

Thoughtexchange - A research perspective

The origins of Thoughtexchange inspired by the theory of “collective wisdom”.

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Introduction

Thoughtexchange's online process was inspired by theories popularized by James Surowiecki in his book *The Wisdom of Crowds* (2004). Surowiecki introduced the terms *crowdsourcing* and *collective intelligence* into popular culture by building on research conducted at MIT and led by Thomas Malone.

Crowdsourcing is a behavior - it's what we do to access the wisdom of crowds and their collective intelligence. Crowdsourcing is the action while crowd wisdom and collective intelligence are the outcome or product.

In *The Wisdom of Crowds* Surowiecki uses real life examples to present a case for crowdsourcing and to define the conditions required for effective crowdsourcing. It is these required conditions that Thoughtexchange has incorporated into its large-scale online process. The goal of Thoughtexchange is to optimize the benefits of crowdsourcing while limiting the factors that inhibit positive collective intelligence outcomes. Stated another way, "tapping into the wisdom of crowds".

Surowiecki focuses on three types of decision making problems that tapping into the wisdom of crowds can help solve.

Cognition problems

Coordination problems

Cooperation problems

Cognition problems are "problems that have, or will have, definitive solutions". The theory is that these types of problems are best answered by a diverse crowd rather than a group of experts.

It's important to remember that the theory only applies if certain conditions are met. With cognition problems the conditions vary in importance based on the specific problem. For example if you were to crowdsource the answer to "Who will win the next local election?", you would want a diverse group of people who were familiar with that locale. Increasing the diversity by including people who lived elsewhere would not improve the likelihood of a better than average outcome and would most likely result in a response that was worse than a group of political experts.

The second type of problem that can be positively impacted by crowdsourcing

are coordination problems. As the name implies, coordination problems involve attempts to coordinate behaviors. “Where and when should we meet for coffee?” is a coordination problem. Like cognition problems, conditions apply and ensuring a crowd with the right balance of local knowledge and diverse perspectives is key. In this case the ability to aggregate or pull together and sort the ideas is also required.

The third type of problem is a cooperation problem. Cooperation involves organizing individuals’ self-interested action in a way that creates mutual advantage. Cooperation moves us from doing what is best for me as an individual entity to doing what is best for us as a whole. An examples of a cooperation problem might be, “How can we balance our obligation to reduce our budget with the need to reduce class size?”.

Cooperation problems are often complex rather than complicated. Complicated problems have a “right” answer. Putting a car engine together is a complicated problem. There is one right way to do it. Complex problems do not have one right solution. They have multiple solutions and choosing one solution often results in more problems that need to be solved.

Cooperation problems are in essence what the Club of Rome identified decades ago as the types of problems that could be solved best by learning through innovation. In their second report *No Limits to Learning*, Donella Meadows suggests that to learn by innovation requires anticipation of what might happen and participative solution finding.

Both of these - anticipation and participation - are conditions that are met by the use of crowd, or perhaps better stated, large-scale community-sourcing technology like Thoughtexchange.

A key to solving cooperation problems involves establishing and communicating trust. As Surowiecki states, to solve cooperation problems, a group needs to, “be able to trust those around them, because in the absence of trust the pursuit of myopic self-interest is the only strategy that makes sense.”

Thus cooperation problems require groups to do more than in coordination problems.

In working through examples of each type of problem, Surowiecki defines the overall conditions that must be met for collective intelligence to trump the decisions reached by expert groups and individuals. These conditions are:

1. Diversity of opinion (each person should have some private information, even if it's just an eccentric interpretation of the known facts).

2. Independence (people's opinions are not determined by the opinions of those around them).
3. Decentralization (people are able to specialize and draw on local knowledge).
4. Aggregation (some mechanism exists for turning private judgments into collective decision).

In response to Surowiecki's book, Harri Oinas-Kukkonen, Professor of information systems at the Department of Information Processing Science, University of Oulu in Finland, captures the Wisdom of Crowds approach with the following ideas:

1. It is possible to describe how people in a group think as a whole.
2. In some cases, groups are remarkably intelligent and are often smarter than the smartest people in them.
3. The three conditions for a group to be intelligent are diversity, independence, and decentralization.
4. The best decisions are a product of disagreement and contest.
5. Too much communication can make the group as a whole less intelligent
6. Information aggregation functionality is needed.
7. The right information needs to be delivered to the right people in the right place, at the right time, and in the right way.
8. There is no need to chase the expert.

Thoughtexchange meets the conditions Surowiecki defines and is supported by many of the ideas put forth by Oinas-Kukkonen.

The C Factor

MIT has collected a large body of research on collective intelligence that can be accessed via the MIT Center for Collective Intelligence. Their handbook, in Wiki form, is itself an example of crowdsourcing at work. The Wiki includes two areas that specifically list factors that facilitate or inhibit crowd wisdom and collective intelligence.

One study conducted by MIT researchers, lead by Thomas Malone, suggests there is a general collective intelligence factor which they call the "c factor"

The results of this research suggest that groups with higher levels of emotional intelligence out perform and are in effect smarter than groups with

“ This “c factor” is not strongly correlated with the average or maximum individual intelligence of group members but is correlated with the average social sensitivity of group members, the equality in distribution of conversational turn-taking, and the proportion of females in the group. ”

lower average social competencies. Thoughtexchange mediates this effect. Inside the Thoughtexchange platform everyone is equal and has as much time and space to respond as they need. This mediating effect means that group composition is not a critical factor - everyone can be involved and the group will still be smart.

The reason a group that is brought together in a Thoughtexchange process is a smart group is due to the conditions the process enables. Let's take a closer look at the factors that influence crowdsourcing and collective intelligence and how Thoughtexchange supports the required conditions.

Facilitating Factors

Diversity

Much of the research on the power of diversity stems from Scott Page's work. Page created the Diversity Prediction Theorem. The theorem is:

$\text{Crowd Error} = \text{Average Individual Error} - \text{Diversity Among Individuals}$

A full discussion on the theorem can be found in Page's book *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies*. The bottom line on diversity is,

With crowds: diversity trumps ability.

There are times when crowds are smart and also times when crowds are not so smart. Diversity is the differentiator based on the following ideas.

1. Individuals have particular perspectives on a problem, paying attention to some aspects and filtering out others.
2. Learned perspectives may limit the search space any one individual uses to reach an answer, even for “smart” individuals.
3. Multiple individuals with varying perspectives expand the search space employed.
4. A diverse crowd has more “tools” to apply.
5. The larger the group, the more tools available.

Thoughtexchange can substantially increase the diversity of a solution finding group because the cost of inclusion does not change with the size of the group.

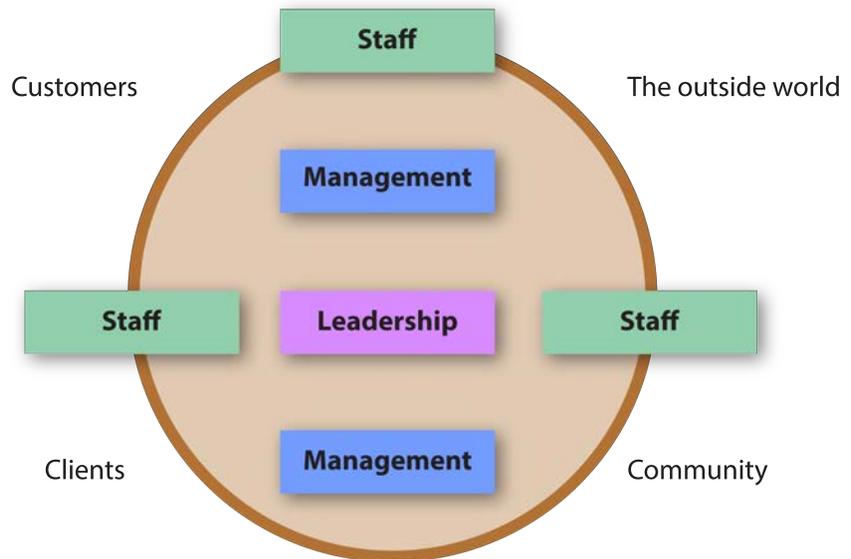
Edge and Ecosystem

Related to diversity but viewed through a slightly different lens are the Power of the Edge and the Power of an Ecosystem. Both describe the way

in which bottom-up approaches have a positive impact on organizational decision making and innovation.

The diagram below is a visual representation of how people within an organization view what's going on outside, especially those events or shifts that may impact the organization.

Leadership, in the middle, is often insulated by management who may act as a filter. Staff members who exist closer to the edge of an organization can offer a perspective that is often shielded from leadership's perspective.



Customers, clients or community members can offer an unobstructed view of how services or products could better meet their needs.

Malcolm Gladwell's book *Outliers* features stories of how the brilliant among us rose from a distinctive set of circumstances and how their unique perspectives help them rise above the crowd and how organizations can leverage that kind of talent.

Thoughtexchange leverages the Power of the Edge and the unique perspectives of Outliers by including the entire Ecosystem of an organization or community.

Inhibiting Factors

An effective route to any kind of organizational initiative can be found in the application of a Force Field Analysis (FFA); a tool for systematically analyzing factors found in complex problems. The method used in FFA

includes identifying the “restraining forces” or inhibiting factors. The theory is that by identifying and then systematically removing those factors or barriers to success, the initiative can then move forward.

Thoughtexchange removes inhibiting factors that prevent or limit the effectiveness of crowdsourced collective intelligence.

Bias

Bias is an inhibiting factor in crowdsourcing. There are many types of bias and all relate to how an individual views or perceives the world. The following list, presented as problems and solutions, includes types of bias and how Thoughtexchange removes or prevents bias from impacting the effectiveness of crowdsourcing for crowd or community wisdom.

Problem: In-group bias

Group members favour and support the ideas presented by their own group members.

Solution: Thoughtexchange shields group members from knowing the identity of others in the group. This is especially important at the thought generation stage where in-group bias can influence the ideas generated. By using Thoughtexchange organizations can easily include those not in the in-group.

Problem: Out-group homogeneity

We tend to view people not in our in-group as being all alike. We stereotype and think that “They are all like that”. This tendency towards seeing people not like us as holding similar views can cause problems in diverse groups. Group members can unconsciously negatively or positively stereotype other group members which can influence their own ideas and alignment with others ideas.

Solution: Thoughtexchange groups can be diverse without triggering our out-group homogeneity bias by keeping the identity of group members identities confidential from one another.

Problem: Groupthink

We have a tendency toward doing what others do. This often called the bandwagon or herd effect. Groupthink the best case against brainstorming and collective decision making, in a face to face environment.

Solution: Thoughtexchange can effectively mask the herd by eliciting thoughts without exposing participants to others’ thoughts during the thought generation step.

“ *This is not to say that diversity does not have drawbacks. Diversity works best when everyone has same goal of finding a solution. If goal-related values of different groups are not shared, the crowd may polarize and splinter into factions.* ”

Problem: Social Loafing

The larger the number of individuals whose work is combined on a group task, the smaller each individual's contribution. In short we contribute less when we are working together as a group.

Solution: People are more motivated and tend to contribute more when they believe that their work is identifiable and separable from the work of others. This may seem like a bit of a conundrum. Thoughtexchange works because it can keep participants identities confidential while keeping participants accountable at the same time. With Thoughtexchange the facilitator is the group eyes. Even though the entire group may not know how much each individual contributed, the facilitator will. Participants perceive their contributions as identifiable and separate.

Problem: Social Facilitation

This theory suggests that we do better at some things when we are, or believe that we are, being watched. Conversely, on tasks that are new or that we are challenged by, our performance gets worse when watched. Both of these situations can negatively impact participation in face-to-face engagements. People tend to over participate in generating common knowledge and under participate in generating new knowledge or presenting novel ideas.

Solution: Thoughtexchange helps participants find the balance between being "watched" by a supportive facilitator and being able to struggle invisibly. This combination supports innovative and professionally riskier thoughts being shared.

Problem: Group Polarization

When brought together to discuss a problem, groups may take a more extreme position than they had begun with. People can dig in on a stance and any discussion just causes them to dig in more or become more supportive of one idea over another. Believing in one view over another in not in itself a problem; the problem occurs when it causes people to become so fixed that they become blind to other perspectives. Part of the reason for this is that when people have to verbally defend a position the act of defending causes them to believe even more strongly in that position. In effect they are convincing themselves as they try to convince others. Another related problem with this is that some people are perceived as more knowledgeable or more powerful or they may be more

charismatic and have expert communication skills. None of these attributes ensure that the idea they are presenting is the best one. The best solution or idea may be held by someone who does not have the capacity in a face-to-face group to push their agenda forward. The net result of group polarization can be a decision that is riskier than hoped for.

Solution: Thoughtexchange shifts discussions to dialogue. Stronger personalities and less forceful voices are privileged equally allowing the best ideas to shine through.

Problem: Risky Shift

Groups tend towards making riskier decisions. This is sometimes seen in mob behaviour where individuals act out of character behaving in ways they would never consider individually. Theories supporting this include the notion that individuals who tend toward risk taking are more persuasive and that there is cultural value in risk taking.

Solution: Thoughtexchange minimizes the influence risk takers have on a group in part due to the distanced and confidential interactions. As an asynchronous process individuals are less likely to get caught up in the moment. Thoughtexchange allows participants time to think and reflect.

Problem: Common Knowledge Effect

This more colloquially referred to as common sense. Common sense suggests that the world is flat. Researchers have found that teams tend to focus on shared, in-common information, when making decisions. If most of the team members “know” something, that knowledge is seen as more valid than information or knowledge held by fewer group members. The result is that unique information is not shared and when it is, it is often ignored. Social science research suggests that the reason for this is that sociality trumps effectiveness. As innately social creatures we actively and unconsciously seek similarities when we meet others. When we are first introduced to someone we usually try to find something that ties us together in a social bond. Once we find a common interest or viewpoint we tend to hold on to that as a way of cementing the relationship. This occurs most often when there is value in maintaining the relationship.

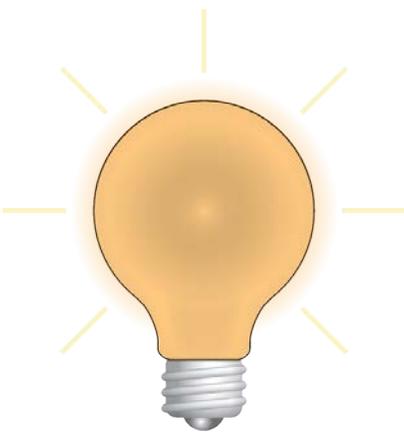
Solution: Thoughtexchange is not social media platform. The influences that cause group members to default to social beings invested in

relationship building at the expense of critical decision making and solution finding are minimized by the platform and the process. Uncommon knowledge can be shared on equal footing with common knowledge and the negative influences of social bonding can be separated from the process.

Conclusion

Thoughtexchange was built on and continues to be inspired by sound social research theories. Unlike traditional listening tools such as town halls, focus groups and surveys, Thoughtexchange's large-scale, online email-based process leverages the power of group intelligence and the principles of collaborative negotiation, to engage communities in a meaningful way that's both effective and efficient.

Thoughtexchange, helps collaborative leaders engage with their stakeholder communities to gain buy-in and inform critical decisions, by bringing empowered communities together to work toward common solutions. Stakeholders share their thoughts, star the ideas of others that resonate with them, and discover what matters most to the group. Thoughtexchange has been successfully used by hundreds of organizations for community engagement, collaborative planning, border restructuring, facilities review, and more. For more information on how to engage your community, visit thoughtexchange.com email info@thoughtexchange.com or call 1-800-361-9027.



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