Coolfarming – How Cool People Create Cool Trends

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Abstract: This article proposes a new way to innovate and develop new products, which we call "coolfarming". Contrarily to new product design by conventional project management it is based on self-organization, self-responsibility, transparency and intrinsic motivation. It suggests growing "coolness" of new trends within the emergent swarms forming around these new trends. In a four-step process, from creator, to Collaborative Innovation Networks (COINs), to Collaborative Learning Networks (CLNs), to Collaborative Interest Networks (CINs), it introduces a self-organizing way based on swarm creativity to develop and disseminate new products.

1 Introduction

Why are the iPod and iPhone cool? And how do Apple and Steve Jobs continuously succeed in converting their new products into the next trend, the next big thing? This article looks behind the successes of products like the iPhone and iPod. It proposes a novel way to identify and "coolfarm" new trends, based on principles of swarm creativity (Gloor, 2005), by proposing to grow "coolness" of new trends within the emergent swarms forming around these new trends. It also assists in finding what "cool" means for a target group, in terms of attributes that a trend should possess to make it cool for its target community.

We have defined "coolness" as a property combined of four characteristics. First, cool things are *fresh and new*. Apple is commonly considered cool, while Microsoft is not, because by ushering in a new era in computers with the Macintosh, in music players with the iPod, and in mobile phones with the iPhone, Apple has shown a unique capability in redefining the market, while Microsoft's success mostly comes from copying existing products.

Second, cool things make us *part of a community*, they help us to be with "people like us" (McPherson et. al. 2001). As has been found by Aral et. al (2009), homophily, the tendency to bond with others like us is the best predictor for acceptance of new trends. To phrase it differently, we are much more likely to pick up a new trend if it is recommended by "people like us", i.e. people in the same community. Even something as simple as owning the latest iPhone or Blackberry makes the owner part of the community of iPhone or Blackberry owners.

Third, cool things are *fun*. Owning an iPhone is fun, because it looks so well-designed and cool. Making calls and surfing the Web on an iPhone is fun, playing music on an iPod is fun. Going to a musical on Broadway is fun and relaxing. Drinking coffee in Starbucks is fun too, not the least because every Starbucks customer is in the company with other people who are also enjoying a good cup of coffee.

Fourth, cool things *give meaning to our life*. Cool things make people happier and feel good. Owning a cool thing can become a goal all by itself, whether it is the new iPhone, the designer bag from Adidas, the car we always wanted, or joining an activist group fighting global warming.

2 The Four-Step Swarm-based Innovation Process

The swarm-based innovation process of developing "cool new things" happens in four steps: in step one the creator comes up with the cool idea, in step two the creator recruits additional members to form a Collaborative Innovation Network (COIN), in step three the COIN grows into a Collaborative Learning Network (CLN) by adding friends and family, in step four outsiders join, forming a Collaborative Interest Network (CIN) (Gloor 2005).

We would like to illustrate this four-step innovation process at the example of one of the most prolific inventors and *creators* of all times, Thomas Alva Edison. Edison once famously said that innovation is one percent inspiration, and 99% perspiration. His perspiration not only got late 19th century New York to accept the gramophone, but also the lighting bulb, electricity, and many other innovations that still shape our live. Traits like perseverance, but also social intelligence, even collective intelligence, distinguished Edison from similarly smart and creative people, who came up with very clever ideas, only to see them forgotten (Baldwin, 2001; Jonnes, 2003).

The creative ideas of the creator are taken up by small groups of innovative people, the *Collaborative Innovation Networks* (COINs). These are groups of about two to fifteen intrinsically motivated people, who get together to create something new not because they are paid to do so, but because they care about their cause. They assemble around a common vision, which they want to come true (DiMaggio et. al. 2009). COINs are nothing new, they have been around since historical times. While Thomas Edison got all the credit for his inventions, his greatest invention was the creation of Menlo Park, a research lab in New Jersey where he assembled other creative people such as William Hammer, working on the development of the light bulb, Charles Batchelor, Edison's loyal right hand man and prolific inventor of telegraphs, John Kruesi, the builder of many of Edison's designs, and dozens of others. Even Nikolas Tesla, inventor of the AC electric system, spent time working there. A prototypical COIN if there ever was one, well before the Internet age.

Once the cool idea has been turned into a product by the COIN, people in the COIN carry their product to friends and family. In a two-way learning process, this extended group, the *Collaborative Learning Network* or CLN learns the basics of the product from the COIN members, and teaches them about improvements and deficiencies of the initial prototype. Almost from the beginning of his career as an inventor, Edison teamed up with other innovators. While the relationships were sometimes tumultuous, they almost always were productive. When young Edison came to Boston, he immediately immersed himself into the community of telegraph inventors, producers, and investors. He rented work space in the shop of Charles Williams, a leading telegraph producer. Later, as an aspiring entrepreneur in New York, he formed a partnership with Franklin Pope, another leading telegraph engineer. His mentors also

introduced him to patent attorneys and other inventors - a great Collaborative Learning Network which was crucial for Edison's future success.

Finally, the enthusiasm of the *Collaborative Interest Network* or CIN carries the final product over the tipping point and turns it into a real trend. In this last phase, commercial interests come into play. While a CLN includes at most a few hundred people, the CIN encompasses thousands or even millions of loyal users, virtually guaranteeing the success of the product. Early on in his career, Edison collaborated with the leading telegraph companies such as Western Union and Gold & Stock Telegraph Company, which became his main customers carrying his innovations to the remotest corners in the US and Europe. In parallel, since his young years as a teenage boy, Edison was socializing with journalists, helping him to grow and cultivate his celebrity status in the press. This was highly advantageous for fostering societal acceptance of his more disruptive innovations such as the phonograph. This way, Edison succeeded in building up a Collaborative Interest Network to carry his inventions over the tipping point.

3 Why Coolfarming is different

Compared to conventional project management, coolfarming is a radically different process. Conventional projects are centrally managed. Coolfarming, on the other hand, is a decentralized self-organizing process where each member of the COIN knows what she or he has to do. But the difference between the two approaches is not as radical as it seems. In fact, successful projects show many characteristics of coolfarming, with the project manager behaving more like a creator and coolfarmer than a dictator. In successful projects, team members assume personal responsibility, they self-organize in the emergence of sudden change, and they share the vision and goals of the team leader. However, most of the time, daily life in a conventionally managed project looks quite different, resembling more a dictatorship than a democracy.

Figure 1 illustrates the conventional project management process. In a conventional project started by a conventional organization, the problem owner, usually a senior manager, first defines the problem that the project will solve for her or him. She then gets together a team of people to brainstorm solutions. Once she has decided what solution to choose, she picks a team leader, defines project milestones, and decides on the final outcome of the project. Afterwards, a project manager is appointed to take over project responsibility, his job is to run the project, following the original project plan as closely as possible. During execution of the project, the problem owner will monitor progress of the project, and will intervene if she decides that the project does not follow the plan anymore. In the end, the project team will deliver the end product to the problem owner.



Figure 1. Conventional project management

The coolfarming process, as displayed in figure 2, is entirely different. It starts in that there is no problem owner. There is one person, the creator, who has an idea, which she thinks is so cool that, in spite of all obstacles, she wants to make it come true. She talks to many other people about her cool idea, until, after many discussions, the creator finds a few people who agree to help. They latch on to the idea, and in their spare time, they, the team – the COIN, the Collaborative Innovation Network – build a first, improvised version of the product.



Figure 2. Coolfarming process

The COIN members take their labor of love to their friends, continuously selling their idea to them. Using this group as a sounding board, the COIN collects feedback from friends and family, improving the product, testing it out, and occasionally winning over a few select members to join the COIN. This group of friends acts as the Collaborative Learning Network or CLN, providing a reservoir of new COIN members, as well as external evangelists who help to get the product over the tipping point, and convert it into a real trend. Once the new product has outgrown the word of mouth stage, and is spoken about in mainstream media, it will be embraced by the Collaborative Interest Network or CIN. This is the commercialization phase of the trend, as CIN members will spend real money to buy the product that they consider cool. In this phase the product gets over the tipping point, turning from being an "insider product" which is only known to a close-knit community of early followers to a real trend.

The basic principle of coolfarming is to not directly invite others in, but advertise the idea and let others find the group and the idea. They will come because the idea appeals to them, and because they respect the flag bearers. This means that the community initially will grow slower, but will be more sustainable, and much less susceptible to issues such as strong egos, who will hold back success of the team. A

The risk that the group will fall prey to group think is much smaller than in conventional teams, because a coolfarming COIN has a culture of constructive criticism as a central part of its group behavior. The group will be extremely focused on their shared vision, so it will police "off topic time wasters." An organically growing COIN will be efficient in processing and unifying diverse levels of understanding to develop a shared comprehension and vocabulary. This means that the group will communicate at a much deeper level of understanding than a superficially cobbled together project team.

	Project Management	Coolfarming
Motivation	Extrinsic	Intrinsic
Management style	Supervised	Self-organized
Innovation type	Planned innovation	Disruptive Innovation
Measuring project progress	Fixed milestones	Dynamic development

Table 1. Comparing project management and coolfarming

As table 1 illustrates, the emphasis for conventional project management is on planning, execution, and monitoring, while the focus of coolfarming is on self-selection, self-organization, and external recognition. This does not mean that coolfarmers expect to work for free forever. Rather, they are risk takers, who are convinced of the potential of a new idea or concept, and are willing to invest their own resources, be it time, social capital, or money, into the new idea without knowing yet how to be paid back for their investment. If they are right in their assessment, they will be paid back in the end, be it in increased reputation, in financial terms, or in a combination of both. But they will keep the interests of the swarm ahead of their own, knowing that if the swarm does well, so will they.

4 Creators

Leaders of networks are not leaders in the conventional sense. They do not govern their COINs through traditional leadership, but rather provide guidance and are completely integrated in the community as a peer. While traditional leaders control all aspects of the organization or enterprise they lead, creators and leaders of COINs are moderating and collaborating. Creators set the cornerstones and the vision, but then let COIN members take over.

Creators are leaders because of their network reputation, not because of a hierarchical position in an organization. Thus, the power of a COIN leader is based on the collective respect of his cohorts. Linus Torvalds, inventor of Linux, is an exemplary creator. Torvalds says "(...) the fact that people trust you gives you a lot of power over people. Having another person's trust is more powerful than all other management techniques put together. I have no legal or explicit power. I only have the power of having people's trust – but that's a lot of power." (Business Week, 2004)

Therefore, key characteristics of creators are personal integrity, trustworthiness, and willingness to communicate transparently and honestly.

Creators are constantly learning and adapting from others. However, that does not mean conscious dissection and analysis of competitors but rather consumption and distribution of knowledge to the COIN. Creators profit from the ecosystem of COINs and CLNs – learning networks that filter information and knowledge, allowing the leader of the COIN to focus on the essentials. In order to grow their idea, COIN leaders have to be coolhunters (Gloor & Cooper 2006), continuously looking for new ideas to extend their original vision, and for new recruits to join them on their endeavor.

In addition, creators also have profound influence on their COIN's identity. Identity is built by the leader's charisma, through the collective intelligence of the core COIN team, and through external symbols important to swarm members. However, most importantly will be the behavior of the leader. Leading by example, and as a role model, creators "coin" the swarm through their vision and style. They take life as being on a mission, twenty four by seven. Thus, successful creators have a sound selfesteem, well grounded in reality however.

Who is identifying and grooming new leaders for the swarm? Torvalds gives a description of how other leaders besides him in the Linux Kernel team are selected: "(...) the swarm picks the leaders. It's not me or any other leader who picks them. The programmers are very good at selecting leaders. There is no process for making somebody a leader. But somebody who gets things done, shows good taste, and has good qualities – people just start sending them suggestions and software updates. I didn't design it this way. This happens because this is the way people work. It's very natural."

This means that it is the members of the swarm who choose the leader who is best for them. It is not the leader, who chooses the people working with him, but the people choose with and for whom they want to work. They do this based on the skills and personality of the leader. Based on the reputation of the leader people select with whom to collaborate. They are proud of the goals, of the leader, and foremost, of themselves working for the goals. Thus, every COIN member is also both coolfarmer and coolhunter (Gloor, 2006), continuously looking for cool ideas and cool people.

5 COINs

A group of people is smarter and more creative than the smartest and most creative individuals on their own. It is the main characteristic of most experts that they think they know the answer in their field of expertise. Yet, in fact, each expert only knows part of the answer. Her or his solution might have solved a particular problem in the past. But this does not mean that there are not better ways to solve the same problem. Only the creative combination of the solutions from multiple experts will lead to the best answer. Combining the collective intelligence of experts in a COIN leads to a group whose wisdom vastly exceeds the sum of each individual's expertise.

Members of a COIN decide for themselves when they want to do what, because they are passionate about the vision, goals, and results of their collaborative effort, and not because they are ordered and paid to do it. Thus, COIN members are motivated intrinsically to reach the shared goal – be it the group of brain surgeons convened to battle the brain cancer of Senator Kennedy (NYT 2008), or programmers jointly developing the next version of an opensource computer program. In a COIN people's thinking is aligned like in a swarm. COIN members communicate their thoughts and ideas, then figure out the rights or wrongs together. They don't follow rules and regulations of what they should or should not do. Rather, they make the rules by themselves, for themselves.

As the COIN expands its knowledge and skills, each individual member also grows in skills, knowledge, and personal maturity. An individual's success is realized through the success of the COIN, because the goal of the COIN is the goal of each COIN member. Strong goal alignment is a key feature of COINs.

This principle contradicts traditional organizational paradigms in large companies. Hierarchical organizations have a strong aversion against disruptive change, normally they carry out their actions by following conventional project management principles. Therefore their innovations are transformative, by refining and improving already existing solutions. Contrarily, innovations from COINs question conventional wisdom, and might even cannibalize existing product lines of a company. If a COIN works together really well, its output will be of superior quality, beating by far the output of groups managed by conventional project management principles, through command and control.

In order to make COINs a success, creators have to look for the best possible individuals to join their team, even if the process of reaching their goal might take much more time by waiting for the right candidates to show up. Potential members should match the integrity of the existing COIN, be aligned with the goals, and have an intrinsic incentive to work in the group.

However, two main motivations, in the following order, can be considered to be major reasons why people join COINs. The first one is serving the greater good, wanting to make, in some way, the world a better place. The second is to obtain what open source programmers call "egoboo" (public recognition of voluntary work, (Raymond, 1999)). Selflessness and altruism are not just good for the environment, but also for the people showing the selfless behavior. Thus, searching for these two traits might identify potential candidates for the COIN.

Leadership in COINs is changing continuously. At any given phase, there is a clear leader, but the leader is willing to pass on leadership to whoever is the most capable of reaching the goal of the next phase. This fluctuating leadership assures a continuous inflow of new ideas, and rapid adaptation to external change (Davis & Eisenhardt, 2008).

6 CLNs

Once COIN members have signed on to the vision and goals of their swarm, they will need to find out what works best to make their product attractive to their community. Towards that goal, they tap into their network of friends and family, their Collaborative Learning Network (CLN). The CLN is both an invaluable sounding board for the daring new ideas of the COIN, as well as a source of new COIN members. CLN members will be the first ones to try out the evolving product of the COIN. COIN members will also motivate some of the people from the CLN to increase their level of commitment, to join the original COIN.

In one successful case in retail, largest Swiss retailer Migros created a new low-cost product line called M-Budget, relying on a large-scale CLN to choose what products to put into M-Budget. The CLN was convened through dozens of M-Budget parties, rock concerts and sports events such as skate boarding competitions. There young consumers were acting as free trendsetters, telling Migros what products they wanted under the M-Budget label, such as M-Budget mobile phones, M-Budget car sharing, even bathing suits in the M-Budget design. According to the Swiss annual brand name rankings, in just a few years M-Budget rose to one of the most valuable brands in Switzerland.

Japanese printer and copier company Fuji Xerox has been leveraging a Collaborative Learning Network to train its sales force to sell an entirely new product outside its existing product lines. A study at MIT (Takahashi 2008) was able to monitor (mostly electronic) interaction among Fuji Xerox Service technicians and product developers. The researchers found that the sales force changed its behavior from a hierarchically operating and communicating organization to one collaborating in COINs and Collaborative Learning Networks. Sales people and service department formed a great CLN, with the service technicians forming the core COIN members, giving new product information and advice to the less active, and therefore more peripheral sales people forming the outer part of the learning network. In fact, the COIN of product developers were great coolfarmers. They started using the mailing list as a filter mechanism for learning about new customer needs and also tried to learn as much as they could from the experience of the sales people. In the beginning the developers of the new product were the main evangelists, actively spreading the word about their new product, and providing active support to the salespeople in writing offers, and solving the technical problems of their potential customers, even going with them on sales calls to potential customers. Over the course of the lifetime of the product, the mode of communication between COIN and CLN changed. Initially service technicians interacted in a hub-and-spoke model with salespeople face-to-face and one-to-one. Later, the communication mode changed to a peer-to-peer model among the sales people, who asked and gave advice to each other.

Electronic communication intensity (on a mailing list) also predicted the number of sales. The more active on the mailing list the sales people became, the more they started selling the network boxes. The more the sales people got into a dialogue with the product developers and experts, the more they learned about the product, and the better they were be able to sell it. This way, Fuij Xerox reaped large rewards by turning its network of sales subsidiaries into a Collaborative Learning Network.

Once the COIN has honed the product to the tastes of the CLN, time has come to launch an all-out viral marketing campaign, to get the new product over the tipping point. And that's where the CIN – the Collaborative Interest Network – comes in.

7 CINs

In the final phase of coolfarming, COIN and CLN band together to spread the word. Through word-of-mouth marketing, a CIN, a Collaborative Interest Network will emerge naturally, and disseminate the innovation. This community of people who believe into the new product will build up momentum and drive the new product to success.

CLN members are experts in locating role models who are not just accepted, but admired by the target group. Ideally, the new product is considered a worthy cause that the admired people care deeply about, and will invest their reputation and energy to get it off the ground. Apple's Steve Jobs is a role model for this approach. He raised the buzz about Apple's new products until his dedicated swarm of loyal Apple users could not wait to get their hands on the next iPhone, iPod, or MacBook.

LEGO's Mindstorms toy toolkit (Wired 2006) sets another example of how to create cool trends through viral marketing in CLNs and CINs. LEGO Mindstorms is a set of programmable LEGO bricks that combine a full-fledged programming environment with electric motors, sensors, LEGO technical pieces, and bricks. Within weeks of the original Mindstorm launch, the interface between the PC and the Mindstorms robot was hacked and published. Quickly, many Mindstorms users employed these findings to develop a new programming language and operating system, replacing the one provided by LEGO. Instead of suing for infringement of intellectual property, LEGO decided that it could leverage the creativity and inspirational ideas of the Mindstorms hackers for its own use.

Similarly to Apple, LEGO succeeded in creating and inspiring brand loyalty through a CLN/CIN-based ecosystem far and beyond the usual. But while Apple's appeal is mostly thanks to one man's genius in reading the collective mind, LEGO's success is due to a committed and loyal swarm of fans and creative innovators. Just like LEGO did, COINs give away power to their most loyal users, who become part of the swarm themselves.

8 Conclusions

We would like to conclude this essay by looking at the fundamental question of why people join a COIN. Why are people buying into the goals of a COIN, thus helping to get a new trend over the tipping point? What motivates people to coolfarm?

Exemplary coolfarmer Linus Torvalds, thinks that the motivational factors of opensource programmers are "fun", "fame", and "feeling good". According to him "most good programmers do programming not because they expect to get paid, or

because they expect admiration by the public, but because it is fun to program" (FM 1998). What this means is that they love what they are doing. Their motivation comes from the intrinsic joy of doing their favorite activity. Because they are good in what they do, they also get admired by their peer group of other programmers. This way they do not see their work as hardship, but as fun, and the most meaningful use of their time.

According to Torvalds (Torvalds 2001), people will be motivated by three factors, namely "survival", "social life", and "entertainment." Entertainment not only means playing computer games, but also more serious endeavors like working out a way of going to the moon. Joining a COIN is normally not done for survival, but for "entertainment" in the Torvalds' sense, to get meaning and purpose in life. To be together with other likeminded people also includes the second motivational factor of Linus Torvalds, the "social life." Working together with others to create something new as a group plays a fundamental motivational role for COIN members.

Coolfarmers also exhibit an ethical code based on meritocracy and transparency (Gloor, 2005). Leaders of COINs are forced to ethical and transparent behavior, otherwise they will loose the members of their COIN. Even more, COIN members are strongly motivated by altruism, having recognized that the best way to reach their personal goals is to put the goals of their swarm ahead of their own. In the end, just like it was for the inventions of Edison, Linux, LEGO, and Apple, this approach will be most beneficial for each individual member of the swarm.

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