

## WHO POSTS ONLINE CUSTOMER REVIEWS? THE ROLE OF SOCIODEMOGRAPHICS AND PERSONALITY TRAITS

Christopher K. Manner, Union University  
Wilburn C. Lane, Union University

### ABSTRACT

Online customer reviews (OCRs) are becoming increasingly popular among consumers who read them to make informed decisions about products and services. However, little attention has been given to factors that influence those who generate OCRs. This study aims to fill this gap by exploring the sociodemographic characteristics and personality traits associated with positive and negative OCR creation. Logistic regression analysis shows that age has a quadratic (inverse U-shaped) effect on the likelihood of posting an OCR. Moreover, openness to new experiences, agreeableness, and conscientiousness are significant predictors of OCR creation. These findings may help marketers develop OCR platforms that encourage positive reviews.

**Keywords:** *Online customer reviews; Sociodemographics; Personality; Big Five Inventory; Openness; Agreeableness*

### INTRODUCTION

Online customer reviews (OCRs) are an increasing phenomena that influence consumers' choice and purchasing behavior. The BrightLocal (2015) Local Consumer Review Survey shows that 92% of consumers regularly or occasionally read online reviews. Although traditional word of mouth remains the most popular method for recommending a business, 27% of consumers have recommended a local business via Facebook; this figure rises to 32% among consumers aged 16-34 (BrightLocal, 2015). According to Nielsen (2015), 66% of global consumers surveyed

online indicated they trust OCRs. Only recommendations from family and friends ranked higher in trust. Moreover, a survey from Dimensional Research (2013) found that 90% of respondents who recalled reading online reviews claimed that positive reviews influenced their decision to buy, while 86% said that negative reviews had also influenced buying decisions.

Industry-specific studies suggest that OCRs are having a considerable impact on consumer decision making and business sales. For example, Luca (2016) found that a one-star increase on Yelp.com rating leads to a 5-9% increase in revenue for restaurants. According to Digital Air Strike (2014), the majority of car buyers said they consider review sites as "helpful" in their decision as to where to purchase a vehicle. The same study found that 24% of consumers consider online review sites to be the "most helpful" factor, exceeding all other factors including the 15% of car buyers who consider dealership websites "most helpful." A study conducted by Software Advice (2015), a digital resource for field service technology, reported that 68% of consumers said online reviews are a "very important" factor in helping them select a residential service provider. Additionally, 86% said they would be willing to pay more for services if a given provider had positive online reviews.

In light of these developments, scholars from the social sciences, computer science, and marketing have identified OCRs as a growing opportunity (and potential threat) that is worthy of managerial consideration. Although research has advanced our knowledge of OCRs, most

studies have focused on how OCRs affect the purchase decision and sales (e.g., Filieri & McLeay, 2014; Luca, 2016; Ye, Law, & Gu, 2009). More work is needed to help practitioners understand the conditions that enhance the likelihood of consumers providing feedback (G. S. Naylor, 2016). Furthermore, little attention has been given to the investigation of factors influencing the two distinct types (positive and negative) of OCRs. The present study aims to fill this gap in the literature by examining the sociodemographic characteristics and personality traits of those who post OCRs. In particular, this study offers the following research questions:

**RQ1:** Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing OCRs?

**RQ1a:** Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing positive OCRs?

**RQ1b:** Is there any identifiable set of sociodemographic factors and personality traits that contributes to generating and publishing negative OCRs?

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

*Online Customer Reviews.* Filieri (2016, p. 47) defines OCRs as “any positive, negative, or neutral comment, rating, ranking, of a product, a service, a brand, or a person supposedly made by a former customer and that is shared with other customers in an unstructured format such as a blog post or in a more structured format, such as customer reviews published on an independent customer review website, third-party e-

commerce website, or corporate website.” In contrast to traditional word-of-mouth communication, OCRs are often posted anonymously. Furthermore, there is a greater abundance of OCRs than traditional offline reviews and OCRs can reach a larger audience (Lee, Park, & Han, 2008).

Scholars have dedicated much attention to OCRs, particularly the study of why consumers generate online reviews. A prominent study by Hennig-Thurau, Gwinner, Walsh, & Gremler (2004) identified eight different motivations for contributing to online review forums: platform assistance, concern for other consumers, self-enhancement, economic incentives, venting negative feelings, helping the company, desire for social interaction, and advice seeking. Subsequent efforts aimed at improving the understanding of why individuals write and publish OCRs have found extreme passion for the product or firm (i.e. delight) to be the main driver of online recommendations (Bechwati & Nasr, 2011). Another motivating factor could be the feedback system used by online review sites which displays feedback received by individual reviews and reviewers from the community (Dellarocas, 2003; Miller, Resnick, & Zeckhauser, 2005; Moon & Sproull, 2008). In a recent study of Yelp review writers, McIntyre, Mcquarrie, & Shanmugam (2016) have shown that receiving positive feedback increases the probability that a novice reviewer will continue to produce reviews. In the same study, McIntyre et al. (2016) found that the desire to publish one’s writing was the single best predictor of review productivity. They suggest that writing reviews provides intrinsic value, and represents expressive rather than utilitarian behavior.

In a second research stream, researchers have investigated the impact OCRs have on sales and purchasing

behavior. For example, studies have examined the influence OCRs have on sales (Ye et al., 2009), consumer awareness and attitude toward service providers (Vermeulen & Seegers, 2009), consumer purchasing intentions (Filieri & McLeay, 2014; Sparks & Browning, 2011; Vermeulen & Seegers, 2009) and consumer assessment of trustworthiness (Filieri, 2016).

OCRs can be classified into positive and negative forms. Studies on the impact of positive OCRs report mixed results. Some studies argue that positive reviews affect consumers' decision making (e.g., Vermeulen & Seegers, 2009); however, other researchers conclude positive reviews have little or no effect (e.g., Duan, Gu, & Whinston, 2008). On the other hand, negative OCRs often remain on websites for long periods of time, resulting in a negative impact on the reputation and performance of businesses (Hennig-Thurau et al., 2004). Negative OCRs may be perceived to be more trustworthy (Pan & Chiou, 2011) and more useful or diagnostic for decision-making purposes and are therefore given greater weight than positive OCRs (Lee et al., 2008). East, Hammond, & Wright (2007) suggest that the motivations behind a consumer's decision to engage in positive versus negative OCRs are likely to differ. Therefore, our analysis of the factors that predict OCR behavior distinguishes between positive and negative OCRs.

*Online Customer Reviews as Electronic Word of Mouth.* Electronic word of mouth (eWOM) can be defined as "any positive or negative statement made by a potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via Internet (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004, p39). Mudambi & Schuff (2010) have proposed that OCRs are a form of eWOM in the form of user generated content that is posted on e-

vendor or third party websites. Moreover, Chatterjee (2001) suggests that consumer reviews and ratings are the most accessible and prevalent forms of eWOM.

Marketers distinguish between two types of eWOM: organic and amplified. Organic eWOM occurs naturally when a person wants to tell others about a positive or negative experience with a product or a company (Word of Mouth Marketing Association (WOMMA), 2005). According to Godes & Mayzlin (2009), this endogenous form of eWOM involves no direct intervention for the firm and occurs among consumers as a result of their experiences. Online reviews, like those compiled at Yelp, Amazon, Epinions, and TripAdvisor, are produced without compensation. As such, they are generally considered a form of organic eWOM. Amplified (i.e. exogenous) eWOM occurs when a marketer encourages others to speak about a product or a company (Word of Mouth Marketing Association (WOMMA), 2005). The marketer tries to exert influence over the content of amplified eWOM through a variety of campaigns, opinion leader programs and viral marketing (Kulmala, Mesiranta, & Tuominen, 2013). For example, bloggers often receive free products to provide their OCRs (Naylor, 2016).

Compared to traditional WOM, which is an oral form of interpersonal communication among acquaintances (Arndt, 1967), eWOM can take place in various settings. Consumers can post their opinions, comments, and reviews of products on blogging/personal websites, review websites (e.g. Yelp), retail websites (e.g. Amazon), and discussion websites (e.g. Reddit). eWOM communication also differs from traditional WOM in that the statements made about a product or service are available to a multitude of people and institutions, which can be accessed via the

Internet (Hennig-Thurau et al., 2004). Another significant difference is that eWOM communications are more persistent and accessible than traditional WOM. Most of the text-based information presented on the Internet is stored for an indefinite period, which consumers can repeatedly access at their convenience (Hung & Li, 2007; Park & Lee, 2009). This breadth of eWOM scope and ease of accessing reviews can greatly impact a firm's performance. Therefore, professionals and academics are increasingly seeking to understand the factors that influence the creation and use of eWOM.

*OCRs and Sociodemographic Considerations.* There are a number of important demographic and socioeconomic factors that are likely to influence OCR behavior. At least four main sociodemographic variables have been identified, although no consensus of results exists, which may cause a segment of the population to engage in OCR behavior. These variables are typified as gender, age, income, and ethnicity.

A study in 2010 by Pew Research Center found that among internet users, there are only small differences by gender, race, and age in the likelihood of posting an OCR (Jansen, 2010). The same study shows that higher income brackets are more likely than those in lower income brackets to post OCRs. However, the results of this study are not comprehensive, as they are based on univariate analysis.

Looking more broadly at eWOM, existing studies found that the users and creators of eWOM often differ depending on their gender, age, income, and ethnicity. In particular, males tend to outnumber females in eWOM activity among adult demographics, while white females tend to dominate when samples are limited to preteens, teens, and college students (eMarketer, 2009). Wang, Keng, Yeh, Chen, & Tsydygov (2016) found that female and

older users are more likely to engage in eWOM on social network sites. A number of studies suggest that eWOM users and creators tend to be younger (eMarketer, 2009; Jones & Fox, 2009; Lenhart, Madden, Macgill, & Smith, 2008). Bloggers have been found to be mostly male and in the 25-44 age range (Technorati, 2011). According to a demographic profile report (eMarketer, 2009), eWOM users are more likely college educated, full-time employed, and predominately white. In the context of the travel industry, eWOM creators tend to be young (Yoo & Gretzel, 2011), male, and more affluent (Yoo & Gretzel, 2008).

These previous studies suggest that OCR creators are more likely to be male among adult populations (eMarketer, 2009), young (eMarketer, 2009; Lenhart et al., 2008), have higher incomes (Yoo & Gretzel, 2008), and Caucasian (eMarketer, 2009). Based on these findings from previous literature, the following hypotheses are formulated:

- H1:** Males are more likely to engage in OCR creation than females.
- H2:** Age has a negative effect on the likelihood of OCR creation.
- H3:** Income has a positive effect on the likelihood of OCR creation.
- H4:** Caucasians are more likely to engage in OCR creation than non-Caucasians.

Empirical research on the demographic determinants of positive and negative OCR behavior is somewhat sparse. However, demographic variables such as age, income, and education are have been found to influence customer complaint behavior (CCB). It has been found that complaint behavior is positively related to

age (Phau & Baird, 2008). Bearden & Mason (1984) found a positive relationship between CCB and education and income. Studies in Singapore and Indonesia found that females were more likely to complain than males and complainers who resorted to public action were older, better educated, and earned higher income (Phau & Sari, 2004; Wang et al., 2016). Cornwell, Bligh, & Babakus (1991), however, pointed out that Mexican-American complainants tended to have a lower education level. Research by Morganosky & Buckley (1987) revealed that higher income and better-educated consumers were significantly more likely to agree with the statement, “if I buy clothes and am not satisfied with them, I take them back to the store and complain.” In a study of the banking industry, Hogarth & English (2002) show that complainants are male, middle aged, non-white, and have slightly higher income (120% of the U.S. household median income).

Analysis of positive and negative WOM by Naylor (1999) suggests that women engage in significantly greater amounts of positive versus negative WOM. However, Zhang, Feick, & Mittal (2013) find that women are more likely to transmit negative WOM to their strong ties than to their weak ties, especially when they have a relatively high level of image-impairment concern. In the case of males, however, the transmission of negative WOM does not differ across tie strength depending on their image-impairment concern.

Based on the above arguments, we propose the following hypotheses:

- H1a:** Females are more likely to engage in positive OCR creation than males.
- H1b:** Males are more likely to engage in negative OCR creation than females.
- H2a:** Age has a negative effect on the likelihood of positive OCR creation.

- H2b:** Age has a positive effect on the likelihood of negative OCR creation.
- H3a:** Income has a negative effect on the likelihood of positive OCR creation.
- H3b:** Income has a positive effect on the likelihood of negative OCR creation.
- H4a:** Caucasians are more likely to engage in positive OCR creation than non-Caucasians.
- H4b:** Non-Caucasians are more likely to engage in negative OCR creation than Caucasians.

In summary, differences in OCR, eWOM, and CCB have been examined in terms of sociodemographic characteristics. While those are important drivers of behavior, other factors should be investigated as well. Personality is one of the factors that has been used extensively to explain human behavior and, thus, should also be investigated in the context of OCRs.

*OCRs and Personality Considerations.* There is a large body of literature on the psychological aspects of Internet use that may be helpful in understanding and predicting who will post OCRs. While personality types can be identified using a variety of instruments, the "Big Five Inventory" (BFI) is commonly used to identify personality type when studying variables related to technology. It is referred to as the most comprehensive and parsimonious model of personality (Costa & McCrae, 1992). The BFI identifies five personality types— *extraversion, neuroticism, openness, agreeableness, and conscientiousness*. Studies have shown that these personality traits predict the intent to share knowledge, individual differences in technology use, online social network site (SNS) applications, eWOM activity, and other forms of online behavior.

Extraverts are optimistic, gregarious, ambitious, and seek out new opportunities and excitement (McElroy, Hindrickson,

Townsend, & DeMarie, 2007), active, outgoing, and place high value on close and warm interpersonal relationships (Watson & Clark, 1997). A study by Wang & Yang (2007) suggests that extraversion is positively related to individuals' intentions to share knowledge. In terms of online behavior, extraverts spend more time texting (Ehrenberg, Juckes, White, & Walsh, 2008) and are more likely to forward video ads (Lane & Manner, 2014). Correa, Hinsley, & de Zuniga (2010) found that extraversion was correlated with the use of instant messaging on SNS. Wang, Jackson, Zhang, & Su (2012) found that extraverts are more likely to use the communicative function of SNS, including status update, comment, and adding more friends. Acar & Polonsky (2007) found that extraverts maintain bigger social networks on SNS. Looking specifically at Facebook, researchers have found that extraversion is associated with greater Facebook use (Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011; Seidman, 2013; Wilson, Fornasier, & White, 2010) and more friends (Amichai-Hamburger & Vinitzky, 2010; Moore & McElroy, 2012; Ryan & Xenos, 2011). A study by Ross et al., (2009) indicated that individuals high on the trait of extraversion belong to significantly more Facebook groups. Other studies show that extraverts use Facebook to communicate with others by contacting friends (Correa et al., 2010) and commenting on friends' pages (Gosling et al., 2011).

Since OCRs are created in virtual communities, individuals high in extraversion are expected to be more willing to post OCRs. By posting OCRs, extraverts are able to satisfy their need for social interaction (Costa & McCrae, 1992). Furthermore, people high in extraversion report higher levels of self-efficacy (Thoms, Moore, & Scott, 1996). As such, it is expected that individuals high in

extraversion believe they have sufficient competence to provide OCRs. This leads to the following hypothesis:

**H5:** Extraversion has a positive effect on the likelihood of OCR creation.

Yoo & Gretzel's (2011) study of the influence of personality on consumer-generated media found a positive interaction between extraversion and self-enhancement, concern for others, and venting negative feelings. Extraverts enjoy human interaction and gain energy by communicating with others. Extraverts may seek social contact with others to vent their feelings. Hence we posit:

**H5a:** Extraversion has a positive effect on the likelihood of positive OCR creation.

**H5b:** Extraversion has a positive effect on the likelihood of negative OCR creation.

Highly neurotic people tend to be fearful, distrustful, sad, embarrassed, and have trouble managing stress (McElroy et al., 2007). They tend to be anxious, self-conscious and paranoid (Devaraj, Easley, & Crant, 2008). Individuals scoring high in neuroticism spend more time texting and report stronger mobile phone addictive tendencies (Ehrenberg et al., 2008). Picazo-Vela, Chou, Melcher, & Pearson, (2010) found that neuroticism had a significantly negative effect on an individual's intention to provide an online review. With regard to neuroticism and technology use, Tuten & Bosnjak (2001) found that neuroticism was negatively related to amount of time spent on the Internet. However, other studies report that individuals high in neuroticism use the Internet more frequently to reduce loneliness (Amichai-Hamburger & Ben-Artzi, 2003) and are more likely to use it for instant messaging (Ehrenberg et al., 2008)

and social media (Correa et al., 2010). Forest & Wood (2012) found that low self-esteem, a trait closely linked to neuroticism, was associated with the belief that Facebook provided opportunities to connect with others, and to get support and attention under circumstances they feared would burden others offline. It is also argued that individuals high in neuroticism may become easily frustrated when something goes wrong during the process and thus believe that creating OCRs is a negative event (Picazo-Vela et al., 2010). That is, the tendency toward emotional instability may reduce the likelihood that neurotic individuals will provide OCRs because of the potential complexity of the task. Considering the above arguments, we expect individuals scoring higher in neuroticism will be less likely to post OCRs. Consequently, we hypothesize the following:

**H6:** Neuroticism has a negative effect on the likelihood of OCR creation.

Unlike other personality traits, a negative influence is found for neurotic individuals and the concern for others (Yoo & Gretzel, 2011). Because neurotics are generally anxious, pessimistic, and insecure, they are less likely to help or warn other consumers. According to previous studies, the goal of more neurotic individuals for creating eWOM to vent negative feelings (Seidman, 2013; Wang et al., 2012) and to seek advice (Seidman, 2013; Yoo & Gretzel, 2011). Creating OCRs can be a way for neurotics to lessen the frustrations from a negative purchase experience. Hence, we propose:

**H6a:** Neuroticism has a negative effect on the likelihood of positive OCR creation.

**H6b:** Neuroticism has a positive effect on the likelihood of negative OCR creation.

Individuals who score high in openness seek out new and varied experiences and value change (McCrae & Costa, 1997). Individuals with high scores on openness to experience are more likely to try new methods of communication (McCrae & Costa, 1997), have broad interests (Butt & Phillips, 2008), use the Internet for entertainment and product information (Tuten & Bosnjak, 2001), and play online games on SNS (Wang et al., 2012). Openness to experience has been correlated with the use of instant messaging (Correa et al., 2010) and the use of a wide variety of Facebook features (Amichai-Hamburger & Vinitzky, 2010). Those who are high on the trait of openness showed a greater tendency to be sociable through Facebook and report posting more on others' walls (Ross et al., 2009). Cabrera et al. (2006) found that openness is positively correlated with knowledge sharing intentions.

Although OCRs have been in use for years, it can still be considered as an unconventional method to share information for most individuals. In addition, Roesch, Wee, & Vaughn (2006) suggest that individuals who score high in openness are more flexible and thus may be better able to develop coping strategies that are appropriate for a given situation. Since providing an OCR can be considered a coping strategy for dealing with unpleasant consumer experiences, it is expected that individuals who are high in openness will be more likely to provide OCRs. As a result, we suggest the following hypotheses:

**H7:** Openness to new experiences has a positive effect on the likelihood of OCR creation.

**H7a:** Openness to new experiences has a positive effect on the likelihood of positive OCR creation.

**H7b:** Openness to new experiences has a positive effect on the likelihood of negative OCR creation.

People who score high in agreeableness are good natured, sympathetic, and forgiving (McElroy et al., 2007), likable, kind, helpful and cooperative (Graziano & Eisenberg, 1997). Devaraj et al. (2008) found that agreeable people viewed technology as useful. Phillips, Butt, & Blaszczynski (2006) concluded that those who scored lower in agreeableness were more likely to play games on their phones. Landers & Lounsbury (2006) found a negative relationship between agreeableness and Internet usage among college students. They suggest that students who do not get along with other students choose to spend more time on the Internet rather than interpersonal settings.

A number of studies (e.g. Cabrera, Collins, & Salgado, 2006; Matzler, Renzl, Müller, Herting, & Mooradian, 2008; Wang & Yang, 2007) suggest that agreeableness is positively related to knowledge sharing intentions. In addition, Munding & Le Boudec (2008) suggest that an OCR can be considered a cooperative behavior in the sense that it helps potential buyers make better choices. Thus, it is expected that individuals who have high levels of agreeableness perceive providing an OCR as helpful and cooperative behavior. Therefore, we hypothesize the following:

**H8:** Agreeableness has a positive effect on the likelihood of OCR creation.

Agreeable persons seek cooperation rather than competition because they are considerate and concerned with the well-

being of others. Therefore, our next two hypotheses are:

**H8a:** Agreeableness has a positive effect on the likelihood of positive OCR creation.

**H8b:** Agreeableness has a negative effect on the likelihood of negative OCR creation.

Conscientious people are known for their self-control and their need for achievement and order (Costa, McCrae, & Dye, 1991). Studies by Cabrera et al. (2006), Liao & Chuang (2004) and Wang & Yang (2007) suggest that conscientiousness is related to knowledge sharing intentions in both offline and online settings. Conscientious people are more likely to look for ways to use technology to be more efficient (Barrick & Mount, 1991) and they are more likely to find technology to be useful (Devaraj et al. 2008). Picazo-Vela et al., (2010) found that conscientiousness had a significant positive effect on an individual's intent to provide an online review.

Since providing an OCR can be considered a part of the overall transaction, it is expected that high conscientious individuals will engage in providing OCRs because they view it as a final step in completing a transaction (Picazo-Vela et al., 2010). Tan & Tan (2008) claim that low conscientious people may find it more acceptable to hide in the crowd and not contribute as much when the potential for behavioral evaluation is low. Since providing an OCR is a voluntary behavior, individuals scoring low in conscientiousness may be less likely to post OCRs. Consequently, we hypothesize that:

**H9:** Conscientiousness has a positive effect on the likelihood of OCR creation.

Generally, more conscientious people tend to think carefully before acting. They will carefully weigh the advantages and disadvantages of creating OCRs. Yoo & Gretzel (2011) suggest that conscientiousness positively influences self-enhancement as a motivation to create consumer-generated content. OCRs can also be created to obtain feedback from users (Mcintyre et al., 2016). More conscientious individuals may consider this a motivation for OCR creation. Accordingly, we hypothesize:

- H9a:** Conscientiousness has a positive effect on the likelihood of positive OCR creation.
- H9b:** Conscientiousness has a positive effect on the likelihood of negative OCR creation.

## METHOD

*Sample and Procedure.* An online survey (administered through Qualtrics) served to gather the data to answer the research questions. Social networking and various online techniques were used to draw participants to the survey. Specifically, undergraduate marketing students from a private, Southern university e-mailed a link to the online survey to student and non-student acquaintances. All participation was voluntary and informed consent was obtained before launching the survey. The survey was divided into three sections: (1) sociodemographic characteristics, (2) the Big Five personality factors, and (3) OCR behavior. The time needed to complete the survey was less than ten minutes. The online data collection technique recruited 771 participants; however, the elimination of incomplete responses reduced the final sample to 739 respondents for the data analysis. The data were downloaded,

screened for abnormalities, and analyzed using IBM SPSS Statistics 21.0 software.

*Measures.* The first dependent variable, *posted an OCR*, was measured as a dichotomous variable (1 = yes, I have posted an OCR; 0 = no, I have not posted an OCR). Among those who reported posting an OCR, there were three subsets: (1) those who posted only positive reviews, (2) those who posted only negative reviews, and (3) those who posted both positive and negative reviews. In order to test for differences between positive and negative reviewers, two dichotomous dependent variables were measured: *positive OCRs* (1 = posted only positive review and posted positive and negative review; 0 = posted only negative review) and *negative OCRs* (1 = posted only negative review and posted positive and negative review; 0 = posted only positive review). A fourth dependent variable, *number of OCRs*, measured the number of reported OCRs posted in the previous twelve months. In its original form, this variable had a significant positive skew (skewness = 3.15 and kurtosis = 11.623). As such, a square root transformation was performed. Once again, this variable was measured only for those who reported posting an OCR.

Sociodemographics included *gender* (1 = female; 0 = male), *age* (in years, mean-centered), *ethnicity* (1 = non-Caucasian; 0 = Caucasian), and *income* (1 = < \$25,000; 2 = \$25,001-50,000; 3 = \$50,001 – 75,000; 4 = \$75,001- 100,000; 5 = \$100,001-125,000; 6 = \$125,001-150,000; 7 = \$150,001-175,000; 8 = \$175,001-200,000; and 9 = > \$200,000). In order to test for a possible quadratic relationship, *age* and *age-squared* were included in all models. *Age* was mean-centered in order to avoid possible multicollinearity.

Personality was measured using John, Donahue, & Kentle's (1991) Big-Five Personality Inventory. This instrument (44 items) takes only a few minutes to complete,

so using it in an online survey enhances the response rate. For each item, users reported their level of agreement with a brief statement on a 1-5 scale that describes them. Each Big-Five trait score was calculated by summing the subject's responses. Reliability analyses on each factor were conducted. For the current sample, the internal Cronbach alphas were good, ranging from 0.861 for extraversion to 0.784 for conscientiousness.

*Analytic Approach.* To examine *RQ1* and the corresponding hypotheses (*H1-H9*), logistic regression was applied whereby *posted an OCR* was regressed by sociodemographics and personality. To examine *RQ2a* and *RQ2b*, logistic regression was also applied to predict *positive OCRs* and *negative OCRs*, and the sample was restricted to those who had posted an OCR ( $N = 335$ ). Finally, multiple linear regression analysis was used to predict the *number of OCRs* in the restricted sample.

## RESULTS

*Sample Characteristics.* The full sample consisted of 36.8% men and 63.2% women, ranging in age from 18 to 73, with an average age of 31.48 years. Almost half (48.9%) of the participants reported family income of more than \$75,000 per year. Most participants were Caucasian (89.9%), followed by African American (4.2%), Hispanic (2.1%), and Asian (1.8%). Of the 739 respondents, 335 reported that they have posted a review of a product or service online. The restricted sample consisted of 35.5% men and 64.5% women, with an average age of 32.87 years. The income and ethnicity characteristics of the restricted sample are very similar to those of the full sample. On average, those who posted an online review reported posting 3.92 reviews in the previous twelve months. Approximately 95% of those who posted online product reviews reported posting

positive reviews; 67% reported posting a negative review. Table 1 describes the full sample and restricted sample in detail.

*Correlations Among Study Variables.* Table 2 reports the Pearson's correlation coefficients for all the study variables. The sociodemographic variables were moderately intercorrelated, with gender positively associated with age and negatively associated with income. There was a significant correlation between age and age squared, even after age was mean centered. However, once the regression analysis was performed, all variance inflation factors (VIF) were well below five. Thus, multicollinearity was not a concern.

The personality variables were moderately intercorrelated, with more open individuals tending to be more extraverted and agreeable, and less neurotic. Agreeable individuals tend to be more extraverted, less neurotic, and more conscientious. Those scoring higher in conscientious are more extraverted and less neurotic.

Turning toward cross-domain correlations, gender and age were positively associated with agreeableness and conscientiousness and negatively associated with openness. Participant income was negatively associated with neuroticism and openness.

OCR behavior was moderately correlated with personality. In particular, posting a positive OCR is positively associated with agreeableness and conscientiousness. Posting a negative OCR is negatively associated with agreeableness.

*Prediction of Posting OCRs.* With respect to *RQ1* and the corresponding hypotheses (*H1-H9*), the results of the logistic regression analysis indicated significant differences among age, age squared, openness, and agreeableness in reported OCR behavior (see Table 3). Higher age is associated with an increasing likelihood of posting an OCR. However, the

association is non-linear or quadratic. The likelihood of posting an OCR increases until age 47 and then begins to fall, thus supporting (at least in part) *H2*. Of the five personality traits measured, openness and agreeableness were found to significantly predict product review posting. The odds

ratio indicates that a one unit increase in the openness measure a one unit increase in the openness measure is associated with a 4.5% increase in the odds of posting an online review. This supports *H7*. Similarly, for every one unit increase in the agreeableness scale, the likelihood of

**TABLE 1**  
Sample Characteristics

Characteristics	Full Sample ( <i>N</i> = 739)		Restricted Sample ( <i>N</i> = 335)	
	Frequency	Percent (%)	Frequency	Percent (%)
<i>Gender</i>				
Male	272	36.8	119	35.6
Female	467	63.2	216	64.4
<i>Age</i>				
18-19	42	5.7	15	4.5
20-29	383	51.8	163	48.6
30-39	114	15.4	58	17.3
40-49	105	14.2	51	15.2
50-59	66	8.9	34	10.1
60-69	26	3.5	13	3.9
70-79	3	0.0	1	0.0
<i>Income (\$)</i>				
<25,000	65	8.8	27	8.0
25,001-50,000	159	21.5	67	20.0
50,001-75,000	153	20.7	69	20.6
75,001-100,000	112	15.2	57	17.0
100,001-125,000	95	12.8	51	15.2
125,001-150,000	46	6.2	19	5.7
150,001-175,000	36	4.9	15	4.5
175,001-200,000	24	3.2	10	3.0
>200,000	49	6.6	20	6.0
<i>Ethnicity</i>				
African American	31	4.2	14	4.2
Asian	14	1.9	5	1.5
Hispanic	16	2.1	5	1.5
White/Caucasian	664	89.9	305	91.0
Other	14	1.9	6	1.8

**TABLE 2**  
Correlations among study variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	1													
2. Age <sup>a</sup>	.17*	1												
3. Age-squared	.06	.66*	1											
4. Income	-.12*	.09	.07	1										
5. Ethnicity	-.08	-.06	.01	-.01	1									
6. Extraversion	.05	-.06	-.05	.03	-.01	1								
7. Neuroticism	.22	-.07	-.07	-.12*	-.07	-.20*	1							
8. Openness	-.13*	-.14*	-.06	-.11*	.07	.19*	-.10*	1						
9. Agreeableness	.20*	.12*	.06	-.01	-.05	.21*	-.27*	.18*	1					

10. Conscientiousness	.14*	.11*	.04	.03	.01	.11*	-.34*	.09	.36*	1				
11. Posted an OCR	.02	.09	-.01	.01	-.05	.06	.00	.08	-.04	.04	1			
12. Positive OCR	.14	.00	-.13	-.02	-.11	.06	-.07	.04	.14*	.20*	-	1		
13. Negative OCR	-.02	.11	.3	.09	.09	.00	.07	-.01	-.16*	-.01	-	-.08	1	
14. Number of OCRs	-.09	-.01	.02	-.08	.09	.05	-.05	.18*	.00	.08	-	.02	.12	1

Note: The total sample was used for posted an OCR (N=739, and the sample was restricted to those who posted OCRs for positive and negative OCRs and number of OCRs (N=335). a Age is mean-centered; \*  $p < .01$ .

posting an online review decreased slightly (by 4.5%), after controlling for the other factors in the model. This result does not support our prediction that agreeableness would increase the likelihood of generating OCRs (H8).

*Prediction of Posting Positive and Negative OCRs.* To address RQ1a and RQ1b and the corresponding hypotheses (H1a-H9a and H1b-H9b), logistic regression was applied to predict positive OCRs and negative OCRs. Focusing on those respondents who reported posting an OCR, as shown in Table 3, age was found to be an important explanatory variable in predicting posting positive OCRs. Similar to the previous results, the association with age is quadratic, with the odds of posting a positive OCR increasing until age 38 and then falling. This supports H2a. Among the personality traits, only conscientiousness substantially predicted posting positive OCRs. A one-unit increase in conscientiousness is associated with an

11.4% probability of posting a positive OCR, thus supporting H9a.

Turning now to posting negative OCRs, for every unit increase in age, the probability of posting a negative OCR increases by 3.9%. The quadratic effect of age was not statistically significant. Therefore, the research supported H2b. Among the personality traits, those who score higher in agreeableness are less likely to post negative OCRs, showing a 7.9% decrease for every one unit increase in the agreeableness scale. This supports H9b.

*Prediction of Number of OCRs.* To explore the potential contribution of sociodemographics and personality in explaining OCR behavior further, a multiple linear regression analysis was computed. Using the restricted sample of those respondents who reported posting an OCR, the number of OCRs posted in the previous twelve months was set as the dependent variable. As can be seen in Table 3, only

Independent Variables	Posted OCR Exp( $\beta$ )	Positive OCR Exp( $\beta$ )	Negative OCR Exp( $\beta$ )	Number of OCRs <sup>b</sup> Standardized $\beta$
Gender	1.073	2.917	0.904	-0.078
Age	1.032**	1.071**	1.039**	0.023
Age Squared	0.999*	0.995*	0.999	0.032
Income	1.005	0.934	1.095	-0.085
Ethnicity	0.726	0.416	2.437	0.091
Extraversion	1.024	1.018	1.027	0.060
Neuroticism	1.003	0.966	1.031	0.000
Openness	1.045**	1.018	1.020	0.147**
Agreeableness	0.955*	1.040	0.921**	-0.050
Conscientiousness	1.020	1.114*	1.032	0.089
Constant	0.383	0.295	1.412	0.802
Likelihood Ratio $\chi^2$	28.572**	31.394**	25.757**	
Nagelkerke R <sup>2</sup>	0.051	0.249	0.099	
Model F				2.011*
Adjusted R <sup>2</sup>				0.031

*Note:* Logistic regression was used to predict *posted OCR*, *positive OCR*, and *negative OCR*. Multiple linear regression was used to predict the *number of OCRs* posted in the previous twelve months. The total sample was used to predict *posted OCR* ( $N=739$ ), and the sample was restricted to those who had posted an OCR to predict *positive OCR*, *negative OCR* and *number of OCRs* ( $N=335$ ). For the logistic regression, variance accounted for was based on Nagelkerke  $R^2$ .

\* $p < 0.05$ ; \*\* $p < 0.01$ ; <sup>a</sup> Age is mean centered. <sup>b</sup> Number of OCRs is square root transformed.

openness was significantly and positively a predictor of the number of OCRs posted in the previous twelve months.

*Summary of Results.* In summary, we did not find support for our predictions regarding gender (*H1*, *H1a*, and *H1b*), income (*H3*, *H3a*, and *H3b*), and ethnicity (*H4*, *H4a*, and *H4b*). We find partial support for *H2* and *H2a*. The likelihood of posting OCRs does decrease, at higher age levels. In terms of the Big Five personality traits, we found that openness to new experiences (*H7*) was a significant predictor of OCR creation. However, contrary to our prediction, agreeableness (*H8*) was found to reduce the likelihood of posting OCRs. Extraversion (*H5*), neuroticism (*H6*), and conscientiousness (*H9*) were unrelated to the likelihood of posting OCRs.

Concerning positive and negative OCRs, we find a quadratic relationship between age and the likelihood of posting a positive OCR. Age had the expected positive effect on posting negative OCRs (*H2b*). Among the Big Five personality traits, only conscientiousness was found to be a significant predictor of generating positive OCRs (*H9a*) and agreeableness was a significant predictor of creating negative OCRs (*H8b*). Extraversion (*H5a* and *H5b*), neuroticism (*H6a* and *H6b*) and openness to new experiences (*H7a* and *H7b*) were unrelated to the likelihood of posting positive and negative OCRs.

## DISCUSSION

One of the interesting aspects of OCRs is the inequality in the number of users and actual creators. A study by Pew Research Center found that while 78% of Internet users have researched products online, only 32% of

Internet users have actually posted OCRs (Jansen, 2010). Thus, from a marketing point of view, it is important to find out who posts OCRs and what drives them to create positive and negative OCRs. The findings of this study provide important insights regarding the sociodemographic characteristics and personality traits associated with OCR creation.

Previous studies have found significant gender differences in eWOM activity. In particular, eMarketer (2009) and Yoo & Gretzel (2008) suggest that eWOM creators are more likely to be male. Our results, however, show no significant difference with regard to gender and OCR behavior. There are several possible explanations for these inconsistencies. First, our analysis does not distinguish among the various platforms for posting OCRs. Posting on a website like Amazon or eBay is very different than posting a review on Facebook or a blog. Previous studies show that bloggers are mostly male (Technorati, 2011). On the other hand, recent work by Wang et al. (2016) indicates that females are more likely to engage in eWOM on social network sites. Second, OCR behavior may vary within product types. Yoo & Gretzel's (2008) finding that eWOM creators tend to be male is in the context of travel-related eWOM. For other goods and services, we might expect females to be more likely to generate OCRs. Third, previous studies relating gender to OCR or eWOM behavior do not account for the different personality types. Males tend to score higher in certain facets of openness (Weisberg, DeYoung, & Hirsch, 2011), which has a significant influence on eWOM creation motivations, such as self-enhancement, helping others,

and venting (Yoo & Gretzel, 2011). Consequently, the observed gender differences in eWOM activity found in some studies may be a reflection of underlying personality differences.

One of the most noteworthy findings of the current study is the non-linear (quadratic) association between age and OCR behavior. In particular, the likelihood of posting an OCR increases until the late 40s and then begins to fall. The odds of posting a positive OCR follows a similar pattern, with the turning point being somewhat earlier (late 30s). These patterns are likely a reflection of the consumer life cycle and technology acceptance rates. That is, consumers aged 40 to 50 are in their peak spending stage of the life cycle (Fernandez-Villaverde & Krueger, 2007). During this stage, they purchase more goods and services and will be inclined to review those products. Beyond age 50, Internet use (Pew Research Center, 2014a) and social media use (Pew Research Center, 2014b) begin to fall. As such, we would expect OCR behavior to decline as well. Interestingly, the odds of posting negative OCRs increases with age. Phau & Baird (2008) suggest that consumers over the age of 40 have higher expectations for the products they purchase and they are less concerned about social expectations and perceptions. Thus, they are more likely to complain. Furthermore, older consumers may have more time on their hands than younger consumers and are therefore more willing to expend the time and effort involved in making a complaint (Phau & Baird, 2008).

According to Jansen (2010), those in higher income brackets are more likely to post OCRs than those in lower income brackets. It is reasonable to assume that consumers with higher incomes purchase more goods and big-ticket items, therefore having more items to evaluate and review. Also, individuals with more income have

greater personal resources which enable them to express satisfaction and dissatisfaction more readily (Tronvoll, 2007). However, we found income to be unrelated to the likelihood of posting an OCR. We performed an ad hoc analysis to identify possible reasons for this discrepancy. Specifically, we recoded the income variable as nine separate binary variables and included those in the regression models, while omitting the median income category (the omitted reference group). Using this approach, we found that the likelihood of posting a negative OCR does increase at lower income levels. Once income is greater than \$75,000, the association between income and OCR behavior is no longer statistically significant. These results are consistent with Phau & Baird's (2008) findings that consumers with an income above \$40,000 are more likely to complain than those with income of less than \$40,000.

Regarding personality, our results reveal some expected and some unexpected results. Although extraversion was positively associated with all four measures of OCR behavior, none of the coefficients were statistically significant. This is somewhat surprising given that extraversion has been linked to information sharing and a number of online activities. Picazo-Vela et al. (2010) found similar results and suggests that the lack of face-to-face interaction may discourage extraverts from providing an OCR. These results suggest that online sellers may want to create a more interactive OCR platform in order to attract extraverts.

No association was found between neuroticism and OCR behavior. This could be the result of two countervailing factors. On the one hand, previous studies suggest neurotics may find OCR platforms too complicated and thus avoid posting OCRs in order to avoid the frustration (Picazo-Vela et al., 2010). On the other hand, previous

studies have also found that higher levels of neuroticism are related to the use of Web social services, such as chat rooms (Hamburger & Ben-Artzi, 2000) and instant messaging (Ehrenberg et al., 2008). Given that neuroticism is related to loneliness, anxious and nervous people may use these services to seek support and company (Correa et al., 2010). The same relationship may hold for OCR behavior. Neurotics may view OCRs as a means of connecting with others. Therefore, the different facets of neuroticism may have conflicting effects on OCR behavior.

Although OCRs have been in use for years, they are still considered a novel method of gathering and sharing information about an online transaction. Thus, it is no surprise that individuals who are more open to new experiences are more likely to post OCRs and tend to post OCRs more frequently. Online retailers who wish to develop more OCRs may consider updating their website regularly and develop new and unique online experiences in order to attract this personality type.

Picazo-Vela et al. (2010, p. 693) suggest “that to view providing an online review as cooperative behavior or as accurate information sharing may be questionable. Specifically, because almost all online reviews are posted anonymously by buyers as an expression of personal satisfaction or dissatisfaction, individuals with high levels of agreeableness may perceive providing an online review not as a cooperative behavior or information-sharing behavior but as a behavior of expressing personal feelings.” This notion, however, is inconsistent with Yoo & Gretzel's, (2011) study which found that reciprocity and altruism were strong motivations for eWOM creators with high levels of agreeableness.

We believe the reason for this apparent conflict in the literature is a failure to consider the impact of those who score

low on the agreeableness scale (i.e., people who are disagreeable) and their tendency to generate negative OCRs. The results presented in this paper indicate that more agreeable people are less likely to post a negative OCR. Conversely, more disagreeable people have a greater likelihood of posting a negative OCR. This could be the result of a higher motivation to vent or express anger about a negative purchase experience, as those who are disagreeable are often antagonistic and vindictive (Costa et al., 1991).

If disagreeable people post negative OCRs for venting purposes and agreeable people post OCRs in order to help others, regression analysis may fail to identify a statistically significant association between agreeableness and OCR behavior. Our full-sample analysis indicates that people who are more agreeable are less likely to post OCRs. However, this is the result of disagreeable people having greater odds of posting negative reviews.

To the extent that posting an OCR is a helping behavior, it is not surprising to find that more conscientious people have a higher likelihood of posting positive OCRs. Because conscientious people are generally self-motivated, achievement-oriented and task-oriented (Barrick & Mount, 1991; Costa & McCrae, 1992; Goldberg, 1993) and cooperative (Molleman, 2004), they post positive OCRs in order to help others to make better decisions. Furthermore, providing an online review could be considered a part of the overall transaction. As such, high conscientious individuals may post an online review because they view it as the last step in completing an online transaction (Picazo-Vela et al., 2010).

## CONCLUSION

In conclusion, the current study adds to a small body of research that focuses on the creators of OCRs. In particular, the results

of this investigation demonstrate the impact of sociodemographic factors and the Big Five personality traits in predicting OCR behavior. Findings of this study may be used by marketers to elicit more positive OCRs and fewer negative OCRs. For example, Yoo & Gretzel (2011) suggest that web sites with OCR platforms may integrate a brief personality quiz in the registration process. This information could be used to help encourage positive OCR creation and help enhance the trust placed in the content by those who read them. Additionally, online retailers could use “friendly reminders” targeted at those groups that are likely to post positive OCRs.

The current study has several important strengths and limitations. The first major strength is that it addresses an important and timely topic that is largely ignored in the literature. While OCRs are an influential source of consumer opinion, much of the research examines the receiver’s perspective rather than the sender. What remains relatively unknown is why consumers are inclined to post OCRs. This study is an attempt to address this research gap. Moreover, the results of this study are especially relevant in light of Amazon’s recent announcement to ban “incentivized” reviews. Under the new guidelines, “creating, modifying, or posting content in exchange for compensation of any kind (including free or discounted products) or on behalf of anyone else” is now prohibited (Amazon, 2016). Consequently, it is important for marketers to know more about the conditions that enhance the likelihood of providing OCRs without an extrinsic inducement. Second, the determinant that explain consumers’ decisions to engage in positive versus negative OCRs are likely to differ; however, there are no empirical studies that explore these factors. The current study is a first attempt to examine the role of sociodemographics and

personality in determining both positive and negative OCR behavior. Third, the current study builds on previous studies on the role of personality in providing OCRs (e.g., Picazo-Vela et al., 2010) by (1) utilizing a larger, more age-diverse sample, (2) utilizing a longer version of the Big-Five personality measure in order to obtain higher alphas and good factor analysis fit, and (3) analyzing actual OCR behavior rather than intent.

Several limitations in this study should be noted, providing new directions for future investigation. First, the sample was younger, more affluent, and less racially diverse than the general population. Consequently, the generalizability of the study is limited and further research on a broader demographic sample may be warranted. Second, individuals who reported posting only negative reviews represented a fairly small group in our sample. Though there were still a number of significant inter-group differences, researchers may want to over sample this group in the future. Third, we used self-reports of OCR behavior as our primary outcome variables. As such, common-method bias is a potential problem. Future researchers can adopt procedural methods to address this issue. Fourth, the present study did not distinguish among the different OCR platforms and product types. The conditions that enhance the likelihood of generating OCRs could vary depending on the type of platform being used. For example, those individuals who post OCRs on websites like Yelp and TripAdvisor may have a very different sociodemographic and/or personality profile than those who post on social media websites like Facebook or Instagram. Similarly, there may be significant differences according to the type of product being reviewed. These differences may be further complicated depending on whether the reviews are incentivized or not. Thus, we suggest that

future research examine various platform, product types, and forms of incentivization, which would ensure the generalizability of the present findings. Fifth, as mentioned in the literature review, previous research has given attention to the motivations for posting OCRs (e.g. Bechwati & Nasr, 2011; Dellarocas, 2003; Hennig-Thurau et al., 2004; McIntyre et al.). The current study does not consider motivation, focusing instead on sociodemographic and personality factors. Future researchers will want to incorporate measures of motivations in the analysis OCR behavior. Finally, a substantial proportion of the variance in OCR behavior remained unexplained. It is possible that some variables not included in the models could account for substantial variance. Future research should continue to identify the factors predicting OCR behavior. It would also be interesting to investigate the factors that influence the degree of positivity and negativity of OCRs. That is, what are the characteristics of an individual that may help predict the posting of glowing OCRs versus scathing OCRs? But, these are tasks for the future.

#### REFERENCES

- Acar, A. S., & Polonsky, M. (2007). Online Social Networks and Insights into Marketing Communications. *Journal of Internet Commerce*, 6(4), 55–72. <http://doi.org/10.1080/15332860802086227>
- Amazon. (2016). Community Guidelines. Retrieved March 3, 2017, from <https://www.amazon.com/gp/help/customer/display.html?nodeId=14279631>
- Amichai-Hamburger, Y., & Ben-Artzi, E. (2003). Loneliness and Internet use. *Computers in Human Behavior*, 19(1), 71–80. [http://doi.org/10.1016/S0747-5632\(02\)00014-6](http://doi.org/10.1016/S0747-5632(02)00014-6)
- Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in Human Behavior*. <http://doi.org/10.1016/j.chb.2010.03.018>
- Arndt, J. (1967). Role of Product-Related Conversations in the Diffusion of a New Product. *Source Journal of Marketing Research Journal of Marketing Research This*, 4(3), 291–295. Retrieved from <http://www.jstor.org/stable/3149462>
- Barrick, M. R., & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance: A Meta-Analysis. *Personnel Psychology*, 44(1), 1–26. <http://doi.org/10.1111/j.1744-6570.1991.tb00688.x>
- Bearden, W. O., & Mason, J. B. (1984). An Investigation of Influences on Consumer Complaint Reports. *ACR North American Advances*, NA-11. Retrieved from <http://www.acrwebsite.org/search/view-conference-proceedings.aspx?Id=5933>
- Bechwati, N., & Nasr, N. (2011). Understanding Triggers of Offline and Online Consumer Recommendations. *Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior*, 24, 56–68.
- BrightLocal. (2015). Local Consumer Review Survey. Retrieved April 3, 2016, from <https://www.brightlocal.com/learn/local-consumer-review-survey/>
- Butt, S., & Phillips, J. G. (2008). Personality and self reported mobile phone use. *Computers in Human Behavior*. <http://doi.org/10.1016/j.chb.2007.01.019>
- Cabrera, Á., Collins, W. C., & Salgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *The International Journal of Human Resource Management*, 17(2), 245–264.

- <http://doi.org/10.1080/09585190500404614>
- Chatterjee, P. (2001). Online Reviews: Do Consumers Use Them? *Advances in Consumer Research*, 28(1), 129–133.
- Cornwell, B., Bligh, A., & Babakus, E. (1991). Complaint Behavior of Mexican-American Consumers to a Third-Party Agency. *The Journal of Consumer Affairs*, 25(1), 1–18.
- Correa, T., Hinsley, A. W., & de Zuniga, H. G. (2010). Who interacts on the Web?: The intersection of users' personality and social media use. *Computers in Human Behavior*. <http://doi.org/10.1016/j.chb.2009.09.003>
- Costa, P., & McCrae, R. (1992). Revised NEO personality (NEOPI-R) and NEO five factor inventory (NEO-FFI) professional manual. *Odessa, FL: Psychological Assessment Resources*. Retrieved from <http://www.oalib.com/references/7491296>
- Costa, P. T., McCrae, R. R., & Dye, D. A. (1991). Facet Scales for Agreeableness and Conscientiousness: A Revision of the NEO Personality Inventory. *Personality and Individual Differences*, 12(9), 887–898. [http://doi.org/10.1016/0191-8869\(91\)90177-D](http://doi.org/10.1016/0191-8869(91)90177-D)
- Dellarocas, C. (2003). The Digitization of Word of Mouth: Promise and Challenges of Online Feedback Mechanisms. *Management Science*, 49(10), 1407–1424.
- Devaraj, S., Easley, R. F., & Crant, J. M. (2008). Research Note—How Does Personality Matter? Relating the Five-Factor Model to Technology Acceptance and Use. *Information Systems Research*. Retrieved from <http://pubsonline.informs.org/doi/abs/10.1287/isre.1070.0153>
- Digital Air Strike. (2014). Automotive Social Media and Reputation Trend Study. Retrieved April 3, 2016, from <http://digitalairstrike.com/2013-automotive-social-media-trends-study/>
- Dimensional Research. (2013). *Customer Service and Business Results: A survey of customer service from mid-size companies*. Retrieved from [https://d16cvnquvjw7pr.cloudfront.net/resources/whitepapers/Zendesk\\_WP\\_Customer\\_Service\\_and\\_Business\\_Results.pdf](https://d16cvnquvjw7pr.cloudfront.net/resources/whitepapers/Zendesk_WP_Customer_Service_and_Business_Results.pdf)
- Duan, W., Gu, B., & Whinston, A. B. (2008). Do online reviews matter? - An empirical investigation of panel data. *Decision Support Systems*. <http://doi.org/10.1016/j.dss.2008.04.001>
- East, R., Hammond, K., & Wright, M. (2007). The relative incidence of positive and negative word of mouth: A multi-category study. *International Journal of Research in Marketing*. <http://doi.org/10.1016/j.ijresmar.2006.12.004>
- Ehrenberg, A., Jukes, S., White, K. M., & Walsh, S. P. (2008). Personality and self-esteem as predictors of young people's technology use. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, 11(6), 739–41. <http://doi.org/10.1089/cpb.2008.0030>
- eMarketer. (2009). Can User-Generated Content Change Your World? Retrieved April 5, 2016, from <http://www.emarketer.com/Article/User-Generated-Content-Change-Your-World/1006888>
- Fernandez-Villaverde, J., & Krueger, D. (2007). Consumption Over the Life

- Cycle: Facts From Consumer Expenditure Survey Data. *The Review of Economics and Statistics*, 89(3), 552–565.
- Filieri, R. (2016). What makes an online consumer review trustworthy? *Annals of Tourism Research*, 58, 46–64. <http://doi.org/10.1016/j.annals.2015.12.019>
- Filieri, R., & McLeay, F. (2014). E-WOM and Accommodation: An Analysis of the Factors That Influence Travelers' Adoption of Information from Online Reviews. *Journal of Travel Research*, 53(1), 44–57. <http://doi.org/10.1177/0047287513481274>
- Forest, A. L., & Wood, J. V. (2012). When social networking is not working: individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, 23(3), 295–302. <http://doi.org/10.1177/0956797611429709>
- Godes, D., & Mayzlin, D. (2009). Firm-created word-of-mouth communication: evidence from a field test. *Marketing Science*, 28(4), 721–739. Retrieved from <http://www.jstor.org/stable/pdf/23884243.pdf>
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *The American Psychologist*, 48(1), 26–34. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/8427480>
- Gosling, S. D., Augustine, A. A., Vazire, S., Holtzman, N., & Gaddis, S. (2011). Manifestations of personality in Online Social Networks: self-reported Facebook-related behaviors and observable profile information. *Cyberpsychology, Behavior and Social Networking*, 14(9), 483–8. <http://doi.org/10.1089/cyber.2010.008>
- Graziano, W. G., & Eisenberg, N. (1997). *Handbook of Personality Psychology*. Elsevier. <http://doi.org/10.1016/B978-012134645-4/50031-7>
- Hamburger, Y., & Ben-Artzi, E. (2000). The relationship between extraversion and neuroticism and the different uses of the Internet. *Computers in Human Behavior*, 16(4), 441–449. [http://doi.org/10.1016/S0747-5632\(00\)00017-0](http://doi.org/10.1016/S0747-5632(00)00017-0)
- Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: What motivates consumers to articulate themselves on the Internet? *Journal of Interactive Marketing*, 18(1), 38–52. <http://doi.org/10.1002/dir.10073>
- Hogarth, J. M., & English, M. P. (2002). Consumer complaints and redress: an important mechanism for protecting and empowering consumers. *International Journal of Consumer Studies*, 26(3), 217–226. <http://doi.org/10.1046/j.1470-6431.2002.00239.x>
- Hung, K., & Li, S. (2007). The Influence of eWOM on Virtual Consumer Communities: Social Capital, Consumer Learning, and Behavioral Outcomes. *Journal of Advertising Research*, 47(4), 485–495.
- Jansen, J. (2010). Online Product Research. *Pew Internet & American Life Project Report*.
- John, O., Donahue, E., & Kentle, R. (1991). *The big five inventory—Versions 4a and 54*. Berkeley, CA: University of California. Retrieved from

- <http://www.scirp.org/reference/ReferencesPapers.aspx?ReferenceID=678746>
- Jones, S., & Fox, S. (2009). *Pew Internet Project Data Memo 1/28/09*. Online. Retrieved from [www.pewinternet.org/~media/Files/Reports/2009/PIP\\_Generations\\_2009.pdf](http://www.pewinternet.org/~media/Files/Reports/2009/PIP_Generations_2009.pdf)
- Kulmala, M., Mesiranta, N., & Tuominen, P. (2013). Organic and amplified eWOM in consumer fashion blogs. *Journal of Fashion Marketing and Management: An International Journal*, 17(1), 20–37. <http://doi.org/10.1108/13612021311305119>
- Landers, R. N., & Lounsbury, J. W. (2006). An investigation of Big Five and narrow personality traits in relation to Internet usage. *Computers in Human Behavior*, 22(2), 283–293. <http://doi.org/10.1016/j.chb.2004.06.001>
- Lane, W., & Manner, C. (2014). Who Tends to Forward Viral Advertising Videos? The Effect of Demographics, Social Media Use, and Personality on the Intent to Forward Viral Video Ads. *International Journal of Social Science Research*, 4(Fall), 18–32. Retrieved from [http://mustangjournals.com/IJSSR/v4\\_IJSSR\\_2014.pdf](http://mustangjournals.com/IJSSR/v4_IJSSR_2014.pdf)
- Lee, J., Park, D.-H., & Han, I. (2008). The effect of negative online consumer reviews on product attitude: An information processing view. *Electronic Commerce Research and Applications*, 7(3), 341–352. <http://doi.org/10.1016/j.elerap.2007.05.004>
- Lenhart, A., Madden, M., Macgill, A. R., & Smith, A. (2008, January 7). Teens and social media. Pew Internet and American Life Project. Retrieved from <http://apo.org.au/resource/teens-and-social-media#block-views-citation-popup-block>
- Liao, H., & Chuang, A. (2004). A Multilevel Investigation of Factors Influencing Employee Service Performance and Customer Outcomes. *Academy of Management Journal*, 47(1), 41–58. <http://doi.org/10.2307/20159559>
- Luca, M. (2016). *Reviews, Reputation, and Revenue: The Case of Yelp.com*. Harvard Business School. Retrieved from [http://www.hbs.edu/faculty/PublicationFiles/12-016\\_a7e4a5a2-03f9-490d-b093-8f951238dba2.pdf](http://www.hbs.edu/faculty/PublicationFiles/12-016_a7e4a5a2-03f9-490d-b093-8f951238dba2.pdf)
- Matzler, K., Renzl, B., Müller, J., Herting, S., & Mooradian, T. A. (2008). Personality traits and knowledge sharing. *Journal of Economic Psychology*, 29(3), 301–313. <http://doi.org/10.1016/j.joep.2007.06.004>
- McCrae, R. R., & Costa, P. T. (1997). *Handbook of Personality Psychology*. Elsevier. <http://doi.org/10.1016/B978-012134645-4/50032-9>
- McElroy, J., Hindrickson, A., Townsend, A., & DeMarie, S. (2007). Dispositional Factors in Internet Use: Personality Versus Cognitive Style. *MIS Quarterly*, 31(4), 809–820.
- McIntyre, S. H., McQuarrie, E. F., & Shanmugam, R. (2016). How online reviews create social network value: the role of feedback versus individual motivation How online reviews create social network value: the role of feedback versus individual motivation. *Journal of Strategic Marketing*, 24(3–4), 295–310. <http://doi.org/10.1080/0965254X.2015.1095218>
- McQuarrie, Edward F., Shelby McIntyre, and R. S. (2013). *What Motivates Consumers to Produce Online Reviews? Solidarity, Status, and the*

- Soapbox Effect*. (S. Botti & and A. Labroo, Eds.) *Advances in Consumer Research* (Vol. 41). Duluth, MN: Association for Consumer Research.
- Miller, N., Resnick, P., & Zeckhauser, R. (2005). Eliciting Informative Feedback: The Peer-Prediction Method. *Management Science*, *51*(9), 1359–1373.
- Molleman, E. (2004). Person-Job Fit Applied to Teamwork: A Multilevel Approach. *Small Group Research*, *35*(5), 515–539. <http://doi.org/10.1177/1046496404264361>
- Moon, J., & Sproull, L. (2008). The Role of Feedback in Managing the Internet-Based Volunteer Work Force. *Information Systems Research*, *14*, 494–515.
- Moore, K., & McElroy, J. C. (2012). The influence of personality on Facebook usage, wall postings, and regret. *Computers in Human Behavior*. <http://doi.org/10.1016/j.chb.2011.09.009>
- Morganosky, M. A., & Buckley, H. M. (1987). Complaint Behavior: Analysis By Demographics, Lifestyle, and Consumer Values. *ACR North American Advances*, *NA-14*. Retrieved from <http://acrwebsite.org/volumes/6691/volumes/v14/NA-14>
- Mudambi, S. M., & Schuff, D. (2010). What Makes a Helpful Online Review? A Study of Customer Reviews on Amazon.com. *MIS Quarterly*, *34*(1), 185–200. Retrieved from <http://ssrn.com/abstract=2175066>
- Mundinger, J., & Le Boudec, J.-Y. (2008). Analysis of a reputation system for Mobile Ad-Hoc Networks with liars. *Performance Evaluation*, *65*, 212–226. <http://doi.org/10.1016/j.peva.2007.05.004>
- Naylor, G. (1999). Why do they whine?: An examination into the determinants of negative and positive word-of-mouth. *Journal of Consumer Satisfaction, Dissatisfaction & Complaining Behavior*, *12*(1), 162–169.
- Naylor, G. S. (2016). Complaining Complementing and Word-of-Mouth in the Digital Age: Typology and Terms. *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior*, *29*, 131–142.
- Nielsen. (2015). Global Trust in Advertising. Retrieved April 3, 2016, from <http://www.nielsen.com/us/en/insights/reports/2015/global-trust-in-advertising-2015.html>
- Pan, L. Y., & Chiou, J. S. (2011). How Much Can You Trust Online Information? Cues for Perceived Trustworthiness of Consumer-generated Online Information. *Journal of Interactive Marketing*. <http://doi.org/10.1016/j.intmar.2011.01.002>
- Park, C., & Lee, T. M. (2009). Information direction, website reputation and eWOM effect: A moderating role of product type. *Journal of Business Research*. <http://doi.org/10.1016/j.jbusres.2007.11.017>
- Pew Research Center. (2014a). Internet User Demographics . Retrieved April 7, 2016, from <http://www.pewinternet.org/data-trend/internet-use/latest-stats/#>
- Pew Research Center. (2014b). Social Media User Demographics. Retrieved April 7, 2016, from <http://www.pewinternet.org/data-trend/social-media/social-media-user-demographics/>

- Phau, I., & Baird, M. (2008). Complainers versus non-complainers retaliatory responses towards service dissatisfactions. *Marketing Intelligence & Planning*, 26(6), 587–604. <http://doi.org/10.1108/02634500810902848>
- Phau, I., & Puspita Sari, R. (2004). Engaging in complaint behaviour. *Marketing Intelligence & Planning*, 22(4), 407–426. <http://doi.org/10.1108/02634500410542770>
- Phillips, J. G., Butt, S., & Blaszczyński, A. (2006). Personality and self-reported use of mobile phones for games. *Cyberpsychology & Behavior: The Impact of the Internet, Multimedia and Virtual Reality on Behavior and Society*, 9(6), 753–8. <http://doi.org/10.1089/cpb.2006.9.753>
- Picazo-Vela, S., Chou, S. Y., Melcher, A. J., & Pearson, J. M. (2010). Why provide an online review? An extended theory of planned behavior and the role of Big-Five personality traits. *Computers in Human Behavior*, 26(4), 685–696. <http://doi.org/10.1016/j.chb.2010.01.005>
- Roesch, S. C., Wee, C., & Vaughn, A. A. (2006). Relations between the Big Five personality traits and dispositional coping in Korean Americans: Acculturation as a moderating factor. *International Journal of Psychology*, 41(2), 85–96. Retrieved from <http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=20350176&S=R&D=a9h&EbscoContent=dGJyMNLe80Seprc4y9fwOLCmr0%2Bep65Sr6q4SrOWxWXS&ContentCustomer=dGJyMPGusk%2B0qLRLucPfgex43zx>
- Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in Human Behavior*, 25(2), 578–586. <http://doi.org/10.1016/j.chb.2008.12.004>
- Ryan, T., & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Computers in Human Behavior*, 27(5), 1658–1664. <http://doi.org/10.1016/j.chb.2011.02.004>
- Seidman, G. (2013). Self-presentation and belonging on Facebook: How personality influences social media use and motivations. *Personality and Individual Differences*. <http://doi.org/10.1016/j.paid.2012.10.009>
- Software Advice. (2015). New SoftwareAdvice.com. Retrieved April 3, 2016, from <http://www.greenindustrypros.com/article/12036489/new-softwareadvicecom-study-shows-importance-of-online-reviews>
- Sparks, B. A., & Browning, V. (2011). The impact of online reviews on hotel booking intentions and perception of trust. *Tourism Management*, 32(6), 1310–1323. <http://doi.org/10.1016/j.tourman.2010.12.011>
- Tan, H., & Min, T. (2008). Organizational Citizenship Behavior and Social Loafing: The Role of Personality, Motives, and Contextual Factors. *The Journal of Psychology*, 142(1), 89–108. Retrieved from <http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=510739471>

- &S=R&D=ofs&EbscoContent=dGJyM  
NLe80Seprc4y9fwOLCmr0%2Bep65S  
s6y4S6%2BWxWXS&ContentCustom  
er=dGJyMPGusk%2B0qLRLucPfgeyx  
43zx
- Technorati. (2011). State of the Blogosphere 2011. Retrieved April 5, 2016, from <http://technorati.com/state-of-the-blogosphere-2011/>
- Thoms, P., Moore, K. S., & Scott, K. S. (1996). The Relationship between Self-Efficacy for Participating in Self-Managed Work Groups and the Big Five Personality Dimensions. *Journal of Organizational Behavior, 17*(17), 349–362. Retrieved from <http://www.jstor.org/stable/2488546>
- Tronvoll, B. (2007). Complainer Characteristics When Exit is Closed. *International Journal of Service Industry Management, 18*(1), 25–51. <http://doi.org/http://dx.doi.org/10.1108/09564230710732885>
- Tuten, T. L., & Bosnjak, M. (2001). Understanding Differences in Web Usage: The Role of Need For Cognition and the Five Factor Model of Personality. *Social Behavior and Personality: An International Journal, 29*(4), 391–398. <http://doi.org/10.2224/sbp.2001.29.4.391>
- Vermeulen, I. E., & Seegers, D. (2009). Tried and tested: The impact of online hotel reviews on consumer consideration. *Tourism Management, 30*(1), 123–127. <http://doi.org/10.1016/j.tourman.2008.04.008>
- Wang, C.-C., & Yang, Y.-J. (2007). Personality and Intention to Share Knowledge: An Empirical Study of Scientists in an R&D Laboratory. *Social Behavior and Personality: An International Journal, 35*(10), 1427–1436. <http://doi.org/10.2224/sbp.2007.35.10.1427>
- Wang, J.-L., Jackson, L. A., Zhang, D.-J., & Su, Z.-Q. (2012). The relationships among the Big Five Personality factors, self-esteem, narcissism, and sensation-seeking to Chinese University students' uses of social networking sites (SNSs). *Computers in Human Behavior, 28*(6), 2313–2319. <http://doi.org/10.1016/j.chb.2012.07.001>
- Wang, T., Keng, R., Yeh, -Jung, Chen, C., & Tsydypov, Z. (2016). What drives electronic word-of-mouth on social networking sites? Perspectives of social capital and self-determination. *Telematics and Informatics, 33*, 1034–1047. <http://doi.org/10.1016/j.tele.2016.03.005>
- Watson, D., & Clark, L. A. (1997). *Handbook of Personality Psychology. Handbook of Personality Psychology*. Elsevier. <http://doi.org/10.1016/B978-012134645-4/50030-5>
- Weisberg, Y., DeYoung, C. G., & Hirsch, J. (2011). Gender differences in personality across the ten aspects of the Big Five. *Frontiers in Psychology, 2*, 1–11. <http://doi.org/10.3389/fpsyg.2011.00178>
- Wilson, K., Fornasier, S., & White, K. M. (2010). Psychological predictors of young adults' use of social networking sites. *Cyberpsychology, Behavior and Social Networking, 13*(2), 173–7. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20528274>
- Word of Mouth Marketing Association (WOMMA). (2005). WOM 101. *Word of Mouth Marketing Association (WOMMA) White Paper*. Retrieved

from [http://www.veryweb.it/wp-content/uploads/2006/07/womma\\_wom101.pdf](http://www.veryweb.it/wp-content/uploads/2006/07/womma_wom101.pdf)

Ye, Q., Law, R., & Gu, B. (2009). The impact of online user reviews on hotel room sales. *International Journal of Hospitality Management*, 28(1), 180–182.  
<http://doi.org/10.1016/j.ijhm.2008.06.011>

Yoo, K. H., & Gretzel, U. (2008). What Motivates Consumers to Write Online Travel Reviews? *Information Technology & Tourism*, 10(4), 283–295.  
<http://doi.org/10.3727/109830508788403114>

Yoo, K. H., & Gretzel, U. (2011). Influence of personality on travel-related consumer-generated media creation. *Computers in Human Behavior*.  
<http://doi.org/10.1016/j.chb.2010.05.002>

Zhang, Y., Feick, L., & Mittal, V. (2013). How Males and Females Differ in Their Likelihood of Transmitting Negative Word of Mouth. *Journal of Consumer Research*, 40.  
<http://doi.org/10.1086/674211>

Jackson, TN 38305-3697  
[wlane@uu.edu](mailto:wlane@uu.edu)

---

---

Christopher K. Manner  
McAfee School of Business  
Union University  
1050 Union University Drive  
Jackson, TN 38305-3697  
[cmanner@uu.edu](mailto:cmanner@uu.edu)

Wilburn C. Lane  
McAfee School of Business  
Union University  
1050 Union University Drive