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Social network driven innovation

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International School of Management Paris

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Social network driven innovation

ABSTRACT

This paper explains how the increasingly popular social network driven ideation works for some companies, and how this can be expanded to encompass the complete crowdsourcing innovation process (beyond simple ideation). In a contemporary context, businesses that are unable to keep up with innovations are simply overrun by those who are more efficient at this. This results in the dilemma that confronts all innovating companies in the 21st century: while innovation is critical for survival of a company, internal R&D is an inefficient approach to innovation. As a result of this dilemma, today's innovative companies generally conduct little or no basic research on their own. They mostly innovate using the research discoveries of others. Some of these companies promote ideation forums on social networks to gain 'memes' for innovative ideas. This first step in the crowdsourcing innovation process can be expanded to include all the remaining steps of the innovation process, up to marketing and selling the product or service, as these all originate from 'crowdsourcing ideation'.

Keywords: social network driven innovation, ideation forums, crowdsourcing ideation, crowdsourcing innovation process, memes, mavens, connectors, influencers, nanostories, flash mobs, job to be done

INTRODUCTION

Online social networking is a technological revolution that is changing the way companies relate to their stakeholders. In particular, this paper demonstrates how this form of social networking is changing the way open innovation is being used by companies.

This is the fourth technological revolution to strongly impact how companies do business. All these revolutions were made possible by the invention of the transistor, the basic element of modern electronics; the introduction of mainframe computing (in the 70s) led to the invention of the personal computer (in the 80s) and the internet (in the 90s), and finally to the present technological revolution of online social networking.

Online social networking (also called Web 2.0, social media, or social networking) is made possible through the creation of web-based applications, which are used to create and easily transmit content in various forms (such as words, pictures, videos, and audio). These applications are called social network services, and focus on communicating content or building online communities of people who share interests, or who are interested in exploring the interest of others.

There are many types of social networking services. *Blogs* for instance provide individuals with a way to express their voices by publishing quickly and easily under their name. *Online communities* are formed around category divisions such as classmates, colleagues, friends, or common interests, and provide ways to connect to friends and a recommendation system. Popular services (such as like Facebook, MySpace, Twitter, LinkedIn, and Orkut) combine many of these features.

Innovative companies are finding ways to harness online social networks to source ideas for improving existing products or services, and to develop new ones. This paper describes how this is done and how this process can be improved to encompass the entire innovation process of companies. Prior to examining this, however, it is useful to examine the reasons that open innovation has become so important for today's companies.

Innovate or die

The continual introduction of new or improved products, services, methods and processes keeps businesses functioning. Those who are not able to keep up are simply overrun by those that are more efficient at innovating; or simply, companies that don't innovate die. There is no escape from Schumpeter's (1942) 'creative destruction' by which more expensive or less performing products or services are made obsolete by less expensive or more efficiently performing ones. Schumpeter (1942) has called entrepreneurs the 'agents of creative destruction' in a market economy, and suggests that they were main reason for the success of Western capitalism over the socialist planned economies of the Communist Block (where entrepreneurship was not encouraged).

The idea that companies need to innovate to survive was reinforced by the observation that during most of the 20th century companies that invested more in research and development (R&D) were the most successful. However, by the end of the last century this began to change, and many leading companies failed to obtain the expected return in innovation from their R&D investments. Chesbrough (2006, p. XVIII) has shown this using the example of the innovation dispute between Lucent and Cisco in the telecommunication equipment market. Lucent (the giant telecommunication equipment company created in the breakup of AT&T) inherited the majority of Bell Laboratories, and based on their research and technology Lucent launched successful new products. Cisco nevertheless consistently managed to keep up with Lucent in terms of new product launches (and occasionally surpassed them), despite their inferior research capability. This was possible because Cisco scanned the world for start-up companies with new technologies to invest in or to simply partner with. Some of these were started by technical entrepreneurs who had left competitors (like Lucent, AT&T, and Nortel) to start their own businesses, and if they were successful Cisco would acquire them. With this strategy Cisco was able to compete successfully with Lucent's Bell Labs (recognized as one of the finest research organizations in the world), despite engaging in little research of their own.

Open innovation

Chesbrough (2006) has outlined a dilemma, whereby although innovation is critical for survival of a company, internal R&D is too slow to keep up with innovation in the market. In the past, R&D was a strategic asset and a barrier of entry for many industries. Only large companies could afford proper R&D and remain competitive. In contrast, today's innovative companies generally conduct little or no basic research on their own. They innovate mostly using the research discoveries of others. Hence, companies use external ideas as well as internal ideas, and internal and external paths to market innovations.

One interesting example of the use of external ideas to promote innovation is the case of Procter & Gamble (P&G), a participant in the non-high-tech consumer package goods industry. This case was cited by Chesbrough (2006, p. XXVII) to explain what he termed 'open innovation'. In 1999, P&G decided to change its approach to innovation by creating an initiative called 'connect and develop' (P&G, 2009; website shown on Figure 1). The company's rationale was very simple: although P&G has more than 8,600 scientists advancing the industrial knowledge to enable new offerings, there are 1.5 million scientists outside this company; *so why try to invent everything internally?* Conversely, P&G tried to move its own ideas further, so that the ideas that P&G generates in its labs that were not picked up by its internal businesses are available to other firms (even direct competitors) after three years.

Figure 1: P&G 'Connect + Develop' web site invites external innovations from scientists and offers its own to others companies

connect + developSM

P&G

P&G Global Operations

Home About Connect + Develop Submit Your Innovation Browse P&G's Needs Media Center

Log in to your account.

Not registered? [Register here.](#)

Username:
(This is your email address)

Password:

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We believe in Win-Win deals and in building relationships.

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Do you have a game-changing product, technology, business model, method, trademark, package or design that can help deliver new products and/or services that improve the lives of the world's consumers? Do you have commercial opportunities for existing P&G products/brands? If so, we'd like to consider a partnership.

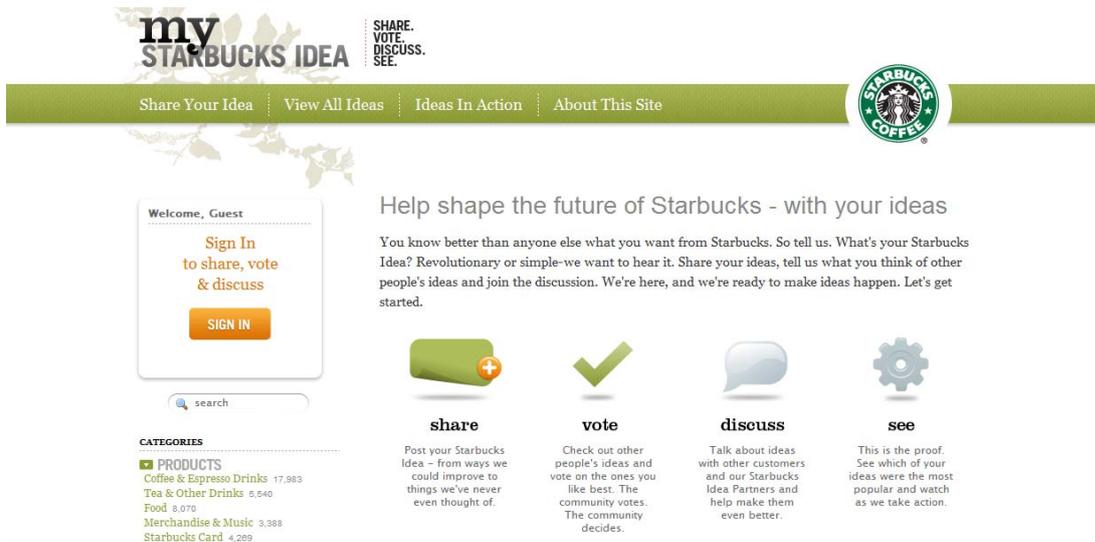
[Browse P&G's Needs](#)

[Submit Your Innovation](#)

Source: <https://www.pgconnectdevelop.com/pg-connection-portal/ctx/noauth/PortalHome.do>

Another example of innovation taken from outside an organization is the approach of Starbucks (2009), who asked for innovations from its consumers over the website 'My Starbucks Idea' (shown in Figure 2). According to Shih (2009, p. 112), the social network community managers for Starbucks do not simply ask for ideas from customers; they have structured categories to classify client ideas, and encourage others to vote and comment on these existing ideas. They also ask that consumers only to post truly unique ideas (ideas that don't already exist on the website). Both Starbucks and P&G track these networks and provide incentives to people posting on their websites, thereby creating specific virtual communities to suit their purpose.

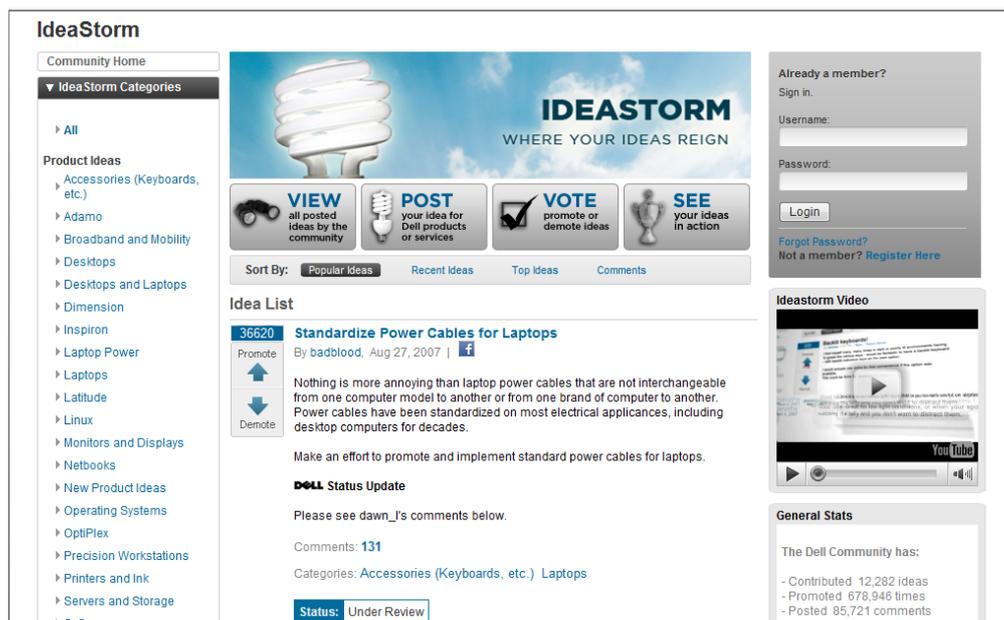
Figure 2: The 'My Starbucks Idea' website invites ideas from consumers, and has others vote and comment on the posted ideas



<http://mystarbucksidea.force.com>

The Dell Computer (2009) website 'Ideastorm' is another example of a website where ideas from consumers are invited by category. This website also invites comments on the company's own ideas and advertising.

Figure 3: 'Ideastorm' web site from Dell Computers, which invites ideas from consumers by category and encourages others to comment on the posted ideas



<http://www.ideastorm.com/ideaList?lsi=0>

'Sustained' and 'disruptive' innovation

Christensen (1997, p. XVIII) has noted that most innovation fosters product or service performance, and he has given this the term 'sustained innovation'. Some sustained innovations are incremental in nature, while others can be discontinuous or radical in character. The sustained incremental innovations are the most common today, and are responsible for small incremental gains in product or service performance. The sustained radical innovations are rare, and are responsible for larger jumps in performance. What all sustained innovations have in common is that they improve the performance of established products or services along the dimensions of performance valued by their mainstream customers. Most of the innovation advances in a given industry fall into the sustained category. An important finding by Christensen (1997) has indicated that rarely have even the most radically sustained innovations precipitated the decline of leading companies.

Christensen (1997, p. XVIII) has also noted innovations that he has termed 'disruptive innovations', which have precipitated the decline of leading companies. Disruptive innovations bring to a market a very different value proposition than previously, and many of the new products or services that emerge from disruptive innovations have poorer performance (at least in the short-term). Generally, disruptive innovations underperform established products and services in mainstream markets, but they have other features that fringe customers and new customers value. Products based on disruptive technologies are typically cheaper, simpler, smaller or more convenient to use.

An example of disruptive innovation is that of Galanz, a new company in the microwave-ovens market, who went on to overtake the leading established companies (Hart and Christensen 2002, p 53). In 1991, the Chinese market was dominated by branded Japanese and European products, but with only a five percent penetration. This small penetration was far less than the 80 percent penetration in most developed markets. Galanz, a Chinese company, entered the market, matching the foreign

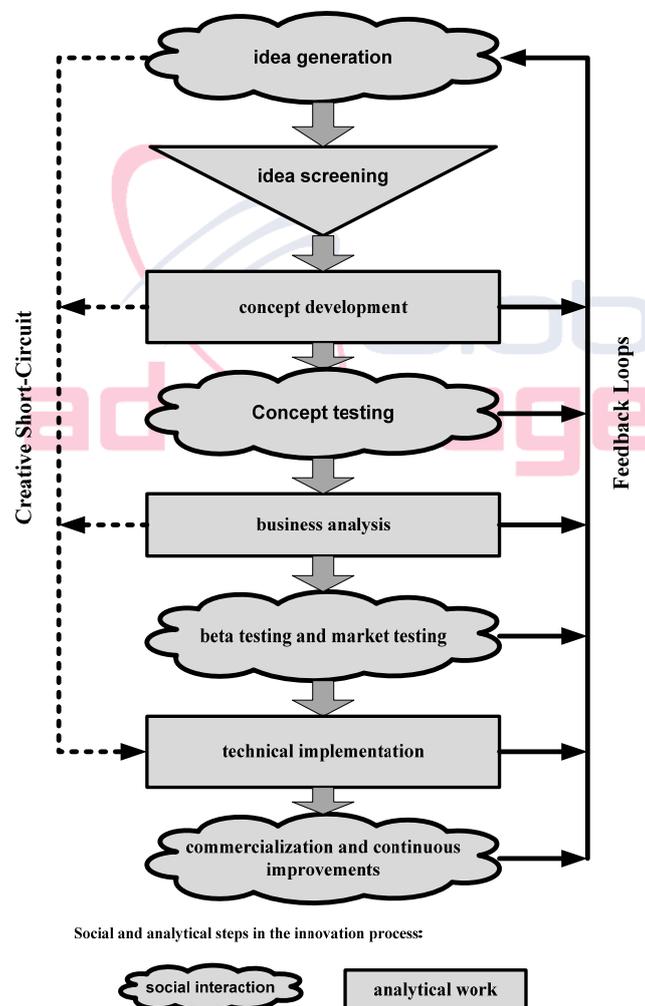
brands in performance with a basic low-priced product. Rather than pursuing the obvious strategy of using inexpensive Chinese labor to make lower-cost microwave-ovens for export, Galanz chose to compete against no-consumption in the Chinese lower-end market, introducing a very simple, energy-efficient product at a price that was affordable by China's emerging middle class, and small enough to fit in their kitchens.

With constant price reductions based on the company's ever-declining cost per unit, Galanz made microwave ovens affordable to an ever increasing number of Chinese buyers. Based on its business model that could earn attractive profits at low prices, Galanz moved up-market against established brands, manufacturing larger machines that had more sophisticated features. With this move, Galanz began to disrupt the microwave-oven markets in developing countries. This strategy was christened by Hart and Christensen (2002) as 'disruptive innovation from the base of the pyramid'. The fast-growing large-scale production made it possible for Galanz to use cost leadership and aggressive price-cutting strategies to capture a large market share, and by 2002, Galanz prices were already 80 percent below the 1991 level (Hart and Christensen, 2002). According to Hexter and Woetzel (2007, p. 194-195), Galanz had, with its aggressive price, conquered 40 percent of the global market by 2006, with a 45 percent share in Europe, and more than 70 percent market share in South America and Africa.

From this example, it is clear that many sustainable innovative companies can overshoot demand for sophistication, particularly from customers at the base of the consumer pyramid. Such companies, in their frantic efforts to beat competition with increasing product enhancement to earn higher prices and margins, tend to offer the customer more than they need or can use. The consequence is that they open the door to 'upstart' companies like Galanz, who use disruptive innovations. Thus, customer communication is essential; companies that have become victims to disruptive innovations from new competitors generally have not listened properly to their customers.

Many marketers believe that communication of your product or service attributes to customers generates demand. Although this may be the case, it does not guarantee that the product has the desired functionality. This can only be determined through interaction with the broadest possible customer (and potential customer) base. Li and Bernoff (2008) propose strategies for companies to use social networks to tap in to the market and listen to the trends in what they called the 'groundswell': the broad, ever shifting, and ever growing online communities.

Figure 4. Innovation process with feedback loop and creative short-circuits.



Social network driven innovation process

To bring a sustainable or disruptive innovation to a market, companies generally follow eight steps (or some variation of these steps appropriate to their particular business). These steps (shown in Figure 4) are:

1. idea generation
2. idea screening
3. concept development
4. concept testing
5. business analysis
6. beta testing and market testing
7. technical implementation
8. commercialization and continuous improvements.

Every step of the innovation process is an intensely social interaction between company collaborators (technicians, marketers, salespeople, financial analysts, executives, distributors, present customers, potential customers, opinion leaders and others), and hard analytical work. Although the steps are represented as an orderly sequence with checkpoints and feedback loops, the process does not have to be so orderly. In fact, in a vast number of cases the sequence is shortened by a creative insight that jumpstarts some of these steps. Nevertheless, even with these short-cuts, the majority of companies that pursue R&D projects more or less follow this general innovation process.

The clouds on Figure 4 represent open social interactions with customers, potential customers, non customers, distributors, opinion leaders and all levels of company collaborators. Social networks such as Facebook, Twitter, MySpace and others with similar characteristics are ideal for promoting this type of open social interaction. Many companies are already using these online communities for this purpose, in combination with their webpages and specific blogs.

The rectangles represent closed social interactions between the new product development team. These internal innovation development teams follow (in general) the pattern of the Skunk Works teams developed by

Kelly Johnson at Lockheed Martin Corporation in 1943 (Lockheed Martin Corporation, 2009). They consist typically of a small and loosely structured group of people in the company who research and develop a project primarily for the sake of innovation. To enhance the interaction between the innovation team members, and to make them more productive when interchanging ideas on the projects that they are working on, some companies have started using internal social networks such as Yammer (Safko & Brake, 2009, p. 276). This information sharing network is similar to Twitter, and is particularly useful for businesses, as it can operate exclusively in the company's own domain.

Memes to inspire ideas

Ideation is the capacity or act of forming, developing and communicating ideas, where 'idea' is understood as a basic element of thought that can be either visual, concrete or abstract. Ideas are in turn inspired by inspirational flashes. Richard Dawkins (1976) describes these as 'memes' (the cultural equivalent of genes), a term used to explain the spread of ideas and cultural phenomena. Memes are postulated as the elementary units of cultural information, and these are transmitted from one mind to another through speech, writing, sketches, gestures, rituals, or other imitable means. The term is derived from the Greek *mimema*, meaning 'something imitated', and can be understood as a piece of thought sent from person to person. The transmitted meme can contain memes inside it, or form part of a larger meme. It can consist of a single word, or an entire speech, and can mean different things to different people. They can be meaningless to some people while igniting a revolutionary idea in others. Ideas are sparked by one meme, part of a meme, or combinations of memes.

Innovation teams use memes to develop ideas for the creation of new products and services. They search for these within direct contact with clients and non clients (distributors, experts and, opinion leaders, for example) as well as in trade shows, qualitative interviews and focus groups. However, all these traditional search methods for ideas are relatively cumbersome when compared with the potential of today's social networks.

Social networks allow for sustaining rapport with clients and with all 'functional sources of innovation' (von Hippel, 1988, p. 3). Von Hippel (1988) coined the term 'functional source of innovation' to categorize companies and individuals in terms of the functional relationship through which they derive benefit from a given product, process, or service innovation. He also noted that 'innovation is being democratized' (von Hippel, 2005, p. 1), that is, that users of products and services (both companies and individuals) are increasingly able to innovate for themselves. Again, social networks of users are the most effective and powerful way to tap this source for memes on innovation.

Crowdsourcing ideation

A recent trend that is becoming increasingly popular with the fast growth of social networks, is 'crowdsourcing ideation'. 'Crowdsourcing' is a neologism coined by Howe (2006, 2008), used to describe the process of taking tasks that were traditionally performed inside the company and outsourcing them to an undefined (generally large) group of people or community in the form of an open call for responses. In the case of ideation, the public may be invited to develop a new technology or product, carry out a design task, or refine a product or service.

The company that wishes to begin using 'crowdsourcing ideation' (such as P&G, Starbucks, or Dell Computers) must follow some key steps, as described by Shih (2009, p. 111).

- *Ideation forum*: the first step involves establishing an 'ideation forum' on a social network with adequately prepared community managers to solicit, generate, and collect memes.
- *Seeding the conversation*: for the second step, the community manager must 'seed the conversation' to generate interest. This may involve posting some initial ideas or asking open-ended questions to encourage community response. Eventually, this may involve the launching of a contest for user-generated ideas to improve the response.
- *Encouraging participants to interact*: for the third step, the community managers 'encourage participants to interact', as

many of the best ideas come from the interaction between participants, and with the company's innovation team.

- *Act on the results:* for the fourth step, the community managers must 'act on the results' of good ideas, which may include asking the community to refine an interesting concept or to develop further good ideas. If the business concept is sufficiently developed, and the business analysis is positive, this idea is then taken to prototyping, beta testing, and market testing.
- *Reaching out to key contributors:* for the fifth step, the community managers must 'reach out to key contributors'. These are the people that in the social network community are the most active with their ideas and opinions. These are, in most cases, the 'mavens' (Gladwell, 2000, p. 30-88), that is, the people who are intense gatherers of information and impressions, and so are often the first to pick up on new or nascent trends. The word 'maven' comes from contemporary Hebrew (via Yiddish), and means 'one who understands, based on an accumulation of knowledge'.

Mavens, connectors and salesmen

Gladwell (2002, p. 30-88) has suggested that mavens may act most effectively when in collaboration with 'connectors'. He explains that 'connectors' are people that have a wide network of casual acquaintances by whom they are trusted, often a network that crosses many social boundaries and groups. They are natural networkers, who will appear to know everyone as they maintain an inordinately large number of relationships.

Gladwell has also designated a third group, 'salesmen' (or 'influencers'), that have a certain ability to win over others to their point of view. These people intensively use social networks sites such Twitter and Facebook to propagate their opinion and so influence their audience. Thus, connectors and salesmen can easily and widely distribute the advice or insights of mavens. Hunt (2009) has explained that people who have a wide social network (such as Gladwell's 'connectors') can be described as having

a large amount of social capital, as represented by their followers in this social network (whom she terms 'whuffie'). This social capital can be used to promote ideas, products or a business. Hunt borrowed the general idea of 'whuffie' from a science fiction novel by Doctorow (2003), where the term represented an ephemeral reputation-based currency.

When the company's community managers skillfully manage Gladwell's connectors, mavens and salesmen, this guarantees the effectiveness of the social network forums, and of the whole social network driven innovation process. Particularly important is their ability to attract mavens to social network forums, and to promote their interaction with other mavens and other 'functional sources of innovation'.

Madness or wisdom of crowds

The idea of crowdsourcing seems to go against the conventional wisdom that large crowds of people without leadership or governance will make bad decisions. This paradigm was strongly reinforced by Charles Mackay (2003) in his epic book *extraordinary popular delusions and the madness of crowds* (originally published in 1841). Mackay presents his case using three chronicles of mass mania and collective folly: John Law's Mississippi Scheme, the South Sea Bubble, and Tulipomania.

Nevertheless, recent research conducted by James Surowieski (2005) has convincingly contradicted Mackay's paradigm. Surowieski has described numerous cases in which large groups of people collectively made wiser choices than individual experts within the groups would have made alone. One of his primary statistical examples is the popular show *who wants to be a millionaire* (2005, p. 3-4). In this show, the contestants who were unsure of the answer can call an expert over the phone or ask the audience for help. Surowieski highlights that during the life of the show the 'experts' were right almost 65 percent of the time, and the crowd visiting the TV studio picked the right answer 91 percent of the time.

On the other hand, groups of people can also make colossal mistakes, and Paul Gillin (2009, p. 16) explains that a tendency of groups is to follow others without considering alternatives. He uses the example of panicked people who run through the same door trampling each other without

considering other means of escape, or a restaurant selected according to the number of patrons, assuming that they have made the best choice. He asserts that this is true for groups without rules of supervision. Certainly, although maintaining connection between two people takes little effort, as groups grow the effort to maintain any type of connection between its participants becomes unsustainable, and without a simple agreement or overarching organization, the behavior of crowds becomes unpredictable and will arguably collapse into chaos (Shirky, 2008, p. 28).

As the behavior of groups in social media (and in particular crowdsourcing) is critical if a particular outcome is desired from the group or crowd, it is essential to determine how this network can be managed. Gillin (2009, p. 17) has posited this as a question:

Which way will the blogosphere go? Will an army of individuals follow the Surowiecki model and achieve a higher level of intelligence as a group? Or will the group inevitably become so big that it collapses into chaos, as Shirky suggested?

Gillin (2009, p.17-28) has explained that efforts to avoid chaos and organize the blogosphere are proceeding in multiple directions. He has cited the example of Dan Gilmore (2006), a leading proponent of 'citizen journalism'. Gilmore is a strong advocate of standards of quality and accuracy in social media to rival those of commercial news outlets. Some of these standards can be seen on the site of the 'Knight Citizen News Network' (2009), a self-help portal that guides both ordinary citizens and traditional journalists in launching and responsibly operating community news and information sites. This portal seeks to impart an understanding of the qualities that make for responsible and credible journalism (see Figure 5).

Figure 5: Standards of quality and accuracy in social media

This Web site is an initiative of J-Lab: The Institute for Interactive Journalism.

J-Lab J-New Voices J-Learning

Knights Citizen News Network
Helping citizens and journalists amplify community news

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PRINCIPLES OF CITIZEN JOURNALISM
Ethics builds trust and credibility

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Principles of Citizen Journalism

The team behind this project

SECTIONS

Accuracy & fact-checking
How to get it right

Thoroughness
Going the extra yard for information

Fairness
Treating opposing points of view with respect

Welcome to Principles of Citizen Journalism. In this special section, our goal is to detail the bedrock foundations of journalism to help citizen reporters master the fundamentals of the craft in a networked age. We've interviewed citizen media publishers and thought leaders in an effort to flesh out the core values and tenets of quality journalism at the grassroots level. We're not saying that bloggers must follow these guidelines. We are saying that if you're committed to practicing journalism online, these principles deserve your attention. We hope you'll participate in this ongoing conversation. (More on our [About page](#).)

<http://www.kcnn.org/principles/>

This type of 'citizen journalism' is intensively used by CNN to complement its new coverage at a negligible cost (compared with the cost of the multitude of correspondents needed to obtain similar coverage). CNN has a blog entitled *iReport unedited unfiltered news* (CNN, 2009), where users can upload their stories and pictures (see Figure 6). CNN reporters perform an ongoing scan of the blog for news, which they then vet for posting on the CNN news site. These vetted articles are marked in the iReport blog as "On CNN". This is one of the largest and most cost effective 'crowdsourcing' news operations, with almost 370 thousand volunteer contributors worldwide.

Figure 6: CNN iReport blog is a user generated site, where stories submitted are not edited, fact-checked or screened before they post. Only stories marked "On CNN" have been vetted for use in CNN news coverage

Take Note iReport.com is a user-generated site. That means the stories submitted by users are not edited, fact-checked or screened before they post. Only stories marked "On CNN" have been vetted for use in CNN news coverage. [Learn more »](#) close

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751 on CNN last month
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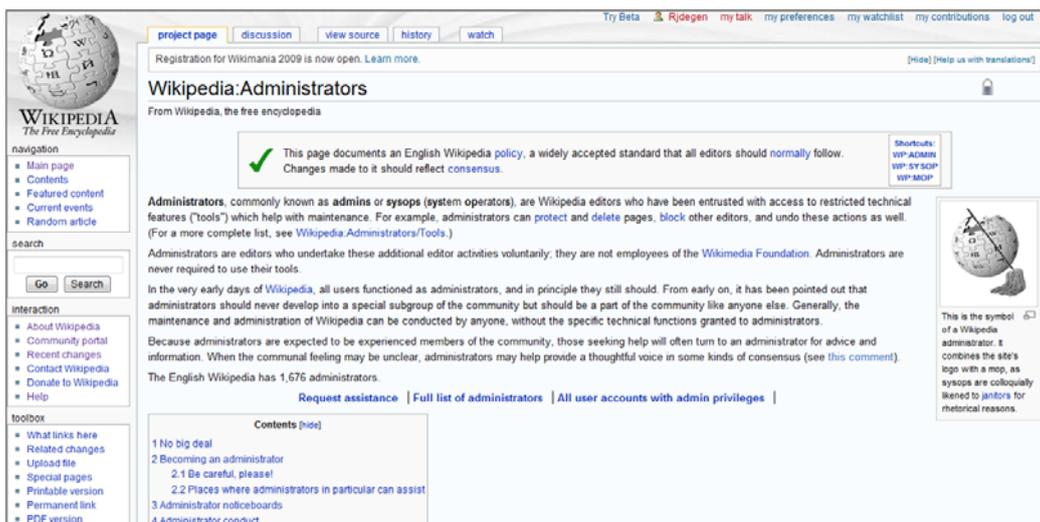
Tribute to Les Paul in E close
Guitarist Les Paul has died at age 94. Though an accomplished guitar player, Paul was probably best known for his invention of the Gibson Les Paul guitar. Do you own a Gibson or Epiphone Les Paul? Show it off! [Share your original guitar licks »](#)

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[Latest](#) [Most Viewed](#) [Most Commented](#) [Most Shared](#) [On CNN](#) [Newsiest](#) (WHAT'S THIS?)

Another example of a viable form of self-governance in social media (also cited by Gillin) is Wikipedia (2009), the online encyclopedia where entries are open to users for editing. Self-governance is exercised by a loose group of several hundred unpaid contributors (called administrators) who maintain order by screening out vandalism and removing miscreants from the site (see Figure 6). Gillin (2009, p. 18) cites a 2006 study by the journal *Nature* that concluded that Wikipedia rivaled the venerable *Encyclopedia Britannica* in accuracy, while providing four times more content.

Figure 7: Wikipedia relies on editors called administrators that voluntarily edit, protect, delete, block other editors, and undo actions



It is evident that to provide such a comprehensive encyclopedia online, financed only by voluntary contributions, is only possible if the production costs are very low. This low cost is obtained by harnessing hundreds of unpaid collaborators and administrators using a social network.

Sharing: cooperation and collective action

The almost instantaneous news coverage by CNN and the free online encyclopedia of Wikipedia are only possible because the tasks and managerial costs to get them done are very low. Clay Shirky (2008, p. 45) has noted that in the past the cost of the managerial oversight needed to coordinate the work of the large groups of volunteers would outweigh the benefit of the instantaneous new or of the free encyclopedia, and these would simply remain outside the realm of possibility. Shirky (2008, p. 45) has outlined this:

Our basic human desires and talents for group effort are stymied by the complexity of group actions at every turn. Coordination, organization, even communication in groups is hard and gets harder as the groups grow.

Shirky (2009, p. 48-49) goes on to explain that the new social media tools offer new ways of organizing group efforts (such as CNN's iReport and Wikipedia's encyclopedia) without resorting to the traditional and costly

methods of managing these. He points out that the new communication tools and the increasingly social patterns that make use of these tools are a better fit for the native desire and talents of people for group efforts:

You can think of group undertaking as a kind of ladder of activities, activities that are enabled or improved by social tools. The rungs on the ladder, in order of difficulty, are sharing, cooperation, and collective action.

The first 'rung', group sharing, creates the fewest demands on the participant. Currently, many sharing platforms exist, including:

- iReport (<http://www.ireport.com/>)
- YouTube (<http://www.youtube.com>)
- Flickr (<http://www.flickr.com>)
- Facebook (<http://www.facebook.com>)
- RePEc (<http://ideas.repec.org/>) for academic work

Knowingly sharing work with others is the simplest way to take advantage of social media.

The next rung on Shirky's ladder, group cooperation, is more difficult than simply sharing, because it involves changing behavior to synchronize with people who are changing in turn changing their behavior to remain in sync. Group cooperation (such as the contributors and administrators of Wikipedia) creates a group identity, and is a more involved form of cooperation, which Shirky calls 'collaborative production'. The key point in 'collaborative production' is that no one person can take credit for what gets created, and that at least some collective decisions have to be made.

Group collective action, the third rung, is the most difficult form of group effort. This requires that a group of people commit themselves to undertaking a particular effort together, and in a way that makes the decision of the group binding on the individual members (Shirky, 2009, p. 49-51).

Flash mobs, nanostories and viral culture

Group collective action seems to thrive on what has become known as 'flash mobs'. Bill Wasik (2009) was the provocateur behind the 'great flash mob craze' of 2003 (Arndorfer, 2009, August 5) and proved how quickly

stories can flare up in the 'wired world', are fanned by the media, and then rapidly fade. He called these 'nanostories', explaining that these have an impact on culture, art, politics, and marketing:

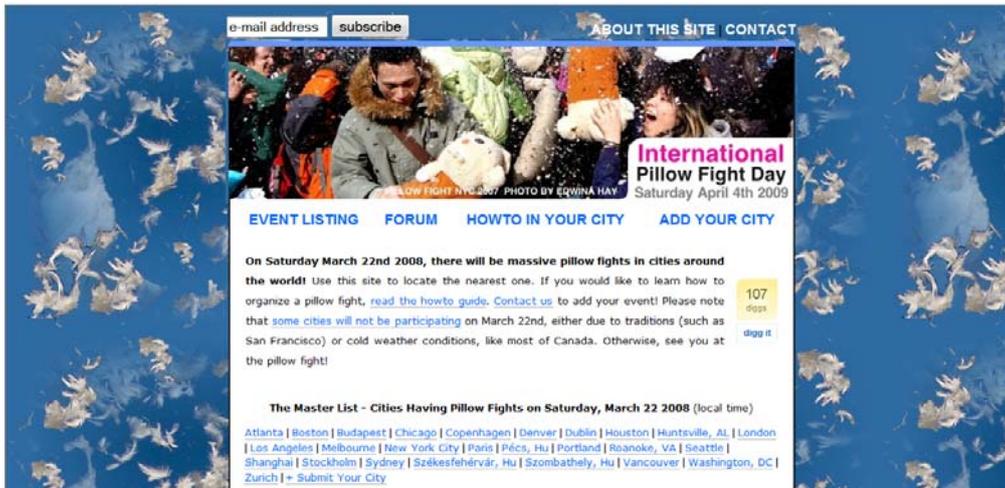
If there has been a single most important trend in marketing during the first decade of the 21st century, it has been corporate America's slaving over viral culture, its hunger to create and own just the sort of contagious explosions that flash mobs represented.

Wasik (2009, p. 16) has described 'flash mobbing' as a frivolous summer craze that he initiated due to boredom. In relation to this phenomenon, Richard Tomkins (2005, July 26) has written in the Financial times:

Do you remember flash mobbing? It was a silly summer craze that broke out a couple of years ago. Crowds of strangers in their 20s and 30s were mobilized by e-mails or text messages, and would converge on a public place and engage in a seemingly spontaneous act of absurdity such as waving bananas in the air or speaking without the use of the letter "O". It would be hard to imagine anything more pointless. But perhaps that was just the point. I thought the craze had long since faded. But I have just heard about another series of flash mobbing events, this time featuring a series of free performances by rock and hip-hop music artists across the US. Details of the venues are kept secret until the last minute and are revealed only to those who register at the Flash Fusion Concerts website.

In this instance, however, the flash mobbing is anything but anarchic. It turns out that the concerts are being staged by Ford Motor with Sony Pictures Digital to promote the launch of the new Ford Fusion car, which Ford wants to portray as cool.

Figure 8: The example of absurdity of the flash mob craze was the 'Worldwide Pillow Fight Day'



<http://www.pillowfightday.com/2008.php>

An example of this absurdity of the flash mob craze was the 'Worldwide Pillow Fight Day' (or 'International Pillow Fight Day') that took place on March 22, 2008 (International pillow fight day, 2008). Over 25 cities around the globe participated in the first international flash mob, which has been the world's largest flash mob to date (Fitzgerald, 2009). According to *The Wall Street Journal*, more than 5,000 participated in New York, outranking London's 2006 Silent Disco gathering as the largest recorded flash mob (Athavaley, 2008). Word was spread via social networking sites (including Facebook, MySpace, private blogs, public forums and personal websites), as well as by word of mouth, text messaging, and email (see Figure 7).

More recently, flash mobs have been motivated by politics. A protest in Moldova, during early April of 2009, was coordinated by enlisting protesters using text-messaging, Facebook and Twitter. The flash mob of more than 10,000 young Moldovans materialized to protest against Moldova's communist leadership, ransacking government buildings and clashing with the police (Barry, 2009). During June of 2009 the Iranians protesters found a new outlet in Twitter, Facebook and other social media, using these to protest, mobilize and take action in relation to the presidential election (Nasr, 2009).

In a recent article commenting on Bill Wasik's book *And then there's this*, Simon Dumenco (2009, August 12) has written:

The flash mob is a metaphor for the pile-on media culture we now live in... you know, the idea that everybody piles on something and then everybody disperses from it, and you repeat the process, and that's the media culture that we now live in – and the internet has only tightened the cycles and made that more pronounced...

So, while on the one hand Wasik makes a compelling case for a 'perverse kind of market democracy' – the internet as one great, erratic, decentralized grass-roots phenomenon – time and again it turns out that the levers manipulating our collective mind share are controlled by a rather small circle of usual-suspect media moguls and their minions...

Wasik, in conversation: "It is really interesting that the lack of a reliable business model on the internet for creating content has basically been a problem since the dot-com boom... When the phrase the 'Attention Economy' was coined, I think people were imagining that attention would translate into money in some way. But the funny thing is that even though that hasn't really happened for almost anybody, predictably and rationally, the fact is that you still have people rushing into creating content, and then it becomes about all of the cheesy things that people say about the internet – that is really is about *human connection* and people finding more people that are like themselves. We are social animals, and the internet plays to that – it plays to that urge to try to get attention and to try to make connections and to try to get on board with the *interesting new thing* as it's happening and to feel in that way like we are at the very heart of the culture."

Flash mobs, nanostories and today's viral culture are successfully used by marketers to promote the launching of new products or services. Well known examples include the introduction of the iPhone by Apple and the opening sales of J.K. Rowling's *Harry Potter* books; both events attracted crowds to the stores before the opening sales through the use of these techniques. Apple used nanostories from influencers on the new features of its new cell phone to create its flash mobs, and the publishers of Harry

Potter's books used nanostories from influencers on the surprises in the book. Who these influencers are, and how they are able to exercise their influence over the social media, will be described in the next section.

Influencers help consumers decide

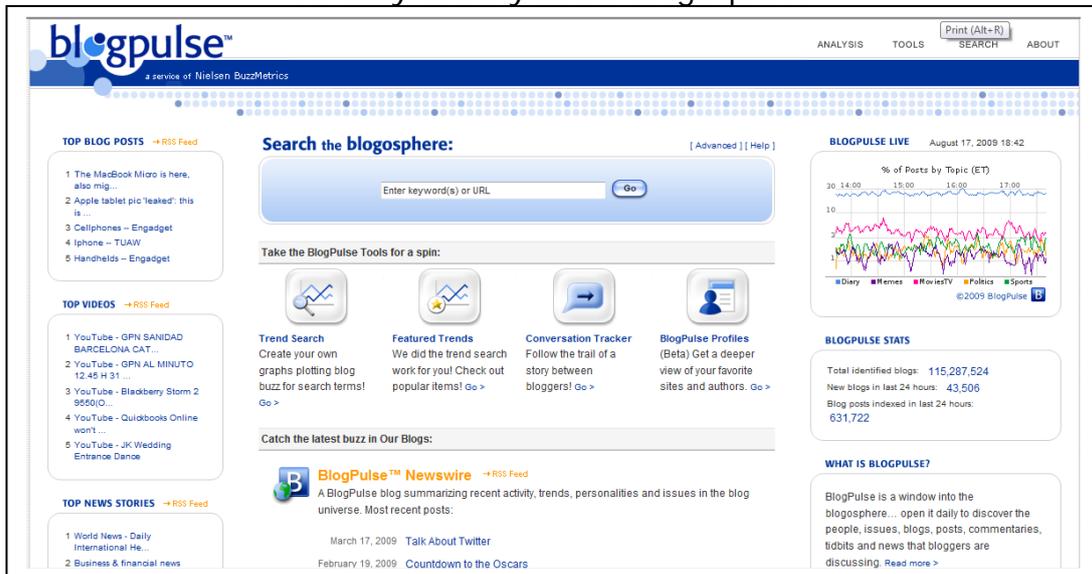
The idea of 'influencers' (or Gladwell's 'salesmen') emerged as it was realized that to communicate marketing messages to audiences in markets where buying decisions were of high-risk involved technologically complex approaches. McKenna (1985) introduced the idea that traditional forms of advertising and promotion were ineffective. As consumers were finding it difficult to understand all the issues involved in buying decisions, they tended to rely on the opinion of their 'influencers' to decide. For this reason, companies needed to identify the influencers or opinion leaders of their target consumers, and develop specific programs to influence them. Anderson (2006) has identified that the shift to small markets made possible by the internet has made it critical for marketers to identify the influencers or opinion leaders and the specific interest around which these small groups or social networks are organized. A clear understanding of these groups allows marketers to tailor their communication to the group's specific interest.

The influencers or opinion leaders described by McKenna are in essence Gladwell's salesmen, who have the ability to influence others or pass on messages on social networks. These salesmen are in turn called by Gillin (2009) the 'new influencers', in the social media. Generally these new influencers are enthusiasts about their specific interest, and this involves almost everything imaginable.

Finding enthusiasts

The site BlogPulse (Nielsen BuzzMetrics, 2009) uses keywords sourced from blogs on any desired subject. In this way, BlogPulse is more than just a search engine to find blogs, it acts as a buzz-tracking tool that applies machine-learning and natural-language processing techniques to discover trends in the highly dynamic world of blogs. It is also conversation tracker that follows and captures the discussion or conversations that emanate from and spread throughout individual blogs or individual blog posts.

Figure 9: BlogPulse is a blog search engine that also analyzes and reports on daily activity in the blogosphere



<http://www.blogpulse.com/index.html>

Understanding enthusiasts

Bloggers produce a stunning volume of output on myriad of different subjects. They are passionate about their particular subjects, and their motivations are often driven more by the desire to share than to influence markets or make money. They are a rich source of information for marketers on products, services, consumer preferences, problems, and new trends. They generally represent the company's most enthusiastic customers or are advocates for the dissatisfied. However, as Gillin (2009, p. 35) emphasizes, they are also a difficult group to assess:

This is a group whose motivations can't be assumed. Unlike journalists, they don't write because they have to and they don't have "the man" looking over their shoulder. In my interviews, I also found surprisingly little competitive drive. In fact, enthusiasts were more likely to compliment their competitors than dismiss them. Contrast this to the intensively competitive environment in which newsrooms operate. Offering a blogger a "scoop" may have little effect.

But enthusiasts share one characteristic pretty universally: they know a lot. These people who blog about a product, particularly if they do so regularly, are more likely to be knowledgeable and

engaged than other customers. They are also more likely to influence other people around them, whether by word of mouth or through the medium of blogging.

The metrics used to measure influence in social media are links. Linking to a site is a form feedback for the 'blogosphere', and is used by bloggers to show appreciation and recognition (Gillin 2009, p. 67). Gillin (2009) has identified successful bloggers as 'link freaks', and has argued that to a large extent links are treated by bloggers as a responsibility to their communities. From a marketing perspective, the more links an enthusiast has, the greater his or her ability to be an influencer or salesman.

Methods of Crowdsourcing

This analysis suggests that, ideally (given the financial ability), companies using crowdsourcing ideation would work in two fronts, using a distinctive innovation development teams for each front. One team could then concentrate on 'sustained innovation' and the other on 'disruptive innovation'. The team crowdsourcing ideation for the former can identify influencers among the pool of their existing customers, competitor's customers, employees, suppliers and distributors. The team crowdsourcing ideation for the latter can search for influencers among the non-consumers. Both teams would use the concept of 'job to be done' (Christensen and Raynor, 2003; see below for a description of this term) to initiate their ideation forums on social media: the sustained innovation team with the existing lead customers and its value chain, and the disruptive innovation team with the non-consumers.

Identifying the 'jobs to be done'

The concept of 'jobs to be done' is described by Christensen and Raynor (2003, p.). This concept uses the simple presupposition that rather than buying products, customers hire them to get jobs done. Based on this, the objective is to find 'memes' to develop new ideas for the creation of new products and services by shifting focus from the solutions that customer use to the fundamental problems they want to solve.

The jobs-based view of the market does bear a strong similarity to a needs-based view (which identifies customers' fundamental needs and desires). However, the a jobs-based view focuses on circumstances, whereas a needs-based view focuses on the customer as the unit of analysis. Some needs-based analyses also fail to ask the fundamental "why" question; it has been noted by Christensen & Raynor (2003, p.) that without an understanding of the root cause of a need, there is a risk of targeting the wrong problem.

This job-based view is basically the modernization of the classical concept of marketing myopia created by Theodore Levitt (2004) in 1960, to explain the failure of the railroad industry. He wrote in his historical article that the reason that railroads were in trouble in the 60s was not because the need for passenger transportation had declined, or even because cars, airplanes, and other modes of transport had filled that need; rather, the industry was failing because those behind it assumed they were in the railroad business rather than the transportation business. Christensen and Raynor (2003) have used a similar example to explain their job-based view, by describing the dispute between the corporations Coca-Cola and Pepsi. While Coca-Cola was measuring itself against other cola drinks, Pepsi was focused on 'share of stomach'. Due to their job-based view, Pepsi moved aggressively into water and other emerging beverages and Coca-Cola had to then race to fill gaps in its product portfolio.

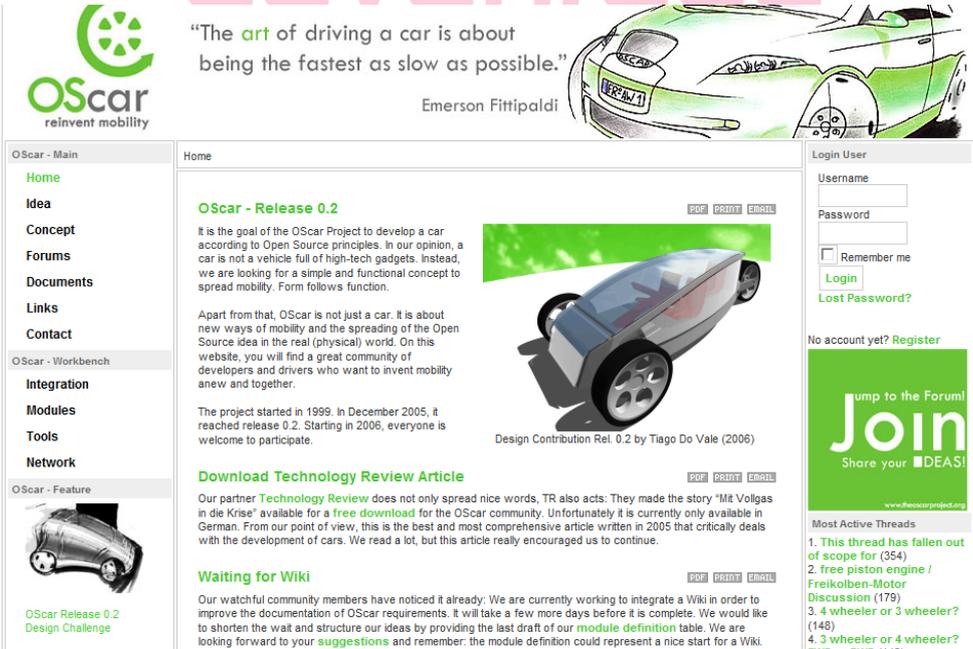
A two team approach would help forestall examples such as those above. In essence, this approach follows Derek Abell's (1993) concept, which clearly distinguishes between the planning of present business and planning for the future. He has argued that planning for the future requires a vision of how the firm must operate in the present, given its unique competencies and resources (these would be the basis for the 'sustained innovation' team's efforts to increase the satisfaction of existing customers). Preparing for the future, on the other hand, requires the understanding of full range of activities industry-wide and anticipating changes in technology, buyer/seller behavior, and product life cycles (thus, the 'disruptive innovation' team must search for new ideas outside the company's

customer base, and so address the real the change that has a vital influence on the future of the company).

Ideation and concept testing forums

Both innovation teams would follow the social innovation process shown on Figure 4. The 'sustained innovation' begins with the creation of an ideation forum with customers, and the 'disruptive innovation' team with ideation forums for non-customers. The ideation forums for customers are group sharing initiatives like the 'Ideastorm' web site from Dell Computers (2009; shown in Figure 3), and group sharing and collaboration like 'My Starbucks Idea' web site from Starbucks (2009; shown in Figure 2.) The ideation forums for non-customers are group sharing initiatives centered on the 'job to be done' approach (such as the 'best idea for a transportation service' from city A to city B, using the example from Levitt, or 'the best drink to quench your thirst' using the example of Coca-Cola and Pepsi). An interesting example of group collective action is the Oscar (2009) project. This was initiated to develop a simple car using crowdsourcing (also called open-sourcing) as shown in Figure 10.

Figure 10: Ideation forum for developing a simple car



The screenshot shows the Oscar project website. At the top left is the Oscar logo with the tagline "reinvent mobility". To the right is a quote: "The art of driving a car is about being the fastest as slow as possible." by Emerson Fittipaldi, accompanied by a sketch of a green car. Below this is a navigation menu with links like Home, Idea, Concept, Forums, Documents, Links, and Contact. The main content area features a post titled "Oscar - Release 0.2" with a 3D rendering of a car and text describing the project's goals and progress. There are also links for "Download Technology Review Article" and "Waiting for Wiki". On the right side, there is a login form and a "Join the Forum!" button.

<http://www.theoscarproject.org/index.php>

Memos from the ideation forums are transformed into comprehensive ideas after an internal screening by the innovation teams. In many cases, the ideas are then reposted for evaluation and voting by the participants of group collaboration ideation forums (as was the case for the 'My Starbucks idea' website in Figure 2). After passing the screening process, ideas are transformed into products or service concepts. These concepts are in turn tested on group sharing or 'cooperation concept testing forums' (as well as on social networks) to obtain the reactions and evaluations of potential customers.

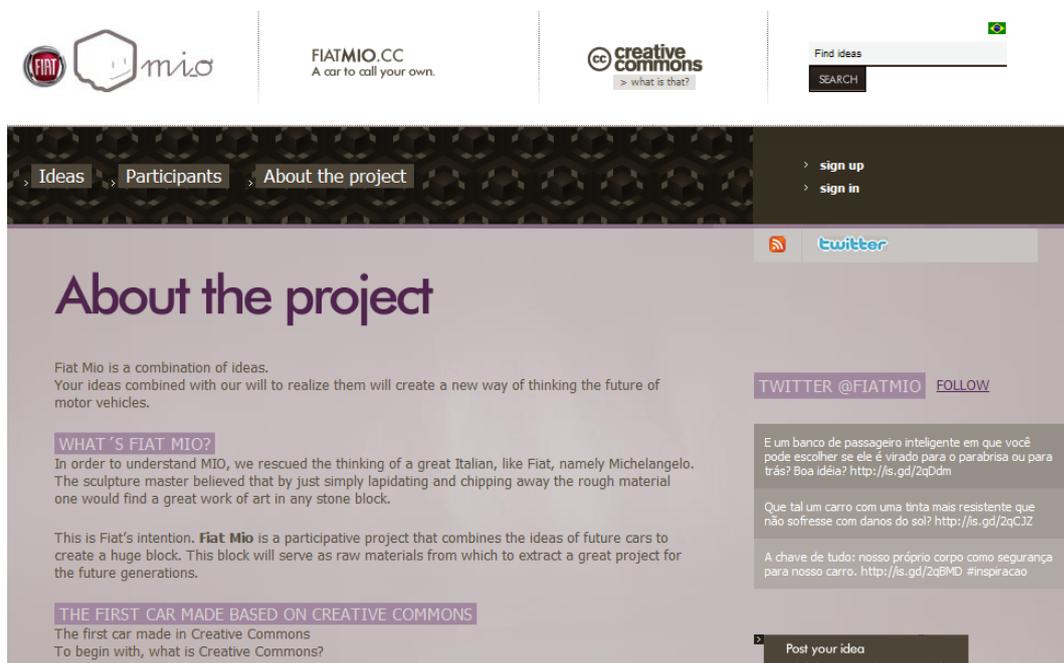
Figure 11: Concept testing forum for developing the world's first open-source car designed by crowdsourcing

The screenshot shows the website for 'c,mm,n' (your mobility, our c,mm,n future). The navigation menu includes: home, wat is c,mm,n, activiteiten, doe ook mee!, pers en publiciteit, and contact. The main heading is 'Bouw mee aan de auto van de toekomst'. Below this is a large image of a futuristic, compact car in a field with wind turbines. To the right of the image is a text block titled 'your mobility' which describes the project as an open source community for sustainable individual mobility, aiming to develop a new type of electric car. Below the text is a sign-up form for a newsletter titled 'Schrijf je in voor de c,mm,n nieuwsbrief:' with an 'E-mail*' field and a 'Meld je aan' button.

<http://www.cmmn.org/nc/home.html>

One example of a 'group collaboration concept testing forum' is the vehicle developed by the University of Netherlands using collaborative crowdsourcing design. The resulting concept car is open for further modifications over 'collaborative concept crowdsourcing' modifications, as shown on Figure 11 (Chauhan, 2009).

Figure 12: The Fiat Mio is a project to build a consumer generated car in Brazil, using input gathered through social media from the automobile's design to its marketing communication



<http://www.fiatmio.cc/en/sobre-o-projeto/>

Another example is the Fiat Mio project launched August 2009 (Fiat 2009). The project attempts to build a consumer generated car in Brazil, using input gathered through social media for every stage, from the automobile's design to its marketing communication (see Figure 12). This will be the first car to be made using Creative Commons (2009) licenses. This nonprofit organization was created in 2001 to increase creativity in “the commons” (the body of work that is available to the public for free and legal sharing, use, repurposing, and remixing). They provide tools to give everyone from individual creators to large companies like Fiat a simple and standardized way to grant copyright permission to their creative work. These licenses allow creators to easily change their copyright between granting full rights, to having some rights reserved, or entirely within the public domain.

If the concept passes this screening, it then goes into beta testing and market testing with selected groups of potential customers. These are normally comprised of enthusiastic customers and by non-customers (the latter as enthusiasts for the ‘job to be done’). When products or services are

approved in this stage, they leave the innovation teams and are handed over to the technical implementation teams. After products or services are launched, the marketing and sales organizations monitor client satisfaction and provide feedback to the 'sustained innovation' team. In current social networks, 'viral culture' (the positive or negative feedback to a product or service launch) is almost instantaneous (as the film industry is discovering; see Sragow, 2009; and Dumenco, 2009, August 21). As a result, the monitoring of client satisfaction has to be performed online using sites like BlogPulse (Nielsen BuzzMetrics, 2009), and that the 'sustained innovation' teams are required to react instantaneously to counter any perceived or real problem.

Use of influencers to promote social network forums

Traditionally the best, cheapest and more effective way used to attract interest for an event was 'word of mouth'. Each person would tell of an event to several friends and word would spread on an exponential scale. Social media has greatly extended this traditional way of attracting interest, so that if a person tells several friends over social media, almost instantaneously, the word reaches millions. To illustrate this, Shirky (2009, p. 1-24) has used an example of a lost cellular phone and the dispute to get it back, which grew in the social network media to become such a story that it was carried in The New York Times and CNN. This is an example of nanostories proposed by Wasik (2009), and it has been suggested that the nanostories provide fuel for spreading 'viral culture' (Dumenco, 2009, August 12).

Gladwell has outlined a 'maven trap' as a method of attracting mavens. He gave the example of the toll-free telephone number on the back of the bar of P&G's Ivory soap, which clients could call with questions and comments about the product. Gladwell's opinion is that only those who are passionate ('enthusiasts') or very knowledgeable about soap would bother to call. This idea of a trap to attract enthusiasts and mavens in today's social media network can be implemented by promoting well-known connectors and influencers from the companies, with sites such as the 'My Starbucks idea' examined previously.

In essence, it is easier to attract customers to crowdsourcing innovation forums than to attract noncustomers. As noncustomers have no existing link to the companies, they also have no specific brand awareness, and they must be attracted exclusively by the 'job to be done'. Thus, the only way to attract noncustomers is by creating create nanostories around the 'job to be done'. As an example, Sony (2009) recently launched an initiative called 'DigiDad Project' that puts products into a small group of bloggers, in the hope that they write about their experiences using these and thereby create nanostories. The stated objective of Sony is: "to engage customers in conversation and share the insights we gain from that with engineers, product developers and designers" (Klaassen, 2009).

CONCLUSION

Many companies have adopted 'open innovation' processes to complement internal R&D. Some have started 'crowdsourcing ideation' projects to obtain memes for ideas for new products and services, or to improve existing ones. They use connectors and influencers to promote ideation forums, and to attract mavens to participate. The forums are usually focused on either simply sharing or on more sophisticated cooperation. There almost no collective action forums. The ideas generated in these ideation forums are in turn submitted to what were called 'concept testing forums'.

No scholarly research was identified that assessed the effectiveness of the ongoing crowdsourcing ideation initiatives. Similarly, no academic studies were identified that focused on social network driven innovation. The description of the crowdsourcing innovation process presented in this paper has been developed based on the author's experience with traditional innovation processes using focus groups, and thus the proposed process has yet to be properly validated by additional research. This required research will be executed in the near future as an important aspect of ongoing research on social network driven innovation.

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