Comparing email and SNS users: Investigating e-servicescape, customer reviews, trust, loyalty and E-WOM

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ABSTRACT

For better or worse, satisfied or dissatisfied customers function as trusted branding faces for organizations as they transmit potentially viral messages through E-WOM. These E-WOM messages can prove marketers' best friends or worst enemies, depending on their tenor. With data from actual customers of an e-tailer, this research enriches our understanding of how e-servicescape is linked to E-WOM. E-servicescape captures the online environmental factors of marketers' websites. Two forms of E-WOM are examined; i.e., emails and social network postings. Customer reviews were investigated as a prospective sub-dimension of e-servicescape. Findings suggest that customer reviews play an integral role in the e-servicescape construct, that e-servicescape positively impacts trust and that trust positively influences E-WOM and customer loyalty. Two groups of customers were compared, and results indicated differences between email and SNS users. Theoretical and managerial insights related to E-WOM and electronic commerce shopping behavior were generated.

1. Introduction

Now and again the advent and proliferation of new technologies so profoundly change existing human behaviors and strategic practices that genuine "before and after" eras are created. Such is true of the troika still unfolding between technological enablers, the arrival of social networking sites and what now exists as standard marketing practice. Social media and social media-based marketing practices usage has proliferated because the technology that facilitates each activity exploits consumers' naturally-arising desires to see and be seen; their desires to hear and be heard; and consumers' desires to buy, sell and "share" their thoughts, feelings and/or experiences – in the case of social media-based marketing (Dwivedi et al., 2015; Shareef et al., 2019). "Sharing," inside e-marketing contexts, could be described as the fulfillment of consumers' natural yearning to see and be seen and/or to hear and be heard (Dwivedi et al., 2015; Kamboj et al., 2018; Tamir and Mitchell, 2012).

While the current study primarily focuses on the latter, social media generally and social media-based marketing practices specifically underscore this before/after premise. Social media-based marketing practices have fostered the emergence of millions of virtual me-economies (Dwivedi et al., 2015; Kamboj et al., 2018). Micro-economies in which some consumers are innately prone to greater sharing while other consumers can be persuaded into sharing their feelings,

recommendations and positive or negative comments with typically receptive others (Kamboj et al., 2018).

Recognizing this trend, strategic retailers have been keen to motivate or otherwise inspire consumers/customers to share positive feelings, recommendations or comments about those same retailers' brands. Relatedly, and given the conditions just described, how could this have not occurred, social media-based marketing practices have also spurred two-plus decades of dedicated scholarly marketing research. Despite the scope of this literature, some potentially difference-making e-marketing concepts remain conspicuously under-considered. The role and likely influence of online servicescape [hereafter, e-servicescape] (Harris and Goode, 2010) inexplicably resides among this set.

E-servicescape, in its current form, represents a successful attempt to re-contextualize and transform traditional retailer characteristics (and long-standing keys to traditional retailing success) into contemporary online retailer settings. The e-servicescape construct features three dimensions: layout/functionality, aesthetic appeal and financial security. Various studies investigating relationships between viral marketing, emails, social networking sites (SNS), loyalty and trust have been conducted (Alalwan, 2018; Flavian et al., 2006). These studies, however, have largely failed to investigate the possible role of retailer's websites' e-servicescapes on these relationships. Three material gaps consequently exist in the literature.

The first gap is associated with retailers' or other marketers' ability

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to manage email or social network posts in ways that might differentially influence consumer perceptions of their website's e-servicescapes (Tran et al., 2012). The second gap follows from the failure to investigate the possible direct or indirect influence of e-servicescape on various crucial customer responses (Harris and Goode, 2010; Huang et al., 2017; Kawaf and Tagg, 2012; Tran et al., 2012). These consumer responses include trust, propensity to engage in e-WOM and loyalty to the retailer/brand. The literature further implies that e-servicescape, as a theoretical construct, may remain under-conceptualized (Harris and Goode, 2010; Huang et al., 2017). Are layout/functionality, aesthetic appeal and financial appeal alone sufficient to capture the full character of contemporary retailing websites? The prospect appears dubious. Thus the question, and a third possible gap, beckons. This study addresses this gap by introducing a fourth dimension – customer reviews – to the extant e-servicescape construct and examining its fit and effects.

The current study is designed to close these gaps by investigating whether:

1. Retailers' emails and social network posts differentially influence consumers' perceptions of retailers' e-servicescapes?
2. Customer reviews materially influence consumers' perceptions of retailers' e-servicescapes?
3. Consumers' perceptions of retailers' e-servicescape are related to trust? And, in turn, whether resulting trust is related to E-WOM intentions and customer loyalty?

2. Context and Constructs: Email & E-WOM, Social Networking, E-servicescape and Trust

2.1. Email and E-WOM

Some experts suggest email, as an e-marketing communication mode, is passé. This, even as the medium reaches about three times more consumers than Facebook and Twitter combined (Lee, 2016). Marketers clearly should more carefully evaluate how consumers use email before abandoning the communication mode for the next potentially faddish trend. Indeed, marketers should investigate email both as a mode through which consumers acquire information applying to them personally and to share E-WOM with others.

E-WOM entails message-forwarding actions initiated by "email, instant messaging or other communication media that are of high 'addressability'" (Ho and Dempsey, 2010, p. 1000). E-WOM is traditional word-of-mouth (WOM) behavior evolved and adapted to electronic media – which permits individuals to easily convey messages in one-to-many ratios. E-WOM differs from WOM in terms of its convenience and asynchronous nature. E-WOM avails the potential opportunity for senders and receivers to exchange messages anonymously and features no geographic constraints.

WOM and E-WOM messages are each more influential than traditional marketing communiques. The efficacy largely derives from the fact that consumers typically ascribe higher credibility to E-WOM and WOM messaging than to traditional marketing messages (Bansal and Voyer, 2000; Day, 1971). These conditions coalesce in ways making WOM/E-WOM marketers' best friend or worst, dependent on whether the WOM is positive/negative and well/poorly-managed.

E-WOM features two determinant traits. First, the opportunity that each recipient has to share messages with multiple others facilitates potentially exponential increases in the numbers of customers or prospects exposed to original messages. Second, E-WOM messages are shared through electronic media, including: blogs, microblogs, social networking sites, content communities and collaborative projects. In essence, consumers act as advertising agents – i.e., WOM messengers generally function as the most trusted face or voice – of organizations by spreading potentially viral messages. E-WOM communications may be positive or negative. Hence, the best-friend/worst-enemy mantra.

Researchers have investigated consumers' E-WOM forwarding

behaviors in contexts where emails were used as the focal medium. Message source, message content and various personal characteristics associated with recipients influenced consumers' propensity to pass along email messages to others (Chiu et al., 2007). Individuals' involvement, relational commitment, strength of social interaction tie, message forwarding self-efficacy and affection-outcome-expectation each were related to their email-forwarding intentions (Huang et al., 2009).

2.2. SNS

Technological advances have revolutionized the speed, convenience and near-constant connectivity of consumers to their preferred social networks. Their 24/7 connectivity substantially increases users' opportunities to participate as forwarders and/or recipients of E-WOM messages. The ubiquity of mobile devices has led researchers to coin the phrase mobile marketing. Mobile marketing includes any marketing communication that uses mobile communication to promote marketing offerings.

Omnipresent mobile devices and 24/7 connectivity now make it easier for consumers to reach others and quickly post information on SNS. SNS differ from traditional media in that the content is user-generated and user-centered. This set of paired traits permits users to establish and sustain online relationships (Boyd and Ellison, 2007). Users generally enjoy being connected online and vicariously encountering others' experiences, opinions and conversations. Many consumers assign higher values still to the opportunity to share their thoughts, opinions and likes/dislikes online with others. Human brains become more neuro-chemically activated when asked to disclose their own thoughts and feelings than when sharing another person's thoughts (Tamir and Mitchell, 2012). As consumers pass along E-WOM on Facebook, they inherently embed their interpretations and meanings in the message, even when the content originated from marketers.

2.3. E-servicescape & customer reviews

Various environmental factors that collectively characterize marketing websites were synopsized into an e-servicescape construct (Harris and Goode, 2010). E-servicescape, as a construct, features three dimensions: aesthetic appeal, layout/functionality and financial security. The first two dimensions were transferred directly from Bitner (1992) conceptualization of the servicescape that exists inside all traditional brick-and-mortar stores.

- Aesthetic appeal features three sub-dimensions: entertainment value, originality of design and visual appeal.
- Layout/functionality is comprised of four sub-dimensions: customization, interactivity, relevance of information and usability.
- Financial security contains two sub-dimensions: ease of payment and perceived security.

E-servicescape's original conceptualization did not include customer reviews. However, individuals increasingly rely on customer reviews to make purchase decisions. Seventy-four percent of people trust businesses more after reading positive reviews (BrightLocal, 2017). More telling still, 85% of consumers trust online reviews as much as personal recommendations (BrightLocal, 2017). The present research consequently integrated customer reviews into the layout/functionality dimension of e-servicescape.

2.4. Trust

The presence or absence of trust is likely associated with E-WOM behavior and customer loyalty inside e-servicescape domains. Trust, defined, entails individuals' belief that they can rely on promises made by another (Pavlou, 2003). In e-commerce settings, trust includes

online consumers' beliefs and expectations about trust-related characteristics of the online seller (Gefen and Straub, 2004).

When customers trust e-tailers, they generally believe that the e-vendors will treat them fairly and not behave opportunistically (Gefen et al., 2003; Shih, 2004). Higher financial security is associated with greater consumer trust and higher purchase intention. High levels of trust stimulate more favorable consumer attitudes and behaviors (Gefen et al., 2003). Their lack of trust in online companies is a primary reason why many consumers do not purchase online. Trust has been shown to influence consumers' behavioral responses toward marketers and their promotional efforts (Gefen and Straub, 2004; Pavlou, 2003).

3. Theoretical foundations, modeling and hypotheses

3.1. E-servicescape

Online shopping continues to grow. The number of consumers shopping online surpassed those who visited brick-and-mortar stores during the 2018 holiday season (Deloitte, 2018). Consumers generally enjoy browsing and purchasing online due to its convenience, the promise of greater variety and the prospect of lower prices. Consumers have broadly embraced the opportunity to easily compare product offerings/prices and to secure free/low-cost home delivery.

Smartphone ownership among American consumers is now at 95% (Pew Research Center, 2018). Amongst online shoppers, 51% + make online purchases using their smartphones (Rainie and Perrin, 2017). The popularity of online shopping has grown in lockstep; 52% + of consumers now report online purchases (Rainie and Perrin, 2017). E-tailers should learn more about various positive or negative effects generated by user perceptions of their websites (Kapoor et al., 2018). Many e-tailers should similarly improve their sites' functionality and e-service. By and large, they have. Even so, opportunities for improvement abide.

Harris and Goode (2010) re-contextualized the servicescape construct from physical to e-commerce stores by developing new scale items to measure e-servicescape. They did so in response to the proliferating trends and opportunities noted above, trends that have since proliferated and multiplied in magnitude. Consumers shop differently in virtual – as compared to physical – store environments (Hofacker, 2008). The notion that the servicescape concept should evolve into an online e-servicescape consequently made sense.

The aesthetic appeal scale, as manifested in e-sevicescape, was derived directly from the ambient conditions dimension of servicescape for brick-and-mortar stores (Harris and Goode, 2010). Aesthetic appeal, in our view, provides a substantial portion of the stimulus for consumers' online experiences.

Layout/functionality, as a dimension of e-servicescape, relates to physical stores' spatial, aesthetic and physical dimensions (i.e., servicescape). Similar to how stores' furnishings or spatial layouts influence consumer perceptions, website layout impacts individuals' evaluations of the website – and associated business. Layout includes the structure, organization and arrangement of websites. Layout, in our view, similarly functions as a stimulus for individuals.

Online shopping experiences offer advantages to consumers that extend beyond those mentioned above. These incremental advantages include more convenience, 24/7 availability and opportunities to shop while cossetted in the comfort and privacy of one's home or office. But financial security, or rather its perceived or actual absence, can function as a potential deal breaker that inhibits or precludes completion of online transactions. Security is fundamental to successful online marketing (Montoya-Weiss et al., 2003; van Bavel et al., 2019). Online financial security includes users' perceptions of the website's security, safety measures and its payment processes. Consumers similarly covet ease of payment. Financial security closely relates to another key construct in this research, trust.

The e-servicescape conceptualization captured several crucial factors that are endemic to successful online service delivery environments (Harris and Goode, 2010). But e-servicescape, in its original conceptualization, did not account for everything. During a true *information age* where consumers expect instant access to more details, including information emanating from non-marketing sources, customer reviews are essential for e-tailers. Customer reviews have been investigated in various marketing contexts (Chen and Xie, 2005; Gursoy, 2019; Park et al., 2007).

Researchers have not studied customer reviews as part of e-servicescape (Harris and Goode, 2010; Hopkins et al., 2009; Roy et al., 2014; Sreejesh and Ponnam, 2017; Tran et al., 2012; Wu et al., 2017). The present research does.

3.2. Customer reviews

Online shoppers cannot smell, touch, or test-drive products before purchasing them. Such deficits can be managed and ameliorated. Only rarely, however, can they be eliminated. Each impediment imposes material disadvantages to websites seeking to lure consumers who are deliberating whether to purchase online or from brick-and-mortar alternatives.

Customer reviews, however, provide essential information that help individuals make online buying decisions and at times, actually also motivate consumers to decide to shop online rather than through more traditional alternatives. Reviews generally originate from users who have purchased and consumed a product (Park et al., 2007). Reviews capture and reflect customer experiences, evaluations and opinions. Viewed by consumers as independent and unbiased sources of information, customer reviews have grown in their impact and importance (Bhatnagar and Papatla, 2019; Chen and Xie, 2005; Shankar et al., 2010).

Despite potential concerns about their authenticity, consumers trust customer reviews more than marketer-created product information. Globally, 66% of consumers trust online opinions from other consumers (Nielsen Global, 2015). E-tailers' product information rarely provides details about any negative aspects of the merchandise. Instead, information primarily focuses on the positive. Furthermore, professional photographs of online goods may not accurately portray products. By contrast, customers provide frank reviews of market offerings, including their takes on the strengths and weaknesses. Customer reviews also provide recipients with first-hand insights about how products perform in different usage situations.

3.3. Electronic word of mouth

Online communications are typically asynchronous in nature (Henderson and Gilding, 2004). The presence of asynchronicity allows consumers to secure information from online sources at their convenience. E-WOM communications are usually archived, making them available in the future (Hennig-Thurau and Walsh, 2004; Hung and Li, 2007). Consumers easily access and read online messages from others, regardless of geography and time.

Firms can exploit E-WOM's viral nature. Rather than investing in traditional advertising, organizations might employ promotions delivered through electronic media, such as E-WOM and blogs. Viral marketing campaigns are always less expensive and potentially more effective. After all, WOM exerts more influence than traditional marketing communications on purchasing decisions (Arndt, 1967; De Bruyn and Lilien, 2008).

Consumers generally seek out and prefer other users' evaluations and recommendations more than marketer-generated information (De Bruyn and Lilien, 2008). Recipients deem brand-related information received from other consumers on social media sites as more valuable than marketer-generated messages (Dwivedi et al., 2015; Mangold and Faulds, 2009; Shareef et al., 2019). Organizations often recruit individuals to represent them. First, to associate friendlier/less

threatening/most-trusted faces with their branding identities. Second, to more generously spread key marketing messages. Consumers consequently become active co-producers of value (Vargo and Lusch, 2004), as referenced earlier. Marketers can use this to their advantage.

Marketers can use the interactive opportunities of electronic communications to aid their viral marketing campaign efforts (Lombard and Snyder-Duch, 2001). The opportunity to exploit interactivity as part of viral marketing campaigns gives marketers the chance to better understand and secure customers from precisely-targeted segments (Alalwan et al., 2017; Pavlou and Stewart, 2000). Consumers benefit from E-WOM interactivity because they can express their thoughts and opinions. The potential again exists for consumers to be active co-producers as new product ideas are developed and presented (Vargo and Lusch, 2004). Engaging consumers in product development may generate additional excitement and favorable publicity for marketers (Okazaki, 2009).

3.4. Social networking sites

E-WOM may be disseminated though various means, including SNS. SNS include all websites that permit users to create profiles on the website and form relationships with others using the same site. Social connections are often displayed on these sites. Most SNS, of course, offer additional services. Some permit groups and organizations to create their own profiles. The connections and interactions available through SNS appeal to individuals (Boyd and Ellison, 2007). Mobile devices and Wi-Fi connectivity are now ubiquitous, conditions that enable users to connect easily on and through SNS. Consumers might connect on SNS to discuss products, services and brands, and often do, seeking other customers' opinions and insights. Facebook, LinkedIn and Pinterest are SNS. Facebook remains the most popular SNS. Facebook boasts more than two billion active users, with five new profiles created each second (Zephoria Digital Marketing, 2018).

The myriad scholars who have researched SNS have employed various theories and methodologies in their frameworks. Third Person Effect Theory has been used to investigate how marketers might exploit the ego-defensiveness of younger consumers and stimulate E-WOM on SNS (Zhang and Daugherty, 2009). E-WOM, issued through Twitter, a microblog-based form of social networking, can influence brand awareness and image (Jansen et al., 2009). Marketers could, for example, promote through contests and sweepstakes targeted towards entire SNS discussion groups rather than exclusively targeting opinion leaders among the same groups (Steyer et al., 2006). Social influence theory has been used to determine the effectiveness of SNS ads (Lee and Hong, 2016). Or, rather than employing push promotional strategies, marketers might empower consumers by listening to and subsequently creating customized promotional programs for them (Miller and Lammas, 2010), avoiding messages that infringe on SNSs' socialization aspect or degrade their users' trust (Angel and Sexsmith, 2011) and subsequently elevating the likelihood that individual SNS users become co-creators of value.

E-WOM referrals to join SNS are more effective than traditional marketer initiatives when sites recruit new users. The referral effects of E-WOM are particularly effective during customer acquisition processes (Trusov et al., 2009). Online marketers, apparently, should treat opinion leaders as knowledgeable helpers in the viral marketing process, rather than as direct agents. Potential influencers generally reject blatant marketer attempts to persuade them to promote particular brands or market offerings to their friends or families (Subramani and Rajagopalan, 2003), undermining efforts to gin-up positive E-WOM. Firms should tread carefully when encouraging E-WOM.

Ample research has been conducted on the role that emails and SNS may play as platforms through which E-WOM can be generated and managed. Some studies investigated the phenomena of interest using general consumers and self-reported perceptions (Mowen et al., 2007; Tran et al., 2012). Others have successfully used customer data from
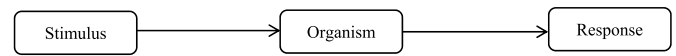

Fig. 1. Stimulus-organism-response model.

one e-tailer as they researched E-WOM (Cases et al., 2010; Trusov et al., 2009).

Notable gaps exist in the relevant literature. These gaps relate to the relationship between e-servicescape, emails and SNS. This study investigates these relationships using customer data collected from one e-tailer.

3.5. Stimulus-Organism-Response Theory

Stimulus-Organism-Response (SOR) theory was developed by environmental psychologists. The theory unsurprisingly posits that the environment functions as a stimulus. That is, organisms' external environments influence their internal reactions. These reactions, in turn, promote external behavioral responses among organisms (Mehrabian and Russell, 1974). These internal organism responses include affective (emotional) and cognitive elements (see Fig. 1). These emotional and cognitive beliefs mediate approach or avoidance responses toward the environment. These responses, again, function as stimuli.

SOR theory has provided a framework from which the atmospheric effects of brick-and-mortar stores on shopper behavior have been investigated (Turley and Milliman, 2000). SOR theory has underpinned investigations of e-servicescape atmospheric dimensions [specifically, website and service factors] on consumer behavior in e-tailer environments (Ha and Lennon, 2010; Huang et al., 2017; Kawaf and Tagg, 2012; Richard et al., 2009) and co-creation in online brand communities (Kamboj et al., 2018). Reputation and website quality functioned as environmental stimuli; cognition and emotion functioned as organisms; and purchase intentions functioned as responses in the two preceding studies. Finally, SOR theory framed research on website characteristics, consumers' emotional responses and the resulting purchasing behaviors (Mummalaneni, 2005). Here, e-servicescape functioned as an environmental stimulus; trust (i.e., customers' internal reaction) as an organism; and customer loyalty and E-WOM intentions functioned as responses.

Website characteristics may influence customers. For example, e-servicescape, as environmental factors to which consumers are exposed, might function as a stimulus to customers. The internal reactions of customers to e-servicescape, as a stimulus, might entail responses of (greater or lower) trust, as an organism, inside SOR theory. In turn, trust likely influences behavioral responses. Response behaviors could include E-WOM intentions and loyalty. Based on this theoretical rationale and the preceding literature review, we hypothesize:

H1(a-j). E-servicescape is positively related to the website's: o (a) visual appeal; (b) entertainment value; (c) originality of design; (d) customer reviews; (e) customization; (f) interactivity; (g) relevance of information; (h) usability; (i) ease of payment; and (j) perceived security.

Trust captures perceptions that perceivers can/cannot rely on others' promises (Pavlou, 2003). Trust in e-tailers is a crucial element in online customers' satisfaction with their purchases (Gefen and Straub, 2004; Pavlou, 2003). For some, general trust in the Internet as a medium for shopping is a problem (Pavlou, 2003). Research suggests consumers will more likely purchase online when they assign higher trust to the Internet and have more experience using the Internet (Corbitt et al., 2003). A website's perceived quality, meanwhile, is associated with purchase intentions (Everard and Galletta, 2006).

Researchers have investigated the role that trust plays in online shopping experiences. When e-stores were relatively new, a primary concern entailed gaining and retaining consumers' trust in the Internet as a medium (Corbitt et al., 2003). Over time, research on trust has

evolved and the relationship between specific e-tailers and trust has been studied (Tran et al., 2012).

Customer loyalty promotes profitability (Hayes, 2008). Increased loyalty stimulates additional purchases, and loyal customers are less likely to switch brand preferences if competitors offer lower prices (Bowen and Shoemaker, 1998). Retaining current customers costs less than acquiring new ones (Hayes, 2008). The costs of acquiring new online customers can lead to less profitable customer relationships for years (Reichheld et al., 2000). E-marketers may capitalize on loyal customers by convincing them to buy more and boosting revenue. Loyal customers can be more easily motivated to engage in WOM and E-WOM (Keiningham et al., 2008).

In prior research, consumers selected their preferred websites and answered questions regarding trust and the respective e-tailer's site (Harris and Goode, 2010; Tran et al., 2012). Research has not been conducted on customers and their perceptions of the same e-tailer. This study seeks to fill this gap in the literature and investigates customers' perceptions of the same e-tailer in regards to e-servicescape and trust. Consequently, the following hypothesis is proposed.

H2. E-servicescape is positively related to consumer trust in the website.

Customer reviews are themselves E-WOM communications. Customer reviews are also key dimensions of e-servicescape. Recipients perceive customer reviews as more credible than messages delivered through traditional marketing media. Eighty-five percent of consumers trust online reviews as much as personal recommendations (BrightLocal, 2017). Information usefulness and source credibility similarly exercise positive influences on the adoption of online opinions (Cheung et al., 2008; Ismagilova et al., 2019). On this theoretical basis, we propose:

H3. Trust is positively related to the likelihood of engaging in E-WOM behavior.

Trust is often directly associated with customer loyalty. When customers trust organizations, believing that firms are fair and just, the likelihood of loyalty grows (Flavián and Guinalíu, 2006). Trust in e-tailers directly impacts customer loyalty (Kim et al., 2009; Ribbink et al., 2004). Their loyalty simultaneously captures and reflects customers' favorable attitudes and commitment toward e-tailers. Commitment, in turn, facilitates repeat purchases. Dedicated customers often forgo the opportunity to seek out lower prices while willingly paying premiums. The presence of loyal patrons reduces the potential costs associated with acquiring new customers (Markey and Hopton, 2000). On this basis, we propose (see Fig. 2):

H4. Trust is positively related to customer loyalty.

3.6. Networked Co-Production

The Network Co-Production Model (NCPM) captures such multi-directional flows of value and information (Kozinets et al., 2010). Such flows could begin with message seedings initiated by marketers seeking to function as direct influencers. Targeted seedings are often conveyed to select consumer segments. Individuals within these segments may elect to forward the seeded message to other consumers in their networks (see Fig. 3). Or, subsequently opt to not forward.

E-WOM processes engage consumers. Indeed, E-WOM often engages consumers to the point where they are converted into active co-producers of marketing information and meaning. As consumers pass marketers' messages forward through E-WOM processes, recipients may embed additional inherent value and new meaning into their communiques (Cova and Cova, 2002). Marketers should and often do acknowledge the potential value of message recipients as effective co-producers (Payne et al., 2008). Marketers likewise should consider using different promotional strategies and metrics that directly

influence individuals as they, marketers, secure more insights about the power of E-WOM. The interactive nature of E-WOM activities, as well as the role marketer-induced seeding may play as direct influencers, suggests the NCPM represents a more suitable theoretical platform for a second set of hypotheses.

Logic, as well as fact, suggests that direct seeding from marketers could ensue from two genres of electronic communication: email and social network posting. E-tailers message in the hopes that customers purchase in response to those messages. Beyond the pursuit of purchases from the original recipients of electronic messages, e-tailers might seek to motivate recipients to forward the messages to others and, in the process, embed their own meanings and values in ensuing E-WOM processes.

The potential for multi-directional flows of information exists when consumers generate indigenous and unfettered conversations about e-tailers. The likelihood that future consumers will read online customer reviews is also present in this model. Each sort of customer co-creation encompasses another form of E-WOM. Each communicative response relatedly underscores the prospect that another type of multi-directional flow of information may ensue (Kamboj et al., 2018).

Emails remain – or should remain – an important tool in most marketers' promotional toolkits, as noted. While some have abandoned email-messaging as an outdated mode of electronic communication, companies still should use emails as a part of their direct marketing program. Many consumers actually actively want to receive emails from e-tailers (Lee, 2016).

Email campaigns represent an inexpensive form of direct marketing. Emails remain useful as a promotional channel through which new customers can be acquired and current customers reminded about new or existing market offerings. When consumers provide information to companies and agree to receive emails, companies can create more efficiently effective promotional campaigns by customizing messages or incentives (Godin, 1999). Emails still reach more potential and actual customers than social network postings, including Facebook (Lee, 2016), within most product categories, as noted. Based on this theoretical rationale, we hypothesize:

H5 (a-j). Compared to consumers receiving social network postings, email recipients will have more positive perceptions of e-servicescape, including the website's: o (a) visual appeal; (b) entertainment value; (c) originality of design; (d) customer reviews; (e) customization; (f) interactivity; (g) relevance of information; (h) usability; (i) ease of payment; and (j) perceived security.

Email marketing can be successfully leveraged to build customer relationships (Jackson and DeCormier, 1999). Email messaging can be personalized, targeted and tracked with comparative ease. The expenses associated with email marketing campaigns trend low, allowing organizations to reach many individuals inexpensively (Lee, 2016). Customers' response rates to emails trend higher, again making their use more attractive (Rosenspan, 2000). Innovations, including graphics, personalization, audio and video email, also allow companies to create improved emails and possibly enhance consumers' receptiveness to messages.

The ways in which consumers access and respond to emails have evolved. Forty-nine percent of emails are opened on mobile devices; i.e., smartphones and tablets (Lee, 2016). Consumers are able to more conveniently read and pass along emails due to the mobility and 24/7 ubiquity of electronic devices. Obvious advantage, marketers. Yet one disadvantage is that marketers struggle to develop emails that are attractive and viewable on a variety of screen sizes. With the advancements in technology and Wi-Fi connectivity, consumers can effortlessly access, read and forward emails (from marketers) to their friends, family and co-workers. Marketers should track and account for these changes.

Phelps et al. (2004) identified a group that they labeled as *viral mavens*. This segment receives and forwards many email messages.
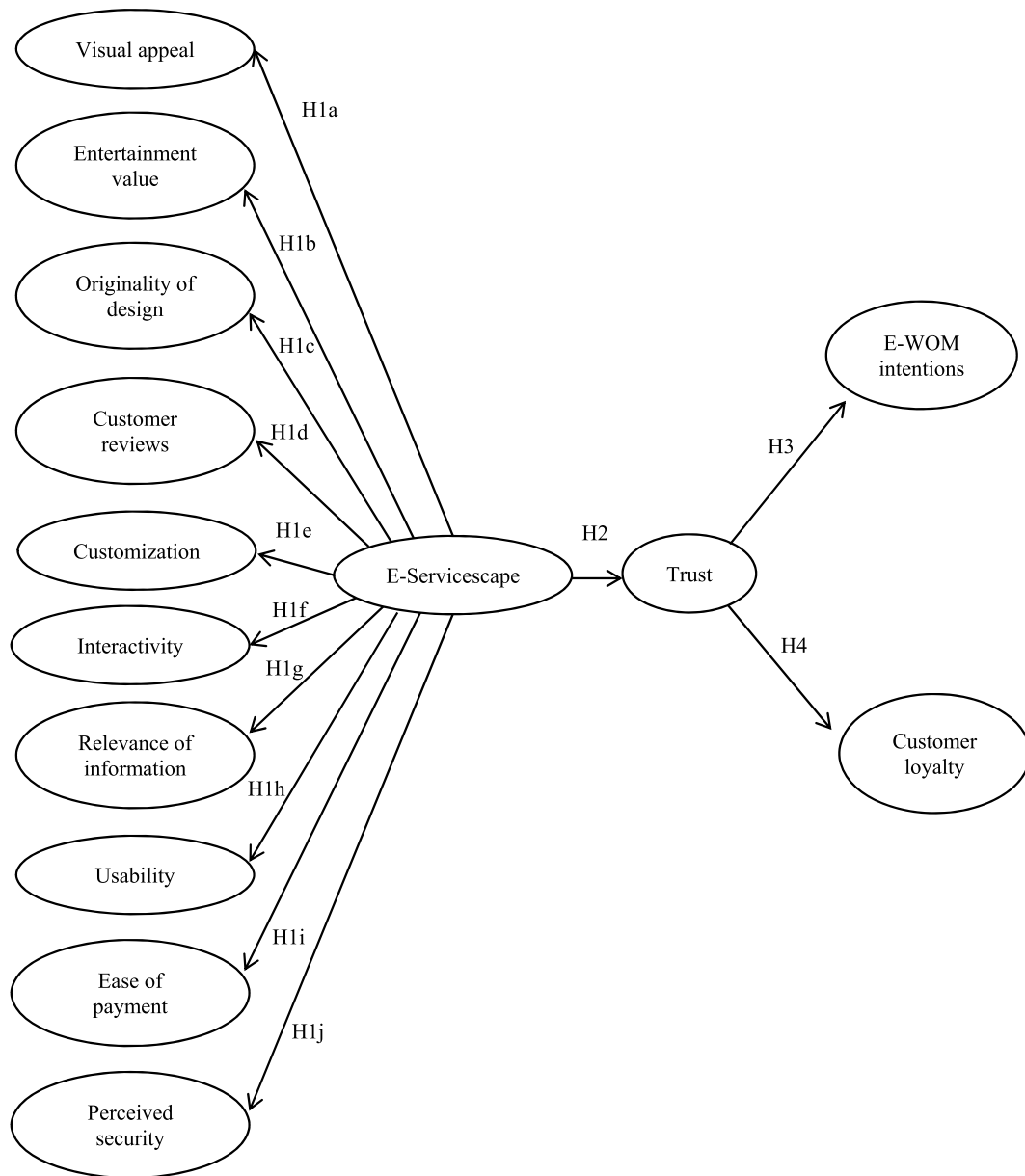
Fig. 2. Research model.

Opportunities are available for companies to capitalize on infrequent senders, especially those who receive few emails, but forward a high percentage of the messages they do receive. This is a desirable target market for businesses seeking to generate E-WOM.

Social interaction ties, affection-outcome expectation and perceived self-efficacy of message-passing are associated with the intention to forward emails (Huang et al., 2009). On social networks, word-of-mouth is driven by social ties, whether weak or strong (Shiau et al., 2017). The source of messages, their utilitarian value and their hedonic content, as well as sender personality traits, have also impacted E-WOM behavioral intentions (Chiu et al., 2007). Gender plays a role. Females, for example, were more concerned about email privacy issues than males (Phillip and Suri, 2004; Richard et al., 2009). Pavlov et al. (2008) argued that spam, i.e., unwanted commercial emails, should be analyzed as part of the email marketing infrastructure. Attitude towards marketers' email campaigns is related to purchase intentions (Cases et al., 2010). Firms might consider developing customized emails, including messages featuring personalized pricing. The tactic might decrease price competition and increase profits by elevating consumer

trust, enhancing consumer propensity to engage in WOM and building consumer loyalty. Given this theoretical basis, and the practical possibilities that might be revealed through its test, we hypothesize:

H6. Compared to consumers receiving social network postings, email recipients will exhibit greater trust in the website.

Trust relates directly with intention to exchange E-WOM communications in online communities (Chu and Kim, 2011). Relatedly, users are more likely to believe E-WOM messages when both the positive and negative are presented. Finally, consumers can easily access strangers' opinions while online. This rarely occurs during traditional WOM processes, making E-WOM communications substantially more powerful. E-WOM information is usually more candid, which makes sense, because people are generally more honest and forthright online (Roed, 2003). Each condition makes E-WOM more influential than traditional WOM, even in the absence of face-to-face human interaction (Huang et al., 2012), and should elevate the eventual loyalty of message recipients. Based on these consolidated theoretical rationales, and the pressing practical needs that exist to investigate these possibilities
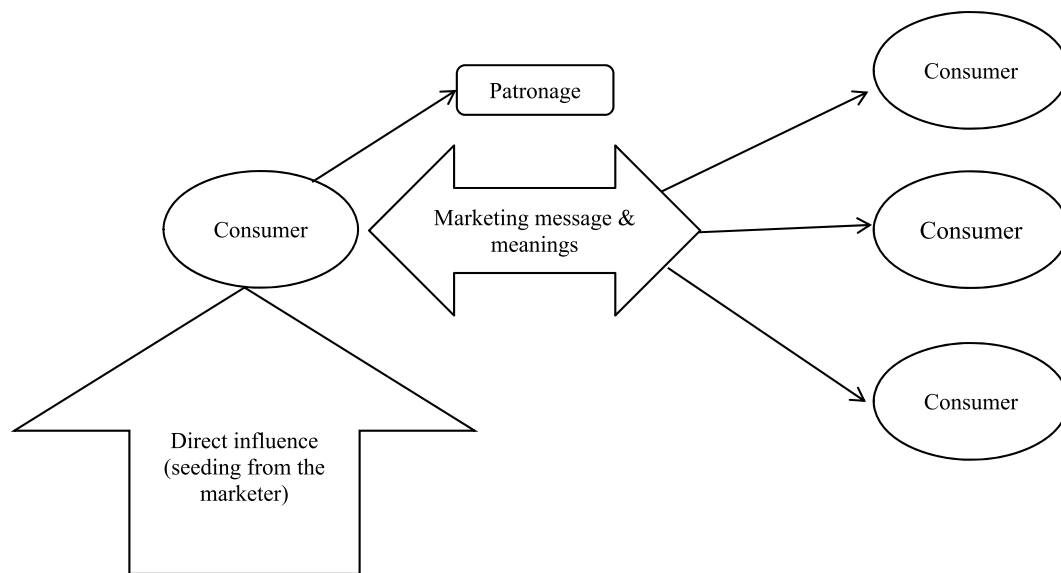
Fig. 3. Network Co-Production model.

inside e-tailing contexts, two final hypotheses were proposed:

H7. Compared to consumers receiving social network postings recipients, email recipients will more likely engage in E-WOM.

H8. Compared to consumers receiving social network postings recipients, email recipients will exhibit higher customer loyalty.

4. Methodology

This study used cross-sectional customer data. The data were collected from one national (U.S.) apparel retailer. The study investigates hypothesized relationships between e-servicescape, trust, E-WOM intentions and loyalty. Precedence exists for using single-firm data (Cases et al., 2010; Trusov et al., 2009).

The clothing company used in this study was originally launched as a catalog retailer. The firm also operated fourteen brick-and-mortar stores located within the Pacific Coast states until 2012. The firm now exclusively markets men's and women's clothing, shoes and accessories through its website and direct-mail catalogs. The retailer targets consumers seeking high-quality, durable, rustic and casual apparel and accessories. Most corporate revenues are generated through its website. These characteristics collectively imply that this e-tailer, or more specifically, its customer base, represents an appropriate sample frame to test the hypothesized relationships. Notably, the prospect that these existing customers' might confound the firm's traditional store servicescape with its e-servicescape is nonexistent.

4.1. Sampling

Following an expedited minimal review application and approval from the Institutional Review Board, the data were collected with a nationwide survey offered online through Qualtrics. During a two-week period, the e-tailer's customers were invited to complete the survey in exchange for a 20% discount off their next purchase. The company offered access to the survey questionnaire link via both email and Facebook posting. The questionnaire was identical for both groups of respondents, with the exception of E-WOM scale items. These items were adapted to capture the particular form of communication (i.e., email or Facebook posting).

The survey was structured to rule out the possibility of missing values for the constructs of interest. To decrease question order bias, questions were randomized within each block. Each block of questions focused on a sub-dimension of a construct. Demographic and open-ended questions were optional. Some respondents chose not to complete these questions.

Ten thousand customers were invited to participate in the survey. One thousand one hundred forty-two customers begin the questionnaire. Six hundred thirteen completed the survey, a rate near 54%. The high incompletion rate is likely due to the questionnaire's length. Overall response rate for completed surveys was 6%. Fifty-three percent of respondents accessed the survey link from a Facebook post; 43% did so through an email link. Forty-nine percent of respondents were female. Approximately 75% were between the ages of 50 and 69 years; the mean age was 56 years. Sixty-six percent of respondents were married. Eighty-one percent had either earned college degrees, pursued graduate education, or completed graduate degrees. Forty-three percent of respondents reported annual household incomes exceeding $100,000. The mean household income was nearly $133,000. Mean annual expenditure on apparel and accessories among respondents was just over $2000. Sixty-nine percent reside in small households (1-2 people). Complete demographic statistics are provided in Table 1.

4.2. Measures

The survey questionnaire contained 80 statements. Most constructs were measured with items adapted from previously developed and validated scales. Many scale items were adapted to reflect the e-tailer's name in the statement. This was done to remind respondents to consider this and only this e-tailer while completing the online survey. Some scale items were adapted to improve wording and upgrade their comprehensibility. All original measurement items in the survey questionnaire are listed in the Appendix, along with the anchors and sources.

Measurement items for e-servicescape were adapted from Harris and Goode (2010). As noted, e-servicescape has three dimensions: aesthetic appeal, layout and functionality and financial security.

Layout/functionality originally featured four sub-dimensions. These were customization/personalization, interactivity, relevance of information and usability. Two items measuring customer reviews were developed specifically for this study as a fifth sub-dimension of layout/functionality. Consumers appreciate and often search for user-generated reviews; they are increasingly reading and trusting such information (BrightLocal, 2017). The two items for customer reviews were "I like to read customer reviews on ___'s (e-tailer) website" and

Table 1
Demographic profile of respondents.

Measure	Value	Frequency	Frequency %
Communication method	Email	288	47%
	Social network site	325	53%
Gender	Female	302	49%
	Male	306	50%
	Did not provide	5	1%
Age	30 or under	9	1%
	31–39	10	2%
	40–49	109	18%
	50–59	292	48%
	60–69	168	27%
	70 or over	14	2%
	Did not provide	11	2%
Highest level of education	Some high school or less	3	0%
	High school graduate	21	3%
	Some college education	98	16%
	College graduate	169	28%
	Some graduate education	59	10%
	Graduate degree	263	43%
Income	under $50,000	47	8%
	$50,000–99,999	109	18%
	$100,000–199,999	193	31%
	$200,000–299,999	60	10%
	$300,000 or over	15	2%
	Did not provide	189	31%

"customer reviews are helpful when I make purchase decisions on ___'s (e-tailer) website." All 24 e-servicescape scale items are listed in Table 4.

E-WOM intentions were measured by adapting previously-validated items (Okazaki, 2009; Verhoef et al., 2002). Sample item: "Were I to receive an interesting email from this company, I would forward it to my friends and family." All three *E-WOM* measures were adjusted to reflect the specific form of electronic communication, i.e., either email or Facebook postings, used to send the message to respondents. A five-point Likert-type scale was used. "1" indicated "never" and "5" indicated "always."

Three items were used to measure *customer loyalty* (Beatty et al., 1996). A sample item was "I am loyal to ___ (e-tailer's name)." One *loyalty* item was reversed, namely "I don't think I'll shop again at ___ (e-tailer's name)." Similar to other statements, customers responded based on five-point Likert-type scales.

One item was included to measure membership in social networking communities.

Demographic questions were asked (i.e., age, annual family household income, marital status, racial or ethnic identification, highest level of education and number of people in the household) at the survey's end. Response was optional, but encouraged. Respondents were thanked for participating, and asked to forward the survey link to family and friends who might be interested in providing feedback and

Table 3
Correlations and discriminant validity for mediator and endogenous variables (trust, E-WOM intentions and customer loyalty)[a,b,c,d].

	CR[d]	T	E-WOM	CL
T	0.881	(0.651)[a]	0.095[b]	0.445
E-WOM	0.905	0.309[c]	(0.761)	0.105
CL	0.825	0.667	0.324	(0.547)

[a] Diagonal elements in parentheses are average variance extracted (AVE) values.
[b] Values above the diagonal are squared phi correlation values.
[c] Values below the diagonal are phi correlation values.
[d] CR = Composite reliability.

receiving the 20% discount.

4.3. Nonresponse bias

To address potential nonresponse bias, the respondents were divided into four equal groups based on when they responded. The first and last waves were compared. For the two groups, t-tests were used to assess the constructs of interest. The results suggested no differences between the first and last waves of respondents, which indicates nonresponse bias is not a concern (Lindner et al., 2001; Radhakrishna and Doamekpor, 2008).

4.4. Common method bias

Since data were derived from customers' self-reported perceptions, there is potential for common method bias. Before hypotheses testing, a common method factor model was tested (Podsakoff et al., 2003). The common method factor model included the 10 sub-dimensions of e-servicescape and an additional same-source construct as an eleventh sub-dimension of e-servicescape. The common method factor results were compared to the model without the additional, same-source factor. After assessing the standardized parameter estimates, R^2 and chi-square statistics, findings indicated no difference between the two models. It was determined that relationships tested in this research study were not affected by common method bias.

5. Analysis and results

5.1. Measurement validation

To test hypotheses and measure the proposed model's fit to the data, reliability and validity were assessed for the measurement scales via the two-step procedure proposed by Gerbing and Anderson (1988). First, exploratory factor analysis (EFA) was conducted. Two separate EFAs were performed: 1) one for e-servicescape, as a second-order construct and 2) one for the endogenous variables, which included trust, E-WOM intentions and loyalty.

Table 2
Correlations and discriminant validity for E-servicescape[a,b,c,d].

	CR[d]	E	EP	V	I	PS	CREV	RC
E	0.879	(0.707)[a]	0.167[b]	0.233	0.249	0.217	0.008	0.408
EP	0.851	0.409[c]	(0.587)	0.147	0.222	0.288	0.044	0.338
V	0.943	0.483	0.384	(0.846)	0.129	0.131	0.022	0.267
I	0.773	0.499	0.471	0.359	(0.534)	0.193	0.037	0.549
PS	0.771	0.466	0.537	0.362	0.439	(0.543)	0.053	0.339
CREV	0.909	0.087	0.209	0.147	0.192	0.231	(0.833)	0.039
RC	0.899	0.639	0.581	0.517	0.741	0.582	0.198	(0.599)

[a] Diagonal elements in parentheses are average variance extracted (AVE) values.
[b] Values above the diagonal are squared phi correlation values.
[c] Values below the diagonal are phi correlation values.
[d] CR = Composite reliability.

Table 4
Final measurement items for all variables.

Construct	Item	Lambda Loading
Relevance & Customization (RC)	Technical details about the items can be easily accessed when browsing this website	0.802
Mean = 3.665	All relevant information is easily available on this website	0.792
SD = 0.699	Each page on the website clearly indicates what one can expect to find	0.803
	The services of this website are often personalized to my needs	0.723
	This website is laid out to satisfy my needs	0.793
	This website treats me like an individual	0.725
Entertainment Value (E)	I find this website entertaining	0.878
Mean = 3.341	The enthusiasm displayed on this website lifts my spirits	0.847
SD = 0.831	It is fun shopping on ___'s (e-tailer) website even when I do not make a purchase	0.796
Ease of Payment (EP)	On ___'s (e-tailer) website, paying for items involves entering too many details*	0.770
Mean = 3.916		
SD = 0.720	Payment procedures take a long time to complete on this website*	0.758
	___'s (e-tailer) online payment process is reasonable	0.746
	Paying for goods is straightforward on this website	0.791
Visual Appeal (V)	The way ___'s (e-tailer) website displays products is attractive	0.931
Mean = 4.136	I like the look of ___'s (e-tailer) website	0.904
SD = 0.857	This website is aesthetically appealing	0.923
Interactivity (I)	This website helps me compare products	0.817
Mean = 3.3333	The ___ (e-tailer) website helps me compare prices	0.597
SD = 0.728	This website has a search tool which helps me find exactly what I want	0.807
Customer Reviews (CREV)	Customer reviews are helpful when I make purchase decisions on ___'s (e-tailer) website	0.927
Mean = 3.873	I like to read customer reviews on ___'s (e-tailer) website	0.898
SD = 1.114		
Perceived Security (PS)	Overall, ___'s (e-tailer) website appears to be security conscious	0.899
Mean = 3.810	I have no security concerns when I purchase apparel and accessories from this website	0.762
SD = 0.692	The security systems of this website appear rigorous	0.589
Trust (T)	___'s (e-tailer) website seems genuinely committed to my satisfaction	0.811
Mean = 4.000	Overall, I trust this website	0.870
SD = 0.663	In terms of usability, I know what to expect from ___'s (e-tailer) website	0.784
	If ___ (e-tailer) makes a claim about its product, it is probably true	0.758
Customer Loyalty (CL)	I prefer ___'s (e-tailer) clothing and accessories over other apparel alternatives	0.780
Mean = 3.522	I am loyal to ___ (e-tailer)	0.770
SD = 0.831	___'s (e-tailer) website is my first choice for apparel	0.813
	I expect to do more business with ___'s (e-tailer) website during the next few months	0.563
Electronic Word-of-Mouth Intentions (E-WOM)	I would make recommendations to my friends and family about signing up for (emails/Facebook updates) from ___ (e-tailer)	0.943
Mean = 2.172	If someone asks me for advice about ___'s (e-tailer) website, I will encourage them to sign up for (emails/Facebook updates) from ___ (e-tailer)	0.892
SD = 1.205	If I receive an interesting (email/Facebook posting) from ___ (e-tailer), I would forward/repost it to/for my friends and family	0.774

*Reverse-coded item.
SD = Standard deviation.
p-value < 0.05 for all lambda loadings.

CFA was performed using LISREL 8.80. Seven iterations were conducted to review the e-servicescape measures. Following each iteration, correlations and discriminant validity were assessed to check for multicollinearity. Upon close examination of the originality of design and visual appeal measures, an overlap was detected. Originality was eliminated. Similarly, usability was deemed redundant with interactivity. Usability was also eliminated. In addition, reverse-coded and poorly-worded items had low lambda loading results. These items were also deleted. Reverse-coded items often foster unexpected factor structures and low loading values (Netemeyer et al., 2003) and confuse respondents (Swain et al., 2008; Weijters and Baumgartner, 2012).

Fit statistics indicated a good fit for the final measurement model: $\chi^2 = 1,629$, $df = 549$, RMSEA = 0.05, SRMR = 0.04, NNFI = 0.98, CFI = 0.98 and IFI = 0.98. The χ^2 to degrees of freedom ratio was 2.97, which is less than three as recommended (Hu and Bentler, 1999). All completely standardized loadings were statistically significant (*p*-value < 0.05) and *t*-values ranged from 10.58 to 34.49. All loadings exceeded the 0.5 minimum loading (Gerbing and Anderson, 1988). Composite reliabilities ranged from 0.771 to 0.943. AVE values ranged from 0.534 to 0.846. Each result exceeded recommended levels (Fornell and Larcker, 1981). Measurement items' face validity was assessed one more time. The determination was made that the items were appropriate measures. Final CFA results for e-servicescape follow in Table 2.

Another CFA, this one assessing trust (T), E-WOM and loyalty (CL),

was performed. Problems again arose related to the reverse-coded measurement items, which were subsequently removed. Another poorly-worded item was deleted due to its confusing nature. CR values ranged from 0.825 to 0.905, exceeding the minimum acceptable values. AVE values all exceeded the recommended 0.5 metric (Fornell and Larcker, 1981). The CFA indicated a good fit between the model and the study data: $\chi^2 = 1,629$, $df = 549$, RMSEA = 0.057, SRMR = 0.049, NNFI = 0.98, CFI = 0.98 and IFI = 0.98 (Hu and Bentler, 1999). The final CFA for trust, E-WOM intentions and loyalty is presented in Table 3.

After the CFA iterations and removal of reverse-coded and poorly-worded items, the remaining e-servicescape featured 24 measurements items. The trust, loyalty and E-WOM scales collectively featured 11 items. Final items for all variables follow in Table 4.

5.2. Hypotheses testing

Hypotheses were tested in two stages. Structural equation modeling with maximum likelihood estimation was used to test the hypothesized model using the entire data sample (n = 613). Relationships then were converted into a set of structural equations that corresponds to the modeled relationships depicted in Fig. 4.

Recall that originality and usability were both removed because each overlapped with other sub-dimensions, H1c and h respectively.
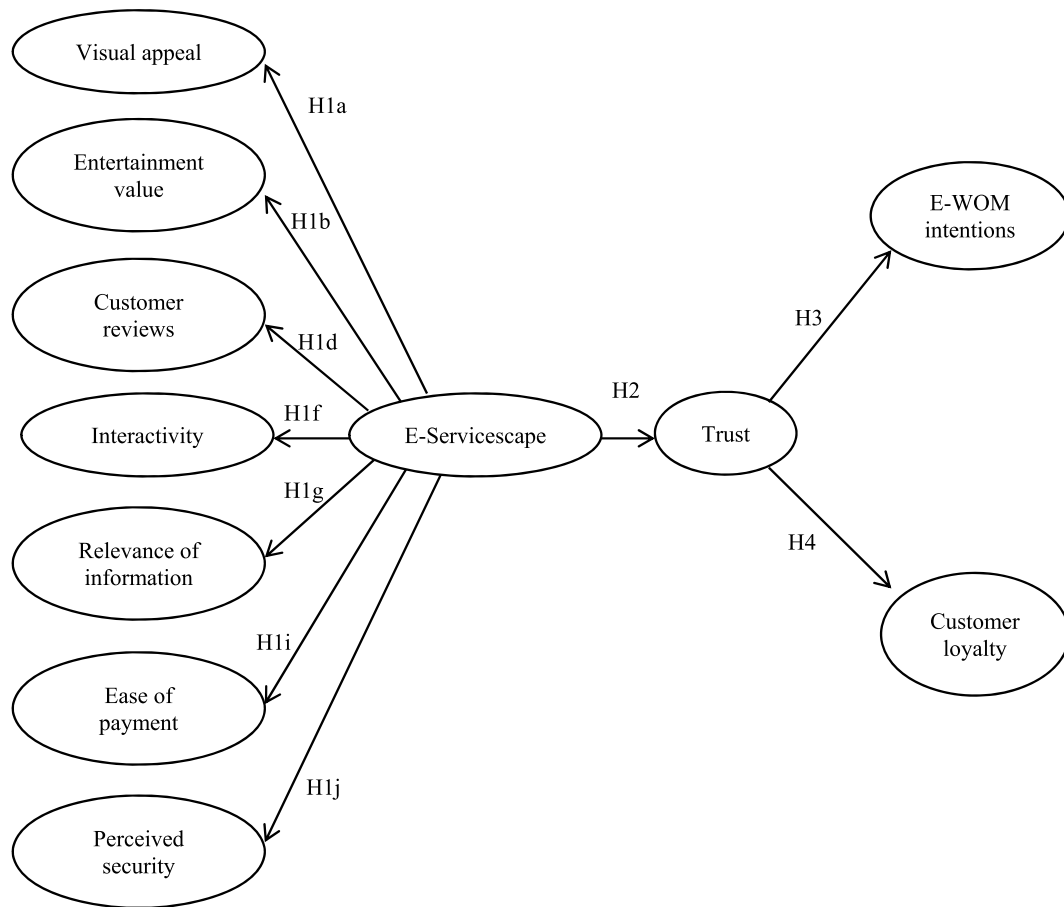
Fig. 4. Revised research model.

Table 5
Summary of hypotheses testing.

		Path estimate	*p*-value	*t*-value	Result
Hypothesis					
H1a	E-servicescape → Visual appeal	0.549	<0.05	13.34	Supported
H1b	E-servicescape → Entertainment value	0.683	<0.05	16.15	Supported
H1d	E-servicescape → Customer reviews	0.235	<0.05	4.86	Supported
H1f	E-servicescape → Interactivity	0.646	<0.05	13.99	Supported
H1g	E-servicescape → Relevance of information	0.895	<0.05	20.58	Supported
H1i	E-servicescape → Ease of payment	0.687	<0.05	14.90	Supported
H1j	E-servicescape → Perceived security	0.711	<0.05	17.11	Supported
H2	E-servicescape → Trust	0.923	<0.05	22.74	Supported
H3	Trust → E-WOM intentions	0.340	<0.05	8.00	Supported
H4	Trust → Customer loyalty	0.695	<0.05	15.63	Supported
Global Model Fit Diagnostics:					
Chi square *(df)*		1723.963 (550)			
p-value		0.000			
RMSEA		0.049			
SRMR		0.052			
GFI		0.86			
NNFI		0.98			
CFI		0.96			
IFI		0.98			

Customization (H1e) was combined with relevance of information (H1g). The structural model provided a good overall fit to the study data: $\chi^2 = 1{,}724$, $df = 550$, RMSEA = 0.049, SRMR = 0.052, NNFI = 0.98, CFI = 0.96 and IFI = 0.98 (Hu and Bentler, 1999). Detailed statistics from the hypotheses testing and model fit indices are provided in Table 5.

H1a–j were tested by examining the path coefficients between each sub-dimension (i.e., visual appeal, entertainment value, ease of payment, etc.) and e-servicescape, where e-servicescape serves as a second-order construct. H2 was evaluated for e-servicescape toward trust, respectively. H3 and H4 were tested by examining the path estimates for trust toward E-WOM and loyalty, respectively.

H1a and b respectively predicted that e-servicescape would be positively associated with visual appeal and entertainment value. Visual appeal and entertainment value are each sub-dimensions of aesthetic appeal. These hypotheses were supported (completely standardized

Table 6
Comparing two groups using BIC.

	Chi-square	n	k	BIC	Difference
Email	1025	288	124	1727	162
Facebook	1172	325	124	1889	

n = Sub-sample size.

k = Parameters.

BIC = Bayesian Information Criterion.

path estimate = 0.549, *t*-value = 13.34, *p*-value < 0.05; completely standardized path estimate = 0.683, *t*-value = 16.15, *p*-value < 0.05, respectively).

For the layout/functionality dimension, H1d, f, g predicted that e-servicescape would be positively correlated with customer reviews, interactivity and relevance of information. Each hypothesis was supported (completely standardized path estimate = 0.235, *t*-value = 4.86, *p*-value < 0.05; completely standardized path estimate = 0.646, *t*-value = 13.99, *p*-value < 0.05; completely standardized path estimate = 0.895, *t*-value = 20.58, *p*-value < 0.05, respectively).

H1i and j predicted that e-servicescape would be related positively to ease of payment and perceived security. Both sub-dimensions constitute financial security as it relates to e-servicescape. Both hypotheses were supported (completely standardized path estimate = 0.687, *t*-value = 14.90, *p*-value < 0.05; completely standardized path estimate = 0.711, *t*-value = 17.11, *p*-value < 0.05, respectively).

H2 posited that e-servicescape would be positively related to trust. This hypothesis was supported (completely standardized path estimate = 0.923, *t*-value = 22.74, *p*-value < 0.05). The R^2 value of 0.852 for trust was high. This result suggests these e-servicescape sub-dimensions are robust predictors of trust in e-tailers.

H3 predicted that trust would be positively associated with E-WOM behavioral intentions. H3 was supported (completely standardized path estimate = 0.340, *t*-value = 8.00, *p*-value < 0.05). However, the R^2 value of 0.116 for E-WOM intentions was not robust. The comparatively low R^2 value suggests other factors may better explain E-WOM behaviors.

H4 posited that trust would be positively correlated with customer loyalty. The proposed relationship was supported (completely standardized path estimate = 0.695, *t*-value = 15.63, *p*-value < 0.05). The R^2 value 0.483 for loyalty was also high. This result suggests trust accounts for a large portion of customer loyalty. Trust functioned as a significant and robust predictor of consumers' patronage behaviors.

5.3. Multi-group analysis

The final set of hypotheses predicted effects of electronic communication method on relationships in the revised model. First, the entire sample was divided into two sub-samples based on method of communication with the e-tailer to analyze the effect. Two-hundred-eighty-eight respondents received emails, 325 respondents through Facebook postings. The model was re-estimated individually for each sub-sample.

The resulting structural model provided a good overall fit to the data for the email group: $\chi^2 = 1,087$, $df = 550$, RMSEA = 0.058, SRMR = 0.066, NNFI = 0.98, CFI = 0.98 and IFI = 0.98. Fit statistics also indicated a good fit for the Facebook postings sub-sample data and structural model: $\chi^2 = 1,232$, $df = 550$, RMSEA = 0.062, SRMR = 0.056, NNFI = 0.97, CFI = 0.97 and IFI = 0.97 (Hu and Bentler, 1999).

Chi-square was not appropriate because different groups were being compared in the same model. Degrees of freedom thus were identical, which would have yielded a zero denominator had the chi-square statistics been compared. The Bayesian Information Criterion (BIC) offered a superior method for evaluating the two groups. When compared to

other statistical methods for assessing model fit, BIC solves the over-fitted models problem by including a number of parameters in the calculation. This penalty term for fitting the model is larger for BIC, as compared to other criterion, which results in the BIC being more stringent (Kass and Raftery, 1995). The BIC was calculated for each sub-sample with the following formula, where k is the number of parameters and n is the sample size for that particular group: BIC = x^2 + k [ln (n)].

The BIC values were examined. The difference was 162. This result indicates a strong difference was present between the two groups (Kass and Raftery, 1995). The email group had the lower BIC. This result suggests a superior fit exists between the structural model and data for the email group, as compared to the Facebook group (Table 6 provides details).

Findings suggest the mode of electronic communication used affected the relationships. Completely standardized path estimates for each group were compared for all relationships. For aesthetic appeal, emails exercised stronger effects on customers' perceptions of visual appeal and entertainment value (path estimates of 0.628 and 0.692, respectively), as compared to Facebook postings (0.474 and 0.669 path estimates, respectively). H5a and b were supported.

For layout/functionality, communication method impacted customer the reviews and relevance of information sub-dimensions. Emails affected the relationships between customer reviews and relevance of information and e-servicescape (0.254 and 0.895, respectively) more than social network postings (0.212 and 0.862, respectively). H6d and g were supported.

H5f predicted that emails would exercise more influence on the relationship between interactivity and e-servicescape for the email group (0.630) versus the Facebook group (0.663). This hypothesis was not supported.

For financial security, emails exercised a stronger impact on perceived security (0.752), as compared to social network postings (0.677). H5j was supported. Surprisingly, the results for ease of payment failed to support H5i. That is, communication method did not affect this relationship. Path estimates for the two dimensions was similar, emails at 0.685, Facebook postings at 0.689.

H6 predicted electronic communication method would influence the relationship between e-servicescape and trust, with the email sub-sample showing higher levels of trust. H6 was not supported. For the email group, the path estimate was 0.908. The estimate was 0.936 for the Facebook posting group.

Communication method exercised a significant influence on the relationship between trust and E-WOM. The path estimate was 0.501 for the email group. The past estimate for the Facebook group was 0.315. H7, consequently, was supported.

Finally, emails exerted a stronger effect than social network postings on trust and loyalty relationships (0.728 and 0.671, respectively). H8 was supported.

Details comparing the completely standardized path estimates and *t*-values for each sub-sample are presented in Table 7.

6. Discussion

Building on the e-servicescape literature, the present research addressed three primary research questions pertaining to e-servicescape, trust, E-WOM and customer loyalty. First, the role that customer reviews may play in shaping e-servicescape for better or worse was investigated; prior e-servicescape studies did not consider customer reviews (Harris and Goode, 2010; Hopkins et al., 2009; Roy et al., 2014; Sreejesh and Ponnam, 2017; Tran et al., 2012; Wu et al., 2017). Second, an integrated research model was developed to examine relationships between e-servicescape and trust; trust and E-WOM; and trust and customer loyalty. Previously, researchers examined e-servicescape with other constructs, i.e., WOM, stickiness and loyalty (Roy et al., 2014); purchase intentions, attitude toward the site and service provider

Table 7
Summary of hypotheses testing, multi-group analysis.

	Path	Email Group		Facebook Group		Result
		Path estimate	*t*-value	Path estimate	*t*-value	
H5a	E-servicescape → Visual appeal	0.628	10.87	0.474	8.16	Supported
H5b	E-servicescape → Entertainment value	0.692	11.55	0.669	11.18	Supported
H5d	E-servicescape → Customer reviews	0.254	4.01	0.212	2.82	Supported
H5f	E-servicescape → Interactivity	0.630	9.87	0.663	9.94	Not supported
H5g	E-servicescape → Relevance of information	0.895	14.85	0.862	14.31	Supported
H5i	E-servicescape → Ease of payment	0.685	9.86	0.689	11.19	Not supported
H5j	E-servicescape → Perceived security	0.752	12.72	0.677	11.6	Supported
H6	E-servicescape → Trust	0.908	15.58	0.936	16.68	Not supported
H7	Trust → E-WOM intentions	0.501	8.10	0.315	5.35	Supported
H8	Trust → Customer loyalty	0.728	11.31	0.671	10.95	Supported

*p-value < 0.05 for all path estimates.

evaluation (Hopkins et al., 2009); cognition, loyalty and affection (Sreejesh and Ponnam, 2017); and attitude, E-WOM and purchase intention (Wu et al., 2017). However, these studies did not investigate how e-servicescape is related to trust, E-WOM and loyalty. Third, the relative effectiveness of two types of electronic communication methods, i.e., emails and social network postings, were compared to better understand the relationships between the constructs of interest. To date, researchers have not compared the two forms of communication in the context of e-tailers. Prior research has examined gratifications sought from different electronic communication means (Ku et al., 2013); compared user behavior on SNS versus email (Shen et al., 2013); and investigated the marketing effectiveness of Facebook versus Twitter (Leung et al., 2015).

To answer the first question, customer reviews, as a sub-dimension in the layout/functionality dimension, was significantly related to e-servicescape. While the path estimate for customer reviews in relation to e-servicescape was lower than other sub-dimensions, the finding remains important. The low path estimate may be an artifact of the research design, featuring, as it does, a specific e-tailer operating in a specific product category. The primary segment targeted by this e-tailer was Baby Boomers, which may degrade the value of customer reviews in their online purchase decisions involving apparel and accessories. This is the first study to integrate customer reviews into the e-servicescape concept.

The second research objective entailed testing an integrated research model that featured e-servicescape, trust, E-WOM intentions and loyalty. The results supported the comprehensive model. E-servicescape was positively related to trust, consistent with previous research (Harris and Goode, 2010; Tran et al., 2012; Wu et al., 2017). Trust was positively associated with E-WOM and customer loyalty. Another part of the research model showed trust influencing E-WOM behavioral intentions. The findings of this study support this relationship.

This is the first study to compare two forms of e-marketing communication methods side by side. A difference was revealed in customers' perceptions about email-based as opposed to social network-based postings from the same e-tailer. The overall research model was compared across two groups of consumers (email recipients and social network postings recipients). Email recipients perceived the relevant e-servicescape as more visually appealing, entertaining and secure. Those customers who received emails also valued customer reviews more highly while deeming the review information more relevant. Email recipients similarly demonstrated stronger customer loyalty and intentions to engage in E-WOM behaviors. Respondents who received social network postings, by contrast, more favorable perceived interactivity, ease of payment and the degrees to which they could trust the e-tailer.

These results hold theoretical and practical contributions. These implications are discussed below.

6.1. Theoretical implications

This study expands the body of knowledge about online consumer behavior by introducing and addressing a previously-unacknowledged gap. This study applies Stimulus-Organism-Response Theory from environmental psychology and empirically tests its application in a specific consumer marketing context where e-servicescape functioned as a stimulus. The Network Co-Production Model of E-WOM was also used as a theoretical underpinning for this research study. The study consequently tested an integrated research model, one based on SOR Theory and the NCPM, in an online consumer behavior context. The results empirically identified how and why e-servicescape influences consumers' trust, E-WOM intentions and customer loyalty toward a focal e-tailer.

With the e-servicescape of a website identified as the stimulus and the consumer's internal reaction of trust identified as the organism of the SOR model, the study's findings provide support for SOR Theory. The response is the behavioral action of approaching or avoiding the stimulus. Two specific responses of E-WOM and customer loyalty were investigated. The findings indicate that SOR theory is an appropriate theoretical foundation for understanding two approach behaviors for online shoppers, E-WOM intentions and customer loyalty.

Trust is a key mediator influencing extant and evolving relationships between website quality (Everard and Galletta, 2006), website design (Kim et al., 2009) and e-servicescape (Harris and Goode, 2010). Trust also influences purchase intentions and customer loyalty (Ribbink et al., 2004; Srinivasan et al., 2002). The findings support the mediating role that trust can play and generate insights regarding how e-tailers might promote favorable E-WOM intentions and customer loyalty behavior. This research underscores the degree to which E-WOM intentions share two traits in common. The first, each is directly associated with trust. The second, each behavioral outcome would prove highly attractive to any e-tailer.

These research findings provide actionable insights about how marketer-induced messages flow multi-directionally inside online settings. In the Network Co-Production Model (NCPM) of E-WOM, Kozinets et al. (2010) illustrate how marketers' seeded message can be sent directly to the initial consumer recipients, who then embed additional meaning and hopefully value into the message before they forward the initial (but now enhanced) communication to other consumers. These other consumers may respond directly to the shared E-WOM communication, and multi-directional flows of information ensues.

Customer reviews may similarly spawn multi-directional information flows unfolding in ways that either facilitate or impede online marketers' success. Online reviews clearly are provided by other customers; but these consumers also originally read marketer-generated information in the process of making their purchase decisions. In this study, the multi-directional flow of E-WOM information, as depicted in

the NCPM, is captured by using customer reviews as a sub-dimension of e-servicescape. The results suggest that customer reviews materially (and statistically significantly) influence users' perceptions of e-tailers' websites. Indeed, these findings support the argument that customer reviews should be integrated as a sub-dimension of e-servicescape. The evidence suggests that customer reviews should function as an essential part of e-servicescape.

These findings contribute materially to existing knowledge about e-servicescape and online consumer behavior. This research addresses earlier calls for investigating the influence of E-WOM on consumer purchasing behaviors. Here, online customer reviews functioned as E-WOM. Results suggest firms should focus more attention on providing valuable information through online reviews in order to help customers make the "right" purchase decisions. Customer reviews play an increasingly important role in the overall e-servicescape of e-businesses. Customer reviews should be added to the e-servicescape construct.

6.2. Practical implications

Competition for online consumers is already fierce, and poised to grow more intense. Beyond question, e-tailers should continuously generate insights about how best to use always-finite promotional resources more effectively. Such resources may be employed to integrate new features aimed at enhancing website design, to improve website quality aimed at enhancing customer experiences and/or to promote offerings in ways aimed at acquiring new and more deeply engaging existing customers. This study applied two theories to investigate online consumers' perceptions of e-servicescape, trust, E-WOM intentions and customer loyalty, with both rigor and relevance, using customer data for a single e-tailer. And developed insights related to two pressing e-tailer problems along the way. Previously, research on consumers' website perceptions relied on consumers selecting their favorite website and responding to general survey questions and statements.

The study's findings suggest that e-tailer's e-servicescape can materially influence consumers' level of trust in the e-tailer. When seeking to maximize trust (always?), these results suggest organizations should design elements of their websites to convey trustworthiness, dependability and credibility. Online purchases are generally associated with higher levels of perceived risk (Urban et al., 2000), making trust-building an even more crucial contributor to successful online transaction processes. Other researchers observed that user perceptions of website design and quality are associated with trust (Everard and Galletta, 2006; Kim et al., 2009). Trust operates both as potential deal-breaker and deal-maker. The presence of trust can function as an adherent that converts online browsers to online purchasers; its absence typically negates said conversions. Marketers should pay careful attention to website factors that influence consumer trust (Harris and Goode, 2010; Pavlou, 2003). Engendering online trust often requires that marketers first decrease consumers' perceived risk. Perceived risk rises and falls in lockstep with perceived website quality (Forsythe and Shi, 2003).

Prior conceptualizations of e-servicescape failed to include customer reviews. Yet as consumers' expectations of websites grow even more difficult to satisfy, customer reviews are a crucial element of the environmental factors of an e-tailer's website. For shoppers of exclusively e-commerce businesses, the problem of not being able to touch, smell or try on the merchandise is particularly tricky in the decision-making process. The provision of customer reviews should help e-tailers overcome these disadvantages. This consumer-created information influences consumers' purchase decisions and online sales (Chen and Xie, 2005).

Another practical contribution of the current study follows from the inclusion of E-WOM intentions and customer loyalty as potential behavioral outcomes of trust. The findings suggest that customer loyalty follows trust in the e-tailer. When shoppers demonstrate commitment towards online retailers, which is reflected in more favorable attitudes

and increased intentions to repeat purchases (Srinivasan et al., 2002), they more willingly pay higher prices as opposing to searching for better deals. Consumers' level of trust in online retailers directly affects customer loyalty (Kim et al., 2009; Ribbink et al., 2004). This result suggests firms should focus on those elements of e-servicescape that influence trust, which in turn favorably affects customer loyalty. Managing this process should assist e-tailers in their efforts to retain current customers, which generally proves, as is widely known, less expensive than acquiring new patrons (Hayes, 2008).

Trust was also associated with E-WOM intentions, as well as customer loyalty. In this study, E-WOM specifically included emails and social network postings via Facebook. The findings suggest trust impacts consumers' propensity to share e-tailer's email or Facebook posting with friends, family and co-workers. Companies should emphasize dimensions – i.e., website cures and other communications – that enhance their perceived or actual trustworthiness in consumers' minds. E-tailers should do these things because the result would stimulate E-WOM activity.

This study also compared two groups using an integrated research model. Consumers receiving emails were compared and contrasted with social network postings recipients for the same online retailer. Initially, it was hypothesized that the email recipient group would have higher perceptions of e-servicescape and trust, as well as greater E-WOM intentions and customer loyalty. Interestingly, the results suggested that recipients of social network postings had higher perceptions of two key sub-dimensions (i.e., interactivity and ease of payment) of e-servicescape. For the interactivity sub-dimension, it appears likely that consumers frequently check their social network profile and see friends' postings, as well as the marketer's posts. Given the ubiquitous nature of smartphones, mobile devices and Wi-Fi connectivity, users are visiting social media websites more frequently. These frequent checks may cue consumers into e-tailers' postings on Facebook, and enhance their implicit assessments of the website's general interactivity levels – or popularity (Shareef et al., 2018; Shiau et al., 2018).

The relationship between e-servicescape and ease of payment was stronger for Facebook users than email users, which was not expected. This unexpected result may been driven by the fact SNS users more likely keep information conveniently saved using customer profiles on the e-tailer's website. The existence of saved information makes subsequent purchases faster, easier and more convenient for customers. The customer profile option is available to both email and SNS customers. However, one might further speculate that SNS users are more confident or informed and thus more likely to use the customer profile option. Thus, perceptions of ease of payment are higher for SNS users compared to email recipients.

Recipients of social network postings demonstrated greater levels of trust than email recipients in the relationship between e-servicescape and trust. This result was interesting, particularly given prior discussion about the ease of payment sub-dimension. Despite SNS users having higher e-servicescape (for ease of payment and interactivity) and trust perceptions, email receivers have more E-WOM intentions and customer loyalty overall. Generally, engendering trust is critical in the relationship between e-servicescape and customer loyalty. E-tailers must emphasize website attributes to influence consumers' trust. However, trust, or rather its comparative absence, may not prove so much a deal-breaker for email users as opposed to SNS users.

Given the myriad media through which marketers now may communicate with consumers, these insights provide marketing managers with additional insights about how various modes of electronic communication differentially affect customers' perceptions of e-servicescape, trust, E-WOM intentions and customer loyalty. This is important during an era in which marketers enjoy easy access to myriad media through which they can communicate with targeted prospects and customers. Rather than abandoning emails and jumping exclusively to the social networking mode as they attempt to create or strengthen relationships with customers, the results suggest e-tailers should use

each form of communication to reach and influence consumers. In particular, seeding strategies apparently should focus on well-connected consumers; i.e., those who are clearly more likely to function as opinion leaders, within social networks (Hinz et al., 2011).

Marketers should initiate efforts to better understand how different forms of social networking enhance their seeding strategies in order to maximize the effectiveness of E-WOM. E-tailers may focus on the interactive nature of the website and highlight interaction opportunities when messaging through email. Emailing e-tailers should exploit the technology's capabilities in order to embed merchandise videos, inform users about contests that "require" customer participation and remind customers about the existence of interactive website tools. This final step should contribute to higher levels of perceived interactivity. Emailing e-tailers likewise may emphasize the convenience of saving customer profile information for email recipients by reminding consumers/users about their websites' simple payment processes. Such e-tailers, of course, first would have to actually make said payment processes simpler.

This study first reveals and subsequently underscores the degree to which e-tailers first should understand and subsequently leverage the material impact that e-servicescape's dimensions/sub-dimensions *can* exercise on the subsequent development of customer trust, E-WOM intentions and loyalty. When visiting e-tailer's websites, consumers are, in their minds, interacting directly with marketing organizations through their technological interface. Consumers, and potential customers, are assessing e-tailers' performance on the various dimensions that constitute e-service delivery (i.e., e-servicescape). These assessments, in turn, influence consumers' trust. Consumers' trust levels, eventually, contribute to greater loyalty and E-WOM activity.

These results can assist e-commerce businesses in understanding the roles of specific dimensions and sub-dimensions of e-servicescape, as well as trust, play in developing customer loyalty. Online companies can use the findings to help them improve their websites, which can lead to building trust and enhanced customer relationships. E-tailers clearly should account for their e-servicescapes and trust when developing messages intended to promote greater E-WOM activity among consumers.

7. Conclusion

The present study expands our current knowledge of e-servicescape in several ways: 1) how e-servicescape differs for email recipients versus social network consumers; 2) how customer reviews is a crucial part of e-servicescape; and 3) how e-servicescape is related to behavioral intentions. This research was first purposed to determine whether retailer's/e-tailer's emails and social network posts differentially influence consumers' perceptions of retailer/e-tailer's e-servicescapes. The second purpose of this research was to investigate whether customer reviews materially influence consumers' perceptions of the e-servicescapes of retailers/e-tailers? Finally, this study sought to determine whether consumers' e-servicescape perceptions are related to trust and, in turn, whether trust was related to E-WOM intentions and customer loyalty.

In this study, a conceptual framework expanding e-servicescape by integrating customer reviews and linking e-servicescape with trust, E-WOM and customer loyalty was designed and investigated to pursue these purposes. The framework was tested using data from actual customers of a nationally-based e-tailer, which has not been previously investigated (Harris and Goode, 2010; Huang et al., 2017; Tran et al., 2012). Two forms of E-WOM were examined, including emails and social network postings. Theoretical contributions from the present research included a successful application of the Stimulus-Organism-Response Theory and the integration of e-servicescape into the Network Co-Production Model of E-WOM. Each theory fit. Practical contributions provided guidance for marketers seeking to better reach consumers with various modes of electronic communication, and revealed theoretical and managerial insights about how differences in electronic communication mode could be managed through tactics that would favorably affect customers' perceptions of e-servicescape and in turn stimulate greater trust, E-WOM intentions and customer loyalty.

7.1. Limitations and future research

Despite these theoretical and managerial contributions, the study is limited. Data collection and analyses were, by design, constrained to customers of a single e-tailer. The sample frame was comprised of a self-selected set of consumers. Given this narrow sample frame, issues with representativeness and generalizability might arise. Relatedly, the e-tailer of focus in this study offers only apparel and accessories, two specific product categories. The target market of this e-tailer includes Baby Boomers, and the mean age of the respondents (56 years) reflects this. Again, these two conditions limit generalizability. While the results just reported remain relatively generalizable, replicating and extending this study to additional e-businesses marketing in other sectors would prove useful.

With an eye cast toward enhancing insights about e-servicescape, trust, viral marketing and customer loyalty, future research should examine additional factors of e-servicescape, such as sound and possibly texture. Technology incessantly evolves and advances, especially in terms of its scope and potential impact. E-tailers enjoy ample opportunity to enrich their websites, improve customer experiences and offer more information upon which consumers can make purchase decisions. E-servicescape currently does not account for video clips that might describe, demonstrate and underscore potential uses for products. Depending on the product category, adding a sub-dimension about video clips to e-servicescape may help e-tailers understand whether this feature is useful for consumers.

Finally, the customer reviews sub-dimension was measured using only two items that were combined to generate interval data. To build a truer scale, future researchers should use three or more items.

Data Statement

Due to a non-disclosure agreement with the e-tailer, we cannot share the data for this research.

Declarations of interest

None.

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Appendix Table 1

Measurement Items.

E-Servicescape (Goode and Harris, 2010)
Aesthetic appeal dimension
Entertainment value subdimension

I find this website entertaining
The enthusiasm displayed on this website lifts my spirits
It is fun shopping on ___'s (e-tailer) website even when I do not make a purchase
Originality subdimension
The ___'s (e-tailer) website features a traditional design[a, b]
The design of this website is pretty much like the design of other websites I shop from [a, b]
The design of the ___'s (e-tailer) website is fresh and original[c]
The ___'s (e-tailer) website is unadventurous[a, c]
Visual appeal subdimension
This website is aesthetically appealing
The way ___'s (e-tailer) website displays products is attractive
I like the look of ___'s (e-tailer) website
The ___'s (e-tailer) website does not use visually appealing graphics[a, b, c]

Layout and functionality dimension

Customization subdimension
The services of this website are often personalized to my needs
This website treats me like an individual
This website does not make purchase recommendations that match my needs[a, c]
This website is laid out to satisfy my needs[b]
Interactivity subdimension
This website helps me compare products
The ___ (e-tailer) website helps me compare prices
This website does not let me view merchandise is different ways[a, c]
This website has a search tool which helps me find exactly what I want
The ___ (e-tailer) website does not engage me[a, c]
Relevance of information subdimension
All relevant information is easily available on this website
Technical details about the items can be easily accessed when browsing this website
Each page on the website clearly indicates what one can expect to find
Usability subdimension
Finding the exact items I want on ___'s (e-tailer) website is difficult[a, b, c]
___ (e-tailer) website is difficult to use[a]
The navigational aids on this website are useful[c]
There are convenient ways to maneuver among various pages (shirts to pants) on this website[c]
___'s (e-tailer) website offers quality keyword search functionality[c]
Customer reviews subdimension
Customer reviews are helpful when I make purchase decisions on ___'s (e-tailer) website[b]
I like to read customer reviews on ___'s (e-tailer) website[b]

Financial security dimension

Ease of payment subdimension
On ___'s (e-tailer) website, paying for items involves entering too many details[a]
Payment procedures take a long time to complete on this website[a]
___'s (e-tailer) online payment process is reasonable[b]
Paying for goods is straightforward on this website
Perceived security subdimension
The security systems of this website appear rigorous
Overall, ___'s (e-tailer) appears to be security conscious
I have no security concerns when I purchase apparel and accessories from this website

Trust (Goode and Harris, 2010)

___'s (e-tailer) website seems genuinely committed to my satisfaction
Overall, I trust this website
In terms of usability, I know what to expect from ___'s (e-tailer) website
If ___ (e-tailer) makes a claim about its product, it is probably true
Few limits exist on how far ___ (e-tailer) will go to solve my website service problems[c]

E-WOM (Okazaki, 2009; Verhoef et al., 2002)

(Five-point Likert scale anchored with "never" and "always")
I would make recommendations to my friends and family about signing up for (emails/Facebook updates) from ___ (e-tailer)
If someone asks me for advice about ___'s (e-tailer) website, I will encourage them to sign up for (emails/Facebook updates) from ___ (e-tailer)
If I receive an interesting (email/Facebook posting) from ___ (e-tailer), I would forward/repost it to/for my friends and family

Loyalty (Beatty et al., 1996)

I prefer ___'s (e-tailer) clothing and accessories over other apparel alternatives[b]
I am loyal to ___ (e-tailer)
I don't think I'll shop at ___ (e-tailer) again[a, c]

Notes:
Unless noted otherwise, all items were measured with a five-point Likert scale, anchored with "strongly disagree" and "strongly agree".
[a] Reverse-coded item.
[b] Item was specifically developed for this study.
[c] Item was deleted due to low or cross loading.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jretconser.2019.03.009.

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