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Collaborative projects (social media application): About Wikipedia, the free encyclopedia

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Abstract Collaborative projects—defined herein as social media applications that enable the joint and simultaneous creation of knowledge-related content by many end-users—have only recently received interest among a larger group of academics. This is surprising since applications such as wikis, social bookmarking sites, online forums, and review sites are probably the most democratic form of social media and reflect well the idea of user-generated content. The purpose of this article is to provide insight regarding collaborative projects; the concept of wisdom of crowds, an essential condition for their functioning; and the motivation of readers and contributors. Specifically, we provide advice on how firms can leverage collaborative projects as an essential element of their online presence to communicate both externally with stakeholders and internally among employees. We also discuss how to address situations in which negative information posted on collaborative projects can become a threat and PR crisis for firms.

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1. Contents

In 1439, a German goldsmith had the idea of selling polished metal mirrors to pilgrims in order to capture the holy light emitted from religious relics. His plan was to piggyback on a major exhibition of the relics collection of Charlemagne that the city of

Aachen had planned for the same year. However, due to bad weather conditions, the exhibition was cancelled and the goldsmith was confronted by a group of angry investors. To satisfy their financial demands, he came up with a fallback plan: he developed the printing press, with which he subsequently produced several copies of the bible. Few of his contemporaries—including the pope at the time, Eugene IV—would have thought that this invention of Johannes Gutenberg would usher in the beginning of a period when books and knowledge would become rapidly and widely available, but it did. Among

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others, the Gutenberg Bible became a main contributing factor toward the creation of Protestantism by Martin Luther about 70 years later.

In the 550+ years since, printed books have become the main instrument via which to transmit knowledge and have revolutionized every aspect of human life. Today, however, printed books are starting to be replaced by a more popular form of transmitting 'truth'—namely, collaborative projects. The most popular representation of this is the Internet encyclopedia, Wikipedia. Founded in January 2001, Wikipedia today includes over 30 million articles written in 287 languages by 75,000 active editors, read by more than 350 million people around the world. What started with the sentence "*Hello world. Humor me. Go there and add a little article. It will take all of five or ten minutes*" has become the 6th most popular website on the planet. But unlike Google (#1), Yahoo (#4), and Amazon (#5), Wikipedia is a non-profit organization owned by the charitable Wikimedia Foundation; as will be explained, this specific form of organizational structure is crucial to its success.

Similar to the printing press, Wikipedia has been a catalyst for the diffusion of knowledge. Today, every high school student can use her cell phone to access the mobile version of Wikipedia (Kaplan, 2012) and read all there is to know about the Einstein–Maxwell–Dirac equations (a concept related to quantum field theory) or the latest episodes of the X-Factor. Whoever uses Google to look for information—that is, most everyone—will stumble upon Wikipedia sooner rather than later. What is true is written on Wikipedia and what is written on Wikipedia must be true—at least, most of the time. Exceptions include cases in which Wikipedia has been used to purposefully spread false information, such as that involving American journalist John Seigenthaler, who was falsely accused of being involved in the assassination of the Kennedy brothers. Readers interested in more examples of incorrect information on Wikipedia should check out the article on the reliability of the online encyclopedia, published—of course—on Wikipedia.

In addition to their general impact on society at large, collaborative projects also have an influence on the corporate world. Positively, they allow consumers to exchange product information more easily than ever before. In the long run this reduces costly call center interactions because consumers can find answers to their questions online, posted by other consumers, instead of contacting the firm directly. This concept—referred to in the literature as *customer knowledge value*—has recently garnered interest among researchers in the field of marketing (Kumar et al., 2010). Negatively, the fact that

ordinary people and journalists alike make use of and believe the information on Wikipedia creates the need for managing this platform in a conscientious way. Otherwise, firms might find themselves in the same position as clothing retailers GAP and H&M, which are listed on Wikipedia as two recent examples of child labor incidents.

Our aim in this article is to provide an introduction regarding collaborative projects and to illustrate how companies may make use of them. We first present a 4-group classification of this type of social media application (wikis, social bookmarking sites, forums, and review sites) before discussing each element's theoretical basis (wisdom of crowds) and user characteristics (readers and contributors). We then turn to the corporate use of Wikipedia and specifically present the three bases of getting your entry into Wikipedia, as well as a set of guidelines that help manage the potential Wikipedia crisis that might happen one day. Finally, we present the broader application of collaborative projects within companies, how they can help enhance employee-to-employee interactions, and whether to rely on self-developed or third-party platforms.

2. Theoretical concepts

2.1. Classification

In the most general sense, collaborative projects are a special form of social media application that enable the joint and simultaneous creation of knowledge-related content by many end-users. Whereas blog content is authored by a single person or a few editors and may later be commented on by others, collaborative projects are different in that they allow all users to equally post, add, or change content. In this sense they are probably the most democratic form of social media, which can be defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010, p. 61). Other forms of social media include blog/micro-blogs (e.g., Twitter; Kaplan & Haenlein, 2011a), content communities (e.g., YouTube), social networking sites (e.g., Facebook), virtual game worlds (e.g., World of Warcraft), and virtual social worlds (e.g., Second Life; Kaplan & Haenlein, 2009).

Within this broad group of collaborative projects, we differentiate four types. The first type is wikis, which owe their name to the Hawaiian word for fast and allow users to add, delete, or revise content on a webpage by using a simple web browser as opposed to a more advanced HTML editor. The first

wiki, WikiWikiWeb, was developed by the American computer programmer Ward Cunningham in 1995 and focused on discussing website design patterns. It was named after the WikiWiki Shuttle, a bus line running between the airport terminals at Honolulu International Airport, instead of using the more ordinary title 'quick web.'

The second type of collaborative project is social bookmarking sites, or collaborative tagging services. They allow users to assign tags to bookmarks of web documents that can subsequently be organized in the form of tag clouds: visual representations of tags, the importance of each indicated by its font size or color. The resulting classification of content is sometimes referred to as folksonomy, a portmanteau of folk and taxonomy. The most widely known representative of this type of collaborative project is probably Delicious, which was founded in 2003 and today has more than 5 million users and 1 billion linked bookmarks.

The third type of collaborative project is online forums or message boards, via which people can hold conversations in the form of posted messages. As opposed to wikis, forums usually do not allow users to edit content posted by others, but rather only respond to or discuss this content within their own postings. The right of editing is limited to forum administrators or moderators. Also, forums only count as collaborative projects when their focus is on the joint creation of knowledge. Forums with a different purpose (e.g., dating sites) should not be considered collaborative projects but rather social networking applications, another form of social media.

The fourth and final type of collaborative project is review sites: websites that focus on exchanging feedback regarding firms, products, and anything else of relevance in human life. Prime examples in this category include TripAdvisor and Epinions.com. Review sites usually employ some form of reputation system that allows them to compute reliability scores based on ratings received within user reviews. These systems are supposed to avoid strategic manipulation of the content posted, although research has shown that this is not always as efficient as it should be (Dellarocas, 2006; Mayzlin, Dover, & Chevalier, 2012).

Looking at the four types of collaborative projects shows that they can be grouped along two dimensions. The first dimension is the type of knowledge that is created within the collaborative project. While contributions on wikis and social bookmarking sites usually deal with describing objective facts (e.g., a Wikipedia discussion on the production of *The Hunger Games* movie or a collection of links on Delicious related to the Linux operating system), forums and review sites tend to

collect subjective assessments and opinions (e.g., evaluations of books, video games, or hotels). The second dimension deals with the mutual independence of individual contributions. Wikis and forums are fundamentally based on the idea of exchange and reaction in the sense that each contributor is likely to have read previous contributions and to have considered them in their own addition; contributions therefore depend on each other. This is different from social bookmarking and review sites, via which contributions might be posted independent from each other. These two dimensions form a two-by-two matrix along which the four different types of collaborative projects can be grouped, as illustrated in Figure 1.

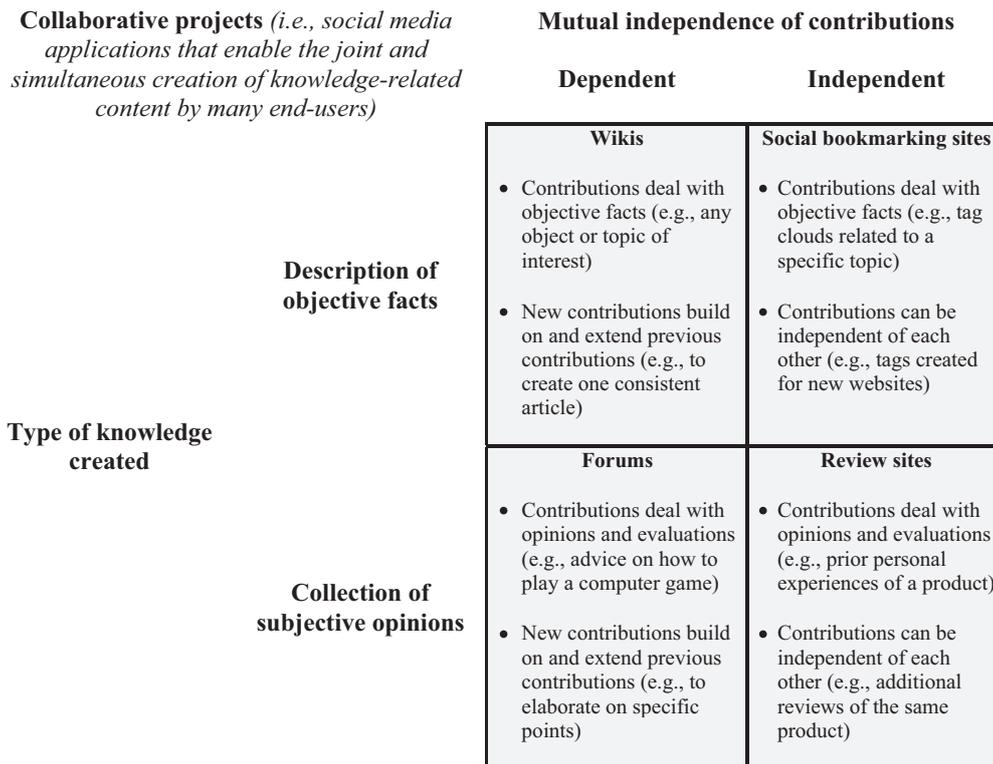
2.2. The wisdom of crowds

Collaborative projects can lead to results of surprisingly high quality. As early as 2005, only 4 years after the creation of Wikipedia, a study published in *Nature* compared the accuracy of Wikipedia articles to those of the Encyclopedia Britannica and showed that both had similar rates of "serious errors" (Gilles, 2005). This empirically illustrates that the joint effort of a large number of actors can lead to better outcomes than each individual actor could achieve independently—an idea usually referred to as the *wisdom of crowds*. In behavioral finance, a consequence of this is the efficient-market hypothesis, which states that no investor can consistently achieve higher-than-average returns unless she/he possesses unique information (Fama, 1970). Indeed, it has been shown that Wikipedia has a considerable influence on investors and management disclosure for publicly traded companies (Xu & Zhang, 2013). In day-to-day life, the wisdom of crowds is well-illustrated by the *Who Wants To Be A Millionaire* television show player help feature, 'Ask the Audience' lifeline, which results in accurate answers in nine out of ten cases.

Yet in order to be wise the crowd needs to fulfill three criteria. Specifically, it needs to (1) be sufficiently large and (2) consist of a diverse set of actors that (3) act independently from each other (Surowiecki, 2004). These conditions help explain why articles of general interest to a large and diverse group of people—which ensures a high number of diverse contributors—tend to be those of the highest quality. For example, the Wikipedia entry describing the president of the United States is more likely to be accurate than the one dealing with the president of Nauru, an island country in Micronesia (both entries actually exist).

The problem, however, is that for wikis and forums the condition of independent actors is

Figure 1. Classification of collaborative projects



usually violated since any contributor will have read the comments made by others before making additions or modifications (see Figure 1). Particularly controversial Wikipedia entries or edits are discussed in great detail on talk or discussion pages before final publication. This tends to be less critical for forums since they deal with rather subjective opinions anyway. But for Wikipedia—the focus of which lies on objective facts—the issue is more severe. To circumvent any biases resulting from this lack of independence, Wikipedia requires that contributors add sources and references wherever possible. This is why articles tend to be particularly good when they deal with easily verifiable topics (e.g., the foundations of Landau damping, a concept familiar to plasma physicists) as opposed to more ambiguous assessments (e.g., the private life of actress and singer Marlene Dietrich).

2.3. Readers and contributors

Users of collaborative projects are split into two groups: those who only consume content (*i.e.*, readers) and those who generate content in addition to consuming it (*i.e.*, contributors). Collaborative projects characterized by non-independent contributions (*i.e.*, wikis and forums; see Figure 1), such as Wikipedia, necessitate reading before contribution; both groups are covered in such circumstances.

The common characteristic of all users, independent of whether they are reading or contributing, is the trust they have in the project in general and the quality of information received in particular. This explains why large sites that have evolved into household names—such as Wikipedia, Delicious, and TripAdvisor—tend to possess a disproportionately large share of the market. This effect has become so pronounced that topics not covered on Wikipedia tend to be perceived as irrelevant, which has direct implications for companies that should be interested in the coverage. Avoiding being present on collaborative projects is unlikely to be a successful solution for most firms.

While trust in the project itself is sufficient for readers, contributors must also trust administrators of the project in order to feel the time they invest by making contributions is not wasted. It is therefore not surprising that Wikipedia is owned by a non-profit organization, since users would be far less willing to contribute if they felt their work could later be sold by the firm for a profit. This is particularly true since the share of active contributors is usually very low, which means that losing some of them can have significant consequences. While Wikipedia, for example, has 1.7 million contributors, only about 4.5% of them (75,000) are active in the sense that they make more than 5 edits per month. The lion's share of Wikipedia entries is

generated by 10,000 highly active contributors who make more than 100 edits per month and who tend in profile to be male, about 30 years old, computer-savvy, U.S.-based, and college-educated. To maintain the diversity of its contributor base, which is essential toward increasing the wisdom of the crowd, Wikipedia has launched several initiatives that specifically target women, older people, and contributors in different geographical areas.

While the motivations of readers are easy to understand, the driving forces behind contributors are less obvious. For some, the key motivation might be altruism and simple concern for the welfare of others. Yet, altruism tends to be a rare characteristic (Leider, Mobius, Rosenblat, & Do, 2009) and other drivers may be more likely. For example, contributors might feel an obligation to reciprocate for information received, participate due to a wish of self-presentation (Schau & Gilly, 2003), or obtain pleasure from discussing topics with knowledgeable people in the field. Others are driven by the opposite of altruism and contribute to Wikipedia for opportunistic reasons, such as enhancing their personal brand or erasing negative information about themselves or organizations they are attached to.

Many contributors, however, simply like the idea of being part of a community and therefore contribute to something they can identify with. Research has shown that within Wikipedia, different groups of contributors exist that share certain ideological, functional, and content-related beliefs. This leads to a form of commons-based governance that regulates the social structures on the site (Forte, Larco, & Bruckman, 2009). Some subgroups even focus on mechanically conducting certain tasks such as controlling articles for format consistency or removing information that is not backed up by sources, based on a shared belief that this improves the overall quality of the project itself.

3. Corporate use of Wikipedia

3.1. Policies and guidelines

As mentioned, Wikipedia is probably the most popular application among the group of collaborative projects. Since it usually ranks very high on Google—right next to or even before an official corporate webpage, in many instances—Wikipedia should be considered a fundamental piece of the online presence of any firm. Wikipedia will often be the first site people check for information regarding a company; for small- and medium-sized firms, being on Wikipedia is seen as a sign of legitimacy. It is worth noting, however, that company-related entries are

often not those with the largest readership. While firms like Coca-Cola and Starbucks can obtain 100,000–200,000 views per month, this is still substantially less than the readership of entries on celebrities like Britney Spears and Justin Bieber, which can reach half a million views or more.

Although collaborative projects in general and Wikipedia in particular are democratic by design, policies still exist that users must respect. An understanding of these policies is crucial for companies interested in creating or adding an entry. Specifically, Wikipedia states that it is a neutral encyclopedia without firm rules (we will come back later to the reasons for this specific type of policy) via which everyone can freely add content and where editors should treat each other respectfully. Entries that relate to corporate content—such as firm or product descriptions—should therefore be based on verifiable facts to maintain neutrality and should be related to published sources wherever possible. Any form of advertising would be considered inappropriate and would likely be removed by another contributor. In the European Union, for example, such hidden advertising might even be considered (illegal) covert advertising, which violates the European Fair Trading Law as recently ruled by a German court.

3.2. The three bases of getting in

If you or your firm try to establish a Wikipedia presence, make sure to do it right the first time; otherwise, you risk being accused of spamming and irrelevance. Your entry will be removed and the traces of this defeat will stick on Wikipedia for a long time: the opposite of what you want to achieve. It's not a hopeless case, though, as some companies like Nokia and Apple have outstanding entries in the online encyclopedia (Lundquist, 2010, 2012). To join this group of winners, we have derived three rules for creating a successful Wikipedia presence. We call these rules 'the three bases of getting in.'

- **First base: Be visible and of interest**

Wikipedia is more likely to feature an organization when it is considered notable. This requires significant coverage by independent secondary sources. Good public relations is one way of achieving this goal; another is being a topic of discussion in the social media space. So before trying to enter Wikipedia, first ensure visibility elsewhere—for example, by generating a successful social buzz (Kaplan & Haenlein, 2011b, 2012). Alternatively, maximize mentions in other Wikipedia entries, thereby increasing the odds of having an entry on your own one day.

- **Second base: Be associated with serious contributors**

The likelihood of your Wikipedia entry remaining—that is, its not being deleted—depends on who wrote it in the first place. One option entails climbing up the ladder and becoming a serious Wikipedia contributor yourself before starting to write about the firm. Writing entries or improving existing articles is the way to go here. If this takes too long, leverage the reputation of an employee who is already a highly active contributor. Another option involves attending events where Wikipedians meet in real life. Get to know them; they may like your firm and start writing about it on your behalf.

- **Third base: Be careful about what you write**

In principle, Wikipedia does not encourage companies to edit their own profiles due to inherent conflicts of interest; therefore, anything you add must be well supported. As a rule of thumb, try to remain as objective and neutral as possible. Wikipedia is about information, not advertising or selling. Including a reference link to a web shop where company merchandise can be bought, for example, is not advisable—even if that link contains relevant information. When in doubt, check with others on the talk page to determine whether proposed changes are appropriate; in the end, these will be the people likely to delete any material that is not. Also, think about regularly checking how your entry looks. Since others can modify and add at their will, regular verification is necessary to avoid bad surprises.

For a good example of how to interact with Wikipedia, consider Italian automobile manufacturer Fiat. Fiat began participating in Wikipedia because the company's listing was not well structured, mixing different topics such as product (e.g., Fiat Automobiles) and corporate information (e.g., Fiat Holding). One advantage Fiat possessed was that the person in charge of its corporate communication was already an active Wikipedia contributor for articles not related to the firm. When Fiat relied on this employee to improve its corporate entry, transparency was the rule. While Fiat and its communication agency worked under a pseudonym, it was always willing to disclose its identity if another contributor asked for it. However, until today, this question never came up—most likely because all changes initiated by Fiat were informative and factual in nature.

Of course, interacting with other contributors is not always easy. In 2011, for example, Fiat wanted to change its logo in order to better differentiate

the Fiat Group from the related Fiat brand. However, another Wikipedia contributor did not agree with this change and wanted to keep the old logo. Only after explaining to the other party the differences between the two entities (group vs. brand) was the change finally possible; but, it took some time. When entries or changes are backed up with factual information, Wikipedia will edit in the correct direction sooner or later. Yet, you should give up the idea of such a thing as a Wikipedia communication strategy, since entries are usually only in part—if at all—controllable by the firm.

3.3. The bad and the ugly: Crisis management

At some point—unfortunately, likely sooner rather than later—the day will come when other contributors will add some form of negative information to your entry. A recent study analyzed the evolution of the Wikipedia entries of a set of Fortune 500 companies and revealed that as they get older, the articles tend to become more negative and include more information regarding legal concerns and scandals (DiStaso & Messner, 2010). This implies that crisis management should be an essential part of your Wikipedia strategy. The situation may never occur, but if it does, we provide three pieces of advice on how best to handle it.

- **First, edit yourself**

The first option entails correcting negative information yourself—if, and only if, it is truly wrong and misleading—by using the talk page. When responding, try to remain neutral and respectful toward other contributors. Remember the general rules of using social media: be interesting, humble, and honest (Kaplan & Haenlein, 2010). Pretending to be someone else and hiding your corporate affiliation is unlikely to work since tools such as WikiScanner help automatically identify the origin of anonymous edits. Companies including Coca-Cola, EA Games, and *The New York Times* have been accused of relying on PR firms to manage their Wikipedia presence rather than openly and transparently doing so themselves.

- **Second, put things into perspective**

When correcting negative information is not possible, try counterbalancing it by adding more positive elements about your firm, as long as the facts are interesting and verifiable. If it fits the article structure and readability, add the positive information before the negative as many readers will not scroll to the end of the page and search engines often focus on text at the

top rather than text at the bottom. Alternatively, encapsulate the negative information into a mix of positive or neutral statements since more people will read only the beginning and end of a paragraph, not a long text. If all of this is not possible, you might edit the negative section by replacing numerals (99) with words (ninety-nine), since this is also less likely to be read. Add pictures to draw focus away from the negative content. These strategies can only be short-term solutions, however, and may be considered borderline to the principle of honesty in social media. Ultimately, the only surefire way of eliminating negative information about your firm lies in addressing the root of the problem.

- **Third, get help from friends and family**

While it might be frowned upon for the company to edit its own corporate entry, nothing forbids you from activating Facebook fans, Twitter followers (Kaplan & Haenlein, 2011a), and YouTube subscribers to do so on your behalf—if they are willing, of course; followers and likers might be more critical than you think. Yet, since they have an affinity for your firm, they may be willing to lend a hand. This highlights the point that company Wikipedia presence will be particularly useful if it is embedded within a larger social media strategy. In the end, if negative information is truly incorrect and all other attempts to correct it have failed, you can raise the issue with one of the Wikipedia notice boards (like the Conflict of Interest board or the Administrators' board) and hope for help there. The last resort is to have your page protected, which limits the number of people who will be able to edit it. To engage in legal actions against Wikipedia or one of its contributors is certainly not a good idea; the buzz surrounding such an action is likely to create more harm than good.

British oil and gas company BP illustrates that things on Wikipedia can go wrong, even if planned perfectly. The company, which was runner-up for Best Corporate Page in 2012, has an internal Wikipedia engagement team that manages its entry. This team is headed by Arturo Silva, who acts under the account 'Arturo BP' and clearly discloses his relationship to BP on his user page. All content provided by Arturo is based on news sources and, if in doubt, he checks with internal subject matter experts to ensure the accuracy of edits. Overall, it is safe to say that BP has respected the guidelines and rules we have outlined.

Still, BP came under heavy criticism when other Wikipedians noticed that approximately 44% of the

entry had been written by BP itself, including sections covering the company's environmental record. BP responded immediately by saying that edits were completely consistent with Wikipedia rules and focused on improving the overall accuracy of the article. BP spokesperson Scott Dean even received support from one of the two co-founders of Wikipedia, Jimmy Wales, who confirmed that no rules had been broken. However, unlike Las Vegas, what happens on Wikipedia does not stay on Wikipedia, but instead spreads rapidly to Google and other Internet sources. Consequently, BP was faced with negative press. This example shows that social media in general and Wikipedia in particular are interactive and complex systems that cannot be fully planned in advance. It is therefore critical to prepare for the worst and have a plan in place to deal with such cases, even if they never occur.

4. See also

4.1. Intra-company collaborative projects

Besides informing external stakeholders, collaborative projects in general and wikis in particular may be used for knowledge management within the company. One method entails using wikis to share existing knowledge, similar to traditional intranet or document management systems. In this context, wikis are often preferred as they tend to be easier to use and are less expensive than a commercial solution. Commercial projects may also be used for generating new ideas. In this way, the wisdom of crowds is leveraged when an undefined large group of employees and/or contractors helps to solve complex problems or to contribute fresh ideas. The results of such crowdsourcing can be remarkable; instead of relying on a predefined task force or project team, those in the organization who are most motivated to perform the task contribute to its solution.

Examples of this form of intra-company collaborative project can be found all over the world. The Anglo-Dutch oil and gas consortium, Shell, launched Shell Wiki in 2006 as a tool to share training materials, technical handbooks, and up-to-date knowledge regarding its different divisions. Finnish handset manufacturer Nokia uses wikis to trade ideas and provide its 100,000+ employees with project updates. Other firms prefer to rely on different types of collaborative projects. The American computer software company, Adobe, maintains a list of bookmarks and company-related websites on Delicious, and computer manufacturer Dell has an internal idea generation forum called Employee Storm.

When implementing such solutions, companies should try to create a pull effect whereby employees want to join in the community and contribute, rather than being forced to do so. Otherwise, your beautiful collaborative project will likely die the same death as your dusty document repository of the late '90s.

4.2. Own vs. third-party collaborative projects

When companies engage in social media, they must decide whether to rely on an existing solution or to create a new one (Kaplan & Haenlein, 2010). Up to now we implicitly assumed the former, but the latter can be equally successful. Fast-moving consumer goods giant Procter & Gamble, for example, discovered through market research that young girls tend to feel uncomfortable viewing TV commercials about feminine hygiene products, especially when surrounded by family. In response, Procter & Gamble created the Being Girl forum, which allows teens and preteens to anonymously receive advice and share questions and experiences—money well spent since the forum turned out to be three times more effective as a marketing tool than comparably priced television advertising (Cook, 2008). Similarly, Starbucks founded the My Starbucks Idea forum via which customers can submit new ideas for service and product improvements.

The same approach works in a business-to-business setting. Intuit, a producer of professional tax preparation products, established the Tax Almanac wiki as a resource for tax professionals. On this wiki, professionals can consult the latest tax legislation and share comments and interpretations, which are particularly important in this specific industry. As of today, Tax Almanac has more than 70,000 articles. It also includes a review forum; no e-commerce site, be it Amazon or eBay, can survive nowadays without some form of review forum included in it. Ratings provided on such forums influence consumer choice so much that firms whose products are not evaluated favorably increasingly resort to submitting fake comments to boost their image. Recent research has focused on this phenomenon, as well as on automated approaches to spot such behavior (Mayzlin et al., 2012).

4.3. Other types of collaborative projects

While we have mainly focused on wikis as the prime example of collaborative projects, there are other applications that fall into this group, as highlighted in Section 2.1. and Figure 1. For example, consider the social bookmarking site Pinterest, which was founded in March 2010. Pinterest allows users to

share visuals taken from the Internet and to group them into thematic clusters. This can be of interest for companies since it helps to create a virtual storefront, the online equivalent of a display window. As revealed by jewelry and accessories retailer Boticca.com, customers acquired this way are likely to be particularly worth chasing. The firm compared 50,000 shoppers referred from Pinterest to 50,000 shoppers referred from Facebook and found that its revenue per customer is more than twice as high (\$180 vs. \$85) for customers directed from Pinterest.

Another example is forums, which can be a valuable source of market information for companies. Since forums are usually highly specialized—for example, FlyerTalk, an online forum, centers on frequent-flyer and hotel loyalty programs—they are a good place to find opinion leaders who can subsequently serve as ambassadors for the introduction of new products (Libai, Muller, & Peres, 2005). Alternatively, firms can systematically analyze conversations on such forums to gain insights that would be difficult to obtain through traditional means in a process usually referred to as netnography (Kozinets, 2002; Kozinets, de Valck, Wojnicki, & Wilner, 2010). But even without such strategic actions, communities can be beneficial for brands. Participation not only leads to higher loyalty for the brand but also to the creation of 'oppositional loyalty,' or adversarial views on competing brands (Muniz & O'Guinn, 2001).

Finally, review sites have been of particular importance to firms in recent years. If a hotel gets bad reviews on TripAdvisor or a new book receives negative comments on Amazon.com, sales can decline rapidly. To some extent, this provides a healthy counterbalance to the rosy marketing messages pushed by companies; on the other hand, it can lead to a dangerous shift in power. Users who are particularly influential know of their power and might abuse it to negotiate special deals in exchange for positive comments. Why not threaten the hotel concierge with a bad review next time when you try to negotiate prices at check-in? Some firms take a proactive approach to this. For example, to avoid being subject to such pressure, American Airlines offers free access to its Admiral's Club to premium passengers, frequent fliers, and customers with a Klout score of 55 and above.

5. Further reading

Given the significant role Wikipedia plays for consumers and companies alike, a natural question that arises is "*Quis custodiet ipsos custodes*" or "Who watches the watchmen?" If content posted on Wikipedia becomes de facto truth, how can we

ensure that only truth is posted on Wikipedia? For any academic, the natural answer to this question would be to introduce peer review, a system under which every Wikipedia entry would be evaluated by a certain number of experts who could raise potential concerns that authors would need to address before publication. Although peer review comes with its own set of problems—for example, highly innovative ideas that go against current beliefs are more likely to get rejected—it is still considered the gold standard in most academic fields. Applying peer review to collaborative projects is, however, likely to result in failure, as illustrated by Nupedia, the predecessor of Wikipedia.

Nupedia, which lasted from March 2000 to September 2003, was essentially a peer-reviewed version of Wikipedia. First, each potential contributor was pre-screened by an area editor to test whether she/he was qualified to write an article. In most cases this implied having a PhD or equivalent in the respective area. Second, once the article was written a reviewer evaluated it and, in the case of a positive outcome, the article was opened up to the public for additional review. After all potential changes had been made, the third step consisted of copyediting the final article, first by a professional copyeditor, then by the public, and finally by the copyeditor again. Upon approval by the area editor, the article was published on Nupedia and the author received either a T-shirt or a coffee mug as a token of appreciation.

While this process appeared good on paper, it comes as no surprise that it was extremely time consuming. Hence, 18 months after its debut and with expenditures reaching US \$250,000, Nupedia contained only 12 articles. The two founders of Nupedia, Jimmy Wales and Larry Sanger, therefore changed their process completely and founded Wikipedia. Since the latter featured approximately 1,000 articles after just 1 month of operation, Nupedia was shut down and contained 24 articles upon its closing. While peer review can be the method of choice in matters of life and death, such as FDA new drug testing, in most instances the risk of wrong information is far less severe than the risk of being outdated or incomplete.

Another element influencing accuracy of information is the type and amount of people contributing to the collaborative project. As previously outlined, having a sufficiently large and heterogeneous group of contributors is essential to ensuring accurate information. Yet entering Wikipedia as a new contributor can be challenging since established contributors tend to be suspicious regarding changes made by newcomers and might reverse them in response. This prompts a vicious circle:

to be considered a reputable contributor one needs a sufficient number of contributions, but to be able to contribute one needs to be considered reputable. To solve this problem, Wikipedia is currently considering whether to introduce a ranking system similar to that used by eBay, which would facilitate reputation-building in a different way.

Despite all its positive aspects, Wikipedia is not beyond criticism. Larry Sanger, one of its two co-founders, distanced himself from Wikipedia in 2002 due to the site's lack of public perception of credibility—particularly in areas of detail—and the dominance of difficult people, trolls, and their enablers. Some managers and public relations experts would probably agree with his concern. By allowing anyone to post content on Wikipedia, the door is open to the creation of untruths and strategic manipulation. Ironically, this mirrors the attitude of 16th century Dominican friar Filippo di Strata, who criticized Johannes Gutenberg and his printing press for allowing the diffusion of knowledge without prior verification by monks, who previously copied books by hand: “The pen is a virgin; the printing press, a whore.” Yet, as we know today, di Strata was not able to stop the global spread of this tool and the associated printing revolution. Some trends are just too powerful to reverse; instead of investing effort in vain, companies are better advised to accept the facts and use collaborative projects to their advantage.

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