

Framing the Conversation: The Role of Facebook Conversations in Shopping for Eyeglasses

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ABSTRACT

Individuals often leverage their social network to receive feedback from their peers about various decisions. Capitalizing on this trend, fashion retailers, such as the eyeglass frame retailer Warby Parker, have created “home try-on” programs and encourage customers to solicit feedback from their friends before making a purchasing decision. In this paper, we investigate Warby Parker’s Facebook page and explore the ways customers formulate questions and conversations as they shop for new eyeglass frames. Our research presents insights derived from a dataset of over 10,000 Facebook posts, consisting of photos, comments, and “likes”. Using statistical analyses and qualitative coding techniques, we examine trends and patterns of conversation on the Warby Parker Facebook page. We find that contributors produce a broad range of content, and use the Warby Parker Facebook page as a platform for creative self-expression, and socially driven decision-making.

Author Keywords

Social Networking; Decision Making; Facebook; Warby Parker; Eyeglasses; Fashion

ACM Classification Keywords

H.5.3 [Group and Organization Interfaces]: Web-Based Interaction.

INTRODUCTION

Social networks provide a platform for large numbers of people to communicate about diverse topics and share personal experiences. Seeing opportunities to better connect with their customers, many businesses are now embracing social network technology. One industry in particular that has rapidly embraced these new technologies is the fashion industry. As individuals often seek personalized feedback from their peers on fashion decisions, some fashion companies are beginning to build and nurture online communities where customers can share their interests and tastes, and discuss potential purchases.

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Figure 1 – A Warby Parker home try-on customer shares a collage of self-portraits, solicits advice, and receives a series of comments and “likes” in response.

Warby Parker¹, an online retailer of boutique-inspired eyeglass frames, has embraced social networking sites as customer community-building tools. The company maintains a presence on most currently popular social networks, including Facebook, Twitter, and Pinterest. A collective of Warby Parker stylists (referred to throughout this paper as “Warby Parker”) maintain these social network accounts, and actively post status updates and media content, host events both offline and online, and correspond with fans. Warby Parker further engages customers through a “home try-on” program, which allows shoppers to select up to five frames to be mailed to them, free of charge, try them out at home for a week, and encourages them to share pictures of the experience through the company’s various social networks. Warby Parker’s Facebook page, in particular, has fostered a community of home try-on customers. These customers post their pictures to solicit feedback from friends, family, Warby Parker’s stylists, and other Warby Parker fans, as well as offer opinions on other contributors’ choices, through Facebook

¹ <http://www.warbyparker.com>

comments and “likes”² (Figure 1). As of May 2013, the Warby Parker Facebook page³ has become an active community, with over 100,000 followers.

We present a case study of the Warby Parker Facebook page and the patterns of use evident among its contributors. Specifically, we explore how contributors formulate subjective questions and conversations through an examined set of over 10,000 Facebook interactions, including photographs, comments, and “likes”. Our analysis of user interactions on the Warby Parker Facebook page includes the composition of the user community, the content of comments and photo posts, patterns of interaction with the site, and the influence of community feedback on purchasing decisions. We also provide implications for designing social networking tools that can further support the solicitation and sharing of peer feedback. Our data show that most contributors are interested primarily in receiving feedback about their own purchasing decisions; however, a small number of users seem primarily interested in contributing advice. Additionally, we find that users of the Warby Parker Facebook page are motivated to use the platform not just for decision support, but also as an outlet for creative self-expression.

RELATED WORK

While there are many competing needs that define the ideal shopping experience, one of the main motivators for shoppers may be the opportunity for social experiences while shopping. Arnold et al. [2] explored six hedonic motivations for shopping, including “the enjoyment of [...] bonding with others while shopping”. The authors coined the term “entertailing,” arguing that brick-and-mortar retailers must add a level of entertainment and fun to the shopping experience in order to compete with online retailers. Hillman et al. [5] further explored the motivations for use of online group shopping sites (such as Groupon) and found that shoppers tend to predominantly use such sites to support social activities, and not necessarily to search for deals. Capitalizing on such “social commerce” trends through the integration of social media has been of primary focus to the business community, especially since the explosion of Facebook’s user population [17]. Warby Parker, the retailer of principal focus in our work, appears at the forefront of a new socially networked marketplace, which embeds itself in social media, supports and engages in fan community dialogues, and provides ready access to staffs of experts.

While Facebook is not primarily designed for question answering, many customers visit the Warby Parker page to

seek advice about potential purchases. Previous research has investigated the use of mainstream social networking sites to ask and answer questions. Naaman et al. [12] analyzed Twitter status updates from over 350 users, and found that individuals used status updates for numerous purposes, including question asking. Brady et al. [4] found that users frequently ask questions of their friends using status messages on mainstream social networks, such as Facebook, including questions about shopping and personal recommendations for products and services. A recent web survey of 167 web users conducted by Morris [9] found that 50% of Facebook users, and 33% of Twitter users, had used these services at least once to ask a question from their social network. Coining the term “friendsourcing”, Bernstein et al. [3] suggested that the use of close-tie social networks to answer questions could provide information and feedback with a dimension of personalization that isn’t possible in other forums. Panovich et al. [14] and Morris et al. [10, 11] confirmed that questions answered by close social contacts were perceived to have a higher value than those answered by weak ties. However, despite tendencies among users to leverage social networks and social ties of varying closeness for asking factual and subjective types of questions, research has shown a tendency among social networks to be sparing when providing answers [15], despite the best of intentions. The Warby Parker Facebook page benefits from the high-value conversations that emerge among its socially networked fans, and additionally offers customers access to, and ready responses, from a staff of professional stylists.

Prior research has also explored the types of questions asked on dedicated Q&A social networks as Yahoo Answers [1, 5, 6], Google Answers [6], Naver [13], and Aardvark [8]. This work has demonstrated that people use Q&A forums to ask and answer questions regarding everything from dating advice to computer tech support. Unfortunately, these systems focus primarily on interactions with strangers (or distant social network ties), dictate the roles of their contributors (i.e., either question asker or answer giver), and tend to be highly text-centric, limiting the types of contributions offered. Presenting one’s question to a person with the most requisite expertise was the primary focus of the social search engine Aardvark [8]. While several recommender systems and search engines attempt to model expertise algorithmically, we are not aware of any systems since Aardvark that have explored direct contact with experts through the use of social media. Through its Facebook page, Warby Parker overcomes some of the challenges associated with use of a traditional Q&A system, while still allowing customers to engage in informative, as well as entertaining, exchanges.

The present work investigates a previously unexplored and thriving community, the Warby Parker Facebook page, which has uniquely evolved to support an improved shopping experience among its socially networked customers. Conversations analyzed in this paper are an

² Facebook “likes” operate as static posts, which users can invoke (usually by clicking a small icon) in order to show interest in any given piece of Facebook-linked content.

³ <https://www.facebook.com/warbyparker>

example of the types of distant-tie and friendsourced interactions highlighted by previous research. Specifically, our data reflect a hybrid audience that includes a contributor's immediate social network (i.e., "friends"), as well as professional stylists and a large fan community. These contributors are diverse, creative, and the content they generate reflects a high level of engagement in the Warby Parker Facebook community. Moreover, the present research focuses on how subjective questions and conversations regarding personal fashion are formulated, which is an area that has not been deeply investigated.

DATA AND METHODS

In order to understand the patterns of use evident among Warby Parker Facebook page contributors, our data collection and analysis techniques consisted of both automated and manual techniques. In adopting these techniques, we were able to explore the overall statistical nature of a large dataset, as well as the more nuanced qualitative characteristics of individual posts and users.

Data Collection

We developed a Java application to collect activity data from the Warby Parker Facebook page through the Facebook Graph API⁴. Our application captured all posts, photos, comments, and "likes" posted to Warby Parker's public page, along with related metadata (e.g., date and time stamps, user IDs, content URLs). Our tool also collected data from the profile pages of contributors to the Warby Parker page, although we were only able to collect data that users had declared public. Textual data was stored in both a tab-delimited format and an SQLite database for simpler querying. Pictures were stored as JPEG images.

In total, we collected 29,094 records, spanning from creation of the Warby Parker Facebook page in February 2010 until our data collection date on May 22, 2013. All collected content was publically accessible to anyone with a Facebook account.

Data Pre-Processing and Coding Strategies

Since we were most interested in photos and conversations as a part of the home try-on shopping experience, we used database queries to filter users' photo posts and the resulting comment threads and "likes". In doing so, we reduced our dataset to 10,453 records⁵. In total, our dataset represented 4,373 unique Facebook users.

From our final collection we began an iterative process of sorting and searching our records, and generating summary statistics to guide further analysis. In addition to our quantitative deconstruction of the records, we also performed a manual open coding of the photos and textual content, which consisted of browsing and sorting photos

and comments into descriptive categories and continuing the process as patterns emerged. We wrote scripts to categorize text content (e.g., based on keyword searches and grammatical marks), whenever possible, and manually reviewed and recoded results as necessary. Two researchers independently coded the entire dataset, and discrepancies were collaboratively resolved as necessary.

FINDINGS

Our final dataset consists mainly of customers posting photos (or series of photos) of the eyeglasses they received as part of the Warby Parker home try-on program, and the ensuing dialogue of comments and "likes" (see Figure 1). Other interactions included customers showing off their purchases, advertisements from Warby Parker, and customer service dialogs. We categorized our findings around community demographics and themes of motivation. The following sections summarize the findings from our analysis of the collected Warby Parker Facebook page data.

Engagement in the Contributor Community

Our data show that of the 4,373 unique Warby Parker Facebook page users in our dataset, 62% (N=2,670) self-identified in their Facebook profile as female, 33% (N=1,410) self-identified as male, and 293 did not publicly share their gender, $\chi^2(1, N=4,080)=389, p < 10^{-5}$.

Generally, contributor interactions with the Warby Parker Facebook page were short and short-lived. Contributors who posted more than one photo and/or comment (N=1,017 when trimmed for outliers) did so over the course of an average of 36 hours (SD=72). Among the 237 outliers, the average number of contributions was 6 posts (SD=9), over an average period of 142 days (SD=169). Twenty-seven of the outliers remained active within the community for well over a year, with one individual posting 139 times over the course of two years. Conversations resulting from initial photo posts typically spanned 30 hours (SD=20; data trimmed for outliers). There were 151 outlier conversations, which spanned for over 138 hours, and 27 conversations spanned over 1,000 hours. These conversations did not diverge from the overall average for comment count; they were simply temporally more spaced out.

Characteristics of Photo Posts

Women posted more than half of the photos in our dataset. Of the 2,632 photos in our dataset, contributors identifying as female posted 55% (N=1,451) of the photos, while males contributed 35% (N=928). Users who did not publicly report their gender posted the remaining 253 photos.

⁴ <https://developers.facebook.com/docs/reference/api>

⁵ Our final analyzed dataset contained 2,632 photos, 6,234 comments, and 1,587 "likes".

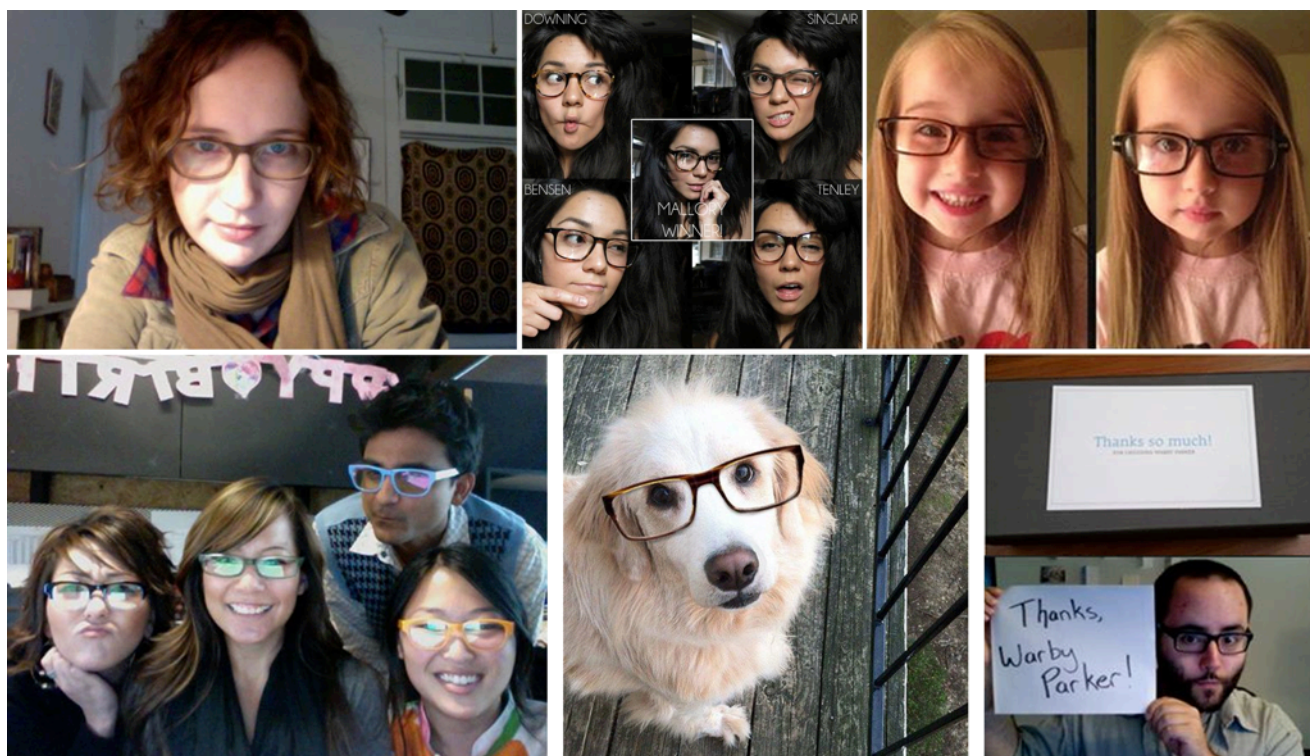


Figure 2 – Posters to the Warby Parker Facebook page frequently contributed self-portraits (N=1,621), collages of self-portraits (N=748), group photographs (N=77), photos prominently featuring pets and children (N=49), and “unboxing shots” (N=137).

Photo posters’ contributions on the Warby Parker Facebook page fell primarily into five distinct categories: self-portraits (N=1,621), collages of self-portraits (N=748), group photographs (N=77), photos prominently featuring pets, children, or inanimate objects posed in eyeglass frames (N=49), and photos of unboxing shots and Warby Parker products or events (N=137) (Figure 2). The average photo poster contributed a total of 1.4 photos (SD=1.1); however seven contributors posted 10 or more photos.

Contributors tended to post photos in the late morning and afternoon, with tapering activity into the late evening. Contributors usually posted a single self-portrait photo; however approximately 180 users posted a series of several photographs, each featuring a different set of frames. Most of these posters demonstrated significant creative thoughtfulness (e.g., wardrobe changes, varied posing, creative background/foreground compositions, and Instagram-style photo filters). Among photos featuring collages and groups of individuals (Figure 2), there was similar creative regard, with approximately 100 posters creatively cropping and arranging images, as well as adding text and other embellishments.

Nearly all photos (N=2,465) posts included captions or text messages. These messages usually provided information about the eyeglass frame the poster was modeling, solicited advice, or recounted an experience with Warby Parker (Figure 3). The average length of these photo messages was approximately 14 words (SD=17). Of all photo messages,

4% (N=101) contained over 50 words, and 10 messages were 100 words or more in length. Of all photos, only 7% (N=167) contained no caption or message, and 16% (N=401) contained only a simple one-to-three word description of the frames being worn (e.g., “Fillmores”, or “Tenley in blue”).

As photo posts reflected contributors in various stages of the home try-on program, messages conveyed different intents. Specifically, 59% (N=1,460) of messages asked for help, and advice on a photographed pair of frames, or set of frames from a home try-on. Only 1% (N=31) of photo messages simply announced a decision about which frames a contributor liked best and was considering purchasing, while 23% (N=574) were showing off a recently purchased new pair. Finally, 8% (N=199) of messages conveyed positive feedback to Warby Parker following a home try-on or recent order, and five contributors provided negative or critical feedback (Figure 3).

Responses to Photo Posts

By far the largest source of text content from the collected dataset was comments on the photo posts (N=6,234). Overall, across 2,632 photo posts, the average number of comments was 2.4 (SD=2.8). A group of 2,558 unique commenters contributed 4,214 comments (Warby Parker contributed the remainder of comments, as discussed later). On average, these users contributed approximately 1.6 comments (SD=3.0) each. Comments tended to be slightly shorter than photo messages, averaging approximately 13 words (SD=13). Simple one-to-three word comments made

Photo Post Categories

Questions (N=1,460)	Unboxing Shots (N=137)	Complaints (N=5)	Glamour Shots (N=574)
			
<i>"What do you guys think?"</i>	<i>"Feltons arrived in the mail today!!!"</i>	<i>"It's been a month and two wrong orders, Warby. My faith is fading [...]"</i>	<i>"I love my Bensen's. I need so many more styles! Thanks!"</i>

Figure 3 – Photos with messages reflected multiple intentions across the home try-on experience. Contributors asked questions, shared product information, praised and criticized Warby Parker, and highlighted glamour shots.

up 38% (N=1,598) of general user comment posts, usually casting a vote for a favorite frame (e.g. "[frame] 4", "[frame] A", or "I vote Tenleys!").

Contributors identifying as female posted 43% (N=2,769) of all comments, and males posted 20% (N=1,257). On average, photos posted by females garnered slightly more comments than those posted by males (2.5 and 2.3 comments per photo, respectively). Additionally, across gender, commenters most often posted on photos posted by those of the same gender: males commented on male photos 53% (N=671) of the time, and females commented on female photos 69% (N=1,915) of the time.

As with messages attached to photo contributions, the intent of comments was also varied in nature (Figure 4). Specifically, 61% (N=2,564) of users' comments simply offered advice or opinions about a posted photo. Comments asking for clarifying information regarding a photo made up 4% (N=177) of all comments. Users contributed 32 comments to compliment Warby Parker's products and services, and 28 provided critical feedback. Another 32% (N=1,331) of comments were coded as "miscellaneous" and included posts where contributors were simply thanking one another, or were conducting tangential conversations.

Only 17% (N=450) of all photo posts did not receive any comments in response, while 21% (N=556) received four or more comments. Photo contributors commented on the conversation threads they inspired 39% of the time (N=1,024). Of those comments, 49% (N=505) thanked Warby Parker or fellow members of the Warby Parker Facebook page community for their advice and/or compliments.

Among all commenters Warby Parker was by far the most prolific, posting 2,020 comments, usually either the first or last in a conversation thread. Warby Parker's comments were, on average, 21-words in length (SD=2.8), nearly double the length of other comments. These comments

consisted mostly of advice on frame styles and colors (N=1,126), miscellaneous customer service messages (N=120), and congratulatory messages or compliments about customers' recent purchases (N=776) (Figure 4). Warby Parker was the only comment contributor on 820 photos posts; however, on average, photos with comments by Warby Parker had a total of 2.8 comments (SD=2.9), which is slightly higher than the gross average.

"Likes" also represented a good portion of the conversations occurring around photo posts. In total, 1,094 unique users "liked" 1,588 photo posts and comments. The average user "liked" 1.5 posts (SD=2.2). One-time "like" contributors made up 86% of all "likes", while only 34 users "liked" five or more posts, with one particular user posting 42 "likes". "Likes" represented the only form of contribution to the Warby Parker Facebook page for 713 users (i.e., 16% of all users in our dataset), with the remainder of "likes" coming from users that also contributed photos and comments.

Across gender, contributors identifying as female posted 67% (N=1,071) of all "likes", with 61% of those posted to photos of other females. Males, who posted only 28% (N=442) of all "likes", tended to do so on female photo posts 60% of the time. This trend among males is opposite of their commenting tendencies, where they seemed to favor other males' photos.

Overall, contributors were divided into three main groups: those that contributed only photos posts (N=1,061), those that contributed only comments (N=1,536), and those that contributed only "likes" (N=713). Only 89 users contributed photos, comments, and likes.

Effects on Purchasing Decisions

To explore the influence of community feedback on purchasing decision, we identified 70 users who asked for advice in their messages and later indicated in their

General Comment Categories			
Advice (N=2,564)	Questions (N=177)	Compliments (N=32)	Criticisms (N=28)
<i>"I think the Nedwin or Langston fit your face the best. Like the darker frames on you too!"</i> <i>"My votes on Bensen!"</i>	<i>"Which style is this? =)"</i> <i>"Hi Christine, What color are your roosevelts? Thanks!"</i>	<i>"You guys rock! Fast shipping, although I did almost run over the UPS guy bolting out of my house to grab these. [...]"</i>	<i>"Cheap, Chinese-made frames? Way to support domestic manufacturing."</i> <i>"Warby Parkers are such garbage."</i>
Warby Parker Comments			
Advice (N=1,126)	Customer Service and Engagement (N=120)	Compliments and Congratulations (N=776)	
<i>"Oh man, really tough decision! Both are definitely a unique look for you. For something a bit less traditional, we say hit up the Preston. If you are looking to make a statement through size, then go with the Winston. Thanks for sharing!"</i> <i>"Get used to compliments, Sarah, they look great on you!"</i>	<i>"Thanks for getting in touch, Richard! We're so sorry to hear about the issues you've been having with your sunglasses. [...] We'd be happy to get this sorted out for you right away. Looking forward to getting you into a perfect pair of shades soon!"</i> <i>"You can do as many Home Try-On orders as you need, all for free!"</i>	<i>"We love that you are head over heels in love with your Roosevelts! You selected such a stylish frame, it's no wonder you get so many compliments. Thanks for telling others all about us!"</i> <i>"Fierce is right! We love the Roosevelt's on you!"</i>	

Figure 4 – Contributor comments provided advice and opinions on glasses, asked clarifying questions about Warby Parker products and services, and offered complimentary and critical feedback to the company. Warby Parker was also an active commenter providing stylistic advice, congratulations on new glasses, and miscellaneous customer service.

comments that they had selected a frame and a purchasing decision had been made.

Overwhelmingly, customers purchased glasses recommended by Warby Parker's stylists (this outcome occurred in 67 out of our 70 conversations). In one instance Warby Parker did not comment and the customer chose what the majority of other commenters suggested. In two cases, customers chose a frame contrary to Warby Parker's suggestion. Otherwise, even in cases where the majority of other votes were for other frames or when the decision went against what the customer indicated they would usually choose, Warby Parker's suggestion was the influencing one for customers' purchases.

As noted earlier, most commenters were Warby Parker Facebook page fans, and were not necessarily close social ties. Despite this, comments appeared to be well received and appreciated by the users as they welcomed more opinions and often thanked comment contributors. Users also occasionally indicated that they were posting to the Warby Parker page to break a tie among their friends and family. We believe, users were posting messages on their personal Facebook pages or through other communication channels (e.g., one user mentioned a Skype video chat with two of her family members), and then posting to Warby Parker when consensus among closer social ties was not clear or contrary to the individual's preference. Thus, people were not only gaining opinions from the Warby

Parker Facebook community, but also aggregating those opinions with those from other personal networks and interactions.

DISCUSSION

Our analysis of the collected data revealed several trends about the conversations occurring on the Warby Parker Facebook page. Reflecting on the types of photos and messages posted by users along with Warby Parker's responses, we find two main uses for this page: purchasing decision support, and creative self-expression and fun. Both contribution types highlight the general enhancement of the online shopping experience provided by socially networked forums for communication. Here we discuss these trends, and the ramifications of merging social networks with business operations and shopping, and how Warby Parker has successfully managed to do so.

Contributing for Decision Support

The Warby Parker Facebook page exists primarily as a communication tool for Warby Parker to interact with its potential customers, and to provide support throughout the shopping process. However, by incorporating a public social network in collaboration with its home try-on program, Warby Parker has enabled an opportunity for socially driven decision support.

The 4,373 users of the Warby Parker Facebook page from our dataset utilize the forum for both requesting and

providing decision support. By posting photos, messages, comments, and “likes”, users are able to build up a community of people asking for and providing advice. In addition to fellow fans of Warby Parker, and a staff of expert stylists, users also have access to their trusted network of Facebook friends, all through a platform that allows enjoyable, creative, and socially driven discourse. This access benefits the subjective aspects of the shopping experience, and supports the Bernstein et al. observation that the quality of Q&A interactions is increased by the personalized nature of close-tie social network interactions [3]. Our data show that users post photos and messages that prompt useful information and advice from Warby Parker, display Warby Parker products, and tout the home try-on program and other services. Commenters, in turn, provide content ranging from in-depth stylistic advice, to feedback on Warby Parker services, to simple votes and “likes” on the frames they find most appealing on different individuals. This wide range of contribution types suggests there is a large population of people who want to contribute to the Warby Parker community at a level that doesn’t involve posting photos, or formulating complex feedback (i.e., via short comments and likes). This diversity of contributions supports previous work, such as Adamic et al. [1], which found that question asking and answering interactions on social networks are in fact motivated by contributor needs to share expertise, offer personal advice and support, and just for the pleasure of discussion.

Contributing for Creative Self-Expression and Fun

One of the most interesting patterns to emerge from the analysis of our data was the diversity of photo content. Apart from the self-expression inherently offered by selecting and wearing a certain pair of eyeglass frames, contributors to the Warby Parker Facebook page demonstrated a great deal of creativity in their photos including a wide range of subject matter, background/foreground compositions, wardrobe changes, varying poses, and a good deal of editing and photo manipulation.

In addition to contributions that demonstrate a desire to be creative or to give and receive decision support, our data indicate that Warby Parker Facebook page users also contribute content simply for fun and leisure. The consummate examples of these playful contributions are the posted photos of pets, groups of friends, and babies. Such posts seem to indicate that posters just want to share cute or humorous content for others to enjoy, or to share the fun they had with friends or family while posing for group photos. While these posts may be motivated by a desire for feedback, this would seem to be an ancillary goal. Another example of contributions made potentially just for fun and leisure would be comments posted well after the initial photo post. Our data show a number of comments that appeared weeks and months following the initial photo post. While these comments sometimes offered feedback on a pair of pictured frames, they seemed more likely to be just

idling contributions made by casual browsers of the Warby Parker Facebook page. These interactions seem closer to the reasons people use social networks in general, including a desire to advertise current interests and activities, and to add to the fun and pleasurable experience of visiting a social network, as seen in [12].

Notably, there were very few negative comments posted in our dataset. The atmosphere provided by contributors’ compliments and entertaining content support the use of the Warby Parker Facebook page as a place to enjoy oneself and be at ease. We conjectured that the subjective nature of the questions posed along with the use of a social networking site would promote social support as seen in other research (such as in [10]), and our data confirm this scenario. One contributor, for example posted a comment referring to the Warby Parker community as a “family”:

“i love how Warby Parker has created this online family; we’re all offering sexy and stylish advice whenever someone posts a pic!”

Through its Facebook page, Warby Parker provides a fun and entertaining, as well as familiar, platform for its customers. Moreover, by using the Warby Parker Facebook page as more than just a tool for selecting eyeglass frames, through the investment of time and creative energy, contributors change the community into a creative medium supportive of rich identity and community building, and self-expression. These themes are reflective of the “entertailing” shopping experience that online retailers are capable of providing to satisfy their customers’ hedonic shopping motives, and may offer a distinct advantage over brick-and-mortar retailers [2]. Extending a shopping experience into a positive, communal activity involving close and distant ties, experts, and even strangers is a powerful example of the potential of social commerce and motivations to integrate it into one’s retail experience.

Social Networks and the Shopping Experience

In considering the eyeglass purchasing experience at traditional brick-and-mortar stores, the interaction starts with an eye exam. This exam is similar to a doctor’s appointment, not a collaborative event to which friends and extended family are typically invited. After the exam, customers are then presented with a plethora of options for which they can often only receive a limited amount of feedback (i.e., if they happen to bring along a friend or two, or find a salesperson’s advice useful).

The Warby Parker Facebook page enables consumers to focus on the shopping experience (rather than the medical one). Moreover, users have access to their trusted network of friends as well as expert stylists, and a platform that allows enjoyable, creative, and socially driven discourse. This represents a marked improvement in the subjective aspects of the shopping experience, and benefits from the Bernstein et al. observation that the quality of question-

asking and answering interactions is increased by the personalization made possible through close-tie social networks [3].

The use of social networking forums as a means for enhancing the shopping experience has the potential to entice new customers who are primarily drawn to opportunities for interaction with their networks and then seek to extend those interactions through commercial participation (i.e., doing a home try-on of their own). This pattern would support the Hillman et al. view of shopping sites that benefit primarily from their use as a social platform among social ties, which peripherally leads to sales and increased awareness of the shopping platform [7]. Warby Parker has seemingly successfully integrated a trusted and highly populated social network site, Facebook, into their online retail shopping experience. Their users have organically and willfully contributed content that promotes their product and encourages their customers to remain engaged with the company.

IMPLICATIONS FOR DESIGN

Based on our analysis, several implications for the design of social network communication tools emerge. Implementation of these designs could potentially occur at the generic social network level (i.e., Facebook), at the community level (i.e., the Warby Parker Facebook page), or a combination of the two (i.e., through a Warby Parker web application that uses the Facebook API to share content).

Improve Tools for Contribution

The use of the Warby Parker Facebook page as a creative platform suggests that social networks, and the communities that embrace them, should consider providing richer options for the manipulation and editing of multimedia content. Social networks such as Instagram capitalize on a desire to communicate with media beyond text, and provided users a way to interact using digitally editable photographs; networks like Twitter and Facebook have since followed suit, and have augmented their interfaces to support multimedia more fluidly. Social networks like Vine, and Instagram's recent inclusion of video sharing, continue to evidence the demand among users for even more dynamic multimedia sharing. By providing richer post types in the form of media beyond text (e.g., photo and video responses), community contributors, especially the creatively inclined and deeply invested, may benefit a great deal.

Warby Parker, and other similar companies, could take advantage of Apps on Facebook⁶ and develop interactive software to support customers that want to share their home try-on experiences with a social network. Features of such an application could include virtual try-ons (i.e., superimposing various frame styles and colors on an

existing photo), and rapid generation of interactive photos and animated GIF images.

On the other side of investment in the contributor spectrum, we observed that short comments and “likes” are a popular contribution type to the Warby Parker Facebook page. As “likes” and other low-bandwidth contributions can sometimes be a vague indicator of interest – whether positive, negative, or neutral – providing simple voting and rating interfaces (e.g., a Likert-scale “like” feature) could enhance the expressiveness of contributions without increasing the amount of effort needed to invoke them. Designers taking note of this trend could entice casual contributors into making more meaningful posts without exerting any additional effort. Such rating tools may also serve to improve the overall effectiveness of a social network as a decision-support tool, by providing a quantitative component to the already richly qualitative one evidenced by our data.

Increase Interactivity of Browsing Interfaces

Content contributors on social networks are driven partially by the entertainment that engaging in such communities provides. This trend is evident in our data as well as in previous work [7], and indicates that designers must focus on providing engaging interfaces that users will find fun to use. As our data also show that users rely on their networks as socially driven decision support tools, designers could focus on more interactive displays of information that support such tasks. Using the more robust voting options discussed earlier, such interfaces might include results visualizations for individual users or condense information from across an entire community. Such data could also drive a more tailored browsing experience for contributors by guiding them towards content that matches popular trends or personal preferences. In offering such interfaces, designers stand to engage users in a more dynamic and engaging way.

Relax Company and Customer Roles

The general goal of companies adopting social network technology is to bring their businesses “closer” to customers; however, the exact mechanics of such gap bridging is not obvious, and may involve rethinking (and even reversing) the roles of companies and customers.

Our data suggest the potential for companies' use of social network platforms as semi-autonomous, customer-driven advertising tools that involve customers in a way that is not typical of traditional businesses. Specifically, rather than static catalogs featuring professional models on staged sets, Warby Parker has real customers trying on real products in real environments nearly all day every day). Such a shift in roles encourages conversations among socially networked customers that can significantly benefit word-of-mouth marketing, and engage customers by making them “the face” of the company.

⁶ <https://developers.facebook.com/docs/guides/canvas/>

In addition to social network platforms like the Warby Parker Facebook page bringing customers closer to what are traditionally business operations (i.e., marketing and advertising), they also position companies as members of a community rather than as strictly commercial entities.

The design objective in allowing businesses to operate as members of a community hinges on the rapid adoption of community platforms and active engagement in them. Rather than building its own social networks (i.e., complete with their own logins and passwords), Warby Parker has successfully integrated popular networks like Facebook and Twitter into their operations. Such a strategy democratizes the act of contributing content, and reinforces the view of Warby Parker as a community member. Moreover, our data show that Warby Parker is highly involved in the conversations that occur on its Facebook page, further demonstrating its commitment to its customers and positioning the company as an active community member, and not just the owner of a digital billboard.

The use of a corporate identity page as a platform for other Facebook users to communicate avoids the pitfalls highlighted by Bernstein et al. [3] regarding Facebook App user adoption hurdles, including incentivizing new users and reluctance of existing users to recruit their close ties. Rather, Warby Parker makes the app real, in a sense, through its home try-on program, and further benefits from a self-motivated user community that interacts in support of its own interests as well as for the satisfaction of interacting with others. Moreover, the overhead of “adoption” in this case is lowered through reliance on standard mechanisms of contribution on Facebook (i.e., content posting, commenting, and “liking”).

LIMITATIONS

Large datasets of freeform text and photographs, such as those collected in this study, are time-consuming to analyze manually. We have discussed several important characteristics of the posts and comments made on the Warby Parker Facebook page, but there are likely many other aspects of the data, such as the aesthetic characteristics of shared photographs, that could be more deeply explored in future work.

The data presented in this paper was collected from Warby Parker’s public Facebook page and the public portions of its contributors’ profiles. As such, our analysis did not include posts that users attached to their own Facebook profile, or onto the profiles of friends or private groups. Additionally, we were also unable to collect data about the characteristics of our user group that were not shared publicly, including the age and gender of some of our participants. However, even the public data posted on Warby Parker’s own Facebook page has revealed interesting patterns about how customers interact with Warby Parker staff and with one another. In the future, this data could be supplemented through surveys, interviews, and focus group sessions with individuals who have sought out fashion advice online.

FUTURE WORK

Moving forward, we hope to expand our research by investigating other communities, similar to Warby Parker (e.g., Zappos.com, Bonobos, Lookmatic, and Fetch Eyewear), that leverage social networks, including and beyond Facebook, to support decision-making among customers. In doing so, we hope to explore how the merging of business operations, at-home-shopping experiences, and social networks can mutually benefit both customers and companies.

Additionally, we hope to reach out and conduct interviews and focus group sessions with content contributors, to more closely examine their motivations, and patterns of use, especially with regards to final purchasing decisions. Closer examination of Warby Parker as an organizational contributor to social network conversations might also provide insight into decision making processes. Specifically, as our work primarily treated Warby Parker’s social media presence as a single user (i.e., despite Warby Parker’s account technically consisting of multiple staff members), experiments to compare the decision making outcomes, and subsequent interaction dynamics, between a single stylist and organization of such experts might provide further insights into areas such as trust in regards to social media and Q&A systems.

Finally, for all of the benefits of “friendsourcing” information through a social network, Brady et al. found that people with vision impairments did not always want to use social media for question asking for many reasons including privacy and fear of seeming dependent [4]. Technically people needing prescription eyeglasses are purchasing an assistive device to correct a medical problem, but there is no such stigma on this Warby Parker page because glasses are now considered fashionable. As in Pullin’s *Design Meets Disability* [16], thoughtful and creative design can lessen stigmas associated with assistive devices. Thus, an interesting direction for future work would be to explore encouraging this same level of enthusiasm in helping social ties select other assistive devices such as wheelchairs or canes.

CONCLUSION

Our research has shown Warby Parker to be an informative case study for the recent hybrid of online retail coupled with social media interaction. Contributors to the Warby Parker Facebook page have a number of motivations and techniques for formulating and participating in conversations, posting a broad range of photographic and textual content. In doing so, contributors use the Warby Parker Facebook page as a platform for generic customer service concerns, creative self-expression, socially driven decision support, and simply as a source of fun. These emergent patterns of use by thousands of contributors provide cues to designers of social networks as well as the companies and communities that embrace them. Specifically, designers should be mindful of supporting the

artistic manipulation and editing of content, lowering the barriers to contribution for casual community members, and allowing the roles of customers and companies on social network platforms to develop naturally and without rigid structure.

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