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To cite this article: Karley Abramson, Brian Keefe & Wen-Ying Sylvia Chou (2015) Communicating About Cancer Through Facebook: A Qualitative Analysis of a Breast Cancer Awareness Page, Journal of Health Communication, 20:2, 237-243, DOI: [10.1080/10810730.2014.927034](https://doi.org/10.1080/10810730.2014.927034)

To link to this article: <http://dx.doi.org/10.1080/10810730.2014.927034>



Published online: 13 Dec 2014.



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Communicating About Cancer Through Facebook: A Qualitative Analysis of a Breast Cancer Awareness Page

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Social media channels are increasingly being used for health communication and promotion. Social networking sites such as Facebook have become popular platforms for organizations to communicate health messages and encourage user participation around health topics. While the evaluation of social media's effectiveness in health promotion is beginning to emerge in the literature, few studies have examined actual interactions and user behaviors on Facebook Pages hosted by health organizations. The authors present a qualitative case study of a popular Facebook Page from a nonprofit organization devoted to raising awareness about breast cancer. With the goal of identifying the functions and uses of the Page, our study analyzes the content of Wall posts during Breast Cancer Awareness Month, October 2010. Common themes and characteristics are identified, including open mic communication, scarcity of health information, the commodification of breast cancer, unpredictable locations of conversation, and the use of gendered images and language. The findings have potential implications for health promotion efforts using social media platforms.

In recent years, social media, characterized by its interactive and participatory nature, has become a popular tool for health communication. Nonprofit and government health organizations have increasingly used social networking sites (SNSs) to reach and engage their audiences (Thackeray, Keller, Heilbronner, & Dellinger, 2011). For example, during the H1N1 health scare, the Centers for Disease Control and Prevention used Twitter and Facebook to communicate flu symptoms and promote vaccinations (Fox News, 2009). The National Cancer Institute's Smokefree Women initiative uses Facebook as an online support group for sharing information (women.smokefree.gov, n.d.). Such SNSs are thought to hold significant health communication potential because they allow consumers to engage in the creative process of content promotion and facilitate viral marketing (Korda & Itani, 2011). While we are witnessing a rapid growth of social media in health promotion practices, little is known concerning how real-world organizations and users use the "participative Internet" for health-related discussions (Hesse et al., 2011; Jones & Fox, 2009). To address this question, this case study examines the functions, uses, and content of a popular Facebook Page devoted to breast cancer awareness. Through a qualitative descriptive analysis of the dialogue between user and organization, the analysis will

shed light on the interactions and behaviors surrounding health promotion efforts.

Facebook is currently the most popular SNS in the world, attracting more than 1.15 billion active monthly users (Facebook, 2013). One of the key features on Facebook—Facebook Pages—is distinct from other online communities in that it is at once a community of users and the public face of a figure or organization, enabling that person or group to directly communicate with users (Facebook, 2012a). For this reason, the number of nonprofit organizations with Facebook Pages is growing rapidly. Unlike traditional Facebook profiles, which are accessible only to individual friends selected by the owner of the profile, Facebook Pages are visible to all Facebook users (Facebook, 2012b). This means that any user can choose to follow status updates from a Page (by clicking a "like" button on the Page), post content, or comment on content found on the Page, and any interactions that occur on a Page are visible to all Facebook users (Facebook, 2012b). The main place on a Page for such interactions is the Wall, a public discussion board, where users can exploit the "combined intelligence" of the Internet to ask questions and initiate discussions (Hesse et al., 2011). Because of the public nature of this communication, these Pages provide social science researchers the opportunity to analyze and understand interactions among individual users and organizations. For a detailed examination of the features found on a typical Facebook Page, please see the Appendix.¹

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¹The Facebook Page format continues to evolve and change.

With the goal to evaluate health communication on Facebook, recent studies have identified some key uses of Facebook for specific health conditions. SNSs are found to facilitate communication among health stakeholders, including patients, caregivers, and health care professionals (Farmer, Holt, Cook, & Hearing, 2009). There are currently hundreds of user-initiated Facebook Groups that address common medical conditions, and most are patient/peer groups, followed by general support groups, and fundraising groups. A study reviewing breast cancer Facebook Groups found that fundraising and awareness, as opposed to social support, were the most common Group functions (Bender, Jimenez-Marroquin, & Jadad, 2011). In addition, despite the large number of users that these Groups attract, there were relatively little explicit user contributions overall.

To date, studies on the health communication on Facebook have mainly focused on Facebook Groups, rather than Facebook Pages (Gajaria et al., 2011; Thoren et al., 2013; Zhang, He, & Sang, 2013). Facebook Groups differ distinctly from Pages: Groups are predominately created by individual Facebook users for the purposes of small group discussion around a common interest, whereas Pages act as the official voice of an organization on Facebook (Facebook, 2012b). While both have the capacity to create content and facilitate discussion, Pages generally reach more users, with content open for public consumption and comment, and are managed by official representatives for a business or organization (Facebook, 2012b). In-depth analysis is needed to examine the posted content on health-related Facebook Pages.

Our study expands upon previous research by presenting a case study of an authentic Facebook Page of a popular breast cancer awareness organization. We chose to focus on breast cancer because it remains one the most common cancers in the United States; close to 1 in 8 women are estimated to develop invasive breast cancer in their lifetime (American Cancer Society, 2010). This prevalence rate makes breast cancer one of the most highly visible health topics in all forms of media, including Facebook. While there are numerous breast cancer organizations on Facebook, we chose the organization with most popular Page (based on the number of fans or “likes” of the page) in order to provide an in-depth qualitative analysis. We refer to this page with a pseudonym, Breast Cancer Organization (BCO), for this study. The study describes interactions between BCO and its users on the Wall (the most popular feature of the Page), identifies common types of exchanges, and determines the functions of each type of exchange. While not readily generalizable to other social media platforms, this in-depth analysis highlights key features and functions of social media as related to health, therefore the findings have implications on SNS-based health communication efforts.

Method

Our analysis used a grounded theory approach. We collected and analyzed Facebook interaction data without a pre-defined theory, allowing concepts and ideas to emerge naturally (Ferrante, Shaw, & Scott, 2011; Glaser, 1967). A strength of this approach is that it allows the researcher to

study human interaction and behavior within its social context (Schreiber & Stern, 2001). In this study, it can be said that the Facebook community serves as the larger social context, and the conversations and interactions on the Facebook Page’s Wall are the studied behavior.

With the goal of focusing on how organizations leveraged Facebook Pages for breast cancer outreach, we used the Facebook search engine to find a pool of potential Pages for analysis. We used the search phrase “breast cancer” and limited the search results to “Pages” only (as opposed to Groups or People). We selected two groups with the highest number of likes for initial analysis. After examining the information sections of these pages, we determined each Page’s affiliation with or connection to an outside organization. The Page with the highest number of likes (1,737,216 as of February 1, 2011), BCO, identified itself as a nonprofit organization with a stated mission of helping fund free mammograms for women and “spreading awareness.”

In particular, we extracted interactions on the Wall section of the page during the month of October of 2010, Breast Cancer Awareness Month. A Wall section is where the organization and users post wide range of messages and information. Facebook wall posts are publically accessible and therefore consent to analyze the posts was neither required nor obtained from either Page owners or users. During our study period, BCO posted 84 messages to its Wall and received more than 2,500 user responses to these messages, ranging from just a few comments to more than 600 comments per post. In addition, there were nearly 500 posts initiated by Facebook users. It is worth noting that even though the organization sponsoring BCO is not generally the most nationally known one (e.g., a Google search identifies other organizations before this one), it has by far the widest reach in its social marketing campaign on Facebook (based on overall number of likes in February 2011).

We retrospectively analyzed Wall posts during Breast Cancer Awareness Month in 2010 (October 1, 2010, to October 31, 2010). The content was categorized according to its source (i.e., who initiated the post; Page-host generated vs. user generated). The content was then analyzed for distinct themes and concepts, and their primary functions. One researcher began this process by reading through each post on the wall and the responses that the post received. Each post was copied and pasted into a spreadsheet with the corresponding responses. After this initial read-through, the same researcher examined the posts a second time and began creating a list of common themes, phrases, and concepts that emerged. The process was repeated with a second researcher. The two researchers then contrasted their findings and discussed common concepts and functions. A third researcher participated in the discussion to help reconcile differences in interpretation. As a result of this collaboration, five primary themes emerged.

Results

Five main themes emerged in our analysis of the Wall posts. Each theme is subsequently illustrated with example texts.

To protect the participants' privacy and confidentiality, all potentially identifiable names, products, websites, and companies have been altered or replaced with "XX" in the selected excerpts.

Theme 1: Open Mic Night: Facebook as an Open Space for Self-Expression

We found that the BCO Page functions primarily as an open gathering place for users to share information and ideas. The Wall section in particular provides the most visible stage for these interactions to occur. Likened to an open mic event, the Page host from BCO acts as the emcee, guiding discussion topics and highlighting themes/content with daily Wall posts. The audience (users) can respond to a comment or steer the content away in an entirely different direction.

The intent of user posts varies from information seeking and giving, support seeking and giving, promotion of products, events, and services, and sharing of personal stories and opinions. Furthermore, user-generated questions vary substantially in tone and content. For example, users may post questions and express a need for specific advice:

My friend has just found out she has breast cancer and I am so upset and I don't know what to say to her. I just keep saying sorry. What is the right thing to say?

—Carla

User posts also address topics that are not related to breast cancer:

Where can I buy the pink light bulbs? I looked at XX and they didn't have them. Thanks.

—Eileen

The aforementioned question has little to do with breast cancer, but because of the pink theme commonly seen throughout communication channels related to breast cancer, this poster brings up such a question on the Page. Moreover, a large proportion of user posts can be classified as shoutouts, where users briefly discuss a personal story or anecdote, and then reference a particular friend or relative that has faced breast cancer. These posts often do not outwardly suggest that they are seeking a response, as is the case with the following example:

My Mom was diagnosed in 1994 . . . she beat it. Never give up and always keep a positive attitude.

—Tiffany

In addition to sharing personal stories, users use the Facebook mic to express personal opinions regarding breast cancer prevention, symptoms, treatment, and related topics:

Don't only get checked regularly, stop eating crappy foods. Don't eat out, go vegetarian and start working out regularly, your children and family depend on it.

—Michael

Note this example is typical in the sharing of health information that is not accurate or based on evidence. The open mic forum allows for individuals' opinions and stories to be freely shared and we didn't notice much attempt from BCO's part to intervene, correct, or contradict posts. Note, though, that obviously we do not have data on what may have been taken down. Open mic posts also include promotional content from users, as they advertise various products, services, and events connected to breast cancer:

I am an author/editor who is putting together an anthology of art, short stories . . . about breast cancer. Anyone who would like to submit their work for this project can visit my website . . . Proceeds from this project will go toward breast cancer research.

—Elaine

In these promotional posts, the author most commonly includes a URL link or promotional pictures or videos to lead their interested audience away from the current space.

Theme 2: Promoting Awareness With Scarce Health Information

The BCO posts help communicate the goals of the Page, namely supporting breast cancer screening and promoting awareness. Our analysis found that while BCO encourages users to participate in their "Click the Pink Button" campaign, they rarely supplement their goals with relevant health/cancer information. Rather, BCO encourages participation through imperative statements ("Help us fund mammograms!") or questions ("Where are you clicking from?"). The following are two examples:

Click, Pass, Repeat! We need your help if we're going to hit our goal of funding 500 mammograms this October with FREE clicks @ XX. Click Now—And Pass the Pink Ribbon on! Help us fund 500 Mammograms this October!

—BCO

Where are you clicking from? Comment below with your location and show the world that we're in this together! Click to fund FREE mammograms!

—BCO

In a few rare occasions, health information or statistics are included to motivate and supplement the call to participation:

While breast cancer in men is rare (of 100 women diagnosed only 1.1 men are diagnosed) why take the chance? If you find a lump, just get it checked out ASAP!

—BCO

All in all, there is little breast cancer-related information or education on the Page. Of the 84 messages that BCO posted during October 2010, only 3 contained health information. This may be related to the purported goal of the site to raise breast cancer awareness and fund

screening tests. In this way, awareness raising is not through provision of health information or consumer education, but rather persuasive techniques to encourage donation and camaraderie.

Theme 3: Commodification of Breast Cancer

One central feature of the BCO Facebook Page is the emphasis on online purchasing as a way to support breast cancer research. These posts tend to make a connection between BCO products and positive emotions or admirable characteristics:

Faith. Hope. Love. Joy. What do you wish for? Get \$1 standard shipping on \$20+ US orders! Ends 10/6 11:59 pm PT

—BCO

Remind yourself or another woman in your life of the immeasurable strength that's within each of us. Leave your comments below! "XX" Bracelet - 20% Off! Every item sold helps fund free mammograms for women in need. Shop where it matters!"

—BCO

BCO also demonstrates the theme of commodification through their promotional efforts on behalf of other companies or organizations. In addition, other third party companies use the BCO space specifically, and breast cancer in general, to create, promote, and market various products:

Come in and celebrate X with our exclusive Pink XX! 25 cents of every sale will go to Breast Cancer Research

—Company A

Theme 4: Unpredictable Location and Evolution of Conversation

In general, conversation occurs through comments or responses to Wall posts, but often times the content of the conversation has little to do with the content of the original post. For example, in response to the BCO post about a pair of Pink Pants, the following conversation occurred:

How does one get a mammogram that cannot afford it? I click every day but I am in need for one but cannot find out how?

—Valerie

Valerie, I would call your human service department. Should be listed in the government pages in your phone book.

—Margaret

Call the local news, here in Indy they had it where you could go free, ask the desk to find out... Get yours. It's so important.

—Karen

As shown in the aforementioned example, the conversations that occur and the topics that they address are often not

consistently related to the content of the original post/question. In this case, the original question about pink ribbons was ignored, but the following posts present a conversation about another topic, namely, access to mammography screenings. Note that we found it very rare that a coherent conversation on a common topic continues for more than three or four turns.

The type of community occurring on the BCO Page seemingly then occurs organically and completely separate from the stated goal of the BCO Page. Users may have been drawn to the Page because it was generally about Breast Cancer, but appropriated it for their own needs once they arrived on the Page. While this may be useful for support purposes, there could be a danger in users engaging in seemingly nonmoderated conversations about health topics and advice.

Theme 5: Gendered Images and Language

Breast cancer images in the media are found to be highly feminized and gendered (Haines, 2010). Our analysis confirms the observation that BCO used feminine imagery and language to engage users. Furthermore, the types of products being sold tended to be stereotypically feminine items. The following represents a typical product post from BCO:

Click Like if you need to be pampered! Today only, get a free XX Scarf with all orders! Ends 10/1 11:59 pm PT. I want this Super Cozy XX!

In addition, because one of the stated goals of the Page is to fund free mammograms for women, BCO expressly refers to women in posts. Looking at all interactions within the month of October, men were only expressly referenced by BCO twice:

Thank you to all the fathers, brothers, sons, husbands, and friends who click at The Breast Cancer Site in October and throughout the year. Keep yourself safe too! Reminder from a male breast cancer survivor.

Discussion

While BCO primarily focused the content of their posts on women, it appears that men and women used and contributed to the Page. However, from the self-identified names appearing on the site, women are much more frequent participants on the Page than men. This is unsurprising given the topic of the Page and social media usage patterns with regard to gender. Women are more avid users of social media channels, including Facebook, a trend that has held true from the date of data collection for this study to present day (Pew Internet and American Life Project, 2013). Unfortunately, because in many cases we cannot ascertain the gender of the posters, the distinct ways in which men and women contributed to and used the Page is beyond the scope of our analysis.

Implications for Health Communication Practice

Based on the content of the BCO Facebook Page, several considerations emerge as we consider health communication on SNSs. Most important, the objective of raising awareness (of a health topic) can be realized in distinctly different ways and in many ways, it does not entail communicating health information. In this case, BCO's stated goal was to raise money for and awareness of breast cancer screening, and this is done mainly through "Click to Fund Mammogram" programs. Posts focus on shopping, product promotion, and fundraising; they contain little health information. While this may be unsurprising, as one of their stated main goals was to fund mammograms for women in need, the extent to which BCO successfully spread awareness is a central question to ponder.

In analyzing the BCO's Facebook Page, key questions remain to be answered regarding the impact of health-related Facebook pages on awareness of and attitudes towards specific health conditions and behaviors. Specific questions that should be analyzed in future research include: Does having the active interactions on its Facebook Page and the most number of fans improve awareness? Is this awareness about screening mammography and general breast cancer prevention? Do the interactions on the Page bring awareness to other health-related attitudes and perceptions? To what extent is health information necessary to truly increase public awareness of the value of screening mammography and equitable access to such preventive care? It is possible that absent of any health education effort, SNSs potentially still have a broader reach and efficacy than mass communication media by stimulating community participation and a dialogue about a particular health issue (e.g., breast cancer, mammography).

Moreover, because users evidently use the SNS space for their own purposes and for spreading their ideas, health organizations might need to consider their role in moderating and monitoring their Page's content and activity. In our case study, BCO does not appear to censor user posts for content accuracy, possibly due to the organization's overall focus on awareness rather than education. Furthermore, the analysis indicates that the "Wisdom of the Crowd" effect was not pervasive on this Page. Specifically, the current literature on crowdsourcing suggests that with enough volume of opinions (e.g., posts or evaluation about a topic on a Facebook page) a crowd will self-correct to reach a more unbiased viewpoint, (Surowiecki, 2005). While a small number of arguments or debates did arise over a specific comment, much of the inaccurate information shared on the page went unchallenged. For example, one BCO Page follower named Michael implored other users to "Don't eat out, go vegetarian and start working out regularly" to prevent cancer. While there may be validity to the effects of working out and eating right to lower cancer risk, the statement as a whole could be seen as being inaccurate or not informed by scientific evidence. However, this statement went unchallenged on the Page and was not addressed by BCO. It is worth noting that because our analysis took place in February 2011, we cannot account for the fact that some comments may have been deleted or altered before we viewed the data, so some monitoring could have occurred.

Regardless, evidence-based health promotion efforts with explicit educational aims should consider the risks and responsibility of user-generated content, as well as the effort needed to monitor user posts for inaccuracies.

The study is limited as it represents only one Facebook Page on a singular health topic, and thus cannot be generalized to all health-related Facebook Pages. In addition, we are unable to examine or predict how users participating in other health-related Facebook Pages may interact or respond to various health messages. Given that content continues to evolve and change, the analysis is not directly replicable, though the themes emerged should be generally representative of similar Facebook Groups currently publically accessible. As previously stated, we cannot account for any user comments that may have been deleted or altered prior to our review. Therefore, it is possible that BCO had engaged in monitoring activities, specifically the deletion of inaccurate or inappropriate posts.

Looking forward, it is important to recognize that social media-based health promotion efforts are challenging to evaluate. In addition to ascertaining impact on health attitudes, beliefs and behaviors, descriptive research on the interaction dynamics and content can be difficult. In particular, our findings show that much of the content serves multiple and overlapping functions; for this reason coding chunks of discussion into mutually exclusive categories is not feasible or useful. It is a key research priority in this era of participative media to develop innovative and appropriate methodologies for observational studies, as well as impact evaluation for social media-based communication efforts. Further research is needed to understand how wider ranges of Facebook Pages are used for health promotion. Experimental studies to assess the effectiveness of health communication strategies that use social media in general are also warranted. A recent study reviewed current evidence regarding the effectiveness of social media and the impact on health knowledge, behavior, and outcomes (Korda & Itani, 2011). This study recognized the challenges for social media use in health promotion, emphasizing the need for theory-based evaluation methods and metrics, a deeper understanding of behavior change in the Web 2.0 world, and more information on the costs and benefits of social media as a health communication strategy (Korda & Itani, 2011). More of these types of studies—along with deeper qualitative analyses that can illuminate the intricacies of social media activity—are essential for realizing the full potential of social media for health communication.

Acknowledgment

Conclusions drawn in this article belong to the authors and not to the National Cancer Institute, University of Michigan, or ICF International.

References

- American Cancer Society. (2010). *Cancer facts and figures 2010*. Retrieved from <http://www.cancer.org/Cancer/BreastCancer/DetailedGuide/breast-cancer-key-statistics>

- Bender, J., Jimenez-Marroquin, M., & Jadad, A. R. (2011). Seeking support on Facebook: A content analysis of breast cancer groups. *Journal of Medical Internet Research*, 13(1), e16.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1). Retrieved from <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>
- Chou, W. S., Hunt, Y. M., Beckjord, E. B., Moser, R. P., & Hesse, B. W. (2009). Social Media use in the United States: Implications for health. *Journal of Medical Internet Research*, 11(5), e48.
- Facebook. (2012a). *Facebook fact sheet*. Retrieved from <http://www.facebook.com/press/info.php?factsheet>
- Facebook. (2012b). *Facebook tips: What's the difference between a Facebook page and group?* Retrieved from <https://blog.facebook.com/blog.php?post=324706977130>
- Facebook. (2013). *Key facts*. Retrieved from <http://newsroom.fb.com/Key-Facts>
- Farmer, A., Holt, C. B., Cook, M., & Hearing, S. (2009). Social networking sites: A novel portal for communication. *Post Graduate Medical Journal*, 85, 455–459.
- Ferrante, J. M., Shaw, E. K., & Scott, J. G. (2011). Factors influencing men's decisions regarding prostate cancer screening: A qualitative study. *Journal of Community Health*, 36(5), 1–6.
- Fox, S. (2011, May). *The social life of health information, 2011*. Retrieved from http://www.pewinternet.org/~media/Files/Reports/2011/PIP_Social_Life_of_Health_Info.pdf
- Fox News. (2009). *CDC turns to Twitter, Facebook to promote H1N1 message*. Retrieved from <http://www.foxnews.com/story/0,2933,543962,00.html>
- Fox, S., & Jones, S. (2009, June). *The social life of health information, 2009*. Retrieved from http://www.pewinternet.org/~media/Files/Reports/2009/PIP_Health_2009.pdf
- Gajaria, A., Yeung, E., Goodale, T., & Charach, A. (2011). Beliefs about attention-deficit/hyperactivity disorder and response to stereotypes: Youth postings in Facebook groups. *Journal of Adolescent Health*, 49(1), 15–20.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.
- Haines, R. J., Bottorff, J. L., Barclay McKeown, S., Ptolemy, E., & Carey, J. (2010). Breast cancer messaging for younger women: Gender, femininity, and risk. *Qualitative Health Research*, 20, 731–742.
- Hesse, B. W., O'Connell, M., Augustson, E. M., Chou, W. S., Shaikh, A. R., & Finney Rutten, L. J. (2011). Realizing the promise of Web 2.0: Engaging community intelligence. *Journal of Health Communication*, 16, 10–31.
- Korda, H., & Itani, Z. (2011). Harnessing social media for health promotion and behavior change. *Health Promotion Practice*, 42, 1–9.
- Pew Internet and American Life Project. (2013). *Pew internet: Social networking*. Retrieved from <http://pewinternet.org/Commentary/2012/March/Pew-Internet-Social-Networking-full-detail.aspx>
- Schreiber, R. S., & Stern, P. N. (2001). The “how to” of grounded theory: Avoiding the pitfalls. In R. S. Schreiber & P. N. Stern (Eds.), *Using grounded theory in nursing* (pp. 55–84). New York, NY: Springer.
- Surowiecki, J. (2005). *The wisdom of crowds*. New York, NY: Anchor Books.
- Thackeray, R., Keller, H., Heilbronner, J. M., & Dellinger, L. K. (2011). Social marketing's unique contribution to mental health stigma reduction and HIV testing: Two case studies. *Health Promotion Practice*, 12, 172–177.
- Thoren, E. M., Metze, B., Buhner, C., & Garten, L. (2013). *Archives of disease in childhood. Fetal and Neonatal Edition*, 98, F534–F538.
- Women.smokefree.gov. (n.d.). *Smokefree Women: Quit smoking today! We can help*. Retrieved from <http://women.smokefree.gov>
- Zhang, Y., He, D., & Sang, Y. (2013). Facebook as a platform for health information and communication: A case study of a diabetes group. *Journal of Medical Systems*, 37(3), article 9942.

Appendix: Layout and Functions of a Facebook Page

The screenshot displays the Facebook Page interface for the official 'Facebook' page. At the top, a blue header features a world map background. Below this is the Facebook logo and the page name 'Facebook', accompanied by statistics: '72,230,307 likes · 374,321 talking about this'. A 'Like' button and a dropdown menu are visible. To the right, a vertical timeline shows the page's history from 'Now' to 'Founded'.

Below the header, there are links for 'Product/Service' and 'Media resources', along with an 'About' section. A horizontal navigation bar includes tabs for 'Photos', 'Facebook Stories', 'Newsroom', and 'Investor Relations'. A 'Highlights' dropdown menu is also present.

The main content area shows a 'Wall post' from 'Facebook' shared a link titled 'Speeding Up Science' from 'vimeo.com'. The post includes a video thumbnail and text about a research expedition. Below the post, there are 'Like' and 'Comment' buttons, and a count of '3,395 people like this' and '1,458 comments'.

On the right side, there is a 'Friends' section showing '10 Friends' and a 'Likes' section listing various entities like 'Facebook + Media', 'Facebook Interns', and 'Facebook en Español'.

Annotations with arrows point to specific features:

- "Like" button:** When clicked, allows user to follow updates from organization.
- Page applications:** Click to navigate to other sections of the Page (e.g., photos, events).
- The Wall:** Space where organization or Facebook user can post content.
- Commenting:** Users can comment on Wall posts, allowing for interaction and conversation.
- Wall post:** Content generated by the Page administrator. Distributed to all persons who "like" the Page.

Facebook Page [Screenshot] (2012). Retrieved from <https://www.facebook.com/facebook?ref=ts>