

Using Participatory Design and Card Sorting to Create a Community of Practice

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Abstract. In this case study, we developed a scenario-based card sorting method to assist in the co-design of a community of practice in user experience. Card sorting is typically used for the development of a computer interface. In this work, we modified and extended the use of card sorting to the participatory design of an organizational interface: a community of practice. The data we gathered informed the design of both the real-world community and the virtual/digital artifacts that supported our community.

Keywords: Community, Card Sort, Participatory Design, Engagement.

1 Introduction

In 2011, we completed an investigation of communities within in our company. We talked to leaders and participants of thriving and defunct communities, to understand what it might take to design a self-sustaining, connected community of practice [1].

Using what we learned, in 2012, we took a focused approach to co-designing a community for our target discipline, user experience, based on three ideas we thought would be most successful. At the time, our user experience community was decentralized. Business groups managed and funded their own user experience resources. User experience initiatives were broadly categorized as “research” or “practice” or “metrics” or “design”. The community of practice was envisioned to ensure continued success of a shared user experience philosophy with practitioners, key stakeholders, and all employees who were interested in the domain. The three ideas we thought would be most successful were: 1) to include experts, stakeholders, co-travelers, and employees at large; 2) to foster shared ownership, leadership, and vision; and, 3) to integrate the community into the product development life-cycle as a mechanism for information sharing and collaboration.

One additional challenge with business users is actively engaging them in participation since there are so many competing requests for their time [2]. Our fourth idea was 4) to design a study that also facilitated learning and discussion on a relevant topic while we were collecting data for our design initiative. It was important to design the study in a way that it complemented work objectives at an individual or team level.

Each of the ideas we identified aligned with known principles and guidelines for Participatory Design projects [3], [4]. As a discipline, participatory design focuses on co-design technology with the people who use them and over the years has

extended to the design of different types of communities [5]. We believe our methodology can be applied to other organizations or disciplines that have the goal of broadening the targeted discipline or community beyond specialized experts.

2 Methodology

Our approach was developed to reflect critical design decisions of our community:

What would people in a community value so that they would continue participating? What topics would be considered an enhancement to their job responsibilities? What would work as a community experience and what wouldn't? We followed six steps, listed below, to help us design a study that fit with our goals.

- 1. Create a Value Proposition:** Since we were not developing for physical interaction with a device, with menus or a tangible interface, we developed a metaphor to represent an interface. Our rationale was that the value proposition was a primary reason employees would interact with the community and in some way, the value proposition was analogous to a “main menu” of the organizational interface. This was the rationale we used to support the use of a modified card sorting technique. We developed a value proposition through refining insights from a series of strategic and tactical activities with partners and key stakeholders. For example, we created a strategic roadmap with end goals that provided insight into what participants would value. The value proposition of our community was “shared ownership, leadership, and vision while further integrating the targeted discipline into the product development life cycle.”
- 2. Understand Wants and Needs:** The design requirements gathering process [6] for the community began by categorizing what participants thought would make the community a valuable service. We collected this data by conducting interviews within our company with past and current community of practice facilitators and members. The insights from these interviews helped to create the scenarios for card sorting and questions for group discussion.
- 3. Recruit participants and Conduct Focus Groups:** The participant pool reflected the population of the proposed community. We invited subject matter experts in the target discipline, people were invited via word-of-mouth, and we posted on internal social media sites to attract people from all areas of the company who had interest in the topic. We held 11 sessions at Intel campuses in Arizona, California, and Oregon. Our recruiting efforts attracted more than 300 people and 112 people (44 women, 68 men) participated in the focus groups. We met our goal to have a representative set of participants that would reflect the community we wanted to foster. Twelve participants were domain experts (human factors engineers, designers, or scientists). The remaining participants were from various disciplines through the company (Figure 1). In order for the community to flourish, we believed that every part of the product development process should be represented during the design of the community.

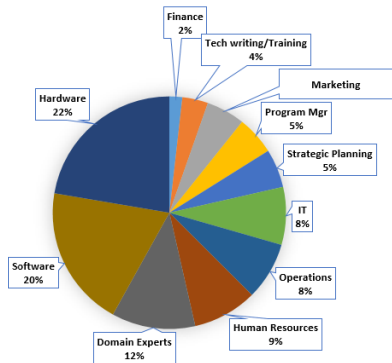


Fig. 1. Breakdown of Participant Expertise

4. Scenario-Based Card Sort: From our research in Step 2, the value proposition in Step 1, and our understanding of the goals of the target discipline, we picked six events that would define the community over the next year. Each event was listed on a scenario card with boxes labeled “me” and “community”. Each participant independently rank ordered each scenario from 1-6 as shown in Figure 2. First, from the perspective of what was most important/relevant to him or her as an individual contributor and, then what was most important/relevant to him/her as a community member.

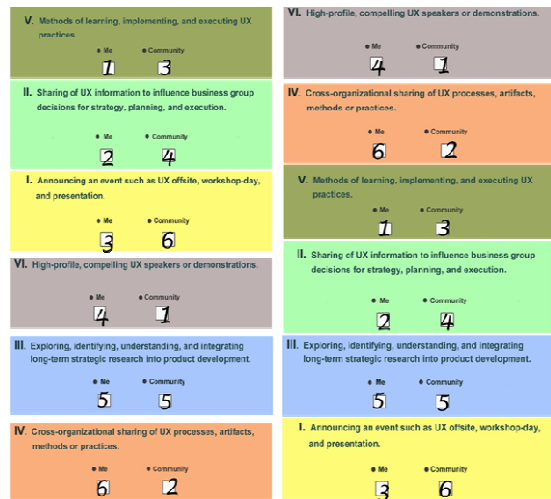


Fig. 2. One participant’s ranked cards. In column 1, by what is relevant to “me” and in column 2, by what is relevant to the community.

5. Moderator Discussion and Data Analysis: With some help from the moderators, all of the cards were laid on one table as in Figure 2. The visual grouping formed by color coding allowed for easy probing by the moderators. The visual grouping also allowed participants to see patterns and easily make suggestions about why certain scenarios were prioritized over others. Each session was also recorded and the conversations analyzed for themes and insight. Below are examples of sample discussion and card sort responses at two different sites.

Sample Discussion

Moderator 1: Let's look at the most important cards: What jumps out at you?

Participant 1: People work in different modes; the whole lifecycle involves planning, development, execution and some of the later details also and people are in different responsibilities, not everyone is creating, and some people are managing processes also so such kind of decisions would take place...

Moderator 2: Yeah that's a really good point!

Moderator 1: What do you see?

Participant 2: I see olive greens: more emphasis on methods and practices across And the other one, biz group sharing, maybe groups that have very similar charters

Participant 3: I am not surprised that the orange, for the community I thought of it was of highest value. It's cross-org sharing, so it impacts large number of people so I would have expected it to be high priority but doesn't seem like that...."



Fig. 3. Real-time visualization of group card sort responses

3 Analysis and Findings

We aggregated the data from all of the sessions to understand trends that we could use to design our community. We looked at the frequency distribution as prioritized most important to least important; and created a cut-off of 22 cards or more for high ranking scenarios.

The data collected showed that Community ranking (Figure 3) tended to be more direction-focused and strategy-driven, and Individual ("Me") ranking (Figure 4) tended to focus more on learning that is driven by applied knowledge. We understood more about the differences in the rankings from the participant discussions as they reviewed the findings as a group. We heard a variety of comments:

"Events, announcements and compelling speakers are not the 'real' work. Real work would be cross-org sharing, learning methods and practices." HR, Program Manager

"It's the learning that takes place before the implementation that is more critical than the actual implementation." Sales and Marketing, Strategic Planner

“High profile speakers are my preference. I like to see the new way of thinking, a thought-leader” Chipset, Strategic Planner.

“If I want to be motivated, I can just go on YouTube and find videos or maybe have it on my iPod. I don’t need to be there if I have another competing priority. And I think that’s why listening to a high profile speaker is in lower bin for me.” Investor Relations Manager

“I want the internal practices and seamless flow of people working on almost the same things across business units.” Interaction Designer

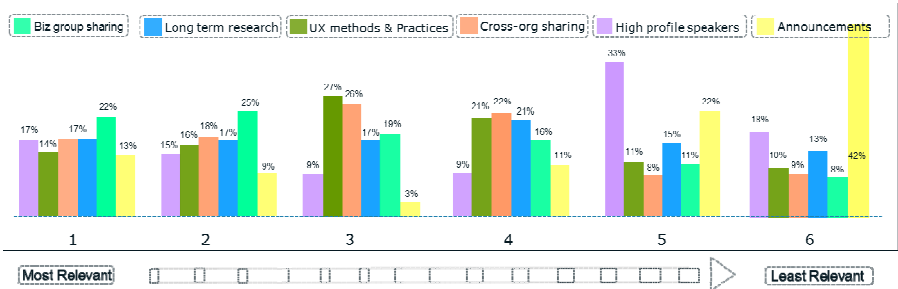


Fig. 4. Community rankings and discussion were direction-focused

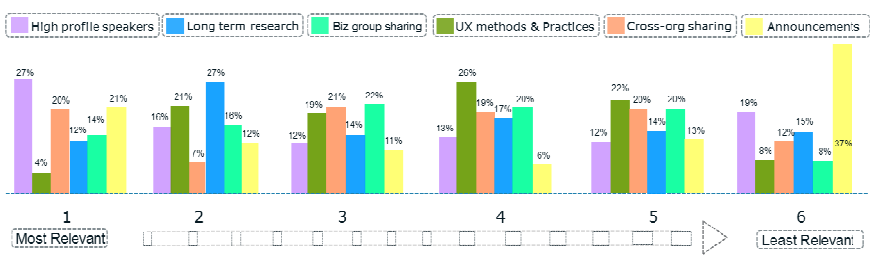


Fig. 5. Individual rankings and discussion were application-focused

4 Implications for Design

Social Media Continues to Redefine Collaboration. We learned quickly that our distributed community was highly dependent on many technologies to support it. In an ideal world, our community required an interactive webcast, split-screen environment where moderator, presenter, and presentation could be on a shared screen. Not all corporate environments have unlimited access to this type of technology, but, the technological advances are leading us there quickly.

Interactive Collaborative Technology Balances Individual vs. Community. The ability to post ideas and questions real-time during the speaker series helped the interaction with the speaker to be at both the individual and the community level. We learned quickly that one-way communication would constrain the community and we required a technology solution that was interactive and allowed people to have two-way communication with the presenter.

The Community Should be Designed with the Available Internal Social Media tools in Mind. The community design cannot be disjointed from the available technology. We experienced bottlenecks when the community began to grow and the technology at hand could not sustain a growing population. We learned that in our case, people will come but we had to ensure the technology solution available could accommodate the community.

Table 1. Example of data summary and ideation for top ranking scenarios

	Top Rank Scenarios	Interpretation	Solution
E	<ul style="list-style-type: none"> High profile speakers (I) 	<ul style="list-style-type: none"> Find ways to let individuals know about events directly. 	<ul style="list-style-type: none"> Speaker Series open to all interested
X	<ul style="list-style-type: none"> Cross-org (I) 		<ul style="list-style-type: none"> Global access
A	<ul style="list-style-type: none"> Announcements (I) 		<ul style="list-style-type: none"> Teleconference
M	<ul style="list-style-type: none"> Biz group sharing (I, C) 	<ul style="list-style-type: none"> Select speakers that could address topics that generalized within their business group, across the company, and impacted the target discipline. 	<ul style="list-style-type: none"> Video enhanced when possible.
P			<ul style="list-style-type: none"> Instant Message used for comments, questions, and “tweet-like” interaction.
L			
E			

The Community We Designed Reflected the Wants and Needs of the Participants. There is always debate about how to build a community that is a blend of experts, co-travelers, and partners and how to achieve the right balance of depth of information shared. We learned through our participatory design approach that people have different expectations for themselves as individual contributors versus themselves as a team representative or community member. The feedback and discussion from the card sort visualization allowed us to identify important expectations and practices that would keep the community interesting, diverse, and well-attended.

The Card Sort Discussion Informed the Content and Presentation of our Communication and Events. We learned how to tailor the voice of our speaker series presentation, our newsletter articles, and our community announcement so that we were speaking simultaneously to the individual and the community. Without the design input from the community, we would have more than likely tailored our communication and events using more traditional approaches e.g. creating speaker series for specific groups with similar job functions. Instead what we learned (Table 1) was that every element of the community was an opportunity for cross-organizational sharing, if designed effectively.

5
Conclusion

The participatory card sorting technique for ranking scenarios when designing an organizational interface was successful for our design and implementation purposes. In total, 112 employees volunteered their time to participate in our study. We received positive feedback on the process. People enjoyed the opportunity to engage in the community’s design, to network with other participants and to have their opinions heard.

Color-coding the scenario cards and laying them out on the table was an effective and rapid technique for creating a visualization of the card ranking data. Everyone in the room had the opportunity to move cards around while reflecting on them and could easily point out patterns that they identified in the data to support or refute discussion points.

The feedback from the card sort was used to design our speaker series and the training preparation we conducted with every speaker who presented in our speaker series. Every single speaker from an individual contributor who was a researcher to high profile speaker, changed and/or enhanced his or her presentation based on our finding from the card sort and discussion. The enhancements made always tuned the presentation more effectively to the individual and community perspectives that each listener expects.

Speaker series events were well attended. We hosted on average 5 speakers per quarter, with an average attendance rate of 125 people per call, and a range from 95-200 participants. At the onset our expectation was about 40 people per call which would be an acceptable turnout. The feedback from the participatory design card sort helped us to understand the tricky balance between individual versus community expectations in order to create a thriving community experience.

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