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## Perceived values of web-based collective design platforms from the perspective of industrial designers in reference to Quirky and OpenIDEO

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#### Abstract

Web-based collective design platforms are virtual environments which highly rely on large-scale participation of people from diverse backgrounds in different phases of the design process. Understanding and motivating participants is important to enhance the diversity of solutions and approaches in such platforms. This study investigates the motivation factors for the designer members of the crowd, and explores the perceived values of these platforms from the perspective of industrial designers. An empirical study based on semi-structured interviews with novice industrial designers was conducted in reference to two collective design platforms, Quirky and OpenIDEO. The study reveals six major values emphasized by the designers: Supportiveness, collectiveness, appreciativeness, responsiveness, trustworthiness, and tangibility of outcome. The findings indicate that the value of collectiveness may be interrelated with the values of supportiveness, appreciativeness and responsiveness. Trustworthiness is a complex construct; participation quality, evaluation quality, reward system, intellectual property and past performance are the related issues brought to focus by designers. The tangibility of outcome may provide a useful reference for re-interpreting the perceived values in accordance with the type of the collective platform.

#### Keywords

Web-based collective design, Crowdsourcing, Industrial designer, Quirky, OpenIDEO.

#### 1. Introduction

Computational tools started to support designers by providing assistance in effective visualization. Fast evolution of World Wide Web in conjunction with computational tools made new types of professional communication and collaboration possible via virtual platforms to share and exchange data (Boudreau and Lakhani 2009). Such platforms also created an opportunity to communicate with, and get feedback from a large number of potential users in order to better understand their needs and preferences. Improvements in the area of human-computer interaction coupled with affordable and widespread access to internet encouraged not only designers and experts, but also amateurs and non-designers to participate in the design process through the web, and internet has become a virtual environment to share and collaborate.

Web-based collective design platforms refer to virtual environments which facilitate communication and exchange of ideas and data through the web in different phases of the design process among a large and diverse group of people in order to develop alternative design solutions; it is an emerging area which uses crowdsourcing not only to receive feedback, but also to facilitate participation of, and interaction and collaboration among people from diverse backgrounds. The main argument behind using crowd to generate creative work can be summarized in Pierre Levy's words: "No one knows everything, [but] everyone knows something" (Lévy 1997, 14). In

his book *The Wisdom of the Crowds*, Surowiecki investigates the crowd wisdom through several empirical studies and concludes that "under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them" (Surowiecki 2004, xiii). In crowdsourcing "a company posts a problem online, a vast number of individuals offer solutions to the problem, the winning ideas are awarded some form of a bounty, and the company mass produces the idea for its own gain" (Brabham 2008, 76).

Crowdsourcing model can utilize a wide range of opinions from a large number of people to define various issues and develop approaches to solve problems. reCAPTCHA is a successful example in the field of computer science (Figure 1); it is a security measure on the World Wide Web which prevents automated programs from abusing online services by asking humans to decipher distorted characters -a task that computers cannot perform. reCAPTCHA utilizes the input provided by a large number of individuals to decode and digitize scanned words from old printed material that optical character recognition software failed to recognize (Ahn et al. 2008, 1465).

Another example is Threadless.com which is a web-based cloth design and shopping company that challenges their registered community members to submit graphic designs to be printed on T-shirts, sweatshirts, etc. The Threadless community evaluates the new submissions by using a scale of 1 to 5, and the most favorite designs are announced by Threadless to be sold on the website (Figure 2).



*Figure 1.* reCAPTCHA displays words from scanned sources unrecognized by optical character recognition software (Ahn et al. 2008, 1466).



**Figure 2.** A screen shot from Threadless.com scoring session ("Score it" n.d.).

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Thingiverse is an open source digital fabrication platform with a large 3D printing community (Figure 3). Thingiverse website provides a platform for its community members to share their designs with other community members who can download the CAD files, physically produce them with their own equipment such as 3D printers or laser cutters, and share the results with the community or display them in public. The platform provides designs licensed under free software licenses or public copyright licenses depending on the users' preferences.



*Figure 3.* A screen shot from Thingiverse.com website showing popular items ("Explore" 2014).



*Figure 4.* A challenge from InnoCentive website ("Vacuum sealing technology for window glazing" 2015).

Another example is InnoCentive. com, a scientific problem-solving crowdsourcing site which offers a platform for organizations' research and development departments to outsource their challenges (Figure 4). InnoCentive serves public and private companies and government agencies such as NASA, Procter & Gamble and Scientific American to generate innovative ideas and solve problems effectively ("What we do" n.d.).

Maher, Paulini and Murty define a conceptual space for collective design based on three axes, representation, communication and motivation (Figure 5) which are defined as follows (Maher et al. 2010, 586):

Representation refers to the digital models and files that support visualization, analysis, synthesis, etc. The representation can be text, sketches, 2D models, 3D models, etc. Communication refers to the ways in which people can communicate during the design process, for example via blogs and email, and can be characterized as synchronous or asynchronous and as direct or indirect. Motivation refers to the principles of motivation and the way the participation in the design process is structured.

Since collective design platforms increasingly rely on large-scale participation of people from diverse backgrounds, understanding and motivating participants is important to enhance the diversity of solutions and approaches. The quality of solutions proposed is also affected by the level of



*Figure 5.* Conceptual space for collective design. Reprinted from Maher et al. (2010, 586).

expertise of the participants; for example, the visualization of a design solution by an industrial designer is likely to be more effective than the one by a non-designer. Therefore, it is vital to look deeper into the crowd and to investigate the motivation factors as one of the critical dimensions of collective design for the designer members of the crowd as well as the factors for non-designers.

The empirical study described in the following section was conducted in order to explore the motivational factors for designers; focusing on expert members of the crowd does not imply underestimating the role of non-designers in collective design; the participation and communication of users, stakeholders and various members of the crowd is as much important as the presence of professional designers in collective design platforms. However, motivation factors for designers in such open design environments may be different than the ones for non-designer members.

#### 2. Empirical study

The aim of the study was to investigate the perceived values of web-based collective design platforms and motivation factors from the perspective of novice industrial designers. Since young and novice industrial designers in particular are likely to try and use these new platforms, the study was conducted with novice industrial designers rather than with experienced professional industrial designers who may have more reservations about using such platforms to share and expose their ideas and design solutions publicly. Quirky (www.Quirky.com) and OpenIDEO (www.OpenIDEO.com) were the two environments chosen for this study since these two constitute diverse and relatively more established examples of these platforms.

Quirky was founded in 2009 by Ben Kaufman, currently the CEO of the company (Boutin 2010). It is an online social product development company in which individuals from public participate in different phases of the design process to receive "influence". Getting influence in Quirky means receiving a percentage from sales. In Quirky, the process starts when a member posts an idea to the website at the cost of US\$10. Basically, the idea should propose a new product which is helpful for



Figure 6. The Quirky process as described on Quirky website ("The Quirky process" 2012).



Figure 7. The phases of an OpenIDEO challenge ("How can we manage e-waste" n.d.).

solving a defined problem or issue. As the prospective inventor submits his/ her idea to Quirky, it becomes accessible on Quirky's website for 30 days during which all the platform members can vote or comment on the idea. At the same time, the professional team of Quirky looks through the best ideas to discuss and classify them as "under consideration" with Quirky's expert team. This discussion is broadcasted as live video stream each week to decide about the Quirky's next product (Figure 6).

OpenIDEO was launched in July 2010 as a branch of the design consultancy firm IDEO in order to address global welfare problems and create

### MY DESIGN QUOTIENT



TOTAL	5650pt	
COLLABORATION	2077pt	
EVALUATION	308pt	
CONCEPTING	1189pt	
INSPIRATION	2076pt	

*Figure 8.* Design quotient of a participant in OpenIDEO ("Avi Solomon" n.d.).

positive solutions for the benefit of communities in a collaborative manner (Ahn et al. 2013). OpenIDEO cooperates with a financial sponsor to formulate a "challenge" in the form of a big question such as "How can we manage e-waste and discarded electronics to safeguard human health and protect our environment?" The OpenIDEO process is organized into five phases: Inspiration, concepting, applause, refinement and evaluation (Figure 7).

Similar to Quirky, OpenIDEO's participants are also members of the crowd and OpenIDEO provides them with a badge of honor, "design quotient" (DQ), for their participation. This badge indicates a member's contribution to, and participation in, four different areas: Inspiration, concepting, evaluation and collaboration (Figure 8). Tom Hulme, the founder of OpenIDEO describes DQ as follows:

It [OpenIDEO] features an automated feedback tool called the Design Quotient. The DQ rewards both the quality and quantity of an individual's contributions. All contributions are valued –even simply applauding the efforts of others (Hulme 2011, 222).

Both Quirky and OpenIDEO guide the participants through some structured phases. For example, while Quirky asks influencers short questions in product research phase, OpenIDEO invites the members of its community to share inspirational material related to the topic of the challenge. In both platforms, each stage is marked with a countdown for participation and as one stage comes to an end, the next stage starts and the process concludes with the finalization or evaluation of the project or challenge.

#### 2.1. Data collection

11 senior-year industrial design students and eight industrial designers

Quirky	Interviewee's	Quote	Emerging Themes	Personal Notes
Q	113	There is a risk of stealing my idea. Copyright! How can I be sure that someone from China will not take my idea and produce it there? And I don't want to waste my time and energy to pursue the laws and copyright (issues).	Trustworthiness (-) Intellectucal property risk due to openess	
Q	113	instead of money system, points system will be much better. It will be more like gifts.	Trustworthiness (+) Reward (Nonfinancial)	
o	113	In Openideo, at the end of project, sponsor have to bring the idea to life so participant's work will not be wasted.	Trustworthiness (+) Realization of the Outcome	Realization of the end result gives value to participant's work and build trust. Otherwise she might tought that her effort was wasted.
۵	-	For Quirky, intellectual property might be my concern becuse I can see (all of ) these ideas and use it somewhere else easily. I know it will happen. There is not anything that guaranty or secure your idea here.	Trustworthiness (-) openess Intellectual property Risk	
0	4	Here (In Openideo) I don't concern (about intellectual property) that much. it's like a design competition, you read the problem and brief and design something for it. But here you do the design (task) altogether and you already know that you dose not own the idea completely. That's why everybody is here for the same thing.		<ol> <li>she is also talk about intellectual property. Maybe it is good to talk about it in the text. Preserving the intellectual property to build trust. Relation between Collectivness and Intellectual Property can be investigated.</li> <li>Talking about the process of platforms means Representation</li> </ol>

Figure 9. The spreadsheet table used for data analysis.

with maximum two years of experience were selected for semi-structured interviews based on availability. All the participating students were from Middle East Technical University (METU) Department of Industrial Design, and all the professional designers were the graduates of METU. Six interviewees were male and 13 interviewees were female. All the interviews were conducted in April 2012, and completed in two weeks.

The interview was divided into two parts. The first part was an introductory session; the interviewee watched the introductory videos of OpenIDEO ("Introduction to OpenIDEO" 2010) and Quirky ("Quirky eval process" 2012), which lasted 2:32 minutes and 1:43 minutes respectively. After watching each video, the interviewee were given additional information through the website of the platform, which lasted approximately five minutes and covered the following activities:

- Summarizing the whole process from ideation to finalization/evaluation through navigating each platform's website,
- Presenting the ways in which participation takes place in each platform (submitting, commenting, voting, etc.),
- Showing various evaluation methods such as online voting and commenting used in each platform,
- Showing the type of reward gained through participation in each plat-

#### form.

After the introductory session, the interviewees were asked to compare these two platforms. Secondly, they were asked if they would like to participate in any stage as an industrial designer. Lastly, they were asked to imagine a third, alternative platform and explain how this platform would differ from Quirky and OpenIDEO. The interviews were all conducted in Turkish and voice-recorded; the total duration of each interview varied between 17-20 minutes.

#### 2.2. Data analysis

The digital audio files of all interviews were organized into individual folders and given numeric codes. Then, nine interviews were listened to and fully transcribed in Turkish, and saved as separate word processing files in Microsoft Word with the corresponding numeric codes. The transcribed interviews were read from the computer screen several times; the parts that were thought to be related to the motivational factors and the perceived values of the platforms were highlighted. The highlighted quotes were narrowed down to short phrases and noted down separately as emerging themes in English. After fully transcribing nine interviews, it was decided to continue the analysis of the remaining interviews without fully transcribing each interview in Turkish due to time limitations. The remaining 10 interviews were listened to several times, only the significant quotes were noted down and transcribed in English. Similarly, the transcribed quotes were narrowed down to short phrases and added to the list of emerging themes.

All the quotes and emerging themes were brought together and organized into a table in an electronic spreadsheet file in Microsoft Excel (Figure 9). The table included whether the quote was mainly related to Quirky or OpenIDEO, the code of the interviewee, the quote itself, the emerging themes, and the personal notes. For example, the first row in Figure 9 presents a quote from the interviewee 13; the quote is related to Quirky and it implies a concern about the "openness" of the platform and the intellectual property issues in relation to the identified theme "trustworthiness". The Excel table and the filter function facilitated selective and systematic viewing of data. For instance, by using the filter associated with the "Quirky/ OpenIDEO" header, it was possible to view the quotes and emerging themes related to Quirky only; or, through the filter associated with the "Emerging Themes" header, it was possible to hide themes selectively, and view all the quotes related to the themes "collectiveness" and "trustworthiness" only. The process helped the researchers explore and compare the data, and refine the emerging themes. The following section presents the findings together with the finalized themes and the selected extracts from the interviews.

#### 2.3. Findings

Before presenting a detailed account of findings, it may be insightful to mention that during the interviews the interviewees were observed to assume different roles or identities. For example, they imagined themselves in scenarios in which they were an idea submitter, or a participant who voted or commented on others' ideas. Therefore, their expectations from, and impressions of, web-based collective design platforms were also influenced by the identities they assumed.

The findings indicate that there are six major values concerning the collective design platforms from the perspective of industrial designers. The following sections present these perceived values together with the related issues.

#### 2.3.1. Supportiveness

Supportiveness is a value related to the support provided by the platform in different phases of the process, and it seems to be one of the significant motivation factors for industrial designers in terms of professional career and recognition. The interviewees drew attention to various types of support including the platform's providing professional support to finalize, produce or commercialize a design, or providing framework and guidance to contribute to solving big challenges for social good.

(Interviewee 1, industrial designer, in relation to Quirky)

If I solve a problem that I have in my mind, I may go to a producer, negotiate and get it produced. But, of course, this takes a lot of effort. But here, there are people who would do this for me; also I can get support from someone else for a detail that I have not thought about, for a material or usage...

(Interviewee 4, industrial designer, in relation to OpenIDEO)

Everyone may desire to change the world and make it a better place, however, usually people do not know how to do this. OpenIDEO, in my opinion, is like a guide for people, and help them change the world.

#### 2.3.2. Collectiveness

The value of collectiveness refers to sharing and exchanging ideas in an open environment; it is related to the degree of interaction and communication among the members in a collaborative manner. Having access to what others do is an integral part of collectiveness, and it allows members to surf through others' ideas and participate in their processes.

(Interviewee 14, senior-year industrial design student, in relation to OpenIDEO)

...maybe I have a good idea for one project but, I might have some weak points that are others' strong points, so they can help and complete me.

Authenticity and authorship were the

related issues that some interviewees were concerned about in such collective platforms.

(Interviewee 5, industrial designer, in relation to Quirky)

It is also important to what extent they intervene with the product; I may be concerned about how much the final product differs from the one I originally sent, and whether it is still my design.

#### 2.3.3. Appreciativeness

Appreciativeness refers to the care, value or attention given to a contribution made by a participant. Getting recognition or attention both from the crowd and from the platform's staff may play a significant role both for a participant's maintaining an active role in the system, and also for his/her feeling confident and recognized about his/her contribution.

(Interviewee 2, industrial designer, in relation to Quirky)

If commenting is a free right, then I think I would comment on many products. But, how the corresponding person takes the comment is very important. If my comments are not considered at all, then I would not continue.

#### 2.3.4. Responsiveness

Responsiveness is related to the capacity of the platform to allow or incorporate participants' intervention in different phases of the design process. In some cases it was found to be related to the platform's allowing or not allowing participants to formulate their own problems and solutions. For example, there were comments related to the way in which OpenIDEO formulated its challenges; some interviewees suggested to incorporate the crowd into the initial formulation of challenges. In some other cases, responsiveness was more related to the flexibility or rigidity of the process.

(Interviewee 2, industrial designer, in relation to Quirky)

Any idea you come up with may attract attention [in Quirky]. That is, unlike a competition, for example, which dictates what to do, Quirky does not limit your freedom. That was the first thing I found unattractive in OpenIDEO, and attractive in Quirky, that is, the way I was set free in Quirky... It [Quirky] even allows you to come up with a problem that no one is aware of.

(Interviewee 15, senior-year industrial design student, in relation to OpenIDEO)

In OpenIDEO it is good to see the steps. They actually make a plan for you with deadlines. But, on the other hand, it brings limitations. For example, in the evaluation process if a good idea comes to my mind, I cannot go back and share it anymore, because the deadline for ideation is over.

#### 2.3.5. Trustworthiness

Trustworthiness was found to be a significant value from the perspective of industrial designers in web-based collective design platforms. Since almost all the activities and communication take place in an open and virtual environment, it is challenging to build trust among the members and the coordinators of the platform, as well as among the members of the crowd itself.

Considering the openness of collective design platforms, and their capacity to engage and empower the crowd for participation, the interviewees expected to find numerous submissions or contributions in various qualities. *Participation quality* was a concern for some interviewees.

(Interviewee 6, industrial designer, in relation to Quirky)

After all, there is no entrance exam. Therefore, everyone can come up with an idea, and after a while it turns into a junkyard of ideas. A kid may say "This is what I have done for making my mum give my allowance. What do you think?" But in OpenIDEO, a global solution directly... There, a kid cannot ask such a question; because there is no room for that; there is a sponsor who says "I would like to see solutions for such and such a thing."

*Evaluation quality* or the "fairness" of evaluation in such collective platforms was also a concern for some interviewees. Since Quirky rewards influencers who vote for and evaluate submissions, some interviewees were concerned about their submissions being underestimated, and were hesitant about the way their submissions would be evaluated through an open commenting and voting system. (Interviewee 12, industrial designer, in relation to Quirky)

[There is] no reliability [in Quirky] because anyone can comment; anyone! There will be more negative criticism than positive one... Not everyone can give critiques [related to product design]; therefore, it is not trustable for evaluating a product... It is not nice to get paid by commenting or voting on someone else's idea.

The reward system employed by the platform was also found to be important for a sense of fairness and trustworthiness. OpenIDEO creates a sense of involvement and recognition by giving the participants a design quotient for different phases and aspects of the process; Quirky, on the other hand, calls the participants "influencers" who receive royalty based on the degree of influence they make in each project and in each phase. Concerning Quirky in particular, some interviewees were critical about the reward system and were not sure whether it was equally fair for all the parties playing different roles in the system.

(Interviewee 13, senior-year industrial design student, in relation to Quirky)

But it is obvious that they [Quirky] will make much more money than the participants [influencers], and this is annoying. Although it encourages people to participate in design process, I think it is more beneficial for themselves [Quirky] and this is not good; because the system is money-based... Maybe if it were a points-based system in which you spend your points on products, it could be much better.

Intellectual property issues were also mentioned in relation to trustworthiness. Some interviewees stated that they did not trust the system enough to publish their ideas in Quirky since there was a risk of their ideas being stolen. On the other hand, they were less concerned about these issues for OpenIDEO, and felt more comfortable about participation.

(Interviewee 13, senior-year industrial design student, in relation to OpenIDEO)

I am not worried about my idea being stolen here too much, because what we are doing here is going to be used for a social benefit. So if someone steals it, let it be! I don't feel like I lost something here!

Finally, it is also worth to mention that while an interviewee was totally satisfied and motivated by the previous projects and the products of Quirky in the market, another interviewee found OpenIDEO's outcome difficult to imagine and less feasible. Thus, *past performance* or previous history was identified as a factor which may affect trustworthiness.

(Interviewee 3, industrial designer, in relation to Quirky)

The (previous) winner products do not look bad at all; they are all realized, and that builds trust. Nice products which are produced would make me feel less concerned. If I had something simple and nice, I would add it to the site.

(Interviewee 18, senior-year industrial design student, in relation to Quirky and OpenIDEO)

[In Quirky] It is nice [that the products] are produced and commercialized in a fast way. But in the other one [OpenIDEO] it may take months and maybe it won't get realized.

#### 2.3.6. Tangibility of outcome

Concerning the implications of, and strategies used in collective design platforms, Quirky and OpenIDEO represent diverse examples. Despite the similarities in empowering crowd and engaging it in different phases of the design process, the outcome in these platforms was described as tangible or intangible by some interviewees. The interviewees stated that Quirky focused on rapid commercialization and brought innovative product ideas into a global competitive market; OpenIDEO, on the other hand, served a social good, and implied a longer ideation phase to develop solutions to big challenges. This issue was described by the interviewees as "design centeredness" or "research centeredness".

(Interviewee 18, senior-year industrial design student, in relation to OpenIDEO)

It [OpenIDEO] is more academic. It can be given as an assignment; something like "We would like everyone to seek an answer to the problem defined." It is more at the concept level; academ-

ic... But in Quirky, there is production and royalty; it is more industrial. (...) In OpenIDEO the ideation is longer, in the other one [Quirky] the idea or the solution to work on is already given.

Design centeredness mainly refers to the capacity of the platform to manufacture and market innovative ideas in conjunction with a design process adopted to finalize and bring product ideas to life. For example, the interviewee 7 and the interviewee 11 considered that the Quirky's process was more similar to a professional competition, or to a classic design process considering the fact that submissions were evaluated and only a few of them were selected for further development.

(Interviewee 11, senior-year industrial design student, in relation to Quirky)

It is like an individual work; you upload your own idea and define your problem/solution and others evaluate it; therefore, it is more for designers to use this website.

(Interviewee 7, industrial designer, in relation to Quirky)

I think Quirky is more designer centered; you need to draw, communicate your idea, etc. You need to communicate, present your idea to people; since the buyer of Quirky is not certain, it is the designer's responsibility to appeal to people and sell his/her idea.

*Research centeredness*, on the other hand, was characterized by the intangible outcome of design process. The statements related to intangible outcome, serving public good or dealing with community problems were categorized as research centered. Some comments described the research centeredness as educational, academic oriented or as more focusing on design research phase.

(Interviewee 10, industrial designer, in relation to OpenIDEO)

OpenIDEO seems more educational. I mean [it is] the other dimension of the process, an earlier phase, the one before the product realization. It maintains a step by step process, and shows that outcome is achieved through a series of phases. The process can change from one designer to another; the mindset differs from one person to another, and there is no single, clear cut answer. This is what



*Figure 10.* The value of collectiveness in relation to the values of supportiveness, appreciativeness and responsiveness.

we see in real life, too. Therefore, I feel like it is more educational.

#### 2.4. Limitations of the study

The study was conducted with a small group of novice industrial designers who were senior students or graduates of a particular university, and focused on a limited number of collective design platforms. This qualitative study focuses on revealing the *categories* of values themselves, and does not aim to generalize findings. More research is necessary to further explore and understand the values revealed in this study for various designer and non-designer groups, and for different types of collective design platforms.

#### 3. Discussion and conclusion

The study reveals six values emphasized by the industrial designers concerning the web-based collective design platforms: Supportiveness, collectiveness, appreciativeness, responsiveness, trustworthiness, and tangibility of outcome. These values give reference to some potential motivation factors or drivers for industrial designers' participation in collective design platforms.

The findings indicate that the value of collectiveness may be interrelated with the values of supportiveness, appreciativeness and responsiveness (Figure 10). Providing a supportive system, giving and taking recognition, and incorporating intervention seem to encourage participation, create a sense of solidarity, and foster an environment suitable for collective design. The concerns about authenticity and authorship seem to be linked with the professional identity of designers, and may have negative implications for the value of collectiveness. Since this study was conducted with a small group of novice industrial designers only, more research is necessary to further explore these values and their interrelationships for various professional and non-professional groups.

The value of trustworthiness is a rather complex construct. Participation quality, evaluation quality (or "fairness" of evaluation), fairness of reward system, intellectual property risks, and past performance of the platform were the issues brought to focus by industrial designers in relation to trustworthiness in collective design platforms. More research is necessary to further explore the multi-dimensional structure of the value of trustworthiness for designer and non-designer groups.

The findings also indicate that OpenIDEO and Quirky may represent diverse models for collective design platforms. Therefore, the tangibility of outcome may provide a useful reference for re-interpreting the values in accordance with the type of the collective platform. For example, if the outcome is more design-centered, tangible and commercial, the value of supportiveness may need to get more professional. When the outcome is relatively more research-centered, less tangible and less commercial, the values of appreciativeness and responsiveness may need to get more pronounced. Since this study covered OpenIDEO and Quirky only, more research in reference to various types of platforms is necessary to further explore the implications of the tangibility of outcome.

In recent years, the Turkish speaking community has also witnessed the launch of local versions of crowdfunding and crowdsourcing platforms such as Fongogo (www.fongogo.com) and Tinkfabrik (www.tinkfabrik.com). These platforms represent the early examples of these alternative business practices and define a whole new area for further research in a local context.

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#### References

Ahn, E., Clotfelter, J., Durlak, M. and Wong, L. (2013). *The launch of OpenIDEO* [PDF document]. Retrieved September 21, 2013, from http://meagandurlak.com/Drop/ OpenIDEO\_CaseStudy.pdf

Ahn, L. von, Maurer, B., McMillen, C., Abraham, D., and Blum, M. (2008). reCAPTCHA: Human-based character recognition via web security measures. *Science*, 321(5895), 1465-1468.

Avi Solomon. (n.d.). *OpenIDEO*. Retrieved August 18, 2011, from http:// www.openideo.com/profiles/avisolo

Boudreau, K. and Lakhani, K. R. (2009). How to manage outside innovation. *MIT Sloan Management Review*, 50(4), 69-76.

Boutin, P. (2010). Quirky's 23-yearold CEO finds love with the supply chain. *VB News*. Retrieved June 20, 2012, from http://venturebeat.com/2010/04/27/quirky-benkaufman/

Brabham, D. C. (2008). Crowdsourcing as a model for problem solving: An introduction and cases. *Convergence: The International Journal of Research into New Media Technologies*, 14(1), 75-90.

Explore. (2014). *Makerbot Thingiverse*. Retrieved 21 July, 2014, from http://www.thingiverse.com/explore/ popular/page:2

How can we manage e-waste and discarded electronics to safeguard human health and protect our environment? (n.d.). *OpenIDEO*. Retrieved September 02, 2012, from http://www. openideo.com/open/e-waste/refinement/

Hulme, T. (2011). Social problem solving by collaboration, in *Open Design Now: Why Design Cannot Remain Exclusive*, Abel, B. van, et al., (eds.), 222, Premsela: BIS Publishers.

Introduction to OpenIDEO. (2010). Retrieved June 20, 2012, from http://www.youtube.com/watch?feature=player\_embedded&v=eUApgJB-ZU8M

Lévy, P. (1997). Collective intelli-

gence: Mankind's emerging world in cyberspace. Cambridge, MA: Perseus Books.

Maher, M., Paulini, M. and Murty, P. (2010). Scaling up: From individual design to collaborative design to collective design, in *Design Computing and Cognition '10*, Gero, J., (ed.), pp. 581-600, Springer.

Quirky eval process. (2012). Retrieved June 20, 2012, from http://vimeo.com/30313733

Score it. (n.d.). *Threadless*. Retrieved January 22, 2014, from http://www. threadless.com/pick/score/?sort=popular&page=1

#### Quirky ve OpenIDEO'ya referansla endüstriyel tasarımcıların bakış açısından web tabanlı kolektif tasarım platformlarının algılanan değerleri

Web tabanlı kolektif tasarım platformları, tasarım sürecinin değişik aşamalarına farklı birikimlere sahip çok sayıda insanın katılmasına dayalı sanal ortamlardır. Bu tür platformların katılımcılarını anlamak ve motive etmek, çözüm ve yaklaşım çeşitliliğini arttırmak açısından önemlidir. Bu çalışma, katılımcı kitlenin tasarımcı üyeleri açısından motivasyon etmenlerine bakmakta ve bu platformların algılanan değerlerini endüstriyel tasarımcıların bakış açısından araştırmaktadır. Sınırlı mesleki deneyime sahip genç endüstriyel tasarımcılarla gerçekleştirilen kısmen yapılandırılmış görüşmelere dayalı bu çalışma, iki kolektif tasarım platformunu, Quirky ve OpenIDEO'yu referans almaktadır. İki bölümden oluşan görüşmenin ilk bölümünde katılımcıya ilgili platformun tanıtım videosu gösterilmiş ve ardından websitesi üzerinden platformla ilgili ek bilgiler verilmiştir. Görüşmenin ikinci bölümünde katılımcının bu iki platformu kıyaslaması istenmiştir. Tüm görüşmelerde ses kaydı yapılmıştır. Görüşmelerin yarıya yakını tamamen, kalan bölümü ise kısmen çözülmüştür. Görüşme çözümlerinde önemli bulunan bölümler işaretlenmiş; olası temalar ve örüntüler not edilmiş; işaretlenen görüşme bölümleri ve temalar bilgisayar ortamında tablo şeklinde yeniden düzenlenerek analiz edilmiştir.

Surowiecki, J. (2004). The wisdom of crowds: Why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations. New York: Doubleday.

The Quirky process. (2012). *Quirky*. Retrieved June 20, 2012, from http:// www.quirky.com/learn

Vacuum Sealing Technology for Window Glazing. (2015). *Innocentive*. Retrieved February 05, 2015, from https://www.innocentive.com/ar/challenge/9933308

What we do. (n.d.). *Innocentive* . Retrieved May 12, 2014 from http://www. innocentive.com/about-innocentive

Araştırmanın sonuçları, tasarımcılar tarafından belli başlı altı değerin vurgulandığını göstermektedir: Destekleyicilik, kolektiflik, değerbilirlik, müdahaleye açıklık, güvenilirlik ve çıktıların somutluğu. Destekleyicilik değeri, tasarım sürecinin değişik aşamalarında platformun kullanıcılara sağladığı destekle ilgilidir; bir tasarımı geliştirmek, üretmek ve ticarileştirmek için verilen profesyonel destek veya ortak toplumsal sorunların çözümü için platform tarafından sağlanan bilgi ve rehberlik desteği bu değer kapsamındadır. Kolektiflik değeri, fikir paylaşımının ve görüş alışverişinin açık bir ortamda gerçekleştiğine işaret eder; bu değer, platform üyeleri arasındaki işbirliğine yönelik etkileşim ve iletişim düzeyine ilişkindir. Değerbilirlik, bir katılımcının yaptığı katkıya gösterilen ilgi ve dikkate işaret eder; katılımcının gerek kitleden gerekse platformdan ilgi ve takdir görmesi, platformda aktif kalmasında önemli bir rol oynar. Müdahaleye açıklık, platformun, tasarım sürecinin değişik aşamalarında katılımcının müdahalesine ne ölçüde izin verdiğine veya açık olduğuna ilişkindir. Güvenilirlik, endüstriyel tasarımcıların bu tür platformlarda önem verdiği bir değer olarak dikkat çekmektedir; neredeyse tüm etkinlikler ve iletişim açık ve sanal bir ortamda gerçekleştiğinden gerek platform üyelerinin kendi aralarında gerekse platform üyeleri ile platform çalışanları arasında güven oluşturmak zorluklar içerir; bu değerle ilgili olarak, tasarımcılar, katılım kalitesi, değerlendirme kalitesi, ödüllendirme sistemi,

fikri haklar ve platformun geçmiş performansı konularını gündeme getirmişlerdir. Çıktıların somutluğu, platformun çıktılarının somut veya soyut olarak, tasarım odaklı veya araştırma odaklı olarak algılanması ile ilişkilidir. Quirky, fikirlerin hızlı bir şekilde ticarileştirilmesine ve yenilikçi ürün fikirlerinin küresel pazara sunulmasına odaklı bir platform olarak nitelendirilirken; OpenIDEO, sosyal faydaya hizmet eden, önemli ortak sorunlara çözüm geliştirmek için daha uzun bir fikir geliştirme sürecine ihtiyaç duyan, araştırma odaklı bir platform olarak görülmektedir. Çıktıların somutluğu, algılanan değerlerin kolektif platformun türüne göre yeniden yorumlanmasında yararlanılabilecek bir değerdir. Örneğin, platform çıktıları tasarım odaklı, daha somut ve daha ticari ise destekleyicilik değerinin profesyonelleşmesi gerekebilir; öte yandan, çıktılar araştırma odaklı, daha az somut ve daha az ticari ise değerbilirlik ve müdahaleye açıklık değerlerinin daha fazla vurgulanması gerekebilir. Ayrıca, bulgular, kolektiflik değerinin karmaşık bir yapıya sahip olduğuna, destekleyicilik, değerbilirlik ve müdaheleye açıklık değerleriyle ilişkili olduğuna işaret etmektedir.

Son yıllarda kitle fonlaması ve kitle kaynak platformlarının yerel örnekleri de kurulmuştur. Bu tür alternatif iş modellerinin erken örneklerini oluşturan Fongogo ve Tinkfabrik gibi Türkçe platformlar, yerel bağlamda yeni bir araştırma alanı da tanımlamaktadır.