

# Understanding Collective Intelligence: Are Two Heads Better Than One?

## Defining Collective Intelligence

Similar to Web 2.0, Collective Intelligence, as it relates to the web, can be difficult to define. A simple definition of Collective Intelligence technology might read something like this; "An online technology that provides content for purpose, leading to a more compelling experience for the individual, that is derived from observations of the behaviour of the masses."

## Brainpower from the Crowd

Collective Intelligence leverages the power of the masses to help make decisions that identify, enhance and refine an individuals experience online to make it more compelling for others. Websites can tap into the wisdom of the community to more accurately predict what your visitors want to see and prioritise tasks based upon up-to-the-minute feedback from the target audience.

By combining fields such as mathematics, psychology, linguistics and sociology Collective Intelligence technology has rapidly evolved over recent years. Whether a website is intended for customers, employees, partners or even for a mobile audience, Collective Intelligence will provide a conduit to lift interaction, productivity, and customer satisfaction. Collective Intelligence is changing the online landscape through the use of visitor-driven recommendations, within enterprise search and alongside knowledge management deployments.

## Putting Information in Context

Information is relatively useless unless it is given context - knowing that 50,000 users viewed a page tells you nothing unless it is measured against a pre-determined performance metric. Knowledge places context onto the information, allowing you to make sense of it - knowing that 50,000 users viewed a page, but only 20,000 then viewed page 2 starts to provide us with context.

Another important element to providing context is the currency of the information under analysis. Unlike workshops and surveys that may quickly become out of date, Collective Intelligence software automates the process of behaviour analysis on a website and is able to quickly adjust based upon what is deemed to be most immediately pertinent to the web audience.

## The End Game

User driven recommendations, similar to the Amazon.com model, work best when they remain invisible to the web audience. By tracking the behaviour of everyone that visits a website and combining a little Sherlock Holmes style deductive reasoning with some rocket science, recommendation engine technology attempts to change the priority and ranking of information on a website based upon similarities between a person's behaviour and that of the past similar behaviour of like-minded peers.

As an example, if I was to visit an online retail website and was looking for clothing for my six year old son, I might try typing in some keywords into the search box or clicking on the tab that says "children's clothing". As I navigate further and further into the website, the recommendation engine is able to gather more information and make assumptions based upon where I visit, how long I spend and if I click on the back button.



By matching my behaviour on the website with that of the past similar behaviour patterns, Collective Intelligence software can make an assessment of what might be useful and helpful to me right now and make use of an existing content management system or enterprise search technology to surface information that is most relevant.

The goal of silent observation is to accurately interpret and determine the true intent of a website visitor without interrupting the flow of the experience. This can be accomplished by observing certain key implicit visitor behaviours;

- How a visitor arrives at the site
- Successful and unsuccessful queries
- Navigation patterns
- Downloads
- Purchases
- Registration input
- Virtual bookmarks
- Virtual Prints
- Shopping Cart Actions

The data, along with many other types of implicit actions, can be collected from every website visitor and analyzed. As this data is continuously distilled, tribes begin to appear. Patterns associated with each tribe begin to form over time and are more valuable as the volume of visitors increases.

## Where is Collective Intelligence Making a Difference?

Online retailers that in the past invested heavily in personalization and content management solutions are today making use of Collective Intelligence as a cost effective way to assist with cross selling and up selling of products. Retail case studies from recommendation engine deployments are showing a measurable increase in online sales figures, including total order/basket size, completion rates and increase in return visitors to a site.

For these organizations Collective Intelligence offers a way of providing the most relevant content in the form of recommendations and/or search responses whilst reducing the potentially substantial costs otherwise associated with surveys, workshops, developing customer personas and often complex CMS personalization tools.

## Collective Intelligence and Enterprise Search

Over recent years explicit user actions such as click-throughs, ratings and feedback were all introduced in an attempt to solve search relevancy issues. The difficulty with this approach is that it may be adversely affected by survey bias, which refers to the small sample of overall website visitors that tend to be the most polarized and therefore a poor representation of what the general population might deem relevant to them. As with any user-centric online systems, there is also the threat from malicious use of bots and tagging engines and the like to impersonate users to manipulate the behaviour of the website.

## A Non Invasive Approach

There are numerous examples of search that suffer from the same challenges of explicit (and often misleading) user action and feedback, however a recent trend toward silent observation has changed the rules somewhat, making this technology much more useful, cost effective and best of all, without any interruption to the user experience. Collective Intelligence underpins this more effective "non-invasive" approach toward search improvement

## Social Search - Understanding Staff Behaviour

Collective Intelligence provides improved search results and on-page recommendations that guide employees to the most useful, high-impact content and articles. Collective Intelligence helps employees locate their intended content and corporate

knowledge with significantly fewer clicks than with conventional intranet portals. This is achieved by implicitly observing employee behaviour as they search and navigate the company intranets and portals.

In most enterprises it would not be over-exaggerating to expect that over a third of an employee's time is spent searching for information. Corporate knowledge may be stored in multiple locations, and scattered across the enterprise. Using an enterprise search technology to index millions of pages and documents in this instance becomes a potentially costly program involving integration, tuning and customization challenges.

Information becomes more highly optimized by merging Collective Intelligence software with an existing search engine and employees are more likely to find what they are looking for. Recommendation engines can eradicate the need for costly enterprise search technology deployments, providing a more effective and easy to administer outcome.

## Social Search - Understanding Staff Behaviour

What is perhaps most exciting about Collective Intelligence for business is that it can provide a quick return on investment at a low cost. The return may be realized through any number of metrics including increase in online sales; increased basket size; an increase in unique visitors; increased session times; and also through cost savings from automation and integration with existing web content management and enterprise search tools. This can reduce the reliance on expensive expert consulting services and tools for eMarketing, eBusiness, Knowledge Management and even SEO services.

As the value of this technology becomes more apparent, it seems inevitable that Collective Intelligence will become a very important part of any web project, and should be mandatory for anyone with a highly trafficked website. For anyone interested in making website improvements that are low risk, low impact and for a relatively minor spend, Collective Intelligence would be well worth investigating.