Tapping into the wisdom of crowds

In 2004 James Surowiecki wrote the book *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*. The opening anecdote was about how surprised the great scientists Francis Galton (1822-1911) was, when in a 'guess the weight of the ox' competition at a country fair, the average of all the individual guesses of passers-by was closer to the true weight than a panel of cattle experts. By using the power of the internet to connect people, what could be achieved on a global scale?

The wisdom of crowds, or 'collective intelligence', is so significant that Massachusetts Institute of Technology (MIT) have set up a 'Center for Collective Intelligence' where they aim to discover how to best facilitate collective intelligence using the internet. Collective intelligence should not be confused with 'crowd psychology', because in collective intelligence all the individuals are giving their views independently, rather than as a crowd. In market research terms it is the difference between a web survey sent out to individuals and a focus group. The focus groups are more susceptible to crowd psychology due to social pressures and can result in 'groupthink'. MIT points to the examples of collective intelligence that already exist: Google, Wikipedia and Innocentive.

Google

Nearly everyone with an internet connection has used Google to answer questions; just by typing in a question into the search box yields some reasonable answers. It is always refreshing to get the web's answer to 'what is the meaning of life?' Google have commercialized this idea with Google Answers. Registered users pose a question and the maximum price they will pay for a solution. Registered experts answer the question and if the question-poser is satisfied, they get paid. We have used it to solve tricky software issues and are always amazed at the great answers we can get for $2, that would otherwise take may take an hour to research.

Wikipedia

Searching Wikipedia, the online encyclopaedia, for answers is a bit more structured that Google, since collectively people have created explicit knowledge about a subject and linked them to other related subjects. Asking Wikipedia about 'the meaning of life' elicits a more balanced view, which compares popular views on the meaning of life with scientific, philosophical and religious views.

Innocentive

Rather than spend millions of pounds on research in your organisation's labs, why not post the research question and a reward for the best answer and let the collective intelligence of all scientists around the world solve your problem? This is the concept of www.innocentive.com which recently was given additional support from the Rockefeller Foundation. The website puts 'seeker' companies in touch with 'solvers'. The seeker posts their research problem and what they will pay to the person who provides the best solution, and then solvers submit their

solutions. Every successful solver must release the intellectual property of their solution before they get their reward. There is the story of an independent electromagnetic engineer, Edward Melcarek, who has a new life as a full-time 'solver'. He has won three awards worth $50,000 for coming up with ideas such as methods for purifying silicone-based solvents and adding fluoride powder to toothpaste tubes. On a larger scale, if anyone can discover a biomarker for measuring the progression of Amyotrophic Lateral Scelerosis, they could collect the reward offered by Prize4Life of $1million.

Static knowledge-sharing vs. dynamic behaviour-testing

Rather than just sharing their knowledge over the internet, another application of collective intelligence is testing what people would do in specific scenarios. So, for example traffic planners could propose a road traffic solution such as putting in another tram line in Nottingham, and Nottingham residents would select how their transport behaviour would change after the new line is built. So may say they would use the park-and-ride car park and take the new tram. While others may say they would still use their car to go into the city centre, but follow a different route that would avoid the road congestion around the tram line, thus creating traffic jams that the town planners may not have planned for. At the end of phase one of the game, planners would have data on all the knock-on effects of the tram line on road traffic around Nottingham. They could then offer a phase 2 of the game, asking people how they would modify their journeys given all these knock-on effects from phase 1 of the game. The end result would be a much more sophisticated way of town planning that took account of evidence-based likely future behaviour given a specific scenario.

Playing finance minister

It has also been applied to government; the French government launched http://www.cyber-budget.fr/ which was a game that allowed French citizens to play finance minister. The object of the game is to balance the €300bn government budget. For example, it has a mini game allows the player to travel into the hypothetical future of various budget decisions. When you make certain decisions, there is an image on screen of a bunch of British immigrants fleeing to France. However, increasing taxes causes French businesses and investments to flee the country.

Solving global warming

MIT have set about working out how to solve a very pressing problem facing humanity: how to slow global climate change caused by human-generated greenhouse-gas emissions? They have created a new class of web-mediated discussion and decision-making forum they call 'collaboratorium'. This is a combination of tools that allow people to generate ideas, explore and evaluate them using simulations. The aim is to try and converge on collective decisions about the best course of future action, taking into account the different way that people would behave to different scenarios.

Collective intelligence and e-learning

These collective intelligence tools are ways for individuals to share knowledge and skills and so are within the e-learning domain. However they are not formalised learning; they do not

have specific learning objectives and pre-prepared suggested solutions for the learner. Organisations can use the tools in different ways to help both individual and organisational learning. For example market researchers could run simulations using volunteers from their target market, to collect evidence-based data that will help them determine their marketing strategy for that target market.

An organisation could create an internal 'Google Answers', so employees can help each other solve problems and get rewarded for sharing their knowledge. Why get an external consultant in to solve some of your organisational problems when the solution may already exist in the collective intelligence of all your salaried employees? Rather than restricting the job of solving problems to 'appropriate' managers within 'appropriate' departments, it would cast the net wider and include employees working in all sorts of roles in different parts of the global organisation. Thus it would temper the silo mentality, which tends to result in single-dimensional solutions that don't address organisation-wide issues. Rather than getting paid to supply answers, there could be an individual-based and department-based 'leader boards' on the intranet, displaying which departments and which individuals are the most skilled at solving peoples' problems.

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