

CUSTOMER AND FIRM INTERACTIONS ON SOCIAL MEDIA

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Abstract

Social media platforms are becoming desired and efficient communication channel in a variety of markets. As a result of that, fan pages on social media platforms are now playing a central role in customer-firm interactions and firms are scrambling to come up with social media strategies for their stakeholders. Extant research largely focuses on marketing on social media platforms and effect of fan page activity on consumer behaviour and firm profitability; little attention has been paid to customer and firm interactions on social media platforms. A few recent studies have explored adaptation of customer-firm interaction strategies from traditional media, in social media contexts. In this research, we investigate user behaviour on firms' fan pages on social media platforms. We have collected data about user engagement on firms' twitter pages for five consequent years. We find that users employ social media platform features for their need to gain knowledge and gratification. Further, contrary to popular belief, firms are more likely to follow quiet consumers than vocal fans. Practical implications of our findings have been discussed.

Keywords: Social Media, Users, Firms, Participation.

1 INTRODUCTION

Social media platforms are becoming an essential communication channel for customer and firm interactions and are playing an important role in building customer-firm relationships. These platforms are gaining more and more attention as a channel for disseminating information about products and services in dynamic business areas (Verhoef & Lemon 2013). Social network sites such as Facebook, Twitter, etc. have created a new context of interaction in which people communicate, make decisions, socialize, collaborate, learn, entertain, interact with other users or with their desired brands (Constantinides & Fountain 2008; Hanna et al. 2011; Hansen et al. 2010; Mangold & Faulds 2009). While firms develop social media strategies to build relationships with their customers, they also realize that these platforms increase market competition where customers connect and follow their competitors and customer loyalty is becoming an elusive concept. In this environment, we believe that firms need to understand their customers and tailor their engagement strategies on social media platforms.

Consequently, the study of social media and its impacts on customers and businesses is progressively attracting academic attention and is a new research area for strategists and marketers (Bughin & Manyika 2007; Constantinides & Fountain 2008; Fischer & Reuber 2011; Urban 2003). In this paper, we try to generate some insights about customer firm interactions on social media platforms.

In particular, social media enables companies to identify new trends, engage with their customers and market their products and services. Customers have the chance to compare competitors' customer relationships via fan pages on social media, before they select product or services. For example, a social media page of a company with poor customer service/relationship is full of complaints from the customers. Users as potential customers can observe the consequences of their comments and complaints on social media by monitoring the reaction of the firm. They can follow the company for promotions, deals and events. In addition, they may like posts, retweet (share) them, recommend the company to family and friends, and in this way help company against unhappy customers. Hence, understanding this interaction behaviour is valuable for firms' social media managers. Their inferences are critical for developing effective customer relationship, which eventually affects firm's customer base and revenues.

Users are heterogeneous in their behaviour and interactions with firms on social media platforms. However, the literature examining the taxonomy of users or ontology of different motives from the customer's perspective is thin. Towards that end, we intend to understand the common behavioural elements between all kinds of interactions that people employ on Twitter, one of the most popular social media platforms. In this research, we explore users' participation strategies and examine how firms (Air Newzealand and Jetstar) respond to those strategies.

2 LITERATURE REVIEW

Users join social media to be socially connected (Sarason 1974) and satisfy their need for belonging (Gangadharbhatla 2008; Tardini & Cantoni 2005) to the community. Researchers argue that users flock to social media for various reasons such as shopping, participating in community activities, entertainment, updates from their favourite firms or celebrities, and even earning some bucks (Zhou et al. 2011). Users vary in the frequency, volume, type and quality of digital content they produce and consume (Trusov et al. 2010). Since online social media attracts both positive and negative sentiments/comments from the users, it is a double-edged sword for businesses (Gu & Ye 2014). For example, while positive comments can help, but negative comments are more influential than positive ones (Chevalier & Mayzlin 2006). Further, customers with strong negative views are more inspired to post comments on social media platforms compared to others (Hu et al. 2008).

Investigating consumer behaviour and their expectations from the firm is one of the critical aspects in social media engagement. It is imperative to identify how social media has changed traditional customer-firm communications and introduced new expectations into this relationship (Larson & Watson 2011).

Recent studies on social networks shows a diverse collection of theories and frameworks to explain and analyze user behaviour that evolves on social media (Kane et al. 2012) For instance, Malthouse et al. (2013) propose a framework for studying the relationship with customers in the new context of social media.

Investigating types of user behaviour and strategies employed in user-firm interactions would augment the understanding of customers' behaviour and may lead to improve marketing and CRM strategies. Some of the recent work (e.g., Algesheimer et al. 2010) has investigated whether community participants are the firm's "fans" to begin with who self-select themselves into the community or community participation causes improved relational customer behaviours. The studies show that community participation is likely to increase customer-firm interactions. In fact, community contributors have high levels of engagement with the firm's product and brands (McAlexander et al. 2002), they are very loyal, and enthusiastically recruit others to the community (Algesheimer et al. 2005). Li & Bernoff (2011) proposed a *social techno-graphics ladder*, which categorizes users into seven different clusters based on their level of engagement. These clusters are- Creators, conversationalists, critics, collectors, joiners, spectators and inactive users. However, these cluster lack clear distinction and are overlapping (Hodis et al. 2015). A recent work Jones (2013) has also attempted to categorize users on social media platforms. These clusters are Quiet Follower, Casual likers, Deal seekers, unhappy customers, Negative Detractor, Cheerleaders, and Loyal Fans. Miller & Tucker (2013) argues that employees are one of the most active users of the firm's social media presence. In comparison to the firm's clients, employees have closer connections to the company and can better involve themselves in firm events (Miller & Tucker, 2013). In a related study, community participations have been categorized as *passive* or *active*. Passive members browse an online group and make the most of the benefits accessible, but do not participate in community activities (Burnett 2000; Preece et al. 2004). These kind of members have been referred to as "lurkers or free riders" (Preece et al. 2004). In comparison with passive members, active members are extremely interested to engage in an online community by participating in activities, like creating messages, disseminating information, and providing emotional support to others (Casaló et al. 2007). Active users can improve members' brand knowledge (Muniz Jr & O'guinn 2001) and empower them to support other members to resolve problems with product usage and to make well-versed buying decisions (Flavián & Guinalíu 2006). Consequently, transforming lurkers to active members is vital for online communities (Kozinets 1999). Overall, active participation is essential for effective and sustainable online communities (Koh & Kim 2004). A few other studies have examined the role of participation in online communities. For example, Okleshen & Grossbart (1998) projected two types of social group participation: observation frequencies and community interactions. Observation frequency designates the amount of users who refer to the online community, but do not participate in its activities. Community interaction signifies the extent to which users actively contribute in-group happenings such as initiating discussions with others and responding to messages (Lee 2005). Both observations and interactions are essential characteristics of active participation because they reflect the members' obligation to the community (Koh & Kim 2004).

To enhance the impact of social influence on product adoption, firms incline to initiate and control the diffusion process by focusing on most influential users in social media (Bonchi et al. 2011; Hinz et al. 2011; Libai et al. 2010) . But, the power-law nature of social media indicates that most users do not contribute much in conversations, particularly after special events because this "silent majority" does not like to produce buzz. In contrast, the behaviour of "vocal minority" in content generation is different. The users of this group compose their tweets by employing more hashtags, links and mentions and their retweet rate is double to that of silent majority (Mustafaraj et al. 2011). This confirms that influential people have unbalanced influence on other users (Godes & Mayzlin 2009; Goldenberg et al. 2009). The success of online community highly correlate to the presence and activities of vocal minority of opinion leaders, who can exert their influence in different ways (Mehra et al. 2006).

One of the most significant components of this study is developing new measures to distinguish user strategies on firm *fan pages* by employing the information-driven approach. In the most related study, Mustafaraj et al. (2011) have explored users' political behaviour on twitter and categorized them in two groups. They measured user activity based on Hashtags, links, Retweets, Replies and comments. Our research further explores the user behaviour in the context of customer and firm interaction, an under

researched area. We have developed measures to capture compare users' interactions with a specific company compared to their overall activity. This will help us to understand how users' preference for a company affects their participation .

3 DATA AND MEASUREMENT

3.1 Data Collection

The data for this study is collected from Twitter. Twitter is one of the few social media platforms where users can express their opinion anonymously. Like other social media platforms, twitter has some features that are specific to twitter, e.g., Hashtags, and some features that are similar to other platforms, e.g. Retweet (share), Favourite (like), creating a Post and Commenting on other posts. We have focussed on the airline industry because airlines offer a limited number of products and, therefore, most of the customers are likely to have similar experiences. For this study, we have collected data on the airlines that are based in the pacific region. We have chosen Air New Zealand and Jetstar for studying the user behaviour. Air New Zealand is a full-service airline, and Jetstar is a budget airline. Both Air New Zealand and Jetstar have started their activity on Twitter from Jan 2009 and because of that, we considered users' activity from January 2009 onwards and collected data using Twitter APIs. These companies have a huge number of followers (275 K for AirNZ and 79.3 K for Jetstar), but only a fraction of these followers are active, therefore, we are only focussing on active followers. Followers are considered active if they have at least two status updates and favourites and at least one firm related hashtag, retweet and post/comment since joining the Twitter. Based on this definition, we find 4196 actives users/followers for Air New Zealand and 539 active users/followers for Jetstar.

3.2 Measurement

To understand and measure users' behaviour on social media platform we focus on following actions by a user- Number of retweets related to company A, Number of hashtag generated for company A, Number of favourites for company A, Number of comments for company A, and Number of posts for company A. We measure user's activity on quarterly basis. Data is normalized based on time spent on Twitter to compare new and old users. Since we do not know when a user started following a company, we assume that happening when a user joins the twitter. This is a limitation of this study.

4 ANALYSIS AND RESULTS

We first examine correlations between all the variables and find that there are no serious correlations. We rely on Spearman test because it is flexible enough for testing non-normal data like ours, which is right-skewed. Further, Spearman is a non-parametric test, which assesses the relationship between two variables with a monotonic function (Conover & Iman 1981). Correlations are reported in Table 1.

	Retweets	Hashtag	Favourites	Posts	Comments
Air New Zealand					
Retweets	1.0000	0.3943	0.0922	0.0048	-0.0742
Hashtag	0.3943	1.0000	0.0985	0.1525	-0.0303
Favourite	0.0922	0.0985	1.0000	0.2128	0.2212
Posts	0.0048	0.1525	0.2128	1.0000	0.0888
Comments	-0.0742	0.1525	0.2212	0.0888	1.0000
Jetstar					
Retweets	1.0000	0.127	-0.0148	0.02805	-0.14035
Hashtag	0.1267	1.000	0.1000	-0.11837	-0.22952
Favourite	-0.0148	0.100	1.0000	0.05884	-0.04645
Posts	0.0281	-0.118	0.0588	1.00000	0.00252
Comments	-0.1404	-0.230	-0.0465	0.00252	1.00000

Table 1. Spearman test matrix for Air New Zealand and Jetstar

Data in table 1 is based on the aggregated normalized data of users in our sample. The negative correlation between Retweet and Comments points to an intuitive observation that passive users, who prefer to retweet, are less likely to post comments. Extant literature terms users on social media as *passive* and *active* based on their activities (Burnett 2000; Preece et al. 2004)). Following this literature, we have divided users' as *Followers* and *Creators*. Followers are passive and want to learn from others. These users are likely to agree with others' opinions/comments and register their activity by just clicking on predefined icons such as Favourite or Retweet. Creators put effort and create content, such as hashtags, posts and comments. Users can be followers, creators or both at the same time on social media platforms. We want to examine users' attitude towards following and creating activities. We argue that users' attitude is reflected in their preference for active or passive behaviour. To sum up, this study helps us identify users based on their activity/behaviour on social media. We calculated the *Following Attitude* of a user as the average number of the Favourites and Retweets by the user for the company events in a quarter. Similarly, *Creative Attitude* is calculated as the average number of the hashtags, tweets (posts) and comments that a user has generated for a company during the quarter. Further, we create two new variables that measure the relative engagement for a user in company events compared to her general activity on the social media platform. The first one is the *Proportion of Company-Related Following Attitude*, which is calculated as the fraction of Favourite and Retweets for company events to the total number of Favourites and Retweets by a user. Second one is the *Proportion of Company-Related Creative Attitude*, which is calculated as the fraction of Hashtags, Tweets and Comments for company events to the total number of Hashtags, Tweets and Comments by a user. We use these four variables to cluster the users on social media platform.

To find out the optimum number of clusters, we followed the Elbow criterion that also known as F-test (Thorndike 1953). The percentage of variance would be attained by the division of the between-cluster sum of squares to the total within-cluster sum of squares. This provides us a measure for estimating the goodness of the classification. This method has the properties of internal cohesion and external separation. Table 2 presents the results of these estimators for each company.

Between SS/Total SS	K							
	3	4	5	6	7	8	9	10
AIR NEWZEALAND	87.6%	91.1%	92.5%	93.0%	93.2%	93.4%	93.6%	93.6%
JETSTAR	75.1%	80.4%	81.3%	93.3%	81.4%	93.9%	94.0%	94.1%

Table 2. F-test results for Air New Zealand and Jetstar

The largest dissimilarity ratio is for six clusters, hence optimal number of clusters is six. Dissimilarity ratios are reported in Table 2. Clustering results are reported in Table 3.

Cluster	Following attitude	Creative attitude	Proportion of Company related Following	Proportion of Company related Creation
Air New Zealand				
1	0.0182	0.0404	0.00460	0.00358
2	0.2410	1.2097	0.02478	0.04868
3	0.5244	3.6466	0.04324	0.27748
4	3.7218	24.3108	0.28930	0.56591
5	0.1066	0.4871	0.01571	0.03920
6	0.0355	0.1755	0.00665	0.01569
Jetstar				
1	0.000212	0.02374	0.0000195	0.00109
2	0.003108	0.15511	0.0004910	0.00793
3	0.011077	0.43434	0.0018500	0.00911
4	0.024671	1.21476	0.0017200	0.02769
5	0.002392	0.06361	0.0003930	0.00363
6	0.028195	0.00396	0.0072100	0.00024

Table 3. Results of clustering

Values of variables in Table 3 are categorized as- very low, low, medium, high and very high, to identify the difference between clusters. These qualitative measures explain the level of each variable in a specific cluster. We find that all but one clusters are similar for both the companies. The 6th cluster is not similar between these two companies. Table 4 reports the final clusters. The names of these clusters come from the current literature (First direct report¹, Miller & Tucker 2013; Jones 2013).

Cluster	Following attitude	Creative attitude	Proportion of Company related Following	Proportion of Company related Creation	Population proportion	Proposed name
1	Low	Low	Low	Low	Medium to high	Quiet followers
2	Medium	High	Medium	High	Low	Cheerleaders
3	High	Very high	High	Very high	Very low	Loyal fans
4	Very high	Very high	Very high	Very high	Very low	super loyal fans
5	Medium	Medium	Medium	Medium	Medium to high	Peacocks
6-A	Very low	Medium	Very low	Medium	Very low	Casual Writers
6-J	Very high	Very low	Very high	Very low	Very low	Casual Learners

Table 4. Results of clustering

The first cluster represents quiet followers (Jones 2013). Their population is rather high. They don't seem to participate enough in company events. The percentage of company-related activity to overall activity is low. The second cluster represents cheerleaders (Jones 2013). They are more creative but most of the content creation is for a particular firm and they tend to participate actively in company-related events. Their population is rather low. The third cluster encompasses users that are termed as loyal fans (Jones 2013). Their creative attitude and participation in company-related activities is very high. They tend to follow most of the company related posts/comments. The fourth cluster is termed as super loyal fans. This

¹ http://www.newsroom.firstdirect.com/press/release/the_ranters_and_peacocks_-_new

cluster could be made of employees or social media staff at the company. They use all twitter features to promote company events and most of their activity is limited to a company. Their population is very low. The fifth cluster is termed as peacocks (First Direct report). Peacocks employ every feature moderately. Their activities are not dedicated just for a specific company. Their desire to have a moderate level of engagement with all company-related events indicates that they are motivated to increase their profile exposure and increase the number of followers. The sixth cluster would be dissimilar for Air New Zealand and Jetstar. For Air New Zealand there are a few users who engage moderately in *creative* activities, but more frequently in *following* activities, therefore, we term them as *casual writers*. On the contrary, for Jetstar, there are users who occasionally use *following* activities, but are frequent users of creative activities, so we call them *casual learners*. They tend to use favourite and retweet more in comparison to other activities. Clusters reported in table 4 are consistent with the results of the Jones (2013). These results confirm different engagement patterns and indicate how users approach social media in regards to company-related events. Firm can choose to follow back some of their followers. We report firms' following preferences in Table 5.

Cluster No.	Cluster Name	Percentage of users who are followed back by Air New Zealand out of our sample	Proportion of each cluster population out of our sample for Air New Zealand	Percentage of users who are followed back by Jetstar out of our sample	Proportion of each cluster population out of our sample for Jetstar
1	Quiet followers	6.60%	58.3%	1.48%	24.7%
2	Cheerleaders	0.41%	0.2%	0.56%	23.6%
3	Loyal fans	0.07%	8.0%	0.19%	5.2%
4	Employees	0.05%	31.9%	0.19%	1.5%
5	Peacocks	2.17%	0.1%	2.41%	41.6%
6	Casual Writers/ Casual Learner	5.10%	1.5%	0.00%	3.5%
Sum		14.40%	100%	4.83%	100%

Table 5. Percentage of companies' Following and users' population in each clusters

Table 5 shows that in our sample in total of 14.4% of Air New Zealand followers are followed back by Air New Zealand. Considering each cluster proportion and company decision in following those users, we can infer that which cluster has a higher priority for the company. Note that our sample consist of active followers of these companies. Also by comparing the total percentage of Air New Zealand and Jetstar in following of their followers we can figure out that Air New Zealand is more likely to listen to its followers in contrast to Jetstar. These figures demonstrate that quiet followers, peacocks and casual writers are more likely to be followed than others. Our results are counterintuitive because contrary to common sense, we find that quiet followers are an important group for companies, and they are followed back by both companies at a higher level. This needs further investigation.

5 CONTRIBUTION AND IMPLICATIONS

Social media fan pages on Facebook and Twitter have added a new dimension to customer-firm interactions and created opportunities for both sides. Looking through the lenses of uses and gratification theory, our results confirm that users employ social media features for their need and gratification. We categorize users based on their behaviour and find that users choose social media platform features based on their desire to create content for their followers, or gain knowledge from the community growing on social media fan page.

This work also adds to the extant literature on user characteristics and content generation on social media platforms. Prior work has shown that users' socio-psychological needs affect the nature and extent of content generation on social media (Leung 2013). Since users on social media platforms are heterogenous in their behavior, it is imperative to understand the role of heterogeneity on content generation on these platforms. In fact, some of the studies have shown that a large percentage of users are silent or inactive, and only a small fraction is vocal. A recent work (Mustafaraj et al. 2011) has confirmed that the content generated by silent majority and vocal minority are significantly different.

Our study provides implications for both users and firms about this new mechanism for customer-firm interactions. Understanding behaviours and motives for engagement from both sides will likely enrich the knowledge about environments and experiences. We believe that understanding user behaviour on social media platforms is key to develop efficient marketing strategies on social media platforms. Managers also need to understand that firms and users often have different objectives on social media platforms. For example, users show up in fan pages for activities like shopping, entertainment and earning money (Zhou et al. 2011) whereas firms establish fan pages to promote new products/services, increase their customer base, customer loyalty and improve their relationship with customers. The results from this study throw some light on user engagement strategies and firms' response to user strategies.

6 CONCLUSION AND DISCUSSION

The main purpose of this study is to explore user behaviours in interactions with the firms on twitter, which is one of the most popular social media platforms. We identify the two broader types of user behaviour in their engagement with firms. One of them is *creative attitude* that addresses content creation- creating a new content (new post or hashtags) and adding to an existing content (comments and replies). The other behaviour is *following attitude* which captures addresses their desire to learn and share -confirming their agreement with the content (like/favourite) and desire to associate with the content (sharing/retweet). As users spend more time on social media platforms and desire to engage and interact with firms, it is imperative for firms to understand user behaviour on these platforms.

Just as users do, firms also use different strategies to engage and interact with users on these platforms using various platform features. For example, social media platforms allow firms to listen to (follow) their current or prospective customers. We find that firms have different preferences when it comes to following back some of their fans. We find that firms are more likely to follow *quite fans* instead of vocal leaders. Future research will investigate linkages between users and firms strategies and long-term popularity of both firms and users. Future research aims to build on these findings and develop robust user-firm interaction framework addressing the capabilities and needs of users and firms.

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