show that initiatives sharing similar features in terms of goal, task and crowd can follow quite different processes. However, our analysis shows that the primary difference between these processes lies in how the submissions of the crowd are aggregated in the CS operation. This finding is consistent with the propositions from Schenk and Guittard (2011) and the recommendation of Geiger et al. (2011) who consider this question as an essential early decision faced by the initiator.

Recent publications offer promising contributions to be integrated to our research and should provide insights to further test, refine and develop our taxonomy. We will compare our observations to the nine distinct CS models resulting from the taxonomy developed by Saxton et al. (2013). These authors have also rigorously selected a large number of “organizations for which CS is their core business” which we will include to our dataset – if they meet the definition of CS that we use. This increase in sample size should improve the robustness and generalizability of our results. We will also compare our types of CS initiatives with the types of CS information systems of crowd rating, crowd processing, crowd creation and crowd solving (Geiger et al. 2012).

**Conclusion**

This research provides valuable contributions such as the taxonomy of CS initiatives, the types of CS initiatives and the validation through replication of previous research. Going back to our research question – based on specific goals and tasks, how should an initiator organization set up a specific CS initiative – The proposed framework should enable practitioners to derive the implementation of a CS initiative based on the task at hand and the corresponding business goals. For instance, designing a new logo for a company through a CS operation would be done differently if the strategic goal is cost reduction rather than of authenticity. At this stage of our research process, we are not able to draw conclusions or recommendations towards the design of CS initiatives yet and while we see patterns emerging in the way these initiatives are organized, it is clear that more needs to be done when it comes to identifying the factors shaping the implementation of a CS initiative.
References


Appendices

<table>
<thead>
<tr>
<th>Cluster</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Ad hoc temporary hiring</td>
<td>26.9%</td>
<td>16.2%</td>
<td>14.6%</td>
<td>13.1%</td>
<td>11.5%</td>
<td></td>
</tr>
<tr>
<td>Curating ideas and features</td>
<td>17.7%</td>
<td>21%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Sourcing specific digital goods</td>
<td>23%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Sharing authentic experiences</td>
<td>22%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Problem solving</td>
<td>21%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Relationship building through</td>
<td>21%</td>
<td>19%</td>
<td>17%</td>
<td>15%</td>
<td>13%</td>
<td></td>
</tr>
</tbody>
</table>

**Appendix A. Detailed view of the clusters obtained with our taxonomy**
## Appendix B. Cluster membership of CS initiatives

<table>
<thead>
<tr>
<th>Cluster</th>
<th>CS initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad hoc temporary hiring</td>
<td>Idea Bounty, Castingwords, Microtask, Gengo, Idea Offer, IQ Engines, LeadVine, mCent, Trada, BootB, Mypitch, Namethis, OpenAd, blur Group, BoostCTR, smartsheet, Victors &amp; Spoils, CreatAd, eYeka, jovoto, pintim, quirky, Springleap, Wooshii, Zoopa, Naming Force, GIANT HYDRA, clickworker, crowdflower, JobSpooler, Lingotek, Speaker Text, Samasource, Kluster, Poptent</td>
</tr>
<tr>
<td>Sourcing specific digital goods</td>
<td>Amazon user reviews and ratings, Coolspotters, Camclickr, Facebook Translations, iStockphoto, LiveOps, Mechanical Turk, 99designs (public contests), Designenlassen.de (private contests), Designenlassen.de (public contests), 99designs (private contests), Crowdspring (public contests), Emporius Community, foldit, elasticlab, covestor, crowdcontent, Jade Magnet, GeniusRocket, MediaPiston, CreateMyTattoo</td>
</tr>
<tr>
<td>Sharing authentic experiences</td>
<td>TripAdvisor, MangaHelpers, iBridge Network, Yahoo! Answers, Galaxy Zoo, Global Lives Project, Herdict partners, IDEAnet, Ushahidi, Now Public, Featurelist, Halfbakery, Ideavibes, Trigger Street Labs, Spread Shirt, MySoti, Cofundos, minted, Shareyourbrain</td>
</tr>
<tr>
<td>Problem solving</td>
<td>Brainrack, Calling All Innovators, Crowdspring (private contests), Netflix Prize, InnoCentive Challenge Center, Atizo (Atizo Community), Cisco I-Prize, Atizo (Own Community), InnoCentive@Work, CustomMade, Battle of Concepts, GrabCAD challenges, IdeaConnection, TekScout, X PRIZE Foundation, CrowdSpirit, Dream Heels</td>
</tr>
<tr>
<td>Relationship building through user generated content</td>
<td>Threadless, Dell IdeaStorm, Yahoo! Contributor Network, Maven Research, John Fluevog's open source footwear, Luminate, enmovent, Hypios, Squadhelp, Colspark, Felllowforce, daily grommet, Naked &amp; Angry, RYZwear.com, TopCoder</td>
</tr>
</tbody>
</table>

Ulysse Rosselet © 2013. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.