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The influence of online reviews on decision making – implications to the travel industry

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ABSTRACT: This study adopts a quantitative approach using a factorial between-subjects experimental design to determine the effects of online reviews on brand trust and consumer equity. Customer equity links closely with customer value, brand value and relationships unlike willingness to buy. An online user discussion forum was purpose-built to conduct experimental research for this study, using a restricted probability sample of 269 participants drawn from a registered US online panel. The key findings from the research are: (a) that the valence of consumer-to-consumer online reviews positively affects consumer equity, which further supports previous findings; (b) that negative online reviews cause value equity to decrease, positive online reviews cause brand equity to increase, and negative online reviews cause brand equity and relationship equity to decrease equally; (c) as brand trust increases, the change in the consumer equity drivers (value, brand and relationship) tend to become more negative, thereby affecting customer equity (this is a significant new finding); and (d) that contrary to the literature, consumer-to-consumer online reviews demonstrated no significant relationship with brand trust.

KEY WORDS: *Brand trust, consumer equity, online reviews, value*

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1.   Introduction

The rapid adoption and wide-scale use of Internet-based information is transforming markets around the globe. An essential part of this transformation is driven by consumers who have embraced a specific type of information, often referred to as user-generated or consumer-to-consumer (C2C) online information, but more broadly dubbed word-of-mouth (WOM) communication. Internet technologies enable consumers to share their opinions and experiences of using goods and services with a large number of other consumers and potential consumers. When they do this online, they are engaging in a form of 'electronic' WOM communication referred to as eWOM (Hennig-Thurau et al. 2004).

Online reviews (ORs) – the most frequently used form of eWOM communication (Schindler & Bickart 2005) – influence the consumer decision-making process. Consumers and potential consumers access online reviews to reduce transactional risk, as well as doubts about firms and their offerings, prior to initiating a consumer relationship (Hennig-Thurau & Walsh 2003; Cheong & Morrison 2008; Lee, H-H & Ma 2012). This approach, whereby consumers communicate and gather product and service information amongst themselves, is a dramatic change from the past decade. As a consequence of the rising use of eWOM, firms are no longer the sole source of communication about themselves, and are thus at risk of losing control of the messages that consumers and potential consumers receive about their products, services and brands.

That firms now operate in an overall climate of general mistrust by consumers of business and its products exacerbates their difficulties with image control (Lantieri & Chiagouris 2009). According to the 2013 Edelman Trust Barometer, based on a sample of 26 000 respondents representing the global general population, the public's overall 'trust in business' was measured at 58 per cent, which means 42 per cent were rated as 'not a truster' (Edelman 2013). This statistic is highly relevant to this study, since consumer banking relationships were the backdrop for this research, and financial services were the least trusted industry globally, with 54 per cent of respondents rating them as not trustworthy.

In response to the crisis in trust and loss of control, some firms have attempted to harness this new communication channel with varying and unreliable results. These responses run the gamut from overwhelming consumers and creating scepticism (Sher & Lee 2009), to outright deception and documented fraud through intentional manipulation of online reviews (Dellarocas 2006; Hu et al. 2012). Hennig-Thurau (2010) concluded that the enormous rise in new media is highly disruptive to the management of relationships with consumers.

The rationale for this study is based on the argument that by adopting the consumer equity (CE) perspective, a firm can improve its marketing productivity over the long term by strengthening its consumer relationship. This is because, when the strength of those consumer relationships is studied as a measure of a firm's level of consumer equity, management acquires new insight on the effects of eWOM (Luo 2009; Tirunillai & Tellis 2012; Luo, Zhang & Duan 2013).

Many of the previous online reviews studies have focussed on short-term outcomes. Cheung and Thadani (2012) note that the two most investigated outcomes of current studies of eWOM communication are: (1) attitude, conceptualised as leading to purchase intent, where purchase intention is positively associated with purchase; and (2) eWOM (information) adoption, conceptualised as leading to purchase intent. The significant contribution of this study, which is different to the existing literature, is its focus on the consequential effects that positive and negative online reviews have on factors associated with relatively long-term measures of firm performance (customer equity). That is, the findings will focus on the relationship between online reviews, brand trust and the three drivers of customer equity (value, brand and relationship), which has so far received little attention.

2.   Research questions

There is an urgent need for management to better understand the impact that C2C online reviews have on its consumer relationships and the role of brand trust, so that they can provide a strategically informed, evidence-based response to the phenomenon. To address this research problem, four specific research questions were posed. First, what is the effect of the valence of online reviews on the three observable drivers (value equity, brand equity and relationship equity) of customer equity? Second, what is the relative impact of the valence of online reviews on the three observable drivers (value equity, brand equity and relationship equity) of customer value? Third, what is the effect of brand trust on the three observable drivers (value, brand and relationship equity) of customer value? And fourth, what is the effect of the valence of online reviews on brand trust? In summary, findings from these questions will provide management with a greater insight into online reviews and customer equity.

3.   Conceptual framework

The conceptual framework underpinning this study is shown in Figure 1. It depicts a composite latent variable model that identifies the constructs, and describes the proposed relationships between the independent variable (online reviews), the mediating variable (brand trust) and the dependent variable (customer equity). Here, online reviews are conceptualised as inputs to customer equity, which is typically a long-term measure. In the case of the customer equity and brand trust constructs, the direction of causality flows from the observable latent indicators to each associated latent construct. In the case of online reviews, there are three controlled experimental treatments: positive online review treatment set, balanced online review treatment set and negative online review treatment set.
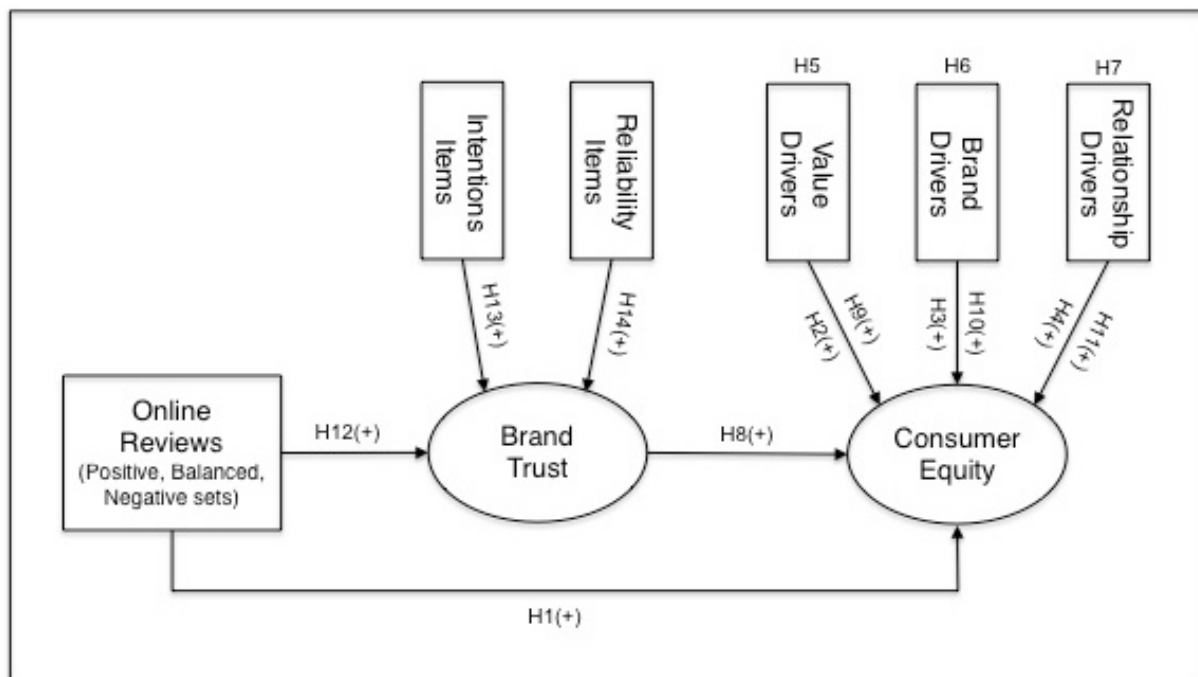

Figure 1 - Conceptual framework

In the context of implementing this online experiment, three variables are used: customer equity (three observed latent indicators: value, brand and relationship equity drivers); brand trust (two observed latent indicators: reliability items and intentions items); and the three experimental treatment variables (positive, negative and balanced online review treatment sets). In addition, a fourth dependent variable is used and is referred to as the outcome or criterion variable for this experiment. This fourth variable measures the difference between the pre-experimental treatment (pre-test) scores and the post-experimental treatment (post-test) scores for the three customer equity drivers. In the context of this study, the outcome (or criterion) variable is referred to as 'change scores'.

3.1 Consumer equity (CE)

Consumer equity is a theoretical framework that represents a combination of the value of a firm's current customer assets and the value of the firm's potential customer assets. It is an aggregate measure of consumer profitability, and is defined by Rust et al. (2004) as the total of the discounted customer lifetime value (CLV) summed over all of the firm's current and potential consumers. The three customer equity drivers are antecedents of customer equity and are: (1) value equity drivers (VEDs) which is an objective measure of a consumer's overall assessment of the utility of a product or service based on perceptions of what is received and what is given (Zeithaml 1988), (2) brand equity drivers (BEDs) which reflect the customer's subjective and intangible assessment of the [firm's] brand, above and beyond its objectively perceived value (Lemon, Rust & Zeithaml 2001), and (3) relationship equity drivers (REDs) which reflect the tendency of the customer to stick with the brand, above and beyond the customer's objective and subjective assessments of the brand (Lemon, Rust & Zeithaml 2001).

The selection of customer equity as the dependent variable in the conceptual model was based on the reasons that: (1) 'for companies adopting the customer equity perspective and the use of the customer equity diagnostic tool…[there can be an increased capability to] identify key opportunities for growth and illuminate unforeseen vulnerabilities' (Lemon, Rust & Zeithaml 2001), (2) the financial benefits for companies adopting the customer equity perspective are also supported in the literature such as by Venkatesan and Kumar (2004), Kumar and Shah (2009) and Bick (2009) who suggests that a shift to a customer-centric view could result in 'great improvements' in the overall profitability of a firm's marketing investments [return on investment-ROI], and (3) Kumar and George (2007) note that customer equity management practices will become the key to the success of firms in the long run where customer equity represents a long term customer-focused outcome for firms that, when linked with eWOM communication, represents an understudied area in the literature. This point is reflected by Libai et al. (2010) who suggest it would be useful for future research to consider additional aspects of C2C effects [eWOM] using the customer equity approach.

The measurement items for the customer equity construct are adapted from the survey items used by Rust et al. (2004) to measure the customer equity drivers. The survey items used to measure these dimensions were based on 200-point visual analogue scale (VAS) anchored between 'very high quality' (200) to 'very low quality' (0) for question CEV-1 (customer equity value -1); between 'very high quality' (200) to 'very low quality' (0) for question CEV-2; between 'very competitive' (200) to 'not at all competitive' (0); and for CEV-3, CEB-1 through CEB-6 (customer equity brand-6) and CER-1 (customer value relationship-1) through CER-4; between 'strongly agree' (200) to 'strongly disagree' (0) (Table 1). One question, CER_5, was removed as a result of a tautological conflict with the mediating variable. A 40-point movement on the VAS would equal a 1-point movement on a five-point Likert scale.

Table 1: Items to measure consumer equity

Adapted from: Rust, Lemon and Zeithaml (2004, p. 126)

Item ID	Value equity-related driver items
CEV_1	How would you rate the overall quality of XYZ Bank?
CEV_2	How would you rate the competitiveness of the prices of XYZ Bank?
CEV_3	XYZ Bank provides the financial services I need.

Item ID	Brand equity-related driver items
CEB_1	I often notice and pay attention to XYZ Bank brand's media advertising.
CEB_2	I often notice and pay attention to information XYZ Bank brand sends to me.
CEB_3	XYZ Bank brand is well known as a good corporate citizen.
CEB_4	XYZ Bank brand is an active sponsor of community events.
CEB_5	XYZ Bank brand has high ethical standards with respect to its consumers and employees.
CEB_6	The image of XYZ Bank brand fits my personality well.

Item ID	Relationship equity-related driver items
CER_1	I know XYZ Bank's consumer service procedures well.
CER_2	XYZ Bank knows a lot of information about me.
CER_3	XYZ Bank recognises me as being special.
CER_4	I feel a sense of community with other consumers of XYZ Bank.
CER_5	I have a high level of trust in XYZ Bank.

*The reference to 'XYZ' is used as a generic name to be determined during the experiment for each participant.

3.2 Brand trust (BT)

Brand trust is the willingness of the average consumer to rely on the ability of the brand to perform its stated function (Chaudhuri & Holbrook 2001). The selection of brand trust as the mediating variable in the conceptual model was based on two areas of research in the literature: (1) the study of effects of different information sources on brand trust (Ha & Perks 2005; Li & Miniard 2006; Sweeney, Soutar

& Mazzarol 2008; Wang, Fuan & Yu 2010), and (2) the study of customer focused relational mediators most commonly used in relationship marketing models.

First, in addition to marketer-controlled sources of information (e.g., advertising), a consumers' brand trust is also influenced by direct experience, WOM and the media. Wang, Fu and Yu (2010) report that, although direct experience was the most influential contributor to building brand trust, but both advertising and WOM were also effective. Hence, there is the need to study the effects of WOM on brand trust in the conceptual model. Understanding the individual influence of WOM messages targeting each of the customer equity drivers on brand trust will add to the discussion.

Second, in the relational marketing literature, brand trust is a well-known consumer-brand relationship construct that plays an essential role in successful marketing relationships with customers. Particularly customers categorised on a continuum as being 'high relational' compared with 'low relational' where low relational customers are typically targeted with transactional marketing programs (Garbarino & Johnson 1999). In a widely cited meta-analysis of relationship marketing, Palmatier et al. (2006) standardised terms and itemised the mediators of relationship marketing identifying the top three in order of significance: commitment, trust, and satisfaction. Satisfaction has been known to influence trust but is not a precursor (Ha & Perks 2005; Hess & Story 2005; Luk & Yip 2008). 'Trust and commitment play differing and complementary roles' (Aurier & N'Goala 2010). Commitment to a customer relationship enhances customer retention and helps to avert customers from developing relationships with other competitors. Meanwhile trust is more crucial when firms attempt to improve revenue and margin, and to leverage customer lifetime value.

The measurement items for BT were based on a two-dimension (reliability items and intentions items) measurement model developed and validated by Delgado-Ballester et al. (2003) (2004). Each of the two dimensions has four items. The measurement scales for these items were based on a five-point Likert scale anchored between 'completely disagree' (1) and 'completely agree' (5) (Table 2).

Table 2: Items to measure BT

Adapted from: Delgado-Ballester (2004, p. 256)

Item ID	Reliability items
BTR_1	XYZ* Bank is a brand name that meets my expectations.
BTR_2	I feel confidence in XYZ Bank brand name.
BTR_3	XYZ Bank is a brand name that never disappoints me.
BTR_4	XYZ Bank brand name guarantees satisfaction.
Item ID	Intentions items
BTI_1	XYZ Bank brand name would be honest and sincere in addressing my concerns.
BTI_2	I could rely on XYZ Bank brand name to solve the problem.

BTI_3	XYZ Bank brand name would make any effort to satisfy me.
BTI_4	XYZ Bank would compensate me in some way for problems I experience with the financial services I receive from them.

* The reference to 'XYZ' is used as a generic name to be determined during the experiment for each participant.

4. Online reviews (ORs)

Online reviews are peer-generated product evaluations posted on marketer or third party websites (Mudambi & Schuff 2010). The ways in which consumers communicate with each other have been changing dramatically over the last decade; the same is true for how consumers gather and exchange information about products, as well as how they obtain and consume them. The plethora of new media has provided consumers with extensive options for actively providing information on services and products (Hennig-Thurau et al. 2010). These consumer opinions can potentially be seen by millions, are available for long periods of time, and may be encountered by purchasers at precisely the time they are searching electronically for information about a firm and its products or services (Ward & Ostrom 2002).

A study by Schindler and Bickart (2005) confirms that the influence of online reviews is broadly spread across the entire consumer decision-making process. Chevalier and Mayzlin (2006) reported evidence that consumer-generated online reviews affected purchasing behaviour on two online book resellers they had studied. Powered by Web 2.0 platforms and models (Wirtz, Schilke & Ullrich 2010), online social media such as online reviews are expected to continue their rapid growth; in addition, traditional knowledge diffusion dynamics for WOM will improve and accelerate, serving to increase the influence of eWOM in the future (Morone & Taylor 2004).

The selection of online reviews as the independent variable in the conceptual model was based on the reasons that: (1) the influence of eWOM across the consumer decision-making process is a contemporary marketing phenomenon that is growing rapidly into a powerful marketing force, (2) online reviews are the most frequently used source of eWOM communication, and (3) there have been an increasing number of calls in the literature for additional research to be conducted on this new phenomenon in order to fill the research gap created by the need to better understand the effects of WOM and eWOM (e.g. Godes and Mayzlin (2004), Keller and Lehmann (Keller & Lehmann 2006), and Luo (2009)).

5. Hypotheses

As shown in Figure 1, fourteen hypotheses were used in this study. An explanation of why each hypothesis is being adopted and its contribution to the research questions are addressed below.

5.1 Online reviews and consumer equity

Online reviews represent an increasingly popular and important new information channel (Chen & Xie 2008). Whether it is in relation to direct sales or purchase intent, online reviews have proven to be a significant influential factor with several examples evident in the literature (Chevalier & Mayzlin 2006; Lin, Huang & Yang 2007; Duan, Gu & Whinston 2008; Forman, Ghose & Wiesenfeld 2008). Also notable in the literature are the varying effects that the valence of online reviews have on consumer decision-making (e.g. Cui et al.,(2012); Kim & Gupta, (2012) Ludwig et al., (2013) Zhang et al., (2010)).

Previous research has identified that there are several factors that can be influenced by the message valence of online reviews. Typically, the effects can moderate or amplify behaviour or attitudinal outcomes. For example, in extreme cases of positive or negative communications, Ludwig et al. (2013) found that during sharp increases in positive affective content, contrary to intuition, the conversion rate (that is, the impact on sales) increases are smaller than if the positive affective content increase was more moderate.

Drawing upon attribution theory, (Kelley 1973) also provides evidence of the influence of message valence on consumer decision-making. Kelley notes that the consensus principle in an attribution has been shown to afford a basis for confidence in one's judgment. In other words, support from other individuals tends to increase adherence to one's opinions, and disagreement with others tends to reduce certainty and increase the likelihood of change.

Thus, subject to the perception of a participant and their prior beliefs, exposure to negative or positive stimuli from others may influence a participant's behaviours, attitudes and judgments. Mizerski and Green (1978) conclude that in the process of attributing the causes for events (e.g. product experience, WOM information or advertising), beliefs about the stimulus product are formed, which may then prompt the development of affect. Furthermore, Mizerski (1982) reported evidence that subjects receiving unfavourable information led to stronger affect and stronger beliefs in subjects' post-test measures.

Online reviews can contain persuasive message content that can be perceived by the 'receiver' as objective, subjective, affective or any combination of the three. That is, the message can appeal to the value equity facet of customer equity, the brand equity facet of customer equity or the relationship equity facet of customer equity. Alternatively, it can be a combination of each or an appropriation of all the drivers together in one single message (as determined by the content in each message). The resulting effects on customer equity – be they persuasive or pointless – currently go unmeasured and are relatively unknown. Hence, H1 to H4 were used to address the first research question.

There is a positive relationship between the valence of online reviews (ORs) and customer equity (CE).
There is a positive relationship between the valence of online reviews (ORs) and the value equity drivers (VEDs) of customer equity (CE).
There is a positive relationship between the valence of online reviews (ORs) and the brand equity drivers (BEDs) of customer equity.
There is a positive relationship between the valence of online review (ORs) and the relationship equity drivers (REDs) of customer equity (CE).

5.2   *Relative impact of the three drivers of consumer equity*

Determining the varying effects of the valence of ORs on the CEDs (H1–H4) is a valuable but merely initial contribution. By using the findings from the first research question, it is then possible to determine the relative impact of each of the CEDs. In measuring the relative impact of ORs on the three CEDs, the posited varying effects can be analysed to determine how marketers can strategically allocate limited tactical marketing resources amongst the three CEDs so as to maximise their return on equity from the firm's 'consumer asset'. Rust et al. (2004) note that managers are constantly faced with the problem of how to trade off competing strategic marketing initiatives, and they conclude that, in this way, it is possible to show how marketing expenditures add to shareholder value. This view is further supported in the findings of Kumar and Shah (2009) and Kumar and George (2007), who conclude that, in the disaggregate-level approach, customer lifetime value (CLV) is maximized by implementing consumer-level strategies such as optimal resource allocation. However, Lemon et al. (2001) conclude that in order to adopt the customer value approach, a firm will need to assess which of the three customer equity drivers is most important to their specific business situation. For example,

Vogel et al. (2008) reported the results of their study which found that value equity drivers (VEDs) and brand equity drivers (BEDs) were the most important drivers in establishing future sales. Lemon et al. (2001) suggest that value equity is the keystone of the consumer's relationship with the firm. If the firm's products and services do not meet the consumer's needs and expectations, even the best brand strategy and the strongest retention and relationship marketing strategies will be insufficient. Thus, it is of critical importance to determine which of the customer equity drivers have the largest impact on customer equity (CE), as posed in the second research question.

Based on the previous discussion, it is reasonable to expect that the value equity drivers (VEDs) should have the highest impact on overall customer equity (CE), while the brand equity drivers (BEDs) should have the second highest impact on customer equity (CE). Hence, H5–H7 were used to address the second research question.

Value equity drivers (VEDs) have the highest impact on customer equity (CE).
Brand equity drivers (BEDs) have the second highest impact on customer equity (CE).
Relationship equity drivers (REDs) have the third highest impact on customer equity (CE).

5.3   *Brand trust (BT) and consumer equity*

Trust is a principle aspect of any relationship; the level of its existence is a testament to a relationship's strength. In their study, Delgado-Ballester and Munuera-Alemán (2001) demonstrated the central role of brand trust in affecting consumers' commitment, especially in situations of high involvement, thereby resulting in a stronger effect of brand trust in comparison to overall satisfaction. An increase in consumer commitment would contribute to the creation of that 'stickiness' of the consumer to the firm that is paramount for relationship equity. This is consistent with the commitment-trust theory of relationship marketing (Morgan & Hunt 1994) that identifies trust as a key mediating variable in the desire to develop a stronger consumer-firm relationship over the long term, thereby influencing brand and relationship equity.
Delgado-Ballester and Munuera-Alemán (2001) further suggest that higher effects of brand trust on consumer commitment would influence the price tolerance that consumers have towards the brand thus capitalising on the strength of existing brand equity as well as contributing to the increased perception of value equity. In an empirical study by Ramaseshan et al. (2013), who examined the impact of the three CEDs on consumer loyalty in a business-to-business (B2B) setting, they conclude that trust partially mediates the relationship between value equity and loyalty, and fully mediates the relationship between relationship equity and loyalty.

As such, there is evidence in the literature supporting the idea that brand trust (BT) – as both a factor and a mediating variable – can affect value equity drivers (VEDs), brand equity drivers (BEDs) and relationship equity drivers (REDs) individually. In this research study, the effects of brand trust (BT) on customer equity will be tested at both the disaggregated level (i.e. each of the three customer equity drivers) and at the aggregate level (i.e. CE). Hence, H8–H11 were used to address the third research question.

H8:   There is a positive relationship between brand trust (BT) and customer equity (CE).
H9:   There is a positive relationship between brand trust (BT) and the value equity drivers -VEDs (observable) of customer equity (CE).
H10:   There is a positive relationship between brand trust (BT) and the brand equity drivers -BEDs (observable) of customer value (CE).
H11:   There is a positive relationship between brand trust (BT) and the relationship equity drivers - REDs (observable) of customer equity (CE).

5.4 Online reviews and brand trust

Murray (1991) found that, due to higher perceived risk, personal sources are preferred for services over impersonal sources of information and much more so than for goods. 'Personal sources' refers to WOM and logically in more recent years to eWOM (e.g. ORs). One of the motives for using online reviews is risk reduction during the decision-making process (Burton & Khammash 2010). It is the possibility of reducing risk for consumers where trust becomes vitally important, specifically in many relational exchange situations to reduce the perceived risk of a service outcome (Kantsperger & Kunz 2010).

Cheng et al. (2013) found that the effect of online consumer review valence, as mediated by the (brand) trust-reliability dimension, explained 82 per cent of the variance in the willingness to buy. Similarly, Cheung et al. (2008) found positive online consumer reviews enhance the relationship between respondents' emotional trust towards the online vendor and their intention to shop online. However, this relationship was not as evident with negative online consumer reviews. Conversely, Romaniuk and Bogomolova (Romaniuk & Bogomolova 2005), in instances when levels of brand trust did deviate between brands (either positively or negatively), found the negative deviations seemed to be linked to highly publicised negative issues, whereas positive deviations were more difficult to explain in a generalised manner. In a study about the effects of valence and sequence direction of information on online trust, Benedicktus and Andrews (2006) reported that trust varies positively with the valence of a firm's reputation and is similarly dependent upon whether the trend decreases or increases over time.

In sum, these examples provide evidence of a clear possibility that a causal relationship exists between the variables. The literature confirms that the valence of online reviews has many effects and possible biases. As yet, there is no convergence in the literature of a single agreed upon explanation. The expectations of a possible mediating effect, as well as varying degrees of influence, based on valence and prior levels of brand trust are anticipated. Hence, H12–H14 were used to address the fourth research question.

H12.   There is a positive relationship between the valence of online reviews (ORs) and brand trust (BT).
H13.   There is a positive relationship between online reviews (ORs) and the intentions items of brand trust (BT).
H14.   There is a positive relationship between online reviews (ORs) and the reliability items of brand trust (BT).

5.5 Methodology

This study adopts a quantitative approach using a two brand trust (low/high), two customer equity (low/high) and three online reviews treatment sets (positive/balanced/negative) factorial between-participants quasi-experimental design. A financial services scenario was selected because evidence shows that customer equity has a high relative importance for the financial services industry (Bick 2009). The population of interest for this study was defined as: (a) US residents over the age of 18 years; (b) who are consumers of a chartered bank operating in the USA; (c) who are 'aware' or 'very aware' of online review websites; and (d) have visited online review websites in the past. The sampling frame was the pre-recruited USA online panels 'SurveySpot' and 'Opinionology', which are managed by SSI, a commercial global sampling solutions provider (www.surveysampling.com).

Adopting a restricted probability sampling design using the stratified random sampling technique, potential participants were randomly selected from the sampling frame and invited via e-mail to

review the participant information; should they then wish to proceed, they were asked to provide informed consent. Potential participants were then shown instructions depicting the overall experimental process and were asked to complete the pre-treatment survey items. Based on those responses, four matched groups (brand trust-low/high, customer equity-low/high) were created, and selected participants were randomly assigned to one of three treatment conditions using a trickle process of randomization, while others exited the experimental system with a disqualification (i.e. they did not meet the criteria for inclusion to a sampling group). Participants assigned to a treatment group were then introduced to the experimental task.

A pilot test of the online experiment was conducted in early March 2012. There were 68 responses collected during the test. No unusual or inconsistent behaviour was detected (e.g. peculiar time stamps or delays detected, dropouts at certain pages or points, etc.). The data formats were functioning properly. Three sentences in the online survey instructions were rewritten for clarity. The final experiment and subsequent data collection was conducted online. Subsequently, data from 269 valid participants were collected. The ensuing data analysis was confirmatory, using structural equation modelling techniques. The response rate for participant recruitment was 2.34 per cent.

6. The experimental task

The experimental task was operationalised using a free simulation, in which participants were asked to imagine they were browsing online reviews at www.bankreviewsonline.com, an online user discussion forum that was purpose-built to conduct experimental research for this study. Upon completion of the experimental task, participants were instructed to proceed to the next step of the experiment where they were asked to complete the post-treatment survey items. The post-treatment survey items included a manipulation check. Following this, the same questions about the value equity drivers (VEDs), brand equity drivers (BEDs) and relationship equity drivers (REDs) were repeated. This data provided the ability to calculate the relative impact (i.e. direction of change, amount of change) that the experience of reading the online reviews had on each participant's attitudes towards the three consumer equity drivers. The relative impact is referred to as the 'change scores' in this study.

6.1 The experimental treatments (stimuli)

The experimental stimulus was drawn from real C2C-generated online reviews. The popular online review website www.yelp.com was studied, and a dataset of relevant online bank reviews (3178 records) was created and examined offline. After performing several data reduction techniques, a suitable subset was identified and presented in an online assessment format to a focus group of 21 marketing and business professionals. The final experimental treatment sets (stimuli) were created as a result of this process. Table 3 provides a summary of the mean scores based on the results from the focus group pre-test.

Table 3: Summary of average mean scores resulting from the focus group pre-test

Treatment	Valence	Value	Brand	Relationship	VBR Score
Positive	1.37	1.69	1.77	1.69	5.15
Balanced	2.44	2.36	2.73	2.34	7.43
Negative	4.54	3.31	3.52	3.36	10.19

Notes: A valence score of 1 = very positive and 5 = very negative
        A value, brand or relationship score of 1 = very strong and 5 = not evident
        VBR Score = the sum of mean scores for value, brand and relationship drivers of CE
        A value, brand or relationship 1 = very strong and 4 = very weak and 5 = not evident
        VBR Score = the sum of mean scores for value, brand and relationship drivers of CE.

The number of online reviews contained in each of the three treatment sets was eight. The average word count for the online reviews within each treatment set was 106 words for the positive treatment set, 92 words for the negative treatment set and 106 words for the balanced treatment set.

6.2   *The experimental platform*

To reliably execute the experimental task to the required specifications, an online experimental platform was purpose-built to conduct the experiment. The primary reason for this choice was that a custom platform provided the ability to emulate methods used in other similar empirical research studies focused on measuring the effects of online reviews, such as those by Lee, MKO et al. (Lee, MKO et al. 2011), Lee, Park et al. (2011), Park and Lee (Park & Lee 2009) and Sher and Lee (Sher & Lee 2009). Moreover, a custom platform provided the opportunity to control for potential confounding factors not within the scope of this research (e.g. items such as the influence of star ratings, online review volume, web page design, additional user comments and photos or background information of reviewers). In the user discussion forum, the eight online reviews for each corresponding treatment set were displayed in a random order, similar to Purnawirawan et al. (2012). This was to minimise experimental error and sequencing bias (Piramuthu et al. 2012). Note that participants were required to read, or at least 'open' each of the eight online reviews contained in their treatment set before they were given the option of returning to the online survey to complete the post-treatment survey items. No time limit was set for completion of the experimental task.

7.   Results

All eight variables used in the analyses – including intentions items, reliability items, value equity drivers -VEDs (pre and post-treatment), brand equity drivers -BEDs (pre and post-treatment) and relationship equity drivers-REDs (pre and post-treatment) – were subjected to a preliminary data screening process. The data was screened for outliers, univariate normality and Mahalanobis distances. In summary, no participants had to be removed as a result of the screening process.

7.1   *Reliability*

To measure the reliability, Cronbach's alpha was calculated on the eight variables. The Cronbach's alpha tests showed that all variables reported good reliability, ranging from 0.86 to 0.95.

7.2   *Validity*

First, one of the most fundamental assessments of construct validity is to examine the path estimates linking the construct to its indicator variables in the SEM initial model. The 'rule of thumb' for the standardised path estimates should be 'at least 0.5 but ideally 0.7 or higher' (Hair et al. 2010). In the initial model (Figure 2), the path estimate from change in customer equity to change in value equity drivers was 0.71**; the path estimate from change in customer equity to change in brand equity

drivers 0.90**; and the path estimate from change in customer equity to change in relationship equity drivers was 0.65**. Therefore, all estimates for the fundamental assessment exceeded the minimum threshold.

The second assessment tests the construct's convergent validity. For this test, the size of the factor loadings for each measurement item was examined. Hair et al. (2010) explain that high loadings on a factor would indicate that they converge on a common point, the latent construct, suggesting the 'rule of thumb' for convergent validity should be at least 0.5 but ideally 0.7 or higher'. Although all factor loadings were within the minimum acceptable range, three items (CEB_1, CEB_2 and CER_2) were below the ideal threshold of 0.7, therefore they were removed from the dataset prior to proceeding with the data analyses.

It should be noted that Cronbach alpha reliability tests reported above were conducted for the consumer equity drivers after having removed items CEB_1, CEB_2, CER_2 in addition to CER_5 (previously discussed) as part of the scale purification and discriminant validity process.

7.3   *Preliminary MANOVA and ANOVAs*

After the initial screening of the data from the 269 participants, and prior to conducting the SEM technique, a preliminary MANOVA was conducted to assess if there was a difference in the change in the VEDs, BEDs, and REDs by brand trust-BT (low versus high) and online review treatment set (positive versus balanced versus negative). Subtracting the post-test from the pre-test scores establishes the change scores for the VEDs, BEDs and REDs.

The results of the MANOVA showed significant differences in the change score in VEDs, BEDs and REDs by brand trust (F [3, 261] = 5.82, p <.001). Individual analyses of variances (ANOVAs) were conducted to assess where the differences existed. The ANOVAs for the change in VEDs, BEDs, and REDs were different by brand trust-BT. The group with low brand trust had a significantly higher change in the three CEDs than the group with high brand trust.

The results of the MANOVA also showed significant difference in the change scores in the VEDs, BEDs and REDs by online review (F [6, 524] = 5.39, p <.001). All three individual ANOVAs showed significance by online review. For the change in VEDs, the negative treatment group had significantly lower scores than the positive or balanced treatment groups. For the change in brand equity drivers (BEDs), the positive treatment group showed significantly higher change scores than the balanced or negative groups. For the change in relationship equity drivers (REDs), the negative treatment group had significantly lower change scores than the positive or balanced treatment groups.

The results of the MANOVA for the interaction of brand trust and online review was not significant (F [6, 524] = 1.11, p =.352) which suggests there was no difference in the change in the VEDs, BEDs and REDs by the interaction of brand trust and online review.

7.4   *Structural equation modelling*

The initial model was run through Mplus to determine fit. The variable online review was dummy coded into positive and negative online review sets, with the reference variable being the balanced online review set. As a result, there are no standardised weights reported for the balanced online review set; this is noted in Figure 2 with the □ symbol. The results showed the initial model had a good fit (χ2 [10] = 16.53, p =.085, RMSEA =.05, CFI =.99, TLI =.99, SRMR =.03) (Figure 2).
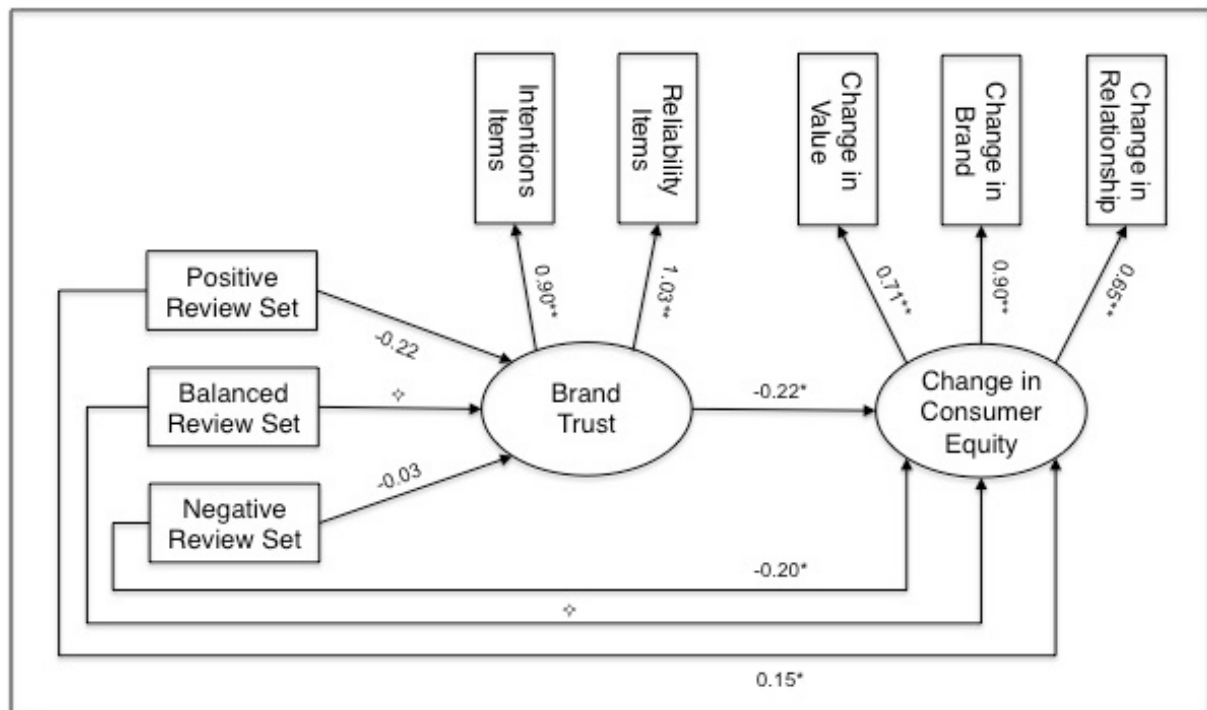
Figure 2: Initial model with standardised estimates (*p <.05. **p <.01)

7.5   *Hypotheses testing*

H1to H4 addressed the question: What is the effect of the valence of online reviews on the three drivers (value, brand and relationship equity) of customer equity? Using the initial SEM model, negative online reviews cause the VEDs, BEDs and REDs to go down, thereby negatively affecting customer equity. Positive online reviews cause the brand equity drivers (BEDs) to go up, thereby positively affecting customer equity; thus H1 was accepted, and H2, H3 and H4 were partially accepted. Results for the hypotheses testing are summarised in Table 4.

Table 4: Summary of hypothesis testing for research question 1

Hypo-thesis	Dependent variable	Independent variable	Standardised weight	Status
1	Change in CE	Positive Reviews Negative Reviews (Ref: Balanced)	.15* -.20**	Accept
2	Change in VEDs	Positive Reviews Negative Reviews (Ref: Balanced)	-.05 -.22**	Partially Accept
3	Change in BEDs	Positive Reviews	.16*	Partially

		Negative Reviews (Ref: Balanced)	-.15*	Accept
4	Change in REDs	Positive Reviews Negative Reviews (Ref: Balanced)	-.07 -.15*	Partially Accept

Note. *p <.05. **p <.01.

H5 to H7 addressed the question: What is the relative impact of the valence of online reviews on the three drivers (value, brand and relationship equity) of consumer equity? An examination of the standardised regression weights from H2, H3 and H4 reveals that the negative review set had a significantly larger change on VEDs (-0.22**) compared to the balanced review set (reference variable)1. The positive review set had a significantly larger change in BEDs (0.16*) compared to the balanced review set (reference variable)1. Between BEDs and REDs, the negative review set had an equally strong relationship with both the change in REDs (-0.15*) and the change in BEDs (-0.15*) compared to the balanced review set (reference variable)1. Overall, H5, H6 and H7 were accepted. Results for the hypotheses testing are summarised in Table 5.

Table 5: Summary of hypothesis testing for SRQ2

Hypo-thesis	Dependent Variable	Independent Variable	Standardised Weight	Status
5	Change in VEDs	Positive Reviews Negative Reviews (Ref: Balanced)	n/a	Accept
6	Change in BEDs	Positive Reviews Negative Reviews (Ref: Balanced)	n/a	Accept
7	Change in REDs	Positive Reviews Negative Reviews (Ref: Balanced)	n/a	Accept

Note. n/a refers to 'not applicable'

H8 to H11 addressed the question: What is the effect of brand trust on the three drivers (value, brand and relationship equity) of consumer equity? Using the initial SEM model, the path from brand trust to the change in customer equity was examined. The path was significant (standardised estimate = -0.22, p =0.002), suggesting that as brand trust increases, the change in consumer equity decreases. Hence, brand trust (BT) has a significant negative relationship with consumer equity (CE); thus H8, H9, H10 and H11 were rejected. Results for the hypotheses testing are summarised in Table 6.

Table 6: Summary of hypothesis testing for SRQ3

Hypothesis	Dependent Variable	Independent Variable	Standardised Weight	Status
8	Change in CE	BT	-.22*	Reject
9	Change in VEDs	BT	-.23**	Reject
10	Change in BEDs	BT	-.15	Reject
11	Change in REDs	BT	-.20*	Reject

Note. * $p < .05$. ** $p < .01$.

H12 to H14 addressed the question: What is the effect of the valence of online reviews on brand trust? Using the initial SEM model, the paths from positive review set and negative review set to brand trust was examined. Neither weight estimates for those paths were significant, suggesting that there is no relationship between online reviews and brand trust. Hence H12, H13 and H14 were rejected (Table 7).

Table 7: Summary of hypothesis testing for SRQ4

Hypothesis	Dependent Variable	Independent Variable	Standardised Weight	Status
12	BT	Positive Reviews Negative Reviews (Ref: Balanced)	-.11 -.01	Reject
13	Intentions	Positive Reviews Negative Review (Ref: Balanced)	-.02 -.04	Reject
14	Reliability	Positive Reviews Negative Reviews (Ref: Balanced)	-.02 -.09	Reject

Note. *$p < .05$. **$p < .01$.

8.   Discussion

Addressing the first research question, this study confirms that there is a positive relationship between the valence of online reviews and consumer equity. There are several examples in the WOM and eWOM literature that draw upon attribution theory to explain their findings. Attribution theory is a theory about how people make causal explanations, and about how they answer questions beginning with 'Why…?' It deals with the information they use in making causal inferences and with what they do with this information to answer causal questions (Kelley 1973). In other words, the first task of an individual would be to make a causal judgment of an observed effect (i.e. action or outcome) by seeking to identify the most reasonable cause(s) attributed to that effect. The second task is for the individual to form inferences about the attribution based on their perception of either an internal or external cause, to which the 'actors' have responded (Langdridge 2007). These inferences are called 'causal attributions'.

Kelley and Michela (1980) present a general model of the attribution field, suggesting there are three antecedents (information, beliefs, motivation) and three consequences (behaviour, affect, expectancy). Through the course of conducting this online experiment, participants were exposed to experimental treatment sets (stimuli), where the valence of the online reviews was manipulated (positive, balanced or negative). This exposure to the stimulus ('information') was the antecedent that triggered the attribution process within the participants. The attribution process is where participants search for an effect's cause. They then form beliefs and make judgments based on that decision, which may result in a cognitive outcome, such as an attitudinal shift or overt behaviour, once the process has been integrated (Table 8). These steps are based on the model of the attribution process in consumer decision-making described by Mizerski et al. (1979).

Table 8: Information patterns for the three attributions

Source: Orvis, Cunningham and Kelley (1975, p. 607, Table 1)

Attribution	Information Pattern		
	Consensus	Distinctiveness	Consistency
Stimulus	High	High	High
Person	Low	Low	High
Circumstance	Low	High	Low

The model for information patterns in Table 8 clarifies that not all combinations of information permit such simple predictions. Using the 'logical properties' in the table, the authors explain that 'only one level of each kind of information can be related to only one of the three patterns, whereas the other levels can be related to the other two patterns'. As an example, 'high consensus fits only the high-high-high (HHH) pattern, whereas low consensus fits both the low-low-high (LLH) and the low-high-low (LHL) patterns' (Orvis, Cunningham & Kelley 1975). In the present study, the experimental treatments were based on repeatedly positive (or negative or balanced) valence online reviews that would suggest a level of high consensus. Using the model under a condition of high consensus, it can be reasoned that the causal attribution was a result of the stimulus (i.e. the online reviews of banks in each treatment set).

Focusing the discussion on the second research question, high motivation and pragmatic concerns cause people to process relevant information more thoroughly. This is supported by Baumeister et al. (2001), whose findings conclude that people cannot afford to process all information to an equally full extent, and that bad news is generally stronger than good. Hence, information pertaining to negative events should receive more thorough processing than information about positive events. This was reflected in people paying more attention to negative events, as well as in elaborating them more thoroughly or constructing more extensive cognitive interpretations. Thus, the final outcome is the greater weighing of negative information in comparison to equally extreme positive information in the formation of evaluative judgments. Ample evidence of this bias can be found in the literature. For example, in a study of factors (valence: positive or negative) that mediate WOM effects on consumers' judgment and persuasion, Herr et al. (1991) found that negative information is more informative than positive information in assisting consumers to categorise goods (e.g. low versus high quality); this is because negative cues were found to be less ambiguous than positive or neutral cues. Ahluwalia (2002) notes that past research has obtained a robust negativity effect, typically under conditions of moderate to high involvement, which is characteristic of financial services provided by banks.

Understanding the fundamental differences between the three consumer equity drivers (CEDs) can also help to explain the effect of online reviews' valence. Distinctly, one is objective, one is subjective and one can be referred to as relational or emotive. As such, in order to adopt the consumer equity approach, a firm will need to make their own assessment of which of the three CEDs is most important to their specific business situation, and adjust their tactical marketing actions accordingly. Online reviews can contain persuasive message content, which may be perceived by the 'receiver' as either objective, subjective, relationally emotive or any combination of the three. That is, the message can appeal to the value equity facet of consumer equity, the brand equity facet of consumer equity or the relationship equity facet of consumer equity. Alternatively, the message can contain a combination of each in one single message. For the stimulus in this study, specifically identified messages were selected because they contained a relatively equal balance of appeal directed at all three of these facets within each single online review. This was done with the goal of measuring the relative importance of each consumer equity driver. Outside the experimental environment, the content of online reviews and other forms of eWOM will not be so carefully specified.

Addressing the third research question, brand trust was unexpectedly found to have a negative relationship with the CEDs. Trust is a principle aspect of any relationship and the level of its existence is a testament to the strength of such a relationship. As such, other explanations for the results need to be explored in order to understand the negative relationship, as this remains unexplained. One possible explanation of the findings could be that brand trust as a factor is not directly related to the change scores for each of the three CEDs.

Surprisingly, based upon the SEM analysis of data collected for this study, no significant relationship was found between consumer equity and brand trust. This is contrary to the related current literature. For example, Cheng et al. (2013), who studied the effect of online reviews' valence on brand trust using the same set of scale items, found evidence that the brand trust reliability items explained 82 per cent of variance of willingness to buy, and identified brand trust as a mediator in this relationship.

In this study, the dependent variable was a longer-term measure compared with the nearer-term outcome of willingness to buy. Trust is not static. Lewicki et al. (2006) report that the literature portrays trust as building incrementally over time, in a process where individuals carefully scrutinise all trust-relevant information so as to ensure trusting choices are made. They also note that individuals can quickly withdraw their trust should it be misplaced. Such a long-term outcome as brand trust may prove to be difficult to measure in a cross-sectional study, where the influence of online reviews (eWOM) as an input of trust could not adequately be captured in the present operationalisation of the conceptual framework. Temporal issues do play a role in matters of trust and consumer equity as

individuals have been shown to change their attitudes and opinions based on new experiences or contextual situations that occur over time.

9.   Conclusion

A major contribution of this study is its positive and negative online reviews have on consumer equity, a relatively longer-term measure of firm performance that puts the consumer first. By adopting a consumer equity approach, the firm can maximise its investment return from its 'marketing assets', thereby improving shareholder value.

The findings for research question 1 – 'What is the effect of the valence of online reviews on the three observable drivers (value equity, brand equity and relationship equity) of consumer equity?' – is consistent with the literature. The results of the data analyses support H1, confirming a positive relationship between the valence of online reviews and consumer equity. The statistical influence of the first two findings on the overall effect of the valence of online reviews on consumer equity was considerable, resulting in the acceptance of H1. The first two findings – negative online reviews cause value equity and relationship equity to go down, thereby affecting consumer equity; and positive online reviews cause brand equity to go up, thereby affecting consumer equity positively – were partially predicted in H2, H3 and H4.

The findings for research question 2 – 'What is the relative impact of the valence of online reviews (ORs) on the three observable drivers (value, brand and relationship equity) of CE?' – is consistent with the literature (Lemon et al., 2001; Vogel et al., 2008) and the predicted hypotheses H5, H6 and H7. The findings confirmed (in order of relative impact): (a) negative ORs on the VEDs; (b) positive ORs on the BEDs; and (c) negative ORs on REDs.

The findings for research question 3 – 'What is the effect of brand trust (BT) on the three observable drivers (value, brand and relationship equity) of CE?' – is not consistent with the literature (Delgado-Ballester & Munuera-Alemán, 2001; Kantsperger & Kunz, 2010; Morgan & Hunt, 1994). Contrary to the hypothesised relationships, for participants in the high BT group (pre-test), there was clearly a negative relationship and a mildly negative relationship for participants in the low BT group (pre-test).

The findings for research question 4 – 'What is the effect of the valence of online reviews on brand trust (BT)?' – showed no significant relationship between customer equity (CE) and brand trust (BT). Surprisingly, this is contrary to current literature and is a significant finding. For example, Cheng et al. (2013), who studied the effect of online reviews' valence on BT using the same set of scale items, found evidence that the BT-reliability items explained 82 per cent of variance for willingness to buy, and identified brand trust as a mediator in the relationship.

In conclusion, this study provides significant contributions to online review and consumer equity research, particularly in the area of online marketing and consumer value. Key findings include: negative online reviews cause value equity and relationship equity to go down, thereby affecting consumer equity; positive online reviews cause brand equity to go up, thereby affecting consumer equity. Furthermore, the three highest relative impact scenarios[1] affecting consumer equity are: negative online reviews have a negative impact on VEDs (↓); positive online reviews have a positive impact on BEDs (↑); and negative online reviews have an equally negative impact on both BEDs and REDs (↓). Finally, one of the most significant findings in this study is that online reviews have no significant relationship with brand trust.

9.1 Limitations and future studies

The findings of this research are limited to the effects of eWOM communication in the form of online reviews published on online review websites in a textual format. C2C eWOM communication can be made available on a number of different platforms: OR websites, discussion boards, personal weblogs, micro-blog sites, personal or group user pages in social networking communities, online chat or instant messaging services, e-mails, video weblogs etc. Although certain inferences might be made, caution must be exercised when attempting generalisations about the effects of eWOM communication across platforms and formats without adequate justification.

Another limitation of the work is the fact that the data collected from the quasi-experiment is based on participants' measured responses to stimuli from manipulated treatments, as these can only hypothetically affect their perception of the BT and CEDs, thus forming the basis of their relationship with that specific service provider (bank). Given the research questions, the focus of the research was on isolating the most important quantitatively measurable factors, including the valence of the message itself and the ability of the participants to process the information without being encumbered by other 'noise' (e.g. star ratings, advertising, paid messages, reviewer profiles). In this situation, the ability of the quasi-experiment to create a measurable environment was deemed appropriate. Similar scenario-based full factorial online quasi-experiments have been used successfully in the WOM and eWOM communication literature (Lin, Huang & Yang 2007; Lee, J, Park & Han 2011). It would be difficult to substantiate the external validity of the findings in a real-life setting where participants' reactions may differ from that of the quasi-experimental environment.

This research study is one of the first to empirically test the effects of online reviews on the three drivers of customer equity and brand trust. Future research directions include: (1) conducting the experiment within another industry along the marketing equity spectrum for comparative purposes (e.g. CE dominant segments such as big-box retailers or B2B); (2) working directly with a firm to collect consumer data in support of a longitudinal study; (3) development of the experimental platform to include the incremental impact of other factors (e.g. star ratings, reviewer information, comments-on-comments); (4) further examination of the www.yelp.com offline database (3178 records); and (5) a qualitative study to deepen understanding about the finding of this initial research.

References

Ahluwalia, R 2002, 'How prevalent is the negativity effect in consumer environments?', Journal of Consumer Research, vol. 29, no. 2, pp. 270-279.

Aurier, P & N'Goala, G 2010, 'The differing and mediating roles of trust and relationship commitment in service relationship maintenance and development', Journal of the Academy of Marketing Science, vol. 38, no. 3, Summer2010, pp. 303-325.

Baumeister, RF, Bratslavsky, E, Finkenauer, C & Vohs, KD 2001, 'Bad is stronger than good', Review of General Psychology, vol. 5, no. 4, pp. 323-370.

Benedicktus, RL & Andrews, ML 2006, 'Building trust with consensus information: the effects of valence and sequence direction', Journal of Interactive Advertising, vol. 6, no. 2, pp. 17-29.

Bick, GNC 2009, 'Increasing shareholder value through building customer and brand equity', Journal of Marketing Management, vol. 25, no. 1/2, pp. 117-141.

Burton, J & Khammash, M 2010, 'Why do people read reviews posted on consumer-opinion portals?', Journal of Marketing Management, vol. 26, no. 3/4, pp. 230-255.

Chaudhuri, A & Holbrook, MB 2001, 'The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty', Journal of Marketing, vol. 65, no. 2, pp. 81-93.

Chen, Y & Xie, J 2008, 'Online consumer review: word-of-mouth as a new element of marketing communication mix', Management Science, vol. 54, no. 3, pp. 477-491.

Cheng, V, Rhodes, J & Lok, P 2013, 'The mediating effect of brand trust on online reviews and willingness to buy', Journal of e-commerce and organizations, vol. 11, no. 1, pp. 22-42.

Cheong, HJ & Morrison, MA 2008, 'Consumers' reliance on product information and recommendations found in UGC', Journal of Interactive Advertising, vol. 8, no. 2, pp. 1-29.

Cheung, CMK & Lee, MKO 2008, 'Online consumer reviews: does negative electronic word-of-mouth hurt more?', paper presented at the Americas Conference on Information Systems, Toronto, Canada, August 14-17.

Cheung, CMK & Thadani, DR 2012, 'The impact of electronic word-of-mouth communication: a literature analysis and integrative model', Decision Support Systems, vol. 54, no. 1, pp. 461-470.

Chevalier, JA & Mayzlin, D 2006, 'The effect of word of mouth on sales: online book reviews', Journal of Marketing Research, vol. 43, no. 3, pp. 345-354.
Cui, G, Lui, H-K & Guo, X 2012, 'The effect of online consumer reviews on new product sales', International Journal of Electronic Commerce, vol. 17, no. 1, Fall2012, pp. 39-58.

Delgado-Ballester, E 2004, 'Applicability of a brand trust scale across product categories: A multigroup invariance analysis', European Journal of Marketing, vol. 38, no. 5/6, pp. 573 - 592.

Delgado-Ballester, E & Munuera-Alemán, JL 2001, 'Brand trust in the context of consumer loyalty', European Journal of Marketing, vol. 35, no. 11/12, pp. 1238-1258.

Delgado-Ballester, E, Munuera-Alemán, JL & Yagüe-Guillén, MJ 2003, 'Development and validation of a brand trust scale', International Journal of Market Research, vol. 45, no. 1, pp. 35-53.

Dellarocas, C 2006, 'Strategic manipulation of Internet opinion forums: implications for consumers and firms', Management Science, vol. 52, no. 10, pp. 1577-1593.

Duan, W, Gu, B & Whinston, AB 2008, 'Do online reviews matter? - An empirical investigation of panel data', Decision Support Systems, vol. 45, no. 4, pp. 1007-1016.

Edelman 2013, 2013 Edelman Trust Barometer Reports Financial Services is Least Trusted Industry Globally, updated 9 April 2013, viewed April 13 2013, <http://www.edelman.com/news/2013-edelman-trust-barometer-reports-financial-services-is-least-trusted-industry-globally/%3E.

Forman, C, Ghose, A & Wiesenfeld, B 2008, 'Examining the relationship between reviews and sales: the role of reviewer identity disclosure in electronic markets', Information Systems Research, vol. 19, no. 3, pp. 291-313.

Garbarino, E & Johnson, MS 1999, 'The different roles of satisfaction, trust, and commitment in customer relationships', Journal of Marketing, vol. 63, no. 2, pp. 70-87.

Godes, D & Mayzlin, D 2004, 'Using online conversations to study word-of-mouth communication', Marketing Science, vol. 23, no. 4, pp. 545-560.

Ha, H-Y & Perks, H 2005, 'Effects of consumer perceptions of brand experience on the web: brand familiarity, satisfaction and brand trust', Journal of Consumer Behaviour, vol. 4, no. 6, pp. 438-452.

Hair, JF, Black, WC, Babin, BJ & Anderson, RE 2010, Multivariate data analysis, 7th edn, Prentice Hall, Upper Saddle River, NJ.

Hennig-Thurau, T, Gwinner, KP, Walsh, G & Gremler, DD 2004, 'Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet?', Journal of Interactive Marketing, vol. 18, no. 1, pp. 38-52.

Hennig-Thurau, T, Malthouse, EC, Friege, C, Gensler, S, Lobschat, L, Rangaswamy, A & Skiera, B 2010, 'The impact of new media on customer relationships', Journal of Service Research, vol. 13, no. 3, pp. 311-330.

Hennig-Thurau, T & Walsh, G 2003, 'Electronic word-of-mouth: motives for and consequences of reading customer articulations on the internet', International Journal of Electronic Commerce, vol. 8, no. 2, pp. 51-74.

Herr, PM, Kardes, FR & Kim, J 1991, 'Effects of word-of-mouth and product-attribute information on persuasion: an accessibility-diagnosticity perspective', Journal of Consumer Research, vol. 17, no. 4, pp. 454-462.

Hess, J & Story, J 2005, 'Trust-based commitment: multidimensional consumer-brand relationships', Journal of Consumer Marketing, vol. 22, no. 6, pp. 313 - 322.

Hu, N, Bose, I, Koh, NS & Liu, L 2012, 'Manipulation of online reviews: an analysis of ratings, readability, and sentiments', Decision Support Systems, vol. 52, no. 3, pp. 674-684.

Kantsperger, R & Kunz, WH 2010, 'Consumer trust in service companies: a multiple mediating analysis', Managing Service Quality, vol. 20, no. 1, pp. 4-25.

Keller, KL & Lehmann, DR 2006, 'Brands and branding: research findings and future priorities', Marketing Science, vol. 25, no. 6, pp. 740-759.

Kelley, HH 1973, 'The processes of causal attribution', American Psychologist, vol. 28, no. 2, pp. 107-128.

Kelley, HH & Michela, JL 1980, 'Attribution theory and research', Annual Review of Psychology, vol. 31, no. 1, pp. 457-501.

Kim, J & Gupta, P 2012, 'Emotional expressions in online user reviews: how they influence consumers' product evaluations', Journal of Business Research, vol. 65, no. 7, pp. 985-992.

Kumar, V & George, M 2007, 'Measuring and maximizing customer equity: a critical analysis', Journal of the Academy of Marketing Science, vol. 35, no. 2, pp. 157-171.
Kumar, V & Shah, D 2009, 'Expanding the role of marketing: from customer equity to market capitalization', Journal of Marketing, vol. 73, no. 6, pp. 119-136.

Langdridge, D 2007, 'The fundamental attribution error', in Critical readings in social psychology, eds. D Langdridge & S Talylor, Mcgraw-Hill, Maidenhead, pp. 75-102.

Lantieri, T & Chiagouris, L 2009, 'Brand trust in an age without trust: expert opinions', Journal of Consumer Marketing, vol. 26, no. 2, pp. 78-86.

Lee, H-H & Ma, YJ 2012, 'Consumer perceptions of online consumer product and service reviews. Focusing on information processing confidence and susceptibility to peer influence', Journal of Research in Interactive Marketing, vol. 6, no. 2, pp. 110-132.

Lee, J, Park, D-H & Han, I 2011, 'The different effects of online consumer reviews on consumers' purchase intentions depending on trust in online shopping malls: an advertising perspective', Internet Research, vol. 21, no. 2, pp. 187 - 206.

Lee, MKO, Shi, N, Cheung, CMK, Lim, KH & Sia, CL 2011, 'Consumer's decision to shop online: the moderating role of positive informational social influence', Information & Management, vol. 48, no. 6, pp. 185-191.

Lemon, KN, Rust, RT & Zeithaml, VA 2001, 'What drives customer equity?', Marketing Management, vol. 10, no. 1, pp. 20-25.

Lewicki, RJ, Tomlinson, EC & Gillespie, N 2006, 'Models of interpersonal trust development: theoretical approaches, empirical evidence, and future directions', Journal of Management, vol. 32, no. 6, pp. 991-1022.

Li, F & Miniard, PW 2006, 'On the potential for advertising to facilitate trust in the advertised brand', Journal of Advertising, vol. 35, no. 4, pp. 101-112.
Libai, B, Bolton, R, Bügel, MS, de Ruyter, K, Götz, O, Risselada, H & Stephen, AT 2010, 'Customer-to-customer interactions: broadening the scope of word of mouth research', Journal of Service Research, vol. 13, no. 3, August 1, 2010, pp. 267-282.

Lin, TMY, Huang, YK & Yang, WI 2007, 'An experimental design approach to investigating the relationship between Internet book reviews and purchase intention', Library & Information Science Research, vol. 29, no. 3, pp. 397-415.

Ludwig, S, de Ruyter, K, Friedman, M, Brüggen, EC, Wetzels, M & Pfann, G 2013, 'More than words: the influence of affective content and linguistic style matches in online reviews on conversion rates', Journal of Marketing, vol. 77, no. 1, pp. 87-103.

Luk, STK & Yip, LSC 2008, 'The moderator effect of monetary sales promotion on the relationship between brand trust and purchase behaviour', Journal of Brand Management, vol. 15, no. 6, pp. 452-464.

Luo, X 2009, 'Quantifying the long-term impact of negative word of mouth on cash flows and stock prices', Marketing Science, vol. 28, no. 1, pp. 148-165.

Luo, X, Zhang, J & Duan, W 2013, 'Social media and firm equity value', Information Systems Research, vol. 24, no. 1, pp. 146-163.

Mizerski, R 1982, 'An attribution explanation of the disproportionate influence of unfavorable information', Journal of Consumer Research, vol. 9, no. 3, pp. 301-310.

Mizerski, R, Golden, L & Kernan, J 1979, 'The attribution process in consumer decision making', Journal of Consumer Research, vol. 6, no. 2, pp. 123-140.

Mizerski, R & Green, S 1978, 'An investigation into the causal links between attribution schema and decision-making', Advances in Consumer Research, vol. 5, no. 1, pp. 126-130.

Morgan, RM & Hunt, SD 1994, 'The commitment-trust theory of relationship marketing', Journal of Marketing, vol. 58, no. 3, pp. 20-38.

Morone, P & Taylor, R 2004, 'Knowledge diffusion dynamics and network properties of face-to-face interactions', Journal of Evolutionary Economics, vol. 14, no. 3, Jul, pp. 327-351.

Mudambi, SM & Schuff, D 2010, 'What makes a helpful online review? a study of customer reviews on amazon.com', MIS Quarterly, vol. 34, no. 1, pp. 185-200.

Murray, KB 1991, 'A test of services marketing theory: consumer information acquisition activities', Journal of Marketing, vol. 55, no. 1, p. 10.

Orvis, BR, Cunningham, JD & Kelley, HH 1975, 'A closer examination of causal inference: the roles of consensus, distinctiveness, and consistency information', Journal of Personality and Social Psychology, vol. 32, no. 4, pp. 605-616.

Palmatier, RW, Dant, RP, Grewal, D & Evans, KR 2006, 'Factors influencing the effectiveness of relationship marketing: a meta-analysis', Journal of Marketing, vol. 70, no. 4, pp. 136-153.

Park, C & Lee, T-M 2009, 'Information direction, website reputation and eWOM effect: a moderating role of product type', Journal of Business Research, vol. 62, no. 1, pp. 61-67.

Piramuthu, S, Kapoor, G, Zhou, W & Mauw, S 2012, 'Input online review data and related bias in recommender systems', Decision Support Systems, vol. 53, no. 3, pp. 418-424.

Purnawirawan, N, De Pelsmacker, P & Dens, N 2012, 'Balance and sequence in online reviews: how perceived usefulness affects attitudes and intentions', Journal of Interactive Marketing, vol. 26, no. 4, pp. 244-255.

Ramaseshan, B, Rabbanee, FK & Tan, HHL 2013, 'Effects of customer equity drivers on customer loyalty in B2B context', Journal of Business & Industrial Marketing vol. 28, no. 4.

Romaniuk, J & Bogomolova, S 2005, 'Variation in brand trust scores', Journal of Targeting, Measurement & Analysis for Marketing, vol. 13, no. 4, pp. 363-373.

Rust, RT, Lemon, KN & Zeithaml, VA 2004, 'Return on marketing: using customer equity to focus marketing strategy', Journal of Marketing, vol. 68, no. 1, pp. 109-127.

Schindler, R & Bickart, B 2005, 'Published word of mouth: referable, consumer-generated information on the internet', in Online Consumer Psychology: Understanding and Influencing Consumer Behavior in the Virtual World, First edn, eds. KA Machleit & R Yalch, Routledge, p. 576.

Sher, PJ & Lee, S-H 2009, 'Consumer skepticism and online reviews: an elaboration likelihood model perspective', Social Behavior and Personality, vol. 37, no. 1, pp. 137-143.

Sweeney, JC, Soutar, GN & Mazzarol, T 2008, 'Factors influencing word of mouth effectiveness: receiver perspectives', European Journal of Marketing, vol. 42, no. 3/4, pp. 344-364.

Tirunillai, S & Tellis, GJ 2012, 'Does chatter really matter? Dynamics of user-generated content and stock performance', Marketing Science, vol. 31, no. 2, pp. 198-215.

Venkatesan, R & Kumar, V 2004, 'A customer lifetime value framework for customer selection and resource allocation strategy', Journal of Marketing, vol. 68, no. 4, pp. 106-125.

Vogel, V, Evanschitzky, H & Ramaseshan, B 2008, 'Customer equity drivers and future sales', Journal of Marketing, vol. 72, no. 6, pp. 98-108.

Wang, X, Fuan, L & Yu, W 2010, 'How do they really help? An empirical study of the role of different information sources in building brand trust', Journal of Global Marketing, vol. 23, no. 3, pp. 243-252.

Ward, J & Ostrom, A 2002, 'Motives for posting negative word of mouth communications on the Internet', in Special session summary: expanding the scope of word of mouth: consumer-to-consumer information on the Internet, vol. 29, eds. B Bickart & RM Schindler, Advances in Consumer Research, pp. 428-430.

Wirtz, BW, Schilke, O & Ullrich, S 2010, 'Strategic development of business models: implications of the web 2.0 for creating value on the internet', Long Range Planning, vol. 43, no. 2–3, pp. 272-290.

Zeithaml, VA 1988, 'Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence', Journal of Marketing, vol. 52, no. 3, pp. 2-22.

Zhang, JQ, Craciun, G & Shin, D 2010, 'When does electronic word-of-mouth matter? A study of consumer product reviews', Journal of Business Research, vol. 63, no. 12, pp. 1336-1341.

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[1] Assuming each equity driver has an equal status to the firm, and when using standardised weights relative to balanced ORs to measure the difference in CE change scores between pre-test to post-test.