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A FAT DEBATE ON BIG FOOD?

UNRAVELING BLOGOSPHERE REACTIONS

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California Management Review, forthcoming

ABSTRACT

Confronted with public concerns about health and obesity, food companies are taking several measures. However, it is unclear to what extent they should communicate these policies. This article explores reactions in the blogosphere to health-related announcements by large food companies. Results show that taste-related announcements generate not only more reactions, but also more positive buzz than knowledge-related announcements. Valence is influenced by issue association per company type: those with highest obesity associations generate more negative blog posts. In case of low issue assocation, there are only limited blogosphere reactions; only one company with dedicated online 'fans' was an exception. Implications for practice and research are discussed.

KEY WORDS

Blogosphere; Food Companies; Health; Obesity; Corporate Announcements.

A FAT DEBATE ON BIG FOOD?

UNRAVELING BLOGOSPHERE REACTIONS

In recent years, health has become a major public policy concern that also figures high on the agenda of the food industry. According to Wansink and Huckabee, companies are taking a range of measures to promote healthy products and to 'de-market' obesity, as part of a win-win approach that serves both companies' profitability and consumers' health.[1] Steps to reverse the drivers of overconsumption include convenience (changing size of packages and portions); cost (changing products but not prices); taste (changing recipes but still conforming to consumer preferences); and knowledge (providing information that is understandable and realistic). What is unclear, however, is whether companies should go public with these policies or not, i.e. is it best to make the changes "quietly or with fanfare"[2]? This is a topic left largely unexplored, but a crucial one, particularly in the internet era in which online discussions can easily create a buzz with large potential consequences for companies' reputation and bottom line.

Examples abound for the food industry; we will just mention a few of them related to both healthier product announcements and regular marketing activities, to illustrate a diversity of reactions. A recent case is Diet Pepsi. In February 2011, PepsiCo's announcement of a new 'skinny can' led to quite some controversy. This was particularly because the company launched it for presentation at the Fashion Week as a "taller, sassier" Diet version "in celebration of beautiful, confident women".[3] The many online reactions included disapproving statements that there was "nothing to celebrate" and that the company's move had been "thoughtless and irresponsible".[4] Its "Get the Skinny" slogan was seen to have further reinforced existing stereotypes that link skinniness to female beauty. Half

a year after the controversy, PepsiCo launched a re-designed "fatter skinny" can as a "perfect complement to today's most stylish looks".[5]

An different example than PepsiCo's attempt to tap into 'skinniness' was Starbucks' announcement of a new, large (31-ounce) cup for its iced tea and coffee drinks in January 2011.[6] Although the company stated to do this at customers' requests, the move led to mixed reactions on the internet. While some people showed appreciation, others responded cynically, deriding the company for "finally getting serious about their commitment to America's obesity epidemic", with its new cup size being characterized as "a breakthrough in human obesity"[7]. A graphic showing that the new cup was bigger than the "capacity of the average human stomach"[8] went viral. Still, Starbucks made its supersize cup subsequently available in the whole country, thus broadening its initial introduction that took place in only a few states. Interestingly, the company did not visibly react to the online debate that had emerged.

While these examples illustrate the dynamics of online reactions to corporate announcements and subsequent responses, debates on the internet also seem rather difficult to predict in scale and occurrence. Moreover, this can be different for one and the same company as well. For example, when Nestlé introduced a fair-trade version of Kit Kat in the UK in December 2009, only traditional media responded, and there was hardly attention on the internet. A few months later, however, the company came very much in the (electronic) public eye when Greenpeace put a spoof version of Kit Kat's "Have a Break" on YouTube. The clip showed a transformation of the chocolate bar during consumption into an ape's finger with blood flowing out, to draw attention to the company's use of palm oil from Indonesian rainforests. Claiming breach of copyright, Nestlé demanded that the video would be removed immediately, which caused a large 'social media battle'. Twitter, the blogosphere, Nestlé's Facebook fan page and a counter 'boycott Nestlé group' were flooded with reactions, all in just a few days.[9] The company reacted to the buzz on the internet by reiterating its

existing policies on deforestation and on sourcing of sustainable palm oil.[10]

Online reactions (or the lack thereof) to food companies' marketing activities are driven by a range of factors that are issue-specific, firm-specific, and sometimes also country-specific, which hampers generalization. Still, it is essential to obtain more insight into what might lead to which types of responses. This is obviously important for food companies in the case of health-related products as they may want to adjust policies, gear marketing activities to specific target groups and/or adapt type and extent of communication – perhaps even refrain from communicating altogether. Online discussions might influence sales and revenues, as suggested by research in other contexts, often involving reviews of movies (see the overview in Table 1). Particularly the volume and valence of online buzz appear to play a considerable role, so these two dimensions deserve attention. In view of the behavioral change needed to increase health and fight obesity, knowing what generates which form of attention might also be worthwhile for policy-makers and nongovernmental organizations. This is relevant beyond the context of the food industry as many companies are confronted with online reactions that may potentially influence corporate and public agendas, and thus face similar dilemmas with possible implications for their reputation and performance.

Table 1 around here

To help shed light on this issue, this article presents the results of a study on reactions in the blogosphere to corporate announcements about healthier products. Amongst social media platforms, blogs are seen as providing rich and insightful conversations, as well as interactivity through readers' ability to comment on posts, and thus ideal for individuals to exchange ideas.[11] The blogosphere, the totality of all blogs, has been characterized as an arena where executives can learn what has been said about their companies.[12] We therefore collected and analyzed blog posts and subsequent comments to press releases of ten large food companies active on the US market, considering cost, convenience, taste and knowledge

in the context of healthier products. In this way, the article gives insight into the reactions that companies generate, the type of discussions in the blogosphere, and which announcements appear to give rise to most buzz, positive and negative, or provoke no debate at all. In addition to analyzing topics and sentiments of blogosphere reactions, we also explore the factors that may influence these reactions, and offer recommendations as to whether companies should make changes "quietly or with fanfare", discussing implications for practice and research.

CORPORATE APPROACHES TO ADDRESS AND COMMUNICATE HEALTH CONCERNS

Different approaches have been identified in marketers' attempts to address health issues and reduce overconsumption. Studies have pointed at various factors that relate companies to obesity and overweight, including product formulation, package size, advertising, online food marketing, promotion practices and product distribution.[13] They suggest that companies should reduce advertising or invest in nutrition research. What has remained underexposed, however, is how companies can apply regular marketing and communication approaches to the issue. Wansink and Huckabee suggest that the way forward is to use market-based approaches that benefit both companies and consumers, as indicated in the introduction.[14] For our research, we took their 'win-win' solutions related to the four drivers of consumption (convenience, cost, taste and knowledge) as starting point. We further elaborated their scheme by including subcategories that have been identified as activities that companies may initiate to increase health and reduce obesity (see Table 2). This scheme was used as an analytical tool to classify the press releases and the blogosphere reactions as the categories also point at possible practical implications.

Table 2 around here

The *convenience* solution, the first included in Table 2, aims at reducing portions and

changing packages (for example, into sub-packages) to make it easier for consumers to adjust their consumption habits. Somewhat related, a focus on *cost* means that prices remain the same but that the amount of the product is reduced (sometimes in the form of premium-priced packages) and so is the size of a serving. A third approach, in addition to convenience and cost, is to keep the perceived *taste* constant while adjusting recipes and/or actual ingredients. This can include steps such as a decrease in energy intensity and thus calorie intake, and the removal or addition of ingredients to serve health purposes. While the introduction of new 'healthy' products was not recommended as part of a taste solution by Wansink and Huckabee, as they expressed a preference for small and gradual changes, it was added here because we found a considerable number of announcements in this category in our primary analysis. Apparently this is something that companies are actively pursuing.

Knowledge is another way in which companies can help stimulate healthier consumption, by providing information about nutrition, calories and healthy options.[15] In the context of growing attention to food choices and 'de-marketing' approaches, interest in corporate communication of health-related initiatives is increasing; it is also the most visible marketing activity.[16] However, with high levels of consumer skepticism about corporate communication, securing positive reactions among information receivers is a real challenge for companies. Chandon and Wansink suggest that "persuasive mechanisms that operate through deliberate decision-making processes", typically found in the knowledge category, may be less effective than those that "operate 'below the radar' and often through self-regulation failures".[17] With the latter, they refer to characteristics of products and packages, such as taste, size, shape and convenience, as well as brand association. If we follow this argumentation, an assumption that one could make is that consumers may be less inclined to respond to knowledge-related topics, with valence likely to differ as well.

Furthermore, while signaling theory suggests that the topic of a message is one of the

key diagnostic cues for consumers to evaluate perceived information, it has also found – in line with Chandon and Wansink – that brand association is an important element influencing consumer judgments, especially in the case of experience products.[18] If we extend the association with a brand to a specific social issue (called *issue association*),[19] then it might be suggested that higher issue association with obesity – generally seen as something rather negative – would lead to more negative valence overall. These are aspects that we will therefore also explore in our analysis of reactions in the blogosphere to corporate announcements about healthier products, as reported in the next sections.

EMPIRICAL STUDY

Companies in the food sector are often related to responsibility for health issues such as the growing obesity problem.[20] In addition to having direct control over portions and the ingredients of the products they offer, promotional activities in general and advertising in particular are blamed for contributing to over-consumption of unhealthy products.[21] Therefore, the food industry as context for our study seems relevant and appropriate. In the academic debate on the role of the food industry in causing obesity, particularly confectionery, fast food and beverages were mentioned, and we thus targeted our sample on these three subcategories.[22] Moreover, companies with high brand values are more likely to attract attention, resulting in negative and positive responses among consumers, and this dimension was therefore considered as well in selecting our sample.[23]

We thus selected ten large companies that had been in the public eye: those that were either (sub)industry leaders or Number two in English-spoken countries, or were listed in the 100 global brands of 2007-2009.[24] The companies are Coca-Cola and PepsiCo (beverage companies); McDonald's, Subway, KFC, Starbucks, Pizza Hut and Burger King (quick-service restaurants – QSRs[25]); and Mars and Nestlé (food & confectionery companies). The

list includes more companies from the QSR category (compared to the other two categories) as more companies of this type are mentioned in the top 100 list. Moreover, from the three company types, QSRs are most discussed and blamed for causing obesity in the literature. Finally, there are more market leaders in QSRs (compared to beverages for example, where Coca-Cola and PepsiCo are leading). Therefore, we decided that it was appropriate to include more QSR companies.

To assess issue association on the internet we calculated the percentage of the co-occurrence of company type and/or company name with the word 'obesity' in the Google search engine, following a procedure suggested by Aggarwal et al.[26] Of the three company types, beverage companies had the strongest association with obesity (67.5%), followed by QSRs (25.1%) and food & confectionery companies (15.3%). When ranking the companies individually on their issue association, McDonald's turned out to score highest (33.6%), followed by Mars (26.7%), Coca-Cola (20.6%), PepsiCo (18.6%), Burger King (13.0%), KFC (10.2%), Subway (9.1%), Pizza Hut (8.2%), Starbucks (7.0%) and Nestlé (4.5%).

Press releases were taken from corporate websites in the period between 1 January 2007 and 31 July 2009. Blog posts and comments were obtained via Google Blog Search in the time slot of fourteen days following the announcement, a period deemed appropriate in earlier research.[27] In total, we collected 143 relevant press releases, of which 60 (42%) generated responses from bloggers. The press releases were coded and analyzed based on the categories as identified earlier (see Table 2). The number of blog posts in response to each press release was counted; and the contents of blog posts were analyzed and coded based on their sentiments, initially by one of the authors of this article. A second coder, who had not participated in the development of our classification system (and also not a co-author of the article), was given the categories. He independently coded the valence of the blogs as well as the categories for the press releases.

Based on the encoded blogs and press releases by the researcher and the coder, interrater reliability was tested. Agreement between the coders on the valence of the blogs was 93% and for the categories of the press releases 89%. In case of disagreement, the blogs and the press releases were discussed and resolved between the two coders.[28] The significance of the interrater reliability was tested by Cohen's Kappa and was .89 for the valence of the blogs and .94 for the categories of the press releases. Compared to the results of an analogous coding study of Desai, we consider this result as sufficient.[29] The comments of the blog posts were counted as a supplementary reference to indicate the impact of the companies' press releases and their subsequent blog posts. Besides the detailed content analysis, where applicable, we conducted chi-square analysis and Fisher's exact test to quantitatively assess the significance of our findings.

Our analysis shows that almost none of the food companies' health-related press releases over a period of two and a half years fell in the cost and convenience categories. There were only three convenience announcements. They involved policies that aimed to stimulate smaller consumption a time and keep consumers on track with their calorie intake. Just one of the three (by Burger King that introduced smaller-size burgers) attracted two blog posts. While these bloggers were positive about the move (stating e.g. "*small is fun*")[30], most of the 23 comments criticized the taste and flavor, not so much the size and/or convenience aspects. The companies mainly issued press releases about taste (n=95; 66.4% of total) and knowledge (n=45; 31.5%). Knowledge-related topics also received considerably less blog posts and comments, with a response rate of 29%, compared to 48% for taste ($p=0.015$).[31] In terms of blog post sentiments, taste-related topics generated proportionally more positive responses (47%) than knowledge-related ones (38%; $X^2=8.655$, df=5, $p<0.01$). These results seem to confirm our assumption made in the preceding section that press releases concerning knowledge-related topics would lead lower to volumes and be appreciated differently than

other topics such as taste that are 'below the radar'.

Further details as to the contents of the announcements and the reactions in the blogosphere for both taste and knowledge will be given in the next section, using the basic information on numbers of press releases, blog posts and comments summarized in Table 3.

Table 3 around here

TASTE

As shown in Table 3, the majority of the press releases covered taste, a category which, as we will explain in more detail below, contains four different types. Bloggers responded to half of the press releases on taste, generating in total 676 blog posts and 5,641 subsequent comments. It should be noted, however, that two blog posts and 762 comments related to two press releases that included an online marketing campaign offering free samples and encouraging bloggers to express their opinions.[32] Particularly those from Pizza Hut generated many comments (662), as part of the removal of 'harmful' ingredients; this applied to Burger King (new product) to a lesser extent (100 comments). They exemplify a specific high-profile online approach in addition to the more traditional corporate announcement, leading to a relatively high number of reactions.

The diminution of the energy density of products led to most debate in the blogosphere overall, although only one third of the press releases on this topic caught the attention of bloggers. This percentage was higher for announcements related to the removal of harmful ingredients and the introduction of new healthier products; the addition of nutritious ingredients was least discussed. As indicated in the previous section already, the introduction of new products accounted for more than half of the announcements related to taste. Many bloggers indicated that this showed companies' motivation to expand into the health market rather than improve the actual nutritious quality of the products.

Below we will discuss the four subcategories of taste distinguished consecutively.

This is coupled with specific examples from companies, which all, except for McDonalds and Subway, published press releases related to taste (see Table 4 for an overview).

Table 4 around here

Decreasing Energy Density

Coca-Cola, PepsiCo, KFC, Nestlé, Mars, and Starbucks have, although to a limited extent, taken initiatives to decrease the energy density of their existing products to thus help lower consumers' calorie intake. Mars changed the recipe of its three ice cream products to provide the same flavor with fewer calories; Coca-Cola UK cut sugar contains in Fanta Orange; and Nestlé reduced calories of its cookie products. However, all these minor changes in a limited number of products did not generate any responses in the blogosphere. On the other hand, Starbucks' announcement that only reduced-fat milk would be offered with its coffee drinks and KFC's announcement to offer grilled chicken generated 42 and 62 blog posts respectively; these two press releases accounted for all responses in this subcategory as Table 3 shows.

In two 2007 press releases, Starbucks announced the switch of its default milk to reduced fat. Denny Marie Post, senior vice president of Global Food and Beverage of Starbucks, was quoted as saying that "Choice has always been at the heart of what we offer... The move to reduced fat milk as our core dairy offering comes directly from our customers' requests, and while they will still have the option to customize their drinks, our standard beverages will now come with fewer calories and less fat". Most bloggers agreed with the approach. There were posts such as: "*This is the type of change that makes it easier for people to reduce their caloric intake because it establishes a healthy 'default'. What a great step in the right direction!*"; and "*The fat trimming decision warrants applause*". However, there were also bloggers who expressed some doubts. A critic who stated, for example, "*That's good news! In the future, people who drink a lot of Starbucks will only get chubby*

instead of obese", generated quite some discussion among internet users.

When KFC announced a variant of its traditional fried chickens, i.e. grilled ones, this led to much more mixed reactions. There were customers clearly welcoming the idea and eager to try. At the same time, other bloggers reacted to KFC's statement, included in the press release, that this was a "*transformational decision*" for the brand. Critical remarks included, for example: "*Transformational? No. It's complete and utter nonsense, totally ignoring what KFC's founder would have wanted*"; "*I don't know if this Kentucky Grilled Chicken idea appeals to me. I mean, if I want healthy chicken it is real easy to just roast a chicken myself. Every few years I'm in the mood for Kentucky Fried Chicken, original recipe, and that's what I get*"; and "*Kentucky Grilled Chicken? It'll never fly*".

Most negative opinions in this category were based on the view that if people are on diet, they should not go to fast-food restaurants in the first place. On the other hand, if people choose to eat in a fast-food restaurant, they should be entitled to whatever greasy food they prefer, rather than being confronted with 'healthy' options. These statements show the danger of losing current customers by introducing a policy that changes a traditional, 'core' product into a lower-calorie direction. This may also be a reason why most press releases announced companies' move to introduce a whole new brand or product to enter a new, 'separate' market alongside their existing products (see below).

Removing 'Harmful' Ingredients

Another approach is to remove 'harmful' ingredients, particularly trans fat oil and artificial ingredients, and replace them by 'healthier' substitutes. Most companies have adopted this approach at some point during the time frame, except for McDonald's, Subway and Mars. There were 15 press releases to which bloggers responded and they involved products often labeled as "real," "natural" and with "no artificial flavors". It should be noted, however, that

the response rate related to this subcategory (71%) is not significantly different from the rest of the subcategories (X^2=7.264, df=7, p=0.402).

One clear theme under this heading is the removal of trans fat oil, with which KFC started, followed by Starbucks, Nestlé and Burger King. After its initial announcement in October 2006, KFC completed the rollout in the United States by April 2007, and in the UK and Ireland by the end of 2007. Burger King only made it public when the rollout was completed in 2008. The blog posts for Burger King's action were mostly positive, praising the company's determination and the fact that it had finally made the move. Despite the early response from KFC, bloggers still criticized the company for not switching to trans fat free oil fast enough. Interestingly, when Starbucks made a similar change in 2007, it generated mostly positive blog posts and comments that praised the company's proactivity. Rather differently, Nestlé's activities remained unnoticed in the blogosphere; there was no discussion about the press release.

Another theme in the press releases is the replacement of artificial ingredients by 'natural' substitutes. Announcements to this end were made by PepsiCo, Nestlé, Pizza Hut and Starbucks. PepsiCo's Pepsi Raw, Pizza Hut's All-Natural Pizzas, and Starbucks' move to wholesome ingredients in particular generated discussions (with respectively 31, 71 (for three related press releases) and 35 blog posts). Like in other cases, some of the bloggers who responded were willing to try and were genuinely pleased with the move. However, as typical press releases in this category emphasized the quality of the 'new' ingredients, some bloggers targeted companies for the marketing phrases that they used for their products. For example, referring to Pepsi Raw, one blogger stated that "I love how they call Pepsi a 'premium product'. They should call it a poison product". And, in relation to Pizza Hut's all-natural pizzas: "*On the rare occasion that I choose Pizza Hut to fill my cravings, it is because I am seeking a particular brand of grease only found on their crust. Not because I wish to be*

greenwashed into buying a multigrain crust". An overemphasis of the natural side of the ingredients may lead to a backlash against the company's intention of going 'healthy'. Interestingly, Starbucks again attracted almost only positive opinions, with the few negative remarks just urging for more and faster steps. The specific position might be due to the strong fan base of the brand both online and offline; this will be further discussed below.

Adding Nutritious Ingredients

The third approach is to add more nutritious ingredients, which most often involved vitamin (12 out of 17 press releases) or fiber (4); there was also one addition of caffeine. Most press releases originated from PepsiCo (12), 4 from Coca-Cola and only 1 from Nestlé (concerning its juice product). Companies often emphasized the extra benefits of the products for customers. For example, on 22 February 2007, PepsiCo announced to launch Diet Pepsi Max, with "extra caffeine and a touch of ginseng". The company claimed that this product was designed to help adults get through the day; this triggered quite some online debate. There were 19 blog posts (3 positive, 6 negative and 10 neutral) which led to 156 comments in total. One blogger commented, for example, "*Please tell me we are not celebrating the feeding of our children as well as adults, more caffeine along with Ginseng and artificial sweeteners?*". Interestingly, PepsiCo subsequently changed the name of the product from Diet Pepsi Max to Pepsi Max, in early 2009. While a direct link between removing the 'diet' word and the heated online debates could not be established with our empirical data, the CMO of PepsiCo was quoted as saying that "There's definitely some baggage in the word 'diet'. It focuses on what's not in the product vs. what's in the product". This observation did reflect the core of the online discussions.[33]

Mixed opinions also characterized Coca-Cola's announcement, one month later, of a Diet Coke Plus with added vitamins, which the company phrased as "Great Taste Has Its

Benefits". The press releases of Coca-Cola generated 10 blog posts (4 positive, 5 negative, 1 neutral), leading to 96 comments. Critical remarks for Diet Coke Plus were "*Hasn't anyone heard of getting your vitamins and minerals from eating a wide variety of foods, including fruits and vegetables? Drinking diet sodas is one thing. Touting them as a "healthy" choice is quite another*"; and "*Don´t let the marketing tricks of huge companies pull you in to their lies and drag you down the wrong health path*". Coca-Cola's press releases appeared to receive relatively more negative criticisms. Numbers are small so it seems difficult to draw meaningful conclusions as to differences between the two companies here; we will offer some further reflections in a subsequent section. While there may be various company-specific factors at play, it is also possible that adding vitamin to make soda drinks 'healthy' is more difficult to accept, or even annoying, for consumers than adding caffeine to turn soda into an energy drink.

New 'Healthy' Products

The most commonly used 'taste' solutions in press releases relate to new products, sometimes through acquisitions, and novel menus. PepsiCo, Coca-Cola, Nestlé and Starbucks were the ones that frequently used this approach when launching new products. Burger King, the only other company that issued this type of press releases, focused on renovating its kids menu. Most press releases generated only a small number of responses from bloggers. It is common, though, that at least some food critics write reviews about the introductions. Starbucks and Coca-Cola received most attention in the blogosphere. Starbucks announced new gluten-free and smoothies products. As mentioned earlier, its products are usually discussed relatively actively, with many bloggers making comments. This case was no exception, as there were altogether 134 blog posts addressing the new blends, mostly reviews of the products and expressions of gratitude to the company.

The situation was rather different for Coca-Cola, which acquired Honest Tea and Innocent Drinks to expand into the tea and smoothies market and launched a calorie burning new tea drink. Bloggers that reacted to the acquisition were marketing specialists, loyal customers, and those involved in organic food. Blog posts from a marketing perspective agreed that it was simply a common strategy as large corporations are aware of the growing 'health' market. However, the news was not so easy to accept for loyal customers of the acquired brands. Even though the CEOs of both companies, Honest Tea and Innocent Drinks, had given their views on their own blogs, addressing customers' concerns, there were angry and disappointed voices throughout the blogosphere. For example, "*If organic production on a mass scale contributes to environmental depredation*[34] *and overconsumption, how 'good' is it? If it's run by a company that has had questionable ethics (apartheid anyone?),*[35] *then the 'honest' in Honest Tea could get a little murky*". Many others even suggested to abandon the brand, by saying "*I always felt good when [I] drank Honest Tea, and now I don't think that will be the case*".

A similar pattern could be found when Coca-Cola acquired Innocent Drinks, an organic smoothies company based in the UK. Many criticized the decision, as came to the fore in blog posts such as "*too much like dancing with the devil", "boycott the guilty innocent: a smoothie coke operator*", and "*innocent no longer so innocent.*" Although most of the blog posts expressed disappointment about the supposedly ethical companies, it is important to note that bloggers often referred to Coca-Cola as the "devil" in the game. The idea of an ethical company working with a seemingly unethical corporation upset many bloggers. Several bloggers even made comparisons to the cases of Ben & Jerry (being taken over by Unilever) and Body Shop (L'Oreal),[36] which bloggers used as 'evidence', rightly or wrongly, to 'prove' their point that the partnership would not work. Nevertheless, if it is companies' goal to generate online buzz online, then introducing a new product via acquisitions is very

likely to have an effect. However, companies should be prepared for damage to their own image when standing next to a particular 'healthy' brand.

KNOWLEDGE

Press releases with a knowledge focus accounted for one third of the total number and less than half of those in the taste category (see Table 3). They generated much less responses from bloggers than press releases on taste, and the debate in the blogosphere was considerably less intense. Information provision appears to take place in various ways: enclosing calorie information on products; promoting healthy options in a more generic sense, either by a company itself or in collaboration with others, most often governments or non-governmental organizations (NGOs); or disseminating (company-sponsored) research results. The majority of press releases focused on the (co)promotion of healthy options; the few containing research results generated limited reactions. Below we will discuss the various knowledge subcategories, again providing specific examples from the various food companies that published press releases (see Table 5).

Table 5 around here

Enclosing Calorie Information

Some companies announced to enclose (more) calorie information on their products in the period that we studied. In a 2007 press release entitled "Making An Informed Choice", Coca-Cola UK announced a new labeling system to help consumers understand the information better. A year later, Coca-Cola North America made the same changes in the US. In addition to a new label, it was also moved from the back of the package to the front, referring to a 2003 recommendation of the Food and Drug Administration's Obesity Working Group that calorie information should be given a more prominent place on food labels. Celeste Bottorff, the Vice President of Coca-Cola's Living Well, stated to "… view our label as a powerful

tool for education, an opportunity to communicate with consumers every time they choose one of our products… [We] encourage everyone to make informed decisions about what they drink, choices that reflect a sense of balance and moderation". The move did not attract meaningful discussions online, however, and lack of buzz in the blogosphere also characterized other press releases on calorie information. An example include PepsiCo's announcement that one of its brands, Frito-Lay, would enclose calorie information to help consumers search for healthy options in the supermarket. The absence of a real online debate may be because the changes were not innovative, large-scale or controversial enough to gather attention from bloggers.

Promoting Healthy Options

This category is related to the previous one, but is more generic in the sense that companies provide information beyond the package, i.e. via websites and/or menu boards; it can also include suggestions about fitness, diet or health. Most of the press releases did not generate blogger reactions; this applied, for example, to Mars' announcement to provide nutrition and calorie information on its website. However, this was rather different when YUM! Brands (the corporation that owns both KFC and Pizza Hut) announced in 2008 that its US divisions would, by 1 January 2011, put calorie information on restaurants' menu boards. The company stressed that the decision was in line with its long-term policy, i.e. to offer "Better For You" options, educate consumers about the food they eat, and promote exercising. The press releases also cited the positive comment from The Center for Science in the Public Interest (an organization that had sued Coca-Cola earlier for its misleading product information).

The press release only appeared on KFC's website, and generated discussion in the blogosphere. It received positive comments from most bloggers, for example, "*I think this is a smart move for Yum!*" and "*Great job Colonel*" (referring to KFC's founder and icon that is

still the official face on the logo). Although most bloggers acknowledged this was good for consumers as well, some expressed doubts, stating, for example, "*as if us health nuts didn't have enough reasons not to eat there?*". Self-proclaimed 'professional marketer' bloggers raised concerns as to the possibility of driving customers away, which might eventually harm shareholders. There was also support for the argument that healthy food can never be the focus of fast-food restaurants: "*The reason I eat your greasy, fat pills are because they taste good and are not good for you. If I want to watch my calories I'm not visiting your restaurants*". This contradicts the very rationale put forward by the company and illustrates the dilemmas at play.

Co-Promoting Healthy Options

This category deals with a range of initiatives in which companies collaborate with others, most often NGOs and governments. Basically three types can be found, dealing with respectively the promotion of healthy living in general, of exercising, and of raising awareness for illness. We will discuss the three consecutively below.

Healthy Living in General

Most often this included an approach to educate customers to make smart food choices including a balanced diet. For example, McDonald's worked with the Colorado Department of Public Health and Environment to encourage customers to eat healthier. In a 2007 press release, a McDonald's shop manager said that "*The key [to fight obesity] is to educate Colorado consumers, and what a great way to do it through us because we reach so many people*". As part of the program, the company promoted 11 menus that fit the standard of a "smart meal" containing not more than 700 calories, with less than 15% coming from saturated fat. The press release, as others belonging to this category, generated zero responses

from bloggers.

Another example relates to UK government's "Change4Life" program to "eat well, move more, live longer". Many parties were involved, including media channels, fitness associations, supermarket chains and food and beverage companies. Coca-Cola, Mars, PepsiCo and Nestlé all joined, but Nestlé was the only one that did not issue a press release about the pledge. Coca-Cola first published a press release, stating that it "will continue to assist Government in meeting its public health policy objectives", followed by Mars a month later. Its Director of Corporate Communications said that "As an originator of this campaign, Mars is keen to take an active role in ensuring the company's support of 'Change 4 Life' has a significant impact on tackling obesity and truly changing consumer behavior". PepsiCo was the last to announce its participation.

Bloggers reacted to none of the press releases, however, which may be due to the fact that the news was UK-oriented, and escaped the largely US blogger base. The specific topic might have played a role as well, because policies that emphasized exercising and that raised awareness for illness did generate responses.

Exercising

A clear example here is McDonald's initiative to encourage children to exercise, presented as "One Minute to Move It", a program that "empowers kids to take an active role in their own well-being by creating a minute of joyful self-expression". In addition to the press release, McDonald's started a marketing campaign that included online promotions with free giveaways. The free giveaways were revealed on a mom-community blog (called Mom Salon) which attracted 56 direct comments (i.e. from participants in the free giveaway) and some other subsequent discussions. All posts link to the program's website, with bloggers also sharing ideas on what kids could do in that one minute. In general, reactions were fairly

positive; as one blogger wrote "*While some might say it's 'too little, too late', I am impressed with McDonald's attempt to change its image*".

Responses were not so positive when KFC's parent corporation Yum! Brands launched a free online personal fitness training program, eFIT4Me, in partnership with the University of Louisville's Men's basketball Coach Rick Pitino. The company presented this as part of its long-term "Keep It Balanced" effort to "educate consumers about the importance of fitness in a balanced lifestyle", and the "Better For You" campaign mentioned in a preceding section. Apart from a few neutral blog posts, most bloggers were negative about these initiatives. There were sarcastic remarks like "*In our opinion, there's really no better way to follow up an 840-calorie Fiesta Taco Salad than a quick trip to a no-impact virtual gym*"; "'*balanced' is the code word the junk food industry loves to use in their attempts to place all blame for obesity and other diet-related diseases on the people who consume their products*"; and "*it makes me feel like a battered spouse! They hit you in the fat cells, then tell you they love you. The only option is divorce, if you ask me*". One commenter even found it to be "*the equivalent of the Tobacco Companies offering quit smoking programs*", a remark that relates to Wansink and Huckabee's observation that "the treat of being the tobacco industry of the new millennium" is not "trivial" for large food companies.[37]

Raising Awareness for Illness

If promoting exercising already triggered negative associations, it is not hard to imagine the wave of unenthusiastic responses one might get when introducing a partnership between fizzy drinks and a heart foundation. This was what happened to Coca-Cola when they announced Diet Coke's partnership with the National Heart, Lung, and Blood Institute in the US, which aimed to increase awareness of women's heart disease. Only one blog post was positive about what she referred to as "A Campaign With A Heart". All other bloggers, including one doctor

who authored a best-seller diet book, objected to the partnership. Some called it a marketing trick, commenting, for example, "*just when I thought the world couldn't possibly get any more messed up, along comes Coca- Cola with yet another hair-brained PR stunt!*". Others pointed at medical concerns related to the product: "*one of the many damages diet coke may bring to the body is heart disease*", or expressed doubts about the motivations of the company: "*What's a company to do when its product is not recommended as part of a healthy lifestyle? Simple: Put on a little red dress*" (this was one activity that came along with the partnerships). The statements point at the fact that the concept of healthy living may undermine a company's own product and reveal its weaknesses in battling obesity.

Research Results

The few press releases that announced research results did not generate much discussion. Examples without any reaction included a press release by Burger King which had sponsored Leeds University to examine consumer perceptions of 'junk food'; results showed that the majority of adults in UK rates price and taste over nutrition. Similar findings and lack of responses characterized a study commissioned to Ipsos MORI UK by Subway. It might be that the UK focus and lower blogger activity in that country played a role. A press release in this category that generated some responses was one by Mars, in which it claimed that cocoa flavanols improved blood flow and help patients suffering from diabetes. The study was conducted by its research group and triggered 15 blog posts. More than half of them were from self-claimed experts, including doctors, nutritionists, nurses, and dieticians. Most bloggers did not oppose the results from the research, but several pointed out that consumers would have to consume a huge number of products that also contain sugar and other harmful ingredients in order to reach the effective cocoa level. Although they applauded the company's R&D efforts in nutrition studies, a few bloggers criticized the company's

motivation to announce such results.

BLOGOSPHERE REACTIONS PER COMPANY TYPE

Bloggers have shown distinctive reactions towards different companies. This may be driven by the contents of press releases as discussed in previous sections, but company-specific factors seem to play a role as well. To explore possible patterns, we considered blogosphere reactions per cluster of related companies, as far as possible on the basis of the limited number covered in our study, for respectively beverage companies, QSRs, and food & confectionery companies. An overview of the sentiments of blog posts is given in Table 6.

Table 6 around here

Overall, positive sentiments prevail (X^2=86.743, df=2, p<0.001), and significantly different patterns among the three company types were found (X^2=39.618, df=8, p<0.001). While there were no significant differences among the valences of the blog posts in response to food & confectionery companies' press releases (X^2=2.603, df=2, p=0.272), blog posts were significantly more negative for beverage companies (X^2=9.282, df=2, p<0.01), and more positive for QSRs (X^2=114.898, df=2, p<0.001). This appears to indicate that the company type most strongly associated with the obesity issue, i.e. beverages, also generates more negative reactions in the blogosphere, as suggested earlier in this article. If we want to consider this pattern within the company types, it should be noted that numbers are getting small which limits the generalizability of statements, and points at the need for further study. Where possible, we will tentatively formulate some directions for follow-up research in our discussion.

Beverage Companies

The two beverage companies (Coca-Cola and PepsiCo) published most press releases,

perhaps due to their wide range of brands and products. As the two companies compete intensely and quite often launch fairly similar products, it is not surprising that they seem to have comparable approaches towards healthier consumption. They both focused on taste and knowledge, and on extending their product line while encouraging a healthy life style. PepsiCo had the highest number of press releases, while those by Coca-Cola's generated more responses, with reactions differing considerably sometimes.

A case in point is Pepsi Raw, an alternative low-calorie sub brand with added vitamins. It generated a huge number of blog posts, mostly from fans genuinely excited about the new product, with only a few criticizing the promotion of an unhealthy product with a health message. Conversely, Coca-Cola's debut 'diet' product of the year, Enviga, received much more negative responses, also because it was presented as a fat-burning green tea. Most responses in the blogosphere labeled this as misleading and irresponsible. Besides its self-developed new products, Coca-Cola focused its health strategies on acquisitions of healthier brands, such as Honest Tea in 2008 and Innocent Drinks in 2009. While most criticisms targeted the companies being acquired, as mentioned earlier, Coca-Cola was described as an evil enterprise that lazily bought its way into the healthy-living markets. In the time frame studied, PepsiCo focused on renewing its current product portfolio and did not announce large acquisitions.

With regard to knowledge solutions, both companies provided more information online and improved the labels on pack, but there was a difference in the promotion of healthy options. While Coca-Cola used its core brand to promote healthy living, PepsiCo tended to leverage its peripheral brands in other product categories, such as Quaker, Tropicana and Frito-Lay. As mentioned in the preceding section, Coca-Cola's co-promoting campaigns often generated negative responses, while PepsiCo created considerably less buzz in the blogosphere. Between the two beverage companies, differences with regard to issue

association are tiny, with Coca-Cola scoring two percentage points higher on the obesity topic and generating significantly more negative reactions than positive ones.[38]

Quick-Service Restaurants

The QSRs that we included showed clear efforts in addressing and communicating about the issue. While each company exhibited different patterns, most companies in this cluster changed and/or launched new products. Examples include Burger King's children menu with options of apple slices and milk, KFC with grilled chicken, Starbucks' products with "real nutrition" and lower calories, and Pizza Hut's all-natural pizzas.

Most discussion amongst the QSRs has been generated by Starbucks' products, similar to the reactions to the company in general. Its press releases consistently stated that "Our customers asked for a delicious option. We listened", thus openly providing reassurance of tasty flavors. The obesity issue association amongst QSRs was the lowest for Starbucks, which seems in line with a predominance of positive valence. Still, notable for the company is also the large cohort of brand enthusiasts that appeared to successfully create mainly positive buzz around every Starbucks product launched. Different from how bloggers reacted to other companies, those who responded to Starbucks appear to be regular customers who try new products and write their reviews on blogs. It is hard to find somebody who writes blog posts or remarks about one of the products without having tried or planning to try it first. Conversely, remarks based on initial impressions and previous experiences were common in blogger responses to other companies.

One particularly notable blog is Starbucks Gossip which is run by a US journalist, Jim Romenesko, and keeps close attention to Starbucks Coffee with regular updates. It has a large following of employees and customers. Although the blog clearly states not be affiliated with Starbucks Corporation, discussions emerge almost every time the company publishes a new

press release. Most importantly, Jim Romenesko is not the only one who writes a blog about Starbucks: many were found online, but these seemed smaller in size. It is only in the Starbucks case that one can find self-proclaimed fans and people who show strong affection to the brand.

Although much less than Starbucks, KFC generated debate as well. Its new product attracted attention, partially due to Oprah's promotion in her talk show. Bloggers mostly praised the effort but still wondered about the extent to which the product was really healthy. Moreover, the company's announcement to put calorie information on menu boards was one of the most discussed press releases in the knowledge category. Although Subway did this much earlier already, KFC's move was still described as "bold" and "daring". Whereas some bloggers said that they did not appreciate being confronted with such information, most agreed that the gesture showed determination on the part of the company.

Pizza Hut's products were discussed particularly due to its accompanying internet marketing campaign and draws for free coupon on popular blog sites. However, despite positive remarks on flavor and taste, some questioned the framing of the "all-natural" pizzas, for which the company issued three (out of the four) press releases. These specific releases on one and the same product line might explain why Pizza Hut, while less associated with obesity than some other QSRs such as McDonalds, KFC and Burger King, received more negative than positive blog posts. However, as noted above, most QSRs have only a few press releases and relatively low numbers of blog posts, which makes it more difficult to draw meaningful conclusions on the basis of this study.

This applies, for example, to Burger King and Subway which received rather limited attention, with relatively low numbers of blog posts. Burger King introduced different kinds of initiatives with a particular focus on the kids menu. Policies either directly targeted children's products, or addressed parents' concerns for health and nutrition, all under its "BK

Positive Steps Nutrition Program". Its apple slices received only few reactions, with those from parents being mixed. Possible explanations for lack of buzz may be that half of its press releases concerned the UK market, where internet users are less active than in the US, and the relatively small size of BK's customer base compared to other QSRs. Subway did not draw much attention in the blogosphere, with low numbers of reactions, that were all neutral as well. Perhaps thanks to Jared Fogle who famously lost weight by eating Subway every day, and who writes blogs about fitness and healthy living, the company has been said to have a healthier image than other QSRs,[39] and the obesity issue association is amongst the lowest. The company's official website and press releases focused on this 'better' image and delivered the same message, but this approach did not give rise to much debate.

McDonalds stood out amongst QSRs for other reasons, particularly its high association with the obesity issue and relatively high percentage of negative blogs. The company did not publish information on its product development, but instead focused on showcasing knowledge-related policies and a range of marketing activities. A campaign that attracted particularly negative reactions was one in which the company invited six mommy-bloggers to visit factories and write about this; there was even one "mom" setting up a blog, referring to herself as the 7th Mommy blogger, to criticize only this campaign.

Food & Confectionery Companies

Observations are rather limited for this category, as we only included Mars and Nestlé, which were amongst the least discussed companies. They did not generate much debate in the period covered, and apparently had no customer base interested to actively express their views in the blogosphere. Both companies announced to put nutrition information on the website and to cooperate with governments. However, even then, compared to similar press releases by other companies, such as PepsiCo, reactions in the blogosphere were much less.

Mars only attracted attention when it announced that one of the ingredients in chocolate can improve the blood flow which beats diabetes. While some bloggers viewed this as good news, most questioned the trustworthiness of the research. Compared to Nestlé, which scored lowest on the association with the obesity issue, Mars came as second after McDonalds and received a relatively high percentage of negative reactions, and few positive ones. However, total numbers are very small as there was hardly any debate in the blogosphere.

The lack of debate for Nestlé might be due to the low issue association, with consumers not expecting much from the company in this regard. Press releases would then just be a 'little something extra', not worth much discussion, at least considerably less than for companies 'notorious' in relation to the issue. Another reason may be that most of the press releases promoted new products, thus resembling rather generic advertising. The few blog posts that responded to Nestlé's press releases contained product reviews instead of reflections on motivations or preferences of the company's overall policy. Only rarely did we come across blogger comments about Nestlé's efforts to improve health and de-market obesity, which is rather different from patterns found for other types of companies.

DISCUSSION AND CONCLUSIONS

This article explored reactions in the blogosphere to corporate announcements about healthier products. We analyzed blog posts and comments to press releases of ten large food companies active on the US market, to generate insight into which announcements and which companies appear to give rise to most buzz, positive and negative, and thus also whether companies should make changes "quietly or with fanfare". Attention was paid to volume and valence of online discussions as well as obesity issue association, considering the type of companies in particular (beverage companies, quick-service restaurants, food & confectionery companies). Based on our study, we can conclude that the decision whether to

communicate "quietly or with fanfare" depends on several factors: the topic of the press release (with taste triggering more positive responses); the issue association with obesity (with high issue association going hand in hand with more debate, and low levels of issue association with low numbers of reactions); and the number of 'fans' on the internet (with those with a dedicated base generating many, also positive reactions). Below we will further elaborate on these findings, and offer recommendations for companies while also suggesting some areas for further research.

Although each company type and even each company has shown a distinctive use of press releases, it is clear that some topics and companies generate much more debate than others. In the context of this study, we were able to compare knowledge and taste in particular, as announcements related to cost were not made in the time frame we investigated and only three press releases dealt with convenience. Despite the recent debate and suggestions concerning 'supersize' and serving portions, companies have opted for communicating about adapting the taste to address health concerns and about engaging in an educational role.[40] Overall, 42% of the press releases have generated responses in the blogosphere. These results are in line with recent findings that blogger activities can be influenced and triggered by traditional media, and that consumers use the blogosphere as an outlet to express their opinions.[41] As press releases are often published before the initiatives are implemented or products are launched, the approach followed in this study can be helpful to obtain more insight into pre-launch buzz, which has been mentioned as valid indicator for market performance in the entertainment sector.[42]

On average, the press releases resulted in positive rather than negative buzz. This shows that bloggers welcome companies' initiatives addressing health concerns. In line with the argumentation developed from the literature,[43] we found that press releases on topics related to taste generated significantly more, and also more positive, responses than those

related to knowledge. Considering the taste category, the analysis of blog posts suggests that if a product is new on the market, it will at least generate some posts from food and drink reviewing blogs, more than adding new ingredients to an existing product. Removing harmful ingredients from existing products is widely discussed. This buzz was in general positive.

Looking at blogger patterns, vitamin-added soda drinks are apparently more intriguing than vitamin-added water, for example; and grilled chicken instead of fried chicken generates more reactions than low-sodium chips instead of normal chips. This leads to the question of how a company can assess what is interesting for consumers and to what extent they will perceive something as creative and/or new enough. If a corporate claim is perceived as too bold, and especially if third parties, such as news media or NGOs, have voiced their opposition towards the press release, responses tend be rather negative. There seems to be a thin fine line here between being innovative and over-exaggerating. For example, how to predict that the claim that Coca-Cola's Enviga Green tea helps to burn calories would be perceived as false and/or annoying, while the statement that vitamin-added diet Coke is something extra healthy for diet coke drinkers would be welcomed and seen as acceptable? To say that something helps to burn calories or that it is healthy appear to be two different things to bloggers, considering the divergent reactions.

Moreover, when companies announced moves that deviated from their original core products, negative responses were found. Examples include KFC's launch of grilled chicken and Coca-Cola's acquisition of Honest Tea. This interplay of message framing and consumers' original beliefs or perceptions is not always easy to forecast, however, and requires further study. This also applies to how blogger reactions to companies' announcements on such a social issue may subsequently affect their bottom line. And even though the literature contains generic recommendations for companies on how to generate positive responses, particularly by demonstrating sincerity and trustworthiness,[44] consumer

evaluations depend on personal impressions that relate to perceived company-specific peculiarities including issue association on a concept such as obesity that evolves over time as well. While some companies, such as Nestlé and Coca-Cola, only have overall health and wellbeing schemes, others, such as Burger King, have very specific regimes for tackling obesity. In theory, the latter should be encouraged,[45] but in practice that approach did not receive so much recognition in the blogosphere, which may be due to a lack of connection with the online target audience.

Particularly Starbucks and Coca-Cola stand out for having the highest counts of blog posts and comments. However, the debate for Starbucks has not only been most intense but also positive, which was different for Coca-Cola as that company generated a substantive amount of negative buzz. This difference may be caused by company-specific factors, such as the existence of a dedicated 'fan base': Starbucks turned out to have a large cohort of brand enthusiasts who show strong affection. The company also scored low on issue association with obesity, different from Coca-Cola, and this appeared to relate to predominantly positive blog posts for Starbucks versus much more negative ones for Coca-Cola. If we extend this to an analysis of the company types, we found that beverages also had the strongest association to the obesity issue and provoked significantly more negative buzz than QSRs.

Interestingly, food & confectionery, which was least associated with the obesity issue, also generated least discussions in the blogosphere, even though Mars individually scored relatively high on its issue association. These findings suggest that when the overall company type is generally not associated with obesity in consumers' mind, it is more likely that health-related press releases remain unnoticed, as the influence of individual company scores may be diminished by the lower attention directed to the 'collective'. This may be the reverse for, in this case, beverage companies that are highly associated with obesity. Individual beverage companies are more likely to trigger discussions as a result, but they also run a greater risk of

generating negative responses to their announcements. Such companies are thus advised to evaluate their own association score related to health issues before communicating their related activities. Unless companies' individual issue association have (positively) overwhelmed those of the collective, it might be better to conduct activities quietly rather than 'with fanfare'. Our findings extend the theory of negative double jeopardy, by adding that the critical determinants of anti-brand activities may not only be influenced by the brand value but also by the association with a particular issue.[46]

Companies such as those in food & confectionery that are not strongly associated to obesity face a rather different challenge, that is, how to provoke any response at all in the blogosphere. To generate debate, internet marketing campaigns such as free giveaways on particular blogs appear to work. Pizza Hut is the one company that used this method particularly well; while it may not have led to positive valence overall, it certainly encouraged discussions. The successful use of internet marketing requires that companies carefully identify influential blog sites. For example, Pizza Hut's intention was to encourage consumers to try the product as they choose to offer free samples on a popular food critic's site. However, even if a company implements an internet marketing campaign for each press release, the buzz may still not be as large as for the ones that have a group of company 'fans' interested in (pro)actively talking about the company online. In the absence of such a base and of active connections with internet users in general, and if companies publish press releases with nothing particularly interesting, they are not likely to generate much debate.

From a public health standpoint, the limited appreciation in the blogosphere for a QSR such as Burger King may not be so bad. Chandon and Wansink found that people tend to underestimate the calorie intake when eating in a so-called 'healthy' QSR such as Subway, compared to one that is perceived to be unhealthy, for example, McDonald's.[47] This incorrect assessment results in consumption of too many calories. The authors suggest that the best

public health policy might be to ensure that consumers view food in all QSRs as indulgence, because this leads to greater self control. This means that if consumers regard a company as 'unhealthy' even though its products have become healthier, then this keeps them aware and perhaps even induce behavioral change. Such a route towards de-marketing obesity may not be the one that companies prefer, however, even though it reflects the complexity of the issues at hand.

From a managerial perspective, in order for a company to maximize the impact of its press releases, the Starbucks approach of engaging consumers both offline and online might be a good model to follow. Setting up a corporate blog and engaging in continuous conversations this way could be a good starting point to give people access to information and get them involved.[48] However, this only works if the association with a social issue, in this case obesity, is not too negative for the company type in particular. Companies should thus carefully consider how the issue association of their company type relates to their own individual score. Companies that belong to a company type with a high level of obesity association or are themselves strongly associated with the issue are advised to focus on taste-related press releases or to carry out health-related policies quietly. Companies that score low on issue association, or belong to a company type with low issue association should first focus on increasing the volume of the buzz with respect to health initiatives.

In view of the importance of internet discussions for many companies, the insights from this study may be relevant for other non-food companies, and for other companies than the ones included here as well. Particularly the more generic aspects regarding online consumer reactions to corporate communication and marketing activities may well apply beyond the food industry and the specific companies examined. However, further research that extends the analysis to other companies, sectors and issues would be worthwhile to build on the exploratory findings of this article.

NOTES

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Directives for Improving Research Reliability and Objectivity," *Journal of Consumer Research*, 18/2 (1991): 243–250.

[30] Quotations from blog posts are put in italics in the whole paper.

[31] Fisher's exact test was used here; in other instances in the paper, chi-square analysis was possible.

[32] McDonalds did the same in the knowledge category; this led to much less comments (56), however.

[33] N. Zmuda, "Pepsi Max Drops the Diet, Aims to Rekindle Cola War", <http://adage.com/article/news/pepsi-max-drops-diet-aims-rekindle-cola-war/145505/>, last accessed 22 December 2011.

[34] Typo as included in the original blog post.

[35] This whole text was taken directly from the blog post; apparently the blogger wanted to draw a parallel between the company's approach and the Apartheid policy of racial segregation that was previously enforced in South Africa, indicating ethical wrongdoing.

[36] See the debate in an earlier issue: J.E. Austin and H.B. "Dutch" Leonard, "Can the Virtous Mouse and the Wealthy Elephant Live Happily Ever After?" *California Management Review*, 51/1 (2008): 77-102; S. Waddock, "Of Mice and Elephants," *California Management Review*, 51/1 (2008): 103-108; P.H. Mirvis, "Can You Buy CSR?" *California Management Review*, 51/1 (2008): 109-116.

[37] Wansink and Huckabee, op.cit., p. 1.

[38] Given small numbers, we could only test this for Coca-Cola and Pepsi-Co. For Pepsi-Co there were no significant differences regarding valence.

[39] P. Chandon and B. Wansink, "The Biasing Health Halos of Fast Food Restaurant Health Claims: Lower Calorie Estimates and Higher Side-Dish Consumption Intentions," *Journal of*

Consumer Research, 34/3 (2007): 301-314.

[40] Dobson and Gerstner, op.cit.

[41] G. Kerr, K. Mortimer, S. Dickinson and D.S. Waller, "Exploring Online Consumer Power to Share, Discuss and Distribute Controversial Advertising Messages," *European Journal of Marketing*, 46/3-4 (2012): 387-405; H. Onishi and P. Manchanda, *Marketing Activity, Blogging and Sales* (June 30, 2011). Available at SSRN: <http://ssrn.com/abstract=1487183> or <http://dx.doi.org/10.2139/ssrn.1487183>.

[42] P.K. Chintagunta, S. Gopinath and S. Venkataraman, "The Effects of Online User Reviews on Movie Box Office Performance: Accounting for Sequential Rollout and Aggregation Across Local Markets," *Marketing Science*, 29/5 (2010): 944-957.

[43] Chandon and Wansink (2010), op.cit.

[44] Dean, op.cit.; Du et al., op.cit.; B.W. van de Ven, "An Ethical Framework for the Marketing of Corporate Social Responsibility," *Journal of Business Ethics*, 82/2 (2008): 339-352.

[45] Wansink and Huckabee, op.cit.

[46] Kucuk, op.cit.

[47] Chandon and Wansink (2007), op.cit.

[48] Cf. C. Fieseler, M. Fleck and M. Meckel, "Corporate Social Responsibility in the Blogosphere," *Journal of Business Ethics*, 91/4 (2010): 599-614.

TABLES

Table 1. Overview of research findings on the impact of online discussions

Authors	Topic	Main findings
Godes and Mayzlin (2004)[a]	Online discussions on TV shows	Dispersion of online discussions across various communities positively influences TV ratings.
Liu (2006)[b]	Online reviews of movies	Volume of online discussions significantly contributes to revenue, while the valence of such discussions does not matter.
Chevalier and Mayzlin (2006)[c]	Online reviews of books	Valence of online reviews has significant effects on product sales.
Dellarocas, Zhang and Awad (2007)[d]	Online reviews of movies	Volume of online discussions indicated early box office revenue.
Duan et al. (2008)[e]	Online discussions on movies	Volume of online buzz positively influences box office revenue, while a movie's box office revenue and word-of-mouth valence significantly influence word-of-mouth volume.
Zhu and Zhang (2010)[f]	Online reviews of computer games	Online reviews are more influential for less popular games and games whose players have greater Internet experience.
Stephen and Galak (2010)[g]	Blogs and online discussion forums on a micro-financing website	Volume of online discussions generated in social media, such as blogs and online discussion forums, can effectively drive sales.
Chintagunta, Gopinath and Venkataraman (2010)[h]	Online reviews of movies	Valence of online buzz contributes to local box office revenue, while volume of buzz contributes to national box office revenue.
Sonnier, McAlister and Rutz (2011)[i]	Online comments about a firm and its product	Positive and neutral discussions result in increase in cumulative revenues over time, while negative discussions lead to decrease in cumulative revenues.

[a] D. Godes and D. Mayzlin, "Using Online Conversations to Study Word of Mouth Communication," *Marketing Science*, 23/4 (2004): 545–560.
[b] Y. Liu, "Word-of-Mouth for Movies: Its Dynamics and Impact on Box Office Revenue," *Journal of Marketing*, 70/3 (2006): 74–89.
[c] J.A. Chevalier and D. Mayzlin, "The Effect of Word of Mouth on Sales: Online Book Reviews," *Journal of Marketing Research*, 43/3 (2006): 345-354.
[d] C. Dellarocas, X. Zhang and N. Awad, "Exploring the Value of Online Product Reviews in Forecasting Sales: The Case of Motion Pictures," *Journal of Interactive Marketing*, 21/4(2007): 23-45.
[e] W. Duan, B. Gu and A.B. Whinston, "The Dynamics of Online Word-of-Mouth and Product Sales — An Empirical Investigation of the Movie Industry," *Journal of Retailing*, 84/2 (2008):233–242.
[f] F. Zhu and X.M. Zhang, "Impact of Online Consumer Reviews on Sales: The Moderating Role of Product and Consumer Characteristics," *Journal of Marketing*, 74/2 (2010): 133-148.
[g] A.T. Stephen and J. Galak, "The Complementary Roles of Traditional and Social Media Publicity in Driving Marketing Performance," Working paper No. 2010/97/MKT, INSEAD, Fontainebleau, France, 16 November 2010.
[h] P.K. Chintagunta, S. Gopinath and S. Venkataraman, "The Effects of Online User Reviews on Movie Box Office Performance: Accounting for Sequential Rollout and Aggregation Across Local Markets," *Marketing Science*, 29/5 (2010): 944-957.
i G.P. Sonnier, L. McAlister and O.J. Rutz, "A Dynamic Model of the Effect of Online Communications on Firm Sales," *Marketing Science*, 30/4 (2011): 702-716.

Table 2. Overview of the proposed company activities related to health and anti-obesity

Press release categories	Subcategories	Definition	Examples
Convenience[a49]		Alter package design and reduce portions to make it easier for consumers to adjust overconsumption habits	Multi-packs with smaller individual servings to make a natural stopping point for overconsumption. Smaller packages including fewer servings, therefore less calories.
Cost[a]		To alter the proportion of money against value so that the price remains the same while altering the size of package	Prices remain the same, but package or servicing are reduced. Make the product with premium-priced packages.
Taste[ab]	Decreasing energy density[a]	Lower calorie intake of current products by changing the ingredients, while maintaining taste	Change fried chips to baked chips with lower oil content. Reduced sugar
	Removing 'harmful' ingredients[d]	Remove health-damaging ingredients without compromising taste	Remove trans fat Remove artificial flavors
	Adding nutritious ingredients[a]	Increase the nutrition value	Add vitamins Add salad to the menu
	New 'healthy' products[b]	Keep the original product and add new products as healthy alternatives	New diet smoothies New light breakfast set
Knowledge	Enclosing calorie information[abc]	Disclose transparent and practical calorie information of the product	Move label from the side to the front Put calorie information on the menu
	Promoting healthy options[bc]	Promote and educate healthy alternatives	Websites to promote exercising Offering tips for balanced diets
	Co-promoting healthy options[abc]	Collaborate with other parties to educate consumers about healthy alternatives, such as exercising, and obesity-related health issues	Collaborate with other parties to provide information about heart diseases and/or to promote exercising via TV programs.
	Research results[b]	Educate consumers about the concept of healthy living by doing research on food consumption.	Research on perceptions of junk food Research on dieting habits

[a] Adapted from B. Wansink and M. Huckabee, "De-Marketing Obesity," *California Management Review*, 47/4 (2005): 1-13.
[b] Adapted from J. Schrempf, "The Obesity Epidemic: A Cosmopolitan Interpretation of Corporate Responsibility", paper presented at the European Business Ethics Network Annual Conference (EBEN), 10-12 September, Athens, Greece. <http://www.eben.gr/site/Papers/Judith%20Schrempf%20THE%20OBESITY%20EPIDEMIC_%20A%20COSMOPOLITAN%20INTERPRETATION%20OF%20CORPORATE%20RESPONSIBILITY.pdf>; last accessed 26 April 2011.
[c] Adapted from K. Seiders and R.D. Petty, "Obesity and the Role of Food Marketing: A Policy Analysis of Issues and Remedies", *Journal of Public Policy & Marketing*, 23/2 (2004): 153-169.
[d] Added based on primary analysis of the press releases.

Table 3. An overview of press releases and related blog responses for each category

Press release category		Number of press releases	Press releases with blogger responses (No. and %)	Number of responses from bloggers	Average number of blog posts per press release with response	Number of comments on blog posts	Average number of comments per press release with blogger response
Taste	Decreasing energy density	11	4(36%)	104	26.0	1174	293.5
	Removing 'harmful' ingredients	21	15(71%)	221	14.7	1869[a]	124.6[a]
	Adding nutritious ingredients	17	5 (29%)	39	7.8	377	75.4
	New 'healthy' products	46	22 (48%)	312	14.2	2221[b]	101.0[b]
	Subtotal	95	46 (48%)	676	14.7	5641[c]	122.6[c]
Know-ledge	Enclosing calorie information	8	5 (63%)	37	7.4	193	38.6
	Promoting healthy options	14	1 (7%)	14	14.0	113	113.0
	Co-promoting healthy options	19	6 (32%)	34	5.7	96[d]	16.0[d]
	Research results	4	1 (25%)	15	15.0	15	15.0
	Subtotal	45	13 (29%)	100	7.7	417[e]	32.1[e]
Convenience		3	1 (33%)	2	2.0	23	23.0
Total		143	60 (42%)	778	13.0	6080[f]	101.3[f]

[a] including 662 comments on 1 marketing post; if excluded, number in last column would have been 80.5; [b] including 100 comments on 1 marketing post; if excluded, number in last column would have been 96.4; [c] including 762 comments on 2 marketing posts; if excluded, number in last column would have been 106.1; [d] including 56 comments on 1 blog marketing post; if excluded, number in last column would have been 6.7; [e] including 56 comments on 1 blog marketing post; if excluded, number in last column would have been 27.8; [f] including 818 comments reacting to blog marketing posts; if excluded, number in last column would have been 87.7.

Table 4. An overview of press releases and related blog responses per company for taste

Company name	Number of press releases	Press releases with blogger responses (No. and %)*	Number of responses from bloggers	Average number of blog posts per press release with response	Number of comments on blog posts	Average number of comments per press release with blogger response
Burger King	5	3 (60%)	15	5.0	190[a]	63.3[a]
McDonald's	0	0	0	0.0	0	0.0
KFC	5	3 (60%)	90	30.0	244	81.3
Pizza Hut	3	3 (100%)	47	15.7	959[b]	319.7[b]
Subway	0	0	0	0.0	0	0.0
Starbucks	11	9 (82%)	248	27.6	2616	290.7
Coca-Cola	17	9 (53%)	120	13.3	559	62.1
PepsiCo	38	16 (42%)	141	8.8	996	62.3
Mars	1	0 (0%)	0	0.0	0	0.0
Nestlé	15	3 (20%)	15	5.0	77	25.7
Total	95	46 (48%)	676	14.7	5641[c]	122.6[c]

[a] including 100 comments on 1 marketing post; if excluded, number in last column would have been 30.0; [b] including 662 comments on 1 marketing post; if excluded, number in last column would have been 99.0; [c] including 762 comments on 2 blog marketing post; if excluded, number in last column would have been 106.1

Table 5. An overview of press releases and related blog responses per company for knowledge

Company name	Number of press releases	Press releases with blogger responses (No. and %)	Number of responses from bloggers	Average number of blog posts per press release with response	Number of comments on blog posts	Average number of comments per press release with blogger response
Burger King	1	0 (0%)	0	0.0	0	0.0
McDonald's	6	4 (67%)	32	8.0	178[a]	44.5[a]
KFC	3[b]	2 (67%)	30	15.0	71	35.5
Pizza Hut	1[b]	1 (100%)	23	23.0	65	65.0
Subway	4	1 (25%)	6	6.0	12	12.0
Starbucks	1	1 (100%)	6	6.0	64	64.0
Coca-Cola	12	4 (33%)	11	2.8	77	19.3
PepsiCo	11	0 (0%)	0	0.0	0	0.0
Mars	6	1 (17%)	15	15.0	15	1.0
Nestlé	1	0 (0%)	0	0.0	0	0.0
Total	45[b]	13(28%)	100	7.7	417[c]	32.1[c]

[a] including 56 comments on 1 marketing post; if excluded, number in last column would have been 30.5; [b] the 'knowledge' press release issued by Pizza Hut is identical to one of KFC. Therefore, the total number of press releases is counted as 45; [c] including 56 comments on 1 blog marketing post; if excluded, number in last column would have been 27.8.

Table 6. Distribution of blog posts' sentiments per company (type)

Company type and company		Total number of press releases	Total number of blog posts	Sentiments of blog posts (in %)[a]		
				Positive	Neutral	Negative
Beverage	Coca-Cola	29	131	26.7	26.7	46.6
	PepsiCo	51	141	39.7	24.8	35.5
	Subtotal	80	272	33.5	25.7	40.8
Quick-Service Restaurants	McDonald's	6	32	40.6	18.8	40.6
	Subway	4	6	0.0	100.0	0.0
	KFC	8	120	45.8	16.7	37.5
	Starbucks	12	254	66.5	11.0	22.4
	Pizza Hut	4	47	31.9	14.9	53.2
	Burger King	7	17	52.9	29.4	17.6
	Subtotal	40[b]	476	54.8	15.1	30.0
Food & Confectionery	Mars	7	15	20.0	40.0	40.0
	Nestlé	16	15	66.7	33.3	0.0
	Subtotal	23	30	43.3	36.7	20.0
Total		143[a]	778	46.9	19.7	33.4

[a] percentages do not always add up to 100 due to rounding; [b] One press release issued by Pizza Hut is identical to one of KFC. Therefore, the subtotal number of press releases for quick-service restaurants is 40 and the total number of press releases 143,