

Social media, customer engagement and advocacy

Social media

An empirical investigation using Twitter data for quick service restaurants

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Abstract

Purpose – The purpose of this study is to examine how social media facilitates the process of customer engagement in quick service restaurants (QSRs). Customers characterized as transactional customers, loyal customers, delighted customers or fans, based on the degree of relational exchange and emotional bonds, are expected to vary in their propensity to engage in advocacy and co-create value.

Design/methodology/approach – Hypotheses linking the antecedents of customer engagement to advocacy are empirically investigated with data from the Twitter social media network for the top 50 US QSRs. Multiple regression analysis is carried out with proxies for advocacy as the dependent variable and connection effort, interaction effort, satisfaction, retention effort, calculative commitment and affective commitment as independent variables.

Findings – The results indicate that retention effort and calculative commitment of customers are the most important factors influencing advocacy. Efforts to retain customers using social media communication increase advocacy. Greater calculative commitment also increases advocacy. Affective commitment mediates the relationship between calculative commitment and advocacy.

Practical implications – Fostering retention and calculative commitment by using social media communication engenders loyalty and customers become advocates. Calculative commitment fosters affective commitment, turning customers into fans who are delighted as well as loyal, enhancing advocacy.

Originality/value – This study uniquely investigates the relationship between the antecedents of customer engagement and advocacy. It develops the theory and conducts an empirical analysis with actual social media network data for a specific industry where usage of the network is widely prevalent. It confirms that calculative commitment influences advocacy. Calculative commitment not only has a direct effect but also has an indirect effect through affective commitment on advocacy in the QSR context. Further, social media efforts by QSRs to retain customers encourage advocacy. Other customer engagement antecedents do not directly influence advocacy.

Keywords Retention, Social media, Commitment, Customer engagement, Advocacy, QSRs

Paper type Research paper

1. Introduction

The revolutionary impact of the internet on communication, especially the advent of social media with its potential for engaging with customers and building relationships, has excited marketing academicians and practitioners worldwide and generated much interest in the concept of customer engagement (Brodie *et al.*, 2011; Economist Intelligence Unit, 2007; Harmeling *et al.*, 2017; Kumar, 2013; Sashi, 2012; Schultz and Peltier, 2013; Sorensen and Adkins, 2014; Van Doorn *et al.*, 2010; Verhoef *et al.*, 2010; Vivek *et al.*, 2012). The internet has altered how individuals and organizations communicate with one another by introducing new digital modes of communication like text and email messages, blogs, wikis and social networks. The evolution of Web 2.0 ushered in new tools like Twitter, Facebook, YouTube



and LinkedIn, dubbed as social media that enable sellers to connect with customers and customers to connect with each other, forming interconnected networks or communities. These tools provide comprehensive information and influence the attitudes of website users in hospitality business settings (Liu and Park, 2015; Yang *et al.*, 2017). The opportunities afforded by these new media for customer engagement by connecting and interacting with large numbers of individuals and organizations in real time asynchronously regardless of location distinguish them from traditional media and even the earlier generation of Web 1.0 tools. By overcoming the limitations of traditional media, Web 2.0 social media networks enable sellers to better satisfy customer needs. Sellers can interact in two-way communications with existing and potential customers and build relationships with them using Web 2.0 tools (Hudson *et al.*, 2016). Sellers hope to convert customers into advocates and co-creators of value through digital customer engagement.

Co-creation offers promising ways to establish valuable relationships with existing or potential customers (Füller, 2010). Service firms have shifted their emphasis from customer acquisition to creating customer engagement and participation (Kandampully *et al.*, 2015; Prahalad and Ramaswamy, 2004; Sawhney *et al.*, 2005). Engaged customers generate product/brand referrals, co-create experience and value, contribute to organizational innovation processes and exhibit higher loyalty (Hoyer *et al.*, 2010; Prahalad and Ramaswamy, 2004).

Early attempts to define customer engagement include the Advertising Research Foundation's defining engagement initiative that described it as "turning on a prospect to a brand idea enhanced by the surrounding context" (Advertising Age, 2006), and the Economist's description of it as an intimate long-term relationship between seller and customer (Economist Intelligence Unit, 2007). The resulting behavioral manifestations toward a brand or firm constitute customer engagement behaviors (Van Doorn *et al.*, 2010) that include word of mouth (WOM), reviews, recommendations and ratings. Advocacy is a special case of WOM: it is inherently positive and is accomplished when customers are loyal and delighted (Sashi, 2012). It is one of the most important outcomes of building customer engagement (Walz and Celuch, 2010). Despite its importance, very little empirical research has examined the drivers of consumer advocacy behaviors (Walz and Celuch, 2010).

This study examines the theoretical antecedents of customer engagement and empirically investigates the factors influencing advocacy with Twitter data for a sample of US quick service restaurant (QSR) companies. Twitter is a micro-blogging service that sellers and customers can use to communicate with each other using text messages up to 140 characters (recently changed to 280 characters) as well as images and links that has become one of the three most popular social media. Twitter has 330 million monthly active users, 120 million monthly unique visitors on desktop and mobile to its website and sites with embedded tweets attract 1.6 billion unique visits monthly (DMR Business Statistics, 2018). Companies can use Twitter for WOM marketing, which has been shown to influence communication among customers (Kozinets *et al.*, 2010).

The restaurant industry is a significant factor in the US economy with respect to its size and contribution to job creation (Kim *et al.*, 2016). Food and beverage sales of the restaurant industry in the USA reached \$745.61bn, and this figure has been increasing since 1970s (NRA, 2016). This industry employs 10 per cent of the total US workforce. Some of the most successful and largest restaurant chains are part of the QSR segment (Ottenbacher and Harrington, 2009). As their customers are largely influenced by social media (Hur *et al.*, 2017), QSR companies have been at the forefront of efforts to communicate with customers using social media to engage with them (QSR, 2014). Twitter is particularly suited for communication between QSR companies and customers because of its terseness and

specificity as well as the ability it affords to quickly disseminate information in real time. Furthermore, Twitter is a useful marketing tool for a restaurant brand at an inexpensive cost (DiPietro *et al.*, 2012). As a consequence, it has become standard practice for QSR brands to engage consumers through Twitter (Duncan, 2014). Of all brand mentions on Twitter, food service brands are mentioned the most (32 per cent) and have a higher value than tweets about clothing, technology, general retail or entertainment (Bach, 2015). Twitter users who engage with quick service brands on the social media platform are more likely to visit a restaurant (Scott, 2014). Twitter is an important marketing tool to attract and engage customers for the restaurant industry (Kang *et al.*, 2018).

Our analyses use Twitter data for the top 50 QSR companies in the USA for two different time periods, the fourth quarter of 2013 and December 2013. Despite its importance, a recent meta-analysis points out that social media in many hospitality sectors lack sufficient attention from academia (Lu *et al.*, 2018). A key focus in the restaurant industry is to develop and sustain enduring customer–brand relationships (Bowden, 2009). The primary goal of this research, therefore, is to examine how social media facilitates the process of customer engagement in QSRs.

2. Customer engagement antecedents and advocacy

2.1 Customer engagement

The domain of customer engagement and its conceptualization has varied from customer behavior at a particular time to a long-term relationship. Customer engagement is “a psychological state that occurs by virtue of interactive, co-creative customer experiences” (Brodie *et al.*, 2011, p. 260). Customer engagement behaviors “go beyond transactions, and may be specifically defined as a customer’s behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers” (Van Doorn *et al.*, 2010, p. 254). Customer engagement may also be a cycle involving processes over time (Sashi, 2012) and “may emerge at different levels of intensity over time, thus reflecting distinct engagement states” (Brodie *et al.*, 2013, p. 105).

Meta-perspectives of customer engagement suggest antecedents of engagement behaviors that develop over time. Van Doorn *et al.* (2010) constructed a model of customer engagement behavior that captures the antecedents of customer-, firm- and context-based factors as well as consequences for the customer, firm and others. Sashi (2012) proposed that customer engagement is a cycle with the type of customer engagement determined by the nature of the relational exchange and emotional bonds. Early in the cycle, transactional customers have low emotional bonds and low relational exchange. Some may eventually become loyal customers with high relational exchange and low emotional bonds or delighted customers with high emotional bonds and low relational exchange. Loyal or delighted customers turn into fully engaged fans if relational exchange and emotional bonds are both high. This model accounts for dynamic states of engagement that develop over time (Oviedo-Garcia *et al.*, 2014) in which the stages feed back into a self-reinforcing cycle (Van Doorn *et al.*, 2010). Additionally, it conceptualizes the efforts of both the firm and the customer at each stage, indicating the importance of both firm-based and customer-based participation toward engagement.

These models suggest a process of engagement wherein individual stages affect customer engagement behaviors. Customer engagement may be viewed as both an individual snapshot of a customer’s engagement vis-a-vis the process, and as a process where there is a progression of stages that each affects customer engagement behavior. The stages in the customer engagement process that culminate in turning customers into fans are connection, interaction, satisfaction, retention, commitment and advocacy (Sashi, 2012).

In the restaurant industry, customer engagement plays a pivotal role in a restaurant's success. As engaged customers participate and become more involved in the service process, they tend to share the credit and the blame, for service outcomes, as well as develop social bonds (Kandampully *et al.*, 2015). Brodie *et al.* (2011) suggest that further research is required to understand the dynamics driving interactive engagement, particularly in social networks. We focus on advocacy in this study because it is the penultimate stage of the customer engagement process in converting customers into fans.

2.2 Advocacy

Advocacy is the extent to which customers support a company, spread positive WOM, promote the company to new customers and defend the company from others' critiques. It is a key outcome variable in the restaurant relationship marketing (Kang and Hyun, 2012). Customer communication of positive WOM information regarding a company, brand or product in online or offline interactions constitutes advocacy. Customers responsible for positive WOM become advocates for the seller, helping to co-create value. A study of online WOM communication finds that the volume of online WOM does not impact sales but recommendations do, leading the authors to conclude that "what people say" is more important than "how much people say" (Gopinath *et al.*, 2014, p. 241). Online WOM can be positive or negative with only positive WOM potentially benefiting the seller while negative WOM can harm the seller. The internet has amplified the ability of customers to spread both positive as well as negative WOM and customers who spread positive WOM can become a company's best salespeople (Kumar *et al.*, 2013). The exchange of positive and negative WOM about a restaurant's products and services has a considerable impact on its success (Bilgihan *et al.*, 2018). Restaurateurs may gain a better understanding of what customers want by investigating the WOM posted online (Kwok and Yu, 2013).

Marketers attempting to influence customers using social media to gain positive WOM can expect to have customers in different stages of the customer engagement process. Customers in different stages vary in terms of the degree of relational exchange and emotional bonds (Sashi, 2012). Transactional customers are likely to be in the early stages of the customer engagement process. Only if they are satisfied and retained can sellers turn them into loyal or delighted customers. Loyal and delighted customers both develop commitment to the seller, but the nature of the commitment differs (Gustafsson *et al.*, 2005). Loyal customers develop calculative commitment and have an enduring relationship with the seller but little emotional attachment. Delighted customers develop affective commitment and have strong emotional attachment but no enduring relationship with the seller. Loyal as well as delighted customers may be expected to become advocates spreading positive WOM to others in their social networks with whom they connect and interact, thereby starting the customer engagement cycle anew. If customers develop both calculative and affective commitment, that is, an enduring relationship and a strong emotional attachment to the seller, then they will not only become advocates for the seller but also turn into fully engaged fans.

A meta-analysis of relationship marketing efforts in online retailing finds WOM communication is the most critical outcome with trust and satisfaction significantly related to WOM (Verma *et al.*, 2015). The goal is to foster relationships that turn customers into fans who are strong advocates for the seller. Advocates' "willingness to participate" on social media (Parent *et al.*, 2011, p. 219) and spread positive WOM enables them to co-create value and assist in product differentiation. A comparison of WOM with traditional marketing communication on member growth at a social networking site finds that WOM referrals have higher response elasticities and longer carryover effects (Trusov *et al.*, 2009). The value

of customer engagement is based not only on purchase behavior but also influencer value that increases “acquisition, retention, and share of wallet through WOM of existing customers as well as prospects” (Kumar *et al.*, 2010, p. 1). In the restaurant industry, attracting, converting, engaging and bonding customers are part of the pathway to creating brand advocates (Kandampully *et al.*, 2015). In this process, consumers are not passive recipients of marketing cues but increasingly are proactive participants in interactive, value-generating co-creation processes (Hollebeck, 2011).

2.3 Hypotheses development

Customers at different stages of customer engagement who differ in terms of the degree of relational exchange and emotional bonds with a seller may be expected to vary in how strongly they advocate for the seller. We briefly review how several antecedent stages in the customer engagement process – connection effort, interaction effort, satisfaction, retention effort and commitment – might influence advocacy and develop hypotheses. Commitment, the stage in the customer engagement process immediately preceding advocacy, is expected to play a key role but we also examine the role of other antecedent stages.

2.3.1 Connection effort. Brands are relying on the Internet to connect with customers. Sellers must connect with customers to engage with them and generate online WOM. Connection is the first stage in the customer engagement process and a prerequisite for customer engagement behavior. Social media allows sellers to connect with potential customers searching for information as well as maintain connections with existing customers. Relative to traditional media, social media enables sellers to connect with larger numbers of customers who may be located anywhere in the world and communicate with them in real time on a variety of digital devices. The use of social media to influence WOM communication among customers has been termed the networked co-production of narratives (Kozinets *et al.*, 2010). Connections with customers in social networks that are interconnected help establish a sense of belonging and community and facilitate the co-creation of value:

H1. Connection effort with customers is positively related to advocacy.

2.3.2 Interaction effort. If sellers connect, but customers do not respond or interact with the seller, then little effect may be expected on advocacy. A study of how social media is changing the way in which companies interact with customers using Facebook and Twitter found five primary motivations for interactions: timely customer service and content, product information, entertainment, greater engagement and incentives and promotions (Rohm *et al.*, 2013). For example, a study of customers of a telecom company who required assistance found that customers who turned to Twitter to interact with the company did so because they preferred the direct channel it provides while those who turned to Facebook did so because of dissatisfaction with other channels (Pozza, 2014). In a survey of Twitter users, those who interacted with company tweets were more likely to dine at a QSR (Scott, 2014). In the services context, more meaningful and deeper relationships might be achieved by nurturing active interactions (Kumar *et al.*, 2010).

Interaction between seller and customer is the *locus* of value creation and value extraction (Prahalad and Ramaswamy, 2004). A key distinction and strength of social media is its ability to enable asynchronous interaction with large numbers of customers. Social media enables interaction with customers on a one-to-one as well as one-to-many basis and provides customers with the opportunity to co-create value by exchanging, referencing or modifying messages (Burton and Soboleva, 2011), making it possible for customers to become advocates for the company:

H2. Interaction effort with customers is positively related to advocacy.

2.3.3 Satisfaction. Customer satisfaction is necessary for positive WOM. If a customer is dissatisfied, then negative WOM can result. But satisfaction may not be sufficient for advocacy and a threshold value of satisfaction may have to be achieved before satisfaction results in positive WOM and the customer becomes an advocate. Most customers are merely satisfied, and extremely satisfied and dissatisfied customers have been found to engage in greater WOM (Anderson, 1998; Jones and Sasser, 1995). A study of German customers in consumer as well as business markets confirms the positive influence of satisfaction on WOM and finds that the effect becomes stronger as satisfaction increases (Wangenheim and Bayon, 2007). Oliver *et al.* (1997) describe the high level of satisfaction when customer expectations are exceeded as delight. Higher levels of satisfaction or delight may be required for advocacy:

H3. Satisfaction of customers is positively related to advocacy.

2.3.4 Retention effort. Only satisfied customers are likely to be retained as customers by a seller. A study by Calder *et al.* (2013) suggests that satisfaction is a better indicator for measures that reflect the evaluation of alternatives such as the intention to repurchase, while engagement better reflects the motivation of consumers to consume more such as consumption frequency, level and depth of usage. Retention is necessary for the development of an enduring relationship between customer and seller. The ability afforded by social media to direct messages to specific users enables companies to attempt customer retention through efforts to provide customer service via social media, for example, by addressing and resolving complaints (Coyle *et al.*, 2012; Misopoulos *et al.*, 2014). Such problem-solving responses on microblogs have been found to lead to greater perceptions of trustworthiness, benevolence and positive attitudes towards the brand (Coyle *et al.*, 2012):

H4. Retention effort with customers is positively related to advocacy.

2.3.5 Commitment. A meta-analysis of the antecedents and moderators of WOM communications found customer commitment has the strongest effect on WOM activity (De Matos and Rossi, 2008). A distinction has been drawn between two types of commitment: calculative and affective (Gustafsson *et al.*, 2005). Customers with calculative commitment are loyal to the company, while those with affective commitment are delighted and trust the company (Sashi, 2012). A study of online customers that developed a scale to measure loyalty found a positive relationship between loyalty and WOM (Srinivasan *et al.*, 2002). But a study of hair salons and veterinary services found calculative commitment was not related although affective commitment was positively related to WOM (Harrison-Walker, 2001). A study of social networking sites in China, however, found affective and continuance commitment positively affected content creation by users in online communities (Chen *et al.*, 2013):

H5. Calculative commitment of customers is positively related to advocacy.

H6. Affective commitment of customers is positively related to advocacy.

Customers with calculative commitment have enduring relationships with sellers and are loyal but may not be delighted customers with an emotional attachment to them. Such

customers lacking emotional bonds with sellers might not become advocates for them. But if calculative commitment fosters affective commitment, that is, loyal customers develop emotional bonds making them both loyal and delighted, turning them into fans, then they are expected to engage in advocacy (Sashi, 2012). Thus, affective commitment may mediate the relationship between calculative commitment and advocacy:

H7. Calculative commitment of customers is positively related to advocacy through its positive relationship with affective commitment.

In summary, increased connection effort, interaction effort, satisfaction, retention effort and commitment are expected to enhance advocacy and positive WOM communication by the customer. Both calculative and affective commitment are expected to have a positive relationship with advocacy and affective commitment is expected to mediate the relationship between calculative commitment and advocacy. Figure 1 depicts potential relationships between these customer engagement antecedents and advocacy for customers who vary in terms of the degree of relational exchange and emotional bonds.

3. Empirical analysis

To empirically investigate the hypotheses, we collect data on the top 50 QSR companies in the USA from Twitter and supplement it with company data. Multiple regression analysis is carried out with proxies for advocacy as the dependent variable and connection effort, interaction effort, satisfaction, retention effort, calculative commitment and affective commitment as independent variables. Company size and the time a message was sent are used to control for alternative explanations in some models. Certain independent variables are omitted from some models to check for sensitivity to model specification and multicollinearity. Mediation analysis is performed to investigate whether affective commitment mediates the relationship between calculative commitment and advocacy.

3.1 Data

The sample of QSR companies for the empirical analysis is obtained from QSR Magazine's annual listing of the top 50 QSR companies in the USA (QSR, 2013). The QSR 50 also

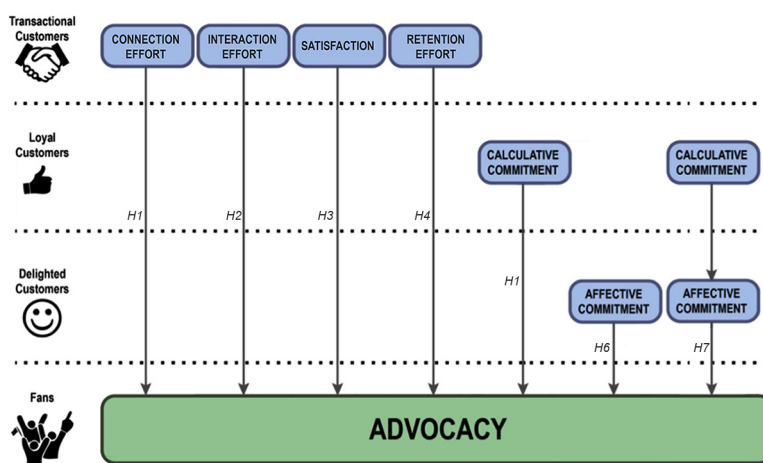


Figure 1. Customer engagement antecedents and advocacy

provides data on USA system-wide sales for each company (QSR, 2013). Overall, brand satisfaction scores are obtained from the Nation's Restaurant News (NRN) and Consumer Picks Survey (NRN, 2015).

For each QSR company in the QSR 50, data on Twitter messages were downloaded using an application programming interface and compared with data downloaded using the NextAnalytics program to check for completeness and accuracy. Because of its characteristics of real time, large scale and quick propagation, Twitter data has attracted attention from applied scientists to facilitate the knowledge discovery process in a wide variety of fields (Widener and Li, 2014). Twitter sets a download limit of 3,000 tweets per company during a time period and data can be obtained until the end of the day for the period when that number is exceeded. Thus, the number of tweets per company ranges between 3,000 and 3,250 tweets for most companies except for the few that tweeted less in the time period, yielding 29,546 tweets in all. We collected data for the fourth quarter of 2013 pertaining to 38 QSR companies that did not exceed the maximum number of tweets during the period. When we restricted the period of the study to the month of December, we were able to include six additional companies that were heavy users of Twitter and exceeded the limit when the entire quarter was considered. Three companies, Pizza Hut, Chipotle Mexican Grill and Domino's Pizza, exceeded the limit in less than a month and had to be excluded from the analysis, as were three other companies, Church's Chicken, Panda Express and Cici's Pizza, which did not tweet during the period under consideration. Thus, we have Twitter data aggregated by company for two time periods: 38 QSRs in the fourth quarter of 2013 and 44 QSRs in December 2013.

3.2 Method

The relationship between advocacy, commitment and the other antecedents of customer engagement is investigated using multiple regression analysis. The variables are operationalized using available measures reported for the Twitter social media platform, which represent firm efforts to engage with customers and customer engagement behaviors. A natural log transformation is applied to reduce skewness, stabilize the variance and linearize the relationships in the data. The variables, measures, definitions and sources are presented in Table I.

3.2.1 Dependent variable. The dependent variable in the analysis is advocacy, measured using Retweets, the number of times users share company tweets with others. The option to retweet gives customers the opportunity to praise or share messages from the company with their personal networks (Castronovo and Huang, 2012), thereby increasing total reach and influencing non-advocates. The number of advocates and frequency of advocacy is important in influencing non-advocates because potential customers are influenced by online WOM (Chevalier and Mayzlin, 2006; Duan *et al.*, 2008). A study of social network dynamics indicates that retweets by an initial sender's followers result in new followers for the initial sender (Antoniades and Dovrolis, 2015). Advocates may lead a non-advocate to connect, interact or commit to a business quicker than the business could on its own because customer recommendations are the most effective source in online communities (Lepkowska-White, 2013). A study of viral advertising in online social networks indicates that ads are more likely to be forwarded if sent by a friend than a company (Ketelaar *et al.*, 2016). Tweets sent by the company are inherently positive (a sentiment analysis with LIWC text analysis software indicates all 44 companies use a positive tone with a mean score of 93.98 and median score of 98.26 on a scale of 1 to 100) and retweets by customers co-create value by spreading the original message and generating buzz.

Variable	Measure	Definition	Source
Advocacy	Retweets	Number of times users share company tweets with others	Twitter data
Connection effort	Statuses	Total lifetime tweets of the company	Twitter data
Interaction effort	Links	Number of company tweets that include links	Twitter data
	Hashtags	Number of company tweets with a hashtag	Twitter data
	Mentions	Number of company tweets that mention other users	Twitter data
Satisfaction	NRN score	Brands' overall satisfaction score as an average of nine attribute scores weighted by the importance of each attribute to that segment's customers	NRN (2015)
Retention effort	Replies	Number of company tweets that are replies sent to a specific user or users	Twitter data
Calculative commitment	Followers	Number of users who have opted to receive the company's tweets	Twitter data
Affective commitment	Favorites	Number of company tweets that users save or like	Twitter data
Size	Sales	Sales of the company in 2012	QSR 50 (2013)
Time	Business hours	Number of company tweets during business hours between 8 am and 8 pm	Twitter data

Table I.
Constructs, variables,
definitions and
sources

3.2.2 Independent variables. The independent variables consist of three that represent firm efforts to engage with customers and three that represent customer engagement behaviors. The former variables are connection effort, interaction effort and retention effort and the latter variables are satisfaction, calculative commitment and affective commitment.

Connection Effort is measured by Statuses, the total lifetime tweets of the company. Statuses represent the cumulative attempt by a company to connect with customers or potential customers by posting content on Twitter (Toubia and Stephen, 2013). Statuses are sent to the Twitter feed of all of the company's followers and are publicly viewable on that company's Twitter account. The sum of these attempts offers a measure of the number of times a company tried to connect with existing and potential customers.

Interaction Effort is measured using three variables: Links, which measure the number of company tweets that include links; Hashtags, which measure the number of company tweets with a hashtag that assigns it to a topic; and Mentions, which measure the number of company tweets that mention other users. Links, Hashtags and Mentions provide opportunities for consumers to exchange, reference or modify messages, encouraging interactivity with firm-generated content. Links encourage interaction by providing access to additional information and is associated with higher comprehension, more information processing, higher favorability, greater flow state and a more positive user response to web sites (Burton and Soboleva, 2011). Swani *et al.* (2014) suggest that tweets with links provide customers with opportunities to equip themselves with more information. Wood and Burkhalter (2014) find that users who interacted with a brand were more likely to click on links than non-users.

Hashtags enable firms to initiate and sustain interaction by associating their tweets with a topic that is publicly searchable (Papacharissi and Oliveira, 2012). The public visibility of hashtags results in a collective of user-generated content about the topic, both within the domain of a firm's tweets and outside of it (Arvidsson and Caliandro, 2016). By their visibility, hashtags may trigger dormant members to participate in conversations about a

topic (Arvidsson and Caliandro, 2016), resulting in interactions that might not otherwise occur.

Mentions encourage interaction by including a user or users in firm-generated content made available to all. Firms use mentions to not only draw the named user or users to the conversation, but also encourage the users' networks of followers to interact with the brand. For example, some quick service restaurants mention celebrities who frequent or talk about their brands, speaking directly to the celebrity but also to the celebrity's fan base. By mentioning a celebrity, firms hope to attract and interact with consumers who may not have otherwise interacted with the brand.

Satisfaction is measured by the overall brand satisfaction score (NRN, 2015), an average of nine attribute scores weighted by the importance of each attribute to that segment's customers. The attributes are atmosphere, cleanliness, food quality, likelihood to recommend, menu variety, reputation, service, value and craveability. Results for each attribute are presented as the percentage of the top two ratings received on a five-point scale except for likely to recommend, which is the percentage of respondents who said that they would "definitely" or "probably" recommend the brand. Satisfaction measures may be regarded as positive or negative customer feedback (Wood and Burkhalter, 2014) that look backwards (Wolny and Mueller, 2013), and NRN Score captures it at the company level.

Retention Effort is measured by Replies (also known as call out messages), the cumulative number of tweets directly sent to specific users by a company. Replies allow the company to have conversations in which they listen and respond to messages from customers (Schultz and Peltier, 2013). On Twitter, companies attempt to retain customers by responding to their comments, questions or complaints by communicating directly with them through replies. If a customer tweets about a negative experience, then the reply is meant to prevent the customer from exiting the relationship; if the tweet is about a positive experience, then the reply is meant to strengthen the relationship. A survey of Twitter users found that of the 66 per cent who had a bad experience at a QSR, 29 per cent voiced their experience on Twitter and brands that responded had a guest return rate of 80 per cent, while brands that did not respond had a guest return rate of 31 per cent (Scott, 2014).

Typically, positive emotion words are used when writing about a positive experience and negative emotion words are used when writing about a negative experience (Kahn *et al.*, 2007). Replies attempt to retain customers by responding in a positive tone to both positive and negative experiences (a LIWC text analysis indicates that Replies have a mean of 9.04 per cent positive emotion words versus 5.18 per cent for all other messages and a mean of 1.76 per cent negative emotion words versus 0.59 per cent for all other messages, and a more positive tone than other messages sent by the company). In Wilcox and Kim's (2013) social media performance model, Reply is the most important Twitter variable related to website page views and performance.

Calculative commitment is measured by Followers, the number of users who have opted to receive the company's tweets. Previous research suggests that calculative commitment or loyalty occurs when consumers continue to follow a brand (Rapp *et al.*, 2013; Wood and Burkhalter, 2014). The followers of companies on social media have been found to have higher loyalty than non-followers (Clark and Melancon, 2013). Followers of QSR brands on Twitter are twice as likely to be influenced by a tweet to visit a QSR (Scott, 2014). Following a company only indicates calculative commitment and does not imply an emotional bond with the company. Castronovo and Huang (2012) recommend using number of followers to gauge loyalty on social media sites. Followers allows us to distinguish loyal customers from delighted customers with affective commitment.

Affective commitment is measured by Favorites, the number of company tweets that users save or like. The favorites option allows customers to provide positive feedback about a message, thus showing the affect that is created in Twitter interactions (Rapp *et al.*, 2013). Customers use favorites to bookmark tweets to read later, indicate positive sentiment for a message received, show appreciation, end a conversation, indicate liking for a message without spreading it to followers or privately endorse a message (Greenfield, 2013). Favorites allow companies to gauge delight and measure the affective commitment of delighted customers. The cumulative number of Favorites for each time period measures affective commitment for that time period.

Sales, measured by the company sales in 2012, is used as a control variable to account for the influence of the size of a QSR company on advocacy. As our sample consists of the top 50 QSR companies, incorporating sales in the multiple regression equations safeguards against mere size contributing to advocacy. It also accounts for the possibility that greater size may allow access to greater social media resources and presence.

Business Hours, measured by the number of company tweets during business hours between 8 a.m. and 8 p.m., are included as a control variable because the time of the tweet might influence advocacy. A number of restaurants, for example, Taco Bell, tweet more during non-business hours and we investigate the possibility that the time a tweet was sent might influence advocacy.

3.2.3 Models. The models are estimated with certain variables omitted from some of the models to check sensitivity of the results to changes in model specification and possible multicollinearity. The “full” model (Model 1) uses Links to represent interaction and includes Sales but not Business Hours. The “restricted” models replace Links with Hashtags (Model 2) and Mentions (Model 3) to represent interaction, include Business Hours (Models 4, 5 and 6) and omit Replies (Model 5) and NRN Score (Model 6), following Calder *et al.* (2013). Additionally, instead of incorporating Sales as an independent variable in the model, we split the samples for the fourth quarter and December by using Sales to obtain subsamples characterized as high (>\$1bn) and low sales (<\$1bn) for the two time periods. The full model is estimated for the four subsamples.

To investigate the indirect effect of calculative commitment in addition to its direct effect on advocacy, we perform mediation analysis (Baron and Kenny, 1986; Kenny, 2016).

Following Zhao *et al.* (2010), we examine the significance of the indirect effect using the bootstrap test proposed by Preacher and Hayes (2004).

4. Results and discussion

The descriptive statistics of the variables (minimum, maximum, mean and standard deviation) for the fourth quarter of 2013 and December 2013 are shown in Table II. The pairwise correlations among the variables for the fourth quarter of 2013 are shown in Table III and for December 2013 in Table IV.

The results of the multiple regression analysis for the full and restricted models for the fourth quarter are shown in Table V. All the models are significant ($p < 0.01$) with the adjusted R^2 ranging from 0.7454 to 0.7953. The results for the full and restricted models for December are shown in Table VI. All the models are significant ($p < 0.01$) with the adjusted R^2 ranging from 0.7128 to 0.7610. The results for the full models split by sales into high and low sales subsamples, respectively, are shown in Table VII. The models for the high sales subsamples are significant ($p < 0.01$) with an adjusted R^2 of 0.8632 in the fourth quarter and 0.7328 in December. The models for the low sales subsamples are significant ($p < 0.10$ in the fourth quarter and $p < 0.01$ in December) with an adjusted R^2 of 0.3564 in the fourth quarter and 0.5760 in December.

Table II.
Descriptive statistics

Variable	Fourth Quarter 2013				December 2013			
	Minimum	Maximum	Mean	SD	Minimum	Maximum	Mean	SD
Retweets	28	197,257	17,305.84	44,611.13	6	54,030	6,454.52	13,929.71
Statuses	200	30,217	9,696.03	7,331.36	200	65,186	12,351.02	11,636.85
Links	12	754	174.26	177.35	5	274	67.30	67.50
Hashtags	3	1,389	244.13	298.57	1	609	82.55	116.26
Mentions	2	2,169	665.95	630.36	0	1,598	330.36	379.52
NRN score	37.10	71.90	51.89	8.26	37.10	71.90	51.93	7.98
Replies	0	1,782	537.32	547.48	0	1,588	293.05	369.22
Followers	511	5,561,477	359,848.71	978,873.87	511	5,561,477	335,976.52	911,989
Favorites	1	21,181	2,112.74	4,614.53	1	21,181	2,077.61	4,431.45
Sales (million)	450	35,600	3,317.02	6,121.64	450	35,600	3,222.86	5,786.66
Business hours	39	2,160	674.37	588.18	10	1,635	317.18	343.19

Figure 2 summarizes the results of the mediation analysis with Favorites as mediator of the relationship between Followers and Retweets. All models and coefficients are positive and significant for the fourth quarter. The indirect effect is positive and significant. The total effect of Followers on Retweets is 0.8595. Thus restaurants with a one per cent increase in Followers are on average 0.8595 per cent higher in Retweets because of the combination of direct and indirect effects. All models and coefficients are positive and significant for December as well. The indirect effect is positive and significant. The total effect of Followers on Retweets is 0.8984. Thus, restaurants with a one per cent increase in Followers are on average 0.8984 per cent higher in Retweets because of the combination of direct and indirect effects.

The regression results indicate that Followers is consistently positive and significant in all models, time periods and samples, providing strong support for *H5*. The mediation analysis indicates complementary mediation with Favorites as a mediator between Followers and Retweets. Followers not only has a direct effect on Retweets but also an indirect effect through Favorites in both time periods that is positive and significant, providing support for *H7* as well. Followers represents calculative commitment, and the direct effect suggests that loyal customers become advocates and co-create value by spreading messages. The indirect effect suggests that calculative commitment fosters affective commitment, leading loyal customers to become delighted as well, turning them into fans and enhancing advocacy.

Replies is positive and significant in the full models for both time periods and in the high sales sample in the fourth quarter and the low sales sample in December, providing support for *H4*. Replies represents social media efforts by the company to directly communicate with specific customers to retain them by reaching out to rectify negative experiences and reinforce positive experiences. The results suggest that such efforts increase advocacy.

Favorites is positive and significant in some of the restricted models, especially those with Business Hours, providing some support for *H6*. Favorites represents affective commitment and the results suggest that delighted customers sometimes share their delight with others but may not turn into advocates unless they also develop enduring relationships.

Links, which represents interaction effort is only sometimes significant but has a negative coefficient, contrary to *H2*. Links include photos and websites that may require

	Retweets	Statuses	Links	Hashtags	Mentions	NRN score	Replies	Followers	Favorites	Sales	Business hours
Retweets	1.0000										
Statuses	0.5365 ^b	1.0000									
Links	0.4928 ^b	0.6352 ^b	1.0000								
Hashtags	0.5792 ^b	0.5686 ^b	0.6974 ^b	1.0000							
Mentions	0.5640 ^b	0.5789 ^b	0.5836 ^b	0.8503 ^b	1.0000						
NRN score	-0.2479	-0.2794	-0.1220	-0.1042	-0.1085	1.0000					
Replies	0.5733 ^b	0.5376 ^b	0.5437 ^b	0.8137 ^b	0.9877 ^b	-0.0906	1.0000				
Followers	0.8222 ^b	0.7242 ^b	0.5724 ^b	0.5067 ^b	0.4488 ^b	-0.4200 ^b	0.4429 ^b	1.0000			
Favorites	0.4676 ^b	0.2669	0.2707	0.4386 ^b	0.4050 ^a	-0.1151	0.4091 ^a	0.3338 ^a	1.0000		
Sales	0.7105 ^b	0.3887 ^a	0.3542 ^a	0.2616	0.2802	-0.5658 ^b	0.2909	0.8057 ^b	0.2245	1.0000	
Business hours	0.6495 ^b	0.6975 ^b	0.7518 ^b	0.8477 ^b	0.9155 ^b	-0.0786	0.9084 ^b	0.5715 ^b	0.3681 ^a	0.2969	1.0000

Notes: ^aCorrelation is significant at 0.05 level (two-tailed), ^b correlation is significant at 0.01 level (two-tailed)

Table III.
Correlation matrix
for fourth quarter of
2013 data

Table IV.
Correlation matrix
for December 2013
data

	Retweets	Statuses	Links	Hashtags	Mentions	NRN score	Replies	Followers	Favorites	Sales	Business hours
Retweets	1.0000										
Statuses	0.5482 ^b	1.0000									
Links	0.5033 ^b	0.5757 ^b	1.0000								
Hashtags	0.6126 ^b	0.4438 ^b	0.6551 ^b	1.0000							
Mentions	0.6370 ^b	0.6452 ^b	0.6600 ^b	0.7442 ^b	1.0000						
NRN score	-0.2064	-0.2521	-0.1691	-0.0847	-0.1272	1.0000					
Replies	0.6527 ^b	0.6220 ^b	0.6560 ^b	0.7308 ^b	0.9865 ^b	-0.1299	1.0000				
Followers	0.7837 ^b	0.7181 ^b	0.5383 ^b	0.4194 ^b	0.4971 ^b	-0.4061 ^b	0.5077 ^b	1.0000			
Favorites	0.4392 ^b	0.2580	0.1770	0.3550 ^a	0.3134 ^a	-0.1838	0.2985 ^a	0.3414 ^a	1.0000		
Sales	0.6039 ^b	0.3505 ^a	0.2428	0.1714	0.2364	-0.5150 ^b	0.2452	0.7811 ^b	0.2313	1.0000	
Business hours	0.6939 ^b	0.6692 ^b	0.7433 ^b	0.7419 ^b	0.9379 ^b	-0.0685	0.9550 ^b	0.5436 ^b	0.2746	0.2158	1.0000

Notes: ^aCorrelation is significant at 0.05 level (two-tailed), ^b correlation is significant at 0.01 level (two-tailed)

Variable	Measure	1	2	3	4	5	6
Connection effort	Statuses	-0.1589 (-1.02)	-0.1720 (-1.14)	-0.1848 (-1.15)	-0.2218 (-1.57)	-0.2155 (-1.49)	-0.2760* (-1.99)
Interaction effort	Links	-0.0425 (-0.37)			-0.3007*** (-2.18)	-0.1931 (-1.60)	-0.2917** (-2.09)
	Hashtags		0.0689 (0.44)				
	Mentions			0.1216 (0.21)			
Satisfaction	NRN score	0.1494 (1.42)	0.1474 (1.41)	0.1474 (1.40)	0.1329 (1.41)	0.1337 (1.39)	-0.3702 (-1.50)
Retention effort	Replies	0.2675** (2.44)	0.2091 (1.38)	0.1402 (0.25)	-0.3683 (-1.52)		0.5136** (2.38)
Calculative commitment	Followers	0.6916*** (3.10)	0.6515*** (2.82)	0.6857*** (3.08)	0.4666** (2.17)	0.5895*** (2.90)	0.1854** (2.16)
Affective commitment	Favorites	0.1529 (1.64)	0.1469 (1.56)	0.1525 (1.63)	0.1910** (2.25)	0.1565* (1.88)	0.2915* (1.79)
Size	Sales	0.2025 (1.12)	0.2241 (1.19)	0.2041 (1.12)	0.3932** (2.23)	0.2870* (1.74)	0.9492*** (2.91)
Time	Business hours				0.9216*** (2.87)	0.4757*** (3.57)	20.72***
	F value	16.54***	16.58***	16.47***	18.97***	20.47***	0.8286
	R ²	0.7942	0.7946	0.7936	0.8396	0.8269	0.7886
	Adjusted R ²	0.7462	0.7466	0.7454	0.7953	0.7865	0.7886
	N	38	38	38	38	38	38

Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; t -values are in parentheses

Table V.
Multiple regression
equations for the
fourth quarter of
2013

Table VI.
Multiple regression
equations for
December 2013

Variable	Measure	1	2	3	4	5	6
Connection effort	Statuses	-0.2112 (-1.46)	-0.1809 (-1.28)	-0.2113 (-1.36)	-0.2537* (-1.89)	-0.2559* (-1.91)	-0.2702** (-2.06)
Interaction effort	Links	-0.0382 (-0.32)			-0.1941 (-1.58)	-0.1595 (-1.35)	-0.2113* (-1.77)
	Hashtags		0.1866 (1.54)				
	Mentions			-0.0049 (-0.01)			
Satisfaction	NRN score	0.1381 (1.43)	0.1393 (1.49)	0.1404 (1.45)	0.0682 (0.74)	0.0898 (0.99)	-0.3475 (-1.27)
Retention effort	Replies	0.4157*** (3.45)	0.2691** (2.02)	0.4025 (0.76)	-0.3018 (-1.07)		0.5737*** (2.85)
Calculative commitment	Followers	0.6779*** (3.14)	0.6005*** (2.94)	0.6571*** (3.06)	0.5655*** (2.79)	0.6093*** (3.06)	0.1526* (1.88)
Affective commitment	Favorites	0.1489 (1.67)	0.1268 (1.45)	0.1524* (1.70)	0.1576* (1.92)	0.1478* (1.81)	0.1401 (0.96)
Size	Sales (2012)	0.0923 (0.56)	0.1426 (0.90)	0.1042 (0.64)	0.1738 (1.12)	0.1416 (0.93)	0.9797*** (3.09)
Time	Business hours				0.9127*** (2.75)	0.5876*** (4.52)	20.56***
	F value	16.31***	17.67***	16.25***	17.83***	20.14***	0.7999
	R ²	0.7603	0.7745	0.7596	0.8030	0.7966	0.7610
	Adjusted R ²	0.7137	0.7307	0.7128	0.7580	0.7570	0.7610
	N	44	44	44	44	44	44

Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$; t -values are in parentheses

Variable	Measure	Fourth quarter 2013		December 2013	
		High sales ^a	Low sales ^b	High sales ^a	Low sales ^b
Connection effort	Statuses	-0.0041 (-0.04)	-0.2193 (-0.54)	0.1307 (0.88)	-0.4099 (-1.48)
Interaction effort	Links	-0.2004 (-1.46)	-0.0285 (-0.10)	-0.0421 (-0.29)	-0.1529 (-0.60)
Satisfaction	NRN score	-0.1056 (-1.10)	0.3629 (1.64)	-0.0561 (-0.42)	0.3671** (2.24)
Retention effort	Replies	0.2778* (1.82)	0.4735 (1.77)	0.2125 (1.18)	0.7704*** (3.47)
Calculative commitment	Followers	0.7759*** (6.20)	0.6043 (1.68)	0.6603*** (4.76)	0.6576** (2.24)
Affective commitment	Favorites	0.1449 (1.53)	0.0368 (0.16)	0.1320 (1.01)	0.0510 (0.32)
	<i>F</i>	19.93***	2.66*	10.60***	5.76***
	<i>R</i> ²	0.9088	0.5709	0.8092	0.6972
	Adjusted <i>R</i> ²	0.8632	0.3564	0.7328	0.5760
	<i>N</i>	19	19	22	22

Notes: ^asales > \$1bn; ^bsales < \$1bn; **p* < 0.10; ***p* < 0.05; ****p* < 0.01; *t*-values are in parentheses

Table VII.
Multiple regression
equations (full model)
for sample split by
sales

users to interact with the company beyond the message. In the case of photos, engagement tends to be high; when the format requires time spent outside of the message, such as a website, engagement tends to be lower (Kwok and Yu, 2013). It appears links that require more time like those leading to an external website, though they provide customers with more information, are less likely to be retweeted because customer engagement is as yet low. Hashtags and Mentions, the other measures of interaction effort, are never significant. These results suggest that early in the customer engagement cycle, customers are still searching for information and less likely to become advocates.

NRN score, which measures satisfaction, is positive but significant only in the low sales subsample for December, providing weak support for *H3*. The December low sales sample includes three companies that are relatively high users of Twitter and exceeded the maximum number of tweets during the fourth quarter. When smaller companies that tweet more are included, it appears to result in greater satisfaction and advocacy. We also attempted to check for a non-linear relationship by including the square of satisfaction following Anderson (1998) in the full model, but it also was never significant. Other studies that incorporated a squared measure of satisfaction failed to find a significant relationship (Feng and Papatla, 2011) or found a negative relationship (Lovett et al., 2013). A study using data from customers of a retailer found the relationship between satisfaction and WOM is both mediated and moderated by commitment (Brown et al., 2005). Other research suggests that while customer satisfaction is positively related to WOM, models with related variables such as commitment are better predictors (Kumar et al., 2013).

Statuses is negative and significant in some equations, contrary to *H1*. Statuses, the lifetime tweets of a company, which represents its cumulative attempt to connect with customers appears to have a negative relationship with advocacy. The increased social media presence as a result of increasing the number of Twitter messages seems to decrease advocacy. Antoniadis and Dovrolis (2015) also found that as the number of tweets increases, “unfollow” probability increases, indicating that too many messages may be off-putting.

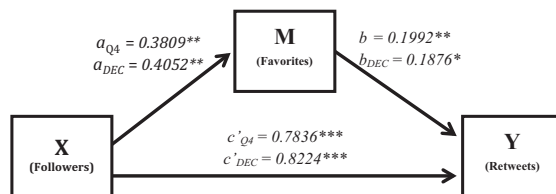
These results suggest that tweeting too frequently may have a negative effect on commitment and advocacy.

Sales is positive but significant only in the models for the fourth quarter that also include Business Hours suggesting that larger companies have more social media resources and tend to tweet during normal business hours. Sales was used in the model to control for size of the companies and an alternative way to assess its impact is to split the samples for the two periods by sales. When the samples are split into a high sales subsample and a low sales subsample with an equal number of companies in each subsample, in the low sales subsample for December 2013, satisfaction also has a significant positive coefficient, suggesting that the addition of high Twitter users improves the relationship between satisfaction and advocacy for smaller companies.

Business Hours has a positive and significant coefficient in all six models that include the variable suggesting that tweeting during normal business hours results in more advocacy than outside of normal hours. It appears that not all tweets are equal in creating buzz. Despite the novelty of tweeting at odd hours, it does not appear to result in greater advocacy. Tweets during the day seem to result in greater advocacy.

5. Theoretical and practical implications

These results have important implications for theory, practice and future research. From a theoretical perspective, we have confirmation that calculative commitment influences advocacy. Calculative commitment not only has a direct effect but also has an indirect effect through affective commitment on advocacy. This finding implies that QSRs might need to focus on nurturing calculative commitment of their customers. Affective commitment, on the other hand, may not influence advocacy unless customers develop long-term relationships. In a study of virtual communities, a combination of strong calculative commitment and low affective commitment in new members led to strong behavioral loyalty intentions such as recommendation inclination (Raies *et al.*, 2015). Thus, it appears loyal customers but not necessarily delighted customers become advocates for the company. Delighted customers were expected to have strong emotional bonds with the company that make them advocates for the company, but we find they may not share their delight with



Notes: Fourth quarter of 2013 (Q4): Q4 Indirect effect = 0.0759; Bias-corrected bootstrap 95% CI [0.0008, 0.2119] Q4 Total effect = 0.8595; $t = 8.6654$, $p = 0.0000$; December 2013 (DEC): DEC Total indirect effect = 0.0760; Bias-corrected bootstrap 95% CI [0.0025, 0.2109]; DEC Total effect = 0.8984; $t = 8.1761$, $p = 0.0000$; *Coefficient is significant at 0.10 level (two-tailed); **Coefficient is significant at 0.05 level (two-tailed); ***Coefficient is significant at 0.01 level (two-tailed)

Figure 2.
Mediation analysis:
Affective
commitment as
mediator

others unless they also develop enduring relationships. Fondness does not necessarily lead to changes in behavior (John *et al.*, 2017). On the other hand, loyal customers who were thought to lack such emotional attachment and bought for rational reasons engage in positive WOM and the development of emotional bonds reinforces their advocacy.

Our findings suggest that restaurateurs should focus on building calculative commitment because it not only has a direct effect but also has an indirect effect via affective commitment. In the hospitality industry, loyalty programs can nurture calculative commitment (Mattila, 2006), suggesting that QSRs focus on developing better loyalty programs. As we measured calculative commitment by followers, loyalty programs could be implemented in a way that encourages customers to follow the brand. They should consider customer delight as a distinct emotional factor and develop strategies to delight customers by moving them beyond a merely satisfying service experience. Delighting loyal customers will turn them into fans that engage in co-creation and advocacy.

Retention efforts to resolve problems and complaints and reduce dissatisfaction appear to result in greater advocacy. Listening and responding to customers reduces negative WOM and results in some of them becoming advocates. In the restaurant industry, service failures are unavoidable. Although such failures have the potential to damage a company in the customer perception and hurt the bottom line, effective recovery strategies can do just the opposite (Murphy *et al.*, 2015). We suggest that restaurateurs closely monitor social media and respond appropriately to comments. Coyle *et al.* (2012, p. 27) suggest that customers expect more than an acknowledgment that a problem exists and companies should consider “whether they have the necessary resources to successfully engage customers on microblogs” to resolve problems. Problem-solving responses result in positive WOM. By listening to social media comments and concerns of customers and responding appropriately, QSRs can not only increase positive WOM but also reduce negative WOM. Prompt retention efforts on social media can reduce dissonance, improve loyalty and enhance customer engagement.

Attempts at connecting with customers by increasing social media presence in terms of the cumulative volume of messages sent out on Twitter does not immediately lead to advocacy. It appears that efforts at connection must lead to the customer moving through the subsequent stages in the customer engagement process to have a positive influence on advocacy. The volume of online WOM may not impact sales (Gopinath *et al.*, 2014), but it increases social media presence and advocacy. The influence of higher volume online WOM communication on advocacy depends on its interaction with consensus, customer pre-commitment and desire to be similar or dissimilar to others (Khare *et al.*, 2011). From a WOM marketing perspective, efforts to connect represent a preliminary step to establish relationships with customers to eventually turn them into advocates for a company’s products.

Interaction effort also does not immediately lead to advocacy. Customers and prospects early in the customer engagement process may seek information but this does not result in positive WOM. It enables companies to listen, gather information, provide clarification, answer questions and converse with customers, activities essential to building a relationship with them, but too early in the process for them to become advocates. If the company manages to satisfy and retain them as customers, then those who develop calculative commitment might become advocates for the company. Future research could attempt to separate efforts to interact with potential customers from efforts to interact with existing customers who might already be fans seeking additional information. The former would have to progress through the stages of the customer engagement process before they become advocates for a company.

Satisfaction seems to result in advocacy only when companies use social media more frequently. The relationship between satisfaction and advocacy also appears to hold true only for smaller companies. Thus, if a company is relatively small, then it can avail of social media to keep in touch with customers and build relationships with them by increasing the frequency of social media communication. Smaller companies can use social media like Twitter to communicate frequently with prospects as well as existing customers for WOM marketing. But as the results for connection effort indicate, large companies may need to resist the impulse to overuse social media because messaging too often can be off-putting to customers and reduce loyalty. Depending on size, QSRs need to assess how often they should virtually interact with customers so that they continue to progress up the advocacy ladder.

Larger companies seem to have access to greater social media resources and tweet during normal business, resulting in greater advocacy. The time when messages are sent appears to be related to positive WOM. Messages sent at usual business hours during the day but not after usual business hours at night appear to result in greater advocacy.

QSR customers rely on social media platforms to get up-to-date information related to favorite brands, be a part of conversations around brands and products and learn about trending topics pertaining to brands (Scott, 2014). Using social media as a tool to increase customer advocacy is a pivotal task for QSR marketers. Our results show that fostering retention and calculative commitment could help QSRs by enhancing advocacy and co-creation.

6. Limitations

This study used data from Twitter to study customer engagement and advocacy in the case of QSRs in the USA. Twitter restricts messages to 140 characters (now 280) and a handful of interactive features like the favorites button, retweet button and reply options. Our measures of customer engagement behaviors reflect the nature of the platform and how customers actually interact with companies and one another using the platform, which may differ from other media. We do not know whether the relationships found can be generalized. Further research is required to establish whether the results hold true for other:

- social media;
- industries; and
- countries.

The Twitter data analysis was limited to a maximum number of tweets per company, which meant three companies that exceeded the limit had to be excluded, six other companies had to be excluded from the analysis for the quarter and it was not possible to conduct the analysis for a longer period. Investigation of these relationships for other periods, perhaps using other data, is suggested.

All variables other than those for satisfaction and sales were from the Twitter database, allowing us to investigate the hypotheses for a particular social medium for a particular class of sellers, but restricting our ability to operationalize the constructs with multiple measures. Univariate measures were used for all variables except interaction effort that had three alternative measures. We also incorporated a squared measure of satisfaction to account for a non-linear relationship without significant results. We measured calculative commitment using the number of followers who opted to receive a company's tweets. Some of these followers could be fans with both calculative and affective commitment to the company. Finally, to improve validity, we used data from 2013 (that preceded the

appearance of bots and fake accounts that reached a crescendo in the election of 2016 and might have affected the analysis). Future studies with more recent data and different social media are suggested.

7. Conclusion

Advocacy, the stage in the customer engagement process before customers turn into fully engaged fans, is significantly influenced by calculative commitment and retention effort, but less so by affective commitment. However, calculative commitment fosters affective commitment. Efforts to retain customers and build calculative commitment increase positive WOM. By engendering customer loyalty through social media communication, sellers can turn them into advocates and co-creators of value. The development of emotional bonds with loyal customers enhances advocacy, the spread of positive WOM and co-creation of value. Smaller companies that tweet frequently can, in addition to retention and calculative commitment, also focus on satisfaction to drive positive WOM.

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