

2022

The Impact of Online Reviews on the Information Flows and Outcomes of Marketing Systems

Forrest Watson

Yinglu Wu

Follow this and additional works at: https://collected.jcu.edu/fac_bib_2022

 Part of the [Business Commons](#)

The Impact of Online Reviews on the Information Flows and Outcomes of Marketing Systems

Forrest Watson¹  and Yinglu Wu²

Abstract

Online reviews are changing the way that consumers shop and firms respond to consumer feedback. Viewed more broadly, online reviews are a type of information flow altering the functioning of marketing systems at the micro, meso, and macro levels. A systematic review of the past two decades of research shows great attention to the impact of online reviews on information flows, as well as the nuances of micro-and meso-level *efficiency* outcomes. However, there is scant consideration for the *effectiveness* related outcomes of online reviews (such as customer well-being, distributive justice, and externalities). Through a macromarketing lens, online reviews are an information flow with the potential to change well-being outcomes for all stakeholders, rather than just a tool to be exploited by firms or consumers. A theoretical framework and a series of questions are presented for future research on how online reviews and more generally information flows between actors may impact the efficiency and effectiveness of a marketing system.

Keywords

online reviews, eWOM, marketing systems, information flow, marketing system efficiency, marketing system effectiveness, systematic literature review

Introduction

We are in a rapidly changing era of customer power (Urban 2005). The Internet continues to reshape information flows within marketing systems, allowing consumers and firms alike unprecedented access to information. Online reviews are one of the ways in which empowered consumers give feedback to companies and to each other. Americans report that online reviews have a positive effect on consumer confidence (88% think they help a lot or some), product safety (80%), and company accountability (78%) (Pew Research Center 2020). Consumers especially rely on online reviews in product categories where they are less experienced. More than eight-in-ten Americans (82%) say they consult online ratings and reviews when buying something for the first time (Pew Research Center 2016).

The global pandemic has restricted physical retail shopping and pushed more shopping online, making reviews an increasingly valuable information source. One market research firm reported a 76% increase in the amount of online reviews in May 2020 compared to the previous year across the thousands of brands they track (Bazaarvoice 2020). As markets transform, consumers are posting and relying on online reviews more than ever before. But do online reviews help to bring about improvements in growth and Quality-of-Life (QOL), the ideal outcomes of a marketing system (Layton 2009)?

Online reviews can be conceptualized as a rapidly developing form of information flow within the marketing system

(Layton 2007, 2011). “While the story begins with specialization and ends with economic growth and contributions to societal well being, and quality of life, it is the interactions between the elements shown previously that will determine both the efficiency and effectiveness of a marketing system” (Layton 2011, p. 268). The information flows are one of the important interactions that will determine marketing system outcomes. In this paper, we explore the role of online reviews as an information flow with both positive and negative impact on marketing systems.

Shapiro (1982) argues that more perfect information leads to improved product quality because it incentivizes companies to keep their quality high. Easily accessible online reviews may reward firms with the highest quality products. The Internet facilitates information flow, in addition to other flows like negotiation, product/service (for digital products and services), transaction, and promotion (Kannan 2001). Online reviews are important because they are one of the most accessible forms of information available to consumers.

Although online reviews are widely used, does the extant literature indicate their impact on the macro level of marketing systems? Much of the research on online reviews is on the micro level—studying the impact of online reviews in a single buyer and seller exchange, such as the influence of positive, negative, and neutral reviews on product sales. We maintain there is a need for an expansive review of the research to date on online reviews, considering more broadly the impact of online reviews on the functioning of marketing systems. The research of online reviews emerged in the early 2000s; therefore, we conducted a comprehensive search of the research on online reviews over the last 20 years in the top 85 marketing, management, and information science journals, yielding hundreds of articles.

Even though there have been several systematical reviews on the literature of online reviews or eWOM (e.g., Rosario, de Valck, and Sotgiu 2020; King, Racherla and Bush 2014), our study differs from the existing literature in two important ways. Firstly, we considered and classified the *role* of online reviews as an information flow in marketing systems at the micro, meso, and macro levels (Layton 2010). Beyond the single seller-buyer exchange (micro), how do online reviews influence an entire industry, including the cooperation and competition between firms (meso), and the aggregate of all industries in the economy (macro)? Secondly, we reviewed the *outcomes* of online reviews in a marketing system. We considered the efficiency measures of marketing system performance (e.g., growth), but also the impact on effectiveness (Layton 2010) and QOL (Layton 2009). For example, how does the ubiquity of online reviews impact consumer satisfaction, distributive justice, and externalities (Layton 2009)?

Based upon a synthesis of the existing literature, we present findings on the two dimensions of roles and outcomes, and offer future directions for research. It is our hope that this paper will enable a reconsideration of online reviews within marketing systems, acknowledging the ways they contribute to information flow and identifying the potential dark sides. This study aims to contribute to the literature on online reviews and marketing systems in being the first to study online reviews at different levels of marketing systems. To the best of our knowledge, this research is also the first to systematically examine the outcomes of online reviews related to marketing systems effectiveness.

We organize the paper in the following way. First, we introduce the theory of marketing systems as the theoretical foundation for our literature review. Second, we briefly discuss our literature review approach. Next, we present the findings on the impacts of online reviews on the information flow and the outcomes of marketing systems at micro, meso, and macro levels. Last, based on the findings, we offer directions for future research on the role of online reviews in marketing systems.

Marketing Systems

Marketing systems is an important macromarketing concept (DeQuero-Navarro, Stanton and Klein 2020). “Macromarketing

is involved in comprehending, explaining, and predicting the effects that the marketing system can have, and is having, on our world” (Wilkie and Moore 2006). According to Layton (2011), a marketing system is a network of individuals, groups and/or entities, embedded in a social matrix, linked directly or indirectly through sequential or shared participation in economic exchange, which jointly and/or collectively creates economic value with and for customers, through the offer of assortments of goods, services, experiences and ideas, that emerge in response to or anticipation of customer demand (p. 259).

The marketing system aims to respond to shifts, whether in terms of customer preferences or in terms of accessibility, affordability, quality, or relevance (Layton 2009). Marketing systems should deliver necessary assortments and meet specific surplus, profit, utility, and customer satisfaction goals. Hence, with a wider range of assortments, policy changes can fundamentally impact, indirectly or directly, the effectiveness of marketing systems (Layton 2009). The following sections review the concepts of information flow, micro/meso/macro levels, and the intended outcomes of a marketing systems.

Information Flow

Different types of “flows,” including information flows, are a critical aspect of marketing systems. Buyers and sellers must be brought directly or indirectly into contact in order for exchange to take place (Layton 2011). “For a marketing system to function effectively in the creation and delivery of assortments, several parallel, coordinated, and mutually supporting economic flows must take place,” including “an accessible flow of the information needed to bring buyers and sellers together, and to allow informed exchange to take place” (Layton 2011, p. 269). Information flow is therefore essential for marketing systems to function properly.

Depending on the marketing system, “information flows might be intense and localized or widespread and electronic based” (Layton 2011, p. 268). Risk likewise varies depending on the make-up of a marketing system. When sellers and buyers are known to each other as part of a community or through repeated exchange, the risks decrease. But as exchange becomes more impersonal and complex, such as Internet markets, risk increases for all parties (Layton 2011).

There is a wide and diverse literature that addresses the effectiveness of information flow. Market failure due to asymmetric information may occur when the buyer and the seller have different amounts of information and the more knowledgeable of them exploits that advantage at the expense of the other (Riley 2001). Firms mimicking organic products, for example, can exploit consumer ignorance and decrease social welfare (Biondo 2014).

Albaum (1967) argues that an information system should: (1) Minimize potential information users’ lack of knowledge of the existence of information and its sources; (2) Minimize the lack of knowledge of possessors of information of who are the potential users; (3) Reduce the chance of distortion occurring during the transmission of information; (4)

Minimize the amount of time it takes for information to flow from original recipient to final user. Even though Albaum's (1967) focus was on an internal information system, it still helps to identify several of the important elements within an information system.

Ariely (2000) argues that one of the main goals of marketers should be to deliver the most appropriate information to their consumers enabling them to make the most effective decisions. Information control has both positive and negative effects on performance. The positive effect results from the value of the information itself combined with the user's ability to select and process the specific information that is most relevant to the user (heterogeneity). Interactive communication that gives consumers control over the content, order, and duration of product-relevant information causes information to have higher value and to become increasingly usable over time. The negative effect is due to the additional resources demanded by the task of managing the information flow coupled with limited processing capacity. The access to more information may increase the time spent before customers feel they have sufficient information to make a decision.

Micro/Meso/Macro Levels of Marketing Systems

Marketing systems are conceptualized as multilayered or multi-level (Layton 2009). Layton (2010) uses micro, meso, and macro levels as an axis in mapping the complexity of marketing system patterns. The micro level of marketing systems is the transaction between a buyer and seller and the unit of analysis is typically individual choice (Layton 2008). The meso level is the intermediate level of networks situated between the micro and macro and may consider groups of competing or cooperating sellers (Layton 2010). The macro level is at the highest and most complex level, looking from the outside in (Layton 2008).

Marketing systems can be considered at all levels of aggregation (Layton 2007). Indeed, the aggregation levels may be individuals, households, segments, regions/clusters, or society at large (Layton 2009, Figure 1). We follow in the path of considering marketing systems at the different levels of aggregation, from the micro behaviors of customers and producers, to the meso-level emerging structures of marketplaces, and to the macro-level concerns about effective provisioning for all

(Layton 2019). Micro systems are embedded in larger systems, with complexity of the marketing system growing at each level of aggregation (Layton 2019). Therefore, the levels should not be thought of as simple steps, but rather different levels of systems embedded within more complex systems.

Marketing System Outcomes: Efficiency and Effectiveness

The overall health of a marketing system depends on performance both in a narrow economic sense and in a wider social sense (Layton 2010). Layton (2010) considers the outcomes in the terms of efficiency and effectiveness. Efficiency in a marketing system can be defined as minimization of transaction costs and timely and innovative response to emerging opportunities (Layton 2011). Efficiency also differs somewhat over the short and long term. "An efficient marketing system will in the short term seek to minimize transaction costs, and in the longer term to respond in an innovative and timely fashion to internal and external change with a balanced blend of cooperation and competition" (Layton 2011, p. 273).

Effectiveness in a marketing system is defined as the "capacity to provide accessible assortments in response to changing customer needs for each of the customer groups it is intended to serve" (Layton 2011, p. 273). Apart from highlighting the importance of assortments, Layton (2007) puts forward Macmillan's (2002) five elements of effective marketing designs: "information flows smoothly; people can be trusted to live up to their promises; competition is fostered; property rights are protected but not overprotected; and side effects on third parties are curtailed" (Layton 2007, p. 237). Conversely, once factors like poor access, information asymmetries, lack of customer feedback, and loss of trust (Layton 2011) occur, marketing effectiveness is essentially damaged.

Based on Layton's theory of marketing systems, we survey the extant literature on online reviews to evaluate the roles of such online reviews in different levels of marketing systems. Specifically, we look into the literature to assess how online reviews affect the information flow of marketing systems and contribute to the desired outcomes of efficiency and effectiveness. Figure 2 summarizes the theoretical framework on which the literature review is based.

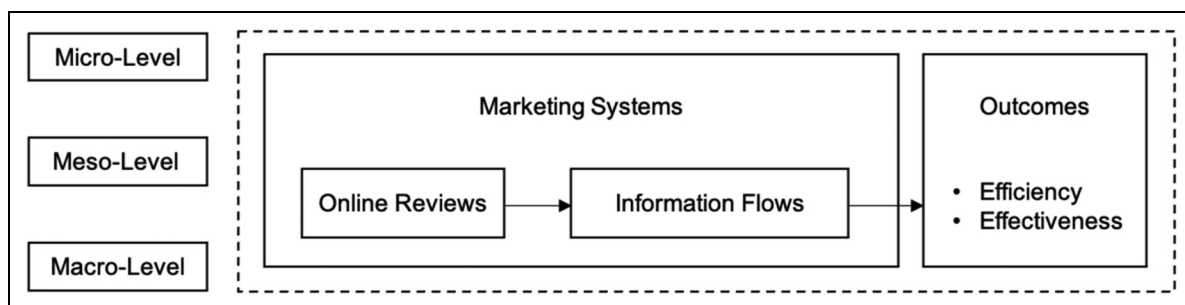


Figure 1. Theoretical framework of literature review.

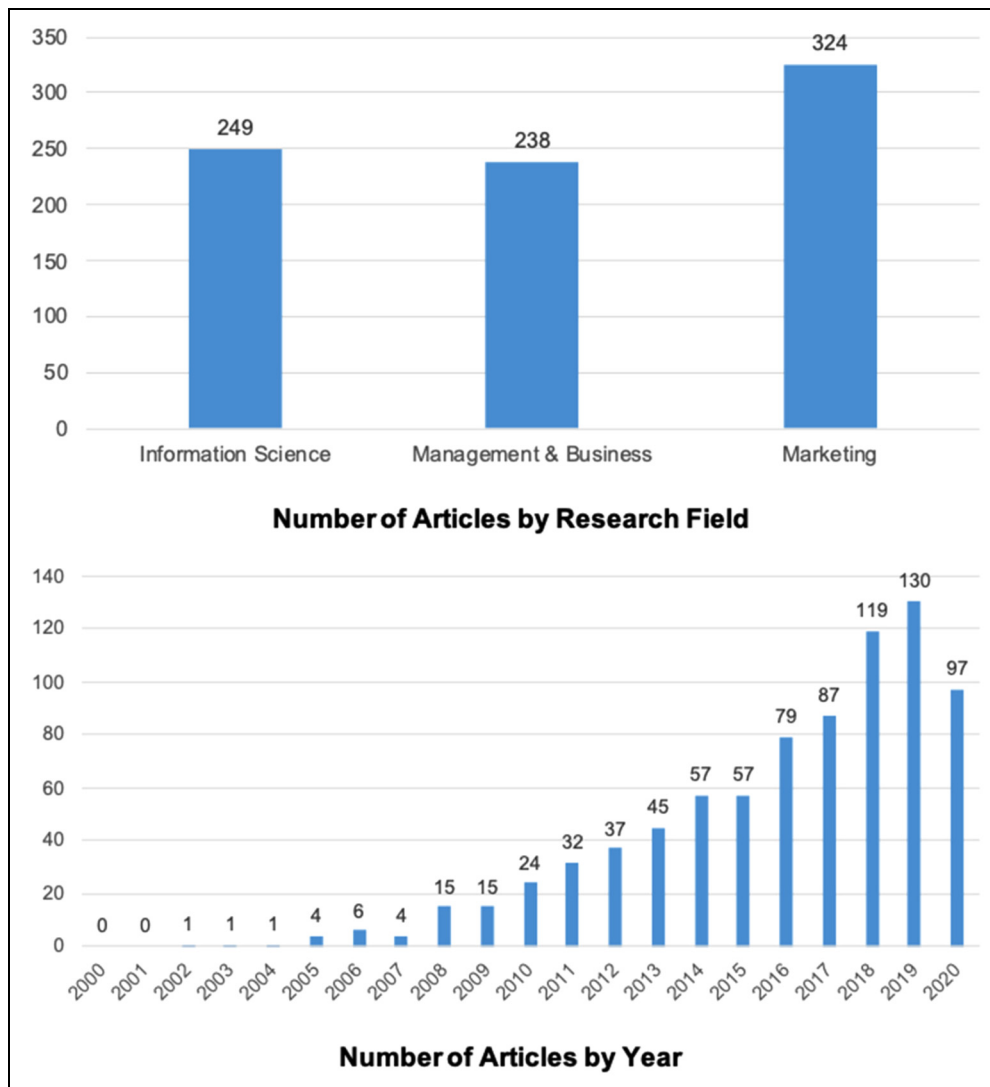


Figure 2. Summary of the literature reviewed.

The Literature Review Approach

Methodology

Following Cheung and Thadani (2012) and You, Vadakkepatt and Joshi (2015), we reviewed the top-cited journals ranked by Web of Science in the fields most likely to publish research in online reviews: marketing, information science, and management & business. We also included journals in public relations and public administration that are most likely to publish articles related to marketing systems and micromarketing. The final list included 82 journals, and the journals are listed in the appendix.

For each journal on the list, we searched for papers on online reviews published since the year 2000. We used a large group of keywords such as online reviews, consumer reviews, product ratings, eWOM, etc., and the initial search yielded a total of 1,435 articles. Next, we refined our article sample and excluded research that examines professional third-party reviews, such as reviews from consumer reports or professional organizations,

and research about other forms of user-generated content, such as social media posts not related to products or purchases. Our final sample contains 811 articles, and Figure 3 summarizes the articles in our sample.

Classification of Themes

For each paper in our sample, we assessed the study findings to derive insights associated with three levels of marketing systems: micro, meso, and macro. For example, the micro-level marketing systems deal with the transactions between single buyers and sellers (Layton 2008). We classified findings concerning micro-level marketing systems if the findings discuss how consumers evaluate online reviews and how reviews affect a single company's performance. At the meso level of aggregation, a marketing system can form around groups or clusters of sellers offering similar or complementary products/services to groups of buyers (Layton 2011). Therefore, papers

Key Themes from the Literature		Marketing Systems		
		Micro Level	Meso Level	Macro Level
Information Quality	Information relevance	<ul style="list-style-type: none"> • Reduce product purchase risk • Predict company performance 	<ul style="list-style-type: none"> • Knowledge about market structure 	
	Information credibility and helpfulness	<ul style="list-style-type: none"> • Review characteristics • Reviewer characteristics • Reader characteristics 	<ul style="list-style-type: none"> • Social influence • Information bias • Market attributes 	<ul style="list-style-type: none"> • Information usefulness • Information manipulation and fraud
Information Quantity	Information generation and availability	<ul style="list-style-type: none"> • Individual motivations • Company marketing strategies 	<ul style="list-style-type: none"> • Influence from the review community • Market structure 	<ul style="list-style-type: none"> • Economic, social, and technology factors
	Information overload	<ul style="list-style-type: none"> • Review informativeness • Decision shortcuts • Company strategies 		
Information Timeliness	Timeliness	<ul style="list-style-type: none"> • Up-do-dateness/freshness • Distance between product release and review posting • Time elapse between product purchase and review posting 		<ul style="list-style-type: none"> • Freshness compared to other information sources
	Information evolution		<ul style="list-style-type: none"> • Reflection of market changes • Interactions within online communities • Difference among consumer adopter segments 	<ul style="list-style-type: none"> • Economic, social, and technology factors

Figure 3. Online reviews and marketing system information flows – Key themes from the literature.

that examine how reviews affect companies (i.e., direct competitors) in the same market (e.g., eBay, Amazon, etc.) and how consumers interact with each other in an online community are from the perspective of the meso-level marketing systems. At an economy-wide, macro level, the aggregate marketing system offers a more vast array of goods, services, experiences, and ideas (Wilkie and Moore 1999). Our goal was not to classify a paper within a particular level of marketing systems; but rather, we paid attention to the focuses and implications of the studies. A paper may include findings and implications that are relevant to multiple levels of marketing systems.

Findings: Online Reviews and Marketing System Information Flow

According to Layton (2010, 2011), for a marketing system to function effectively, there needs to be an accessible flow of information to bring buyers and sellers together. However, for most marketing systems, imperfect information and information asymmetry result in price dispersion in these markets (Izquierdo and Izquierdo 2007; Grover, Lim and Ayyagari 2006).

The explosion of information through the Internet has significantly impacted many online and offline marketing systems. Internet and electronic marketplaces can reduce information asymmetry, lower the costs of information search for buyers, and increase cost transparency (Bakos 1997; Varadarajan and Yadav 2002). Consumer eWOM, such as online consumer reviews, is consumer-generated, consumption-related online communication directed mainly to other consumers (Rosario, de Valck, and Sotgiu 2020). Online product reviews and seller reviews can dramatically affect the information in a marketing system because consumer reviews function as a low-cost source of information about products and sellers, as well as a form of reputation system that signals products' and sellers' qualities (e.g., Amblee and Bui 2011).

To examine the role of online consumer reviews in marketing systems, we investigate the online review literature for any evidence on the connection between consumer reviews and the characteristics of information flow in the market. Based on information and market efficiency theories, from our review of the literature, we identify that online consumer reviews are relevant to three dimensions that characterize a marketing system's information flow: information quality, quantity, and

timeliness. Figure 1 summarizes the research themes related to marketing systems of micro, meso, and macro levels.

Online Reviews and Information Quality

Information quality deals with the information's consistency and accuracy to reveal the true nature of and differentiate parties in the market. Specifically, information consistency or information equivocality (Grover, Lim and Ayyagari 2006) describes the ability of information to send out reliable signals about a market. Ambiguous situations arise when there exist multiple conflicting views among stakeholders. Without the correct information on sellers or products, buyers in the market may not be able to learn the true quality of sellers or differentiate good sellers from bad ones. Our literature review reveals that researchers have studied the issues related to the relevance, credibility, and usefulness/helpfulness of online review information.

Information relevance. To establish online reviews' relevance to the marketing system information flows, it's important to understand what information online reviews can reveal about the marketing system and if such information facilitates the decision-making process of the various parties in the marketing system.

Research has investigated what information embedded in online reviews can help reduce information uncertainty. Looking at micro-level marketing systems, researchers demonstrate that consumers can directly learn about other customers' opinions and evaluations of a product or a seller through review ratings and the sentiments expressed in the review text (e.g., Hu, Koh and Reddy 2014). From reading the textual content of reviews, consumers can learn details about product features, functions, performance, and other customers' experience of the product (e.g., Miao, Li and Zeng 2010; Engler, Winter and Sculz 2015b30). Such information can effectively reduce the uncertainty related to product purchase, especially for those products associated with high risk.

However, reducing purchase risk and search cost is not the only motive for consumers to read online reviews (Cheung, Lee and Rabjohn 2008). Consumers also look into online reviews for social benefits such as identifying their social positions, reducing dissonance, and fostering a sense of community belonging (Hennig-Thurau and Walsh 2003). For companies, online reviews contain consumer feedback helpful in formulating better marketing strategies, such as brand perceptions for branding strategies (Tirunillai and Tellis 2014).

Online marketplaces such as eBay and Amazon are typical meso-level marketing systems with visible direct competitors and large audiences. In these meso-level marketing systems, the review mechanism acts as a reputation system for consumers to evaluate and differentiate products and sellers (Ambee and Bui 2011). Park and Lee (2008) suggest that in addition to revealing product information, online reviews can play a recommender role through which consumers can infer the product's popularity. Specifically, consumers use the amount of reviews a product receives to infer if the product is popular

(Ambee and Bui 2011), and the amount of reviews an online seller accumulates to assume if the seller has generated large sales (Duan, Gu and Whinston 2008). Companies can also use information embedded in consumer online review text to learn about the market structure such as competition and relative brand positioning (e.g., Lee and Bradlow 2011).

Information credibility and helpfulness. Different from the traditional offline WOM, online reviews are most often posted anonymously and prone to manipulation. Therefore, the review information's credibility and usefulness are subject to various factors associated with the reviewers, the review content, and the person who reads the review. Abundant research is dedicated to investigating if reviews in general and what kinds of reviews in particular are credible in the readers' eyes (e.g., Qahri-Saremi and Montazemi 2019). In addition, many online platforms allow readers to provide feedback on online reviews by voting if the reviews are helpful, which facilitates another stream of research that studies the helpfulness or usefulness of online reviews. Aligned with the theories in information processing and persuasibility (Cheung et al. 2009; Forman, Ghose and Wiesenfeld 2008), three main categories of factors emerge as the determinants of review credibility and helpfulness: characteristics of the review message, the reviewer or review source, and the review reader.

Because information credibility and usefulness directly impact a consumer's intention of adopting the information during the decision-making process, for micro-level marketing systems, researchers focus on how individual consumers interpret and evaluate reviews. Online review credibility reflects the perceived degree to which a review provides factual, accurate, and truthful information (Doh and Hwang 2009; Gvili and Levy 2016). Regarding the review message, researchers find that the perceived message credibility is positively associated with a message's information facets such as informativeness (Gvili and Levy 2016), argument strength (Cheung et al. 2009; Fang 2014), and message integrity (Yan et al. 2016). In addition, Gvili and Levy (2016) propose that emotional responses such as entertainment and irritation in the review message also affect the review's perceived credibility.

Regarding the review source, researchers find that reviewer's credibility, experience, knowledge expertise, and task-related abilities (e.g., Yan et al. 2016; Fang 2014) positively influence the perceived credibility of the reviews. Evidence shows that readers' own characteristics also impact how they perceive the credibility of review messages. For example, Cheung et al. (2009) find that readers perceive reviews that confirm their prior beliefs about the product or service to be more credible.

While credibility mainly deals with reviews' truthfulness, helpfulness reflects how useful online reviews are in assisting consumers with online shopping tasks (Pan and Zhang 2011). On websites where readers can vote if a review is helpful, helpfulness also serves as a reputation metric representing peer-generated evaluations of the review (Mudambi and Schuff 2010). Therefore, some researchers consider helpfulness a broader concept that encompasses credibility (e.g., Li et al. 2013).

Reviewers' identity disclosure (Forman, Ghose and Wiesenfeld 2008), such as real name and geographic location, as well as reviewers' reputation and community participation (Yang, Mai and Ben-Ur 2012) affect the perceived review helpfulness. Researchers also find that reviews with more extreme ratings (e.g., Yan et al. 2016; Forman, Ghose and Wiesenfeld 2008) and negative opinions (e.g., Jeong and Koo 2015; Kuan et al. 2015) are perceived as more helpful. However, these biases seem bounded by product types. Evidence shows that consumers view extreme reviews as less helpful than moderate reviews when evaluating experience goods (e.g., Mudambi and Schuff 2010; Kuan et al. 2015). Other review content attributes associated with review quality and perceived helpfulness include review depth (Mudambi and Schuff 2010; Wang et al. 2018b), relevance, comprehensiveness (Cheung, Lee and Rabjohn 2008), argument strength (Chong et al. 2018), and readability (Kuan et al. 2015; Wang et al. 2018b).

Studies examining the meso-level marketing systems indicate that social interactions within the review community can influence the information quality of online reviews. Within a given review community, community norms can affect the reviewers' decisions about what to post and how readers evaluate reviews. Based on the assumption of norm-conformity, Forman, Ghose and Wiesenfeld (2008) find that identity-descriptive information in the previous reviews of a product community is positively associated with the disclosure of similar identity-descriptive information in the subsequent reviews. Cheung et al. (2009) also observe norm-conformity behaviors in evaluating reviews in an online community — online reviews consistent with others in the community are perceived as more credible.

Another theme under the meso level centers around the sampling bias of the review community, as researchers find that online review communities often may not represent the true population of consumers or provide complete and true information. For example, Gao et al. (2015) compare online physician ratings from RateMDs.com with the offline Consumers' Checkbook physician quality survey and find that physicians of low quality are less likely to be rated online than average and high-quality physicians. Moreover, there is a significantly greater noise in online ratings' quality signals for both low- and high-quality physicians. Clemson (2007) also suggests that in an online platform like eBay, where buyers and sellers leave reviews for each other, a buyer may avoid criticizing a seller for poor performance out of fear of reprisal and concern for the buyer's own reputation. The bias of review population on a given platform does not always lead to positive review profiles. Anderson and Simester (2014) observe that approximately 5% of the product reviews on a large retail website are written by consumers with no record of purchasing the product, and these reviews are significantly more negative than other reviews.

While we cannot rely solely on online reviews to provide complete and unbiased information about the market, an online platform or community can improve the overall information quality with better platform design and management

policy. In an online market, a firm can be motivated to manufacture positive reviews for its own products and negative reviews for its competitors. However, the prevalence of such manipulation is affected by whether a review platform requires a purchase in order to post a review (Mayzlin, Dover and Chevalier 2014). In addition, Chen, Fay and Wang (2011) propose a moderation system to measure a reviewer's reputation and review quality, something that shows promise for ensuring the content quality of an online platform.

There are far fewer studies on the macro-level marketing systems as compared with micro-level and meso-level research. At the macro level, researchers observe that across different online marketplaces, online ratings tend to be overwhelmingly positive (e.g., Chevalier and Mayzlin 2006). This macro-level characteristic is directly associated with two important issues. The first issue is the overall quality of online reviews as a source of information. Using rating data of various books sold on Amazon.com, Hu et al. (2011) document that, on average, only 39% of the customers find the reviews useful. De Langhe, Fernbach and Lichtenstein (2016) suggest that review ratings may not represent products' objective quality as they do not converge well with consumer report scores. In these cases, online reviews may still hold value as an alternative source of information because they can complement third-party information sources.

The second issue, review manipulation and fraud, is more critical to the validity and hence the effectiveness of online reviews as an information source. Manipulated reviews contain inauthentic information from which consumers might derive wrong conclusions (Hu et al. 2011), and manipulation occurs when online vendors write 'consumer' reviews by posing as real customers (Hu et al. 2012). Using book samples on Amazon, Hu et al. (2012) discover that around 10.3% of the products are subject to online review manipulation and consumers are not able to detect manipulation in the review text. According to a detailed study of Taobao, China's largest online marketplace, Zhang, Bian and Zhu (2013) discuss how the reputation manipulation methods have evolved through five different generations, from the simpler method where sellers inflate their positive ratings by setting up multiple accounts to more sophisticated fraud cooperation among multiple sellers. In general, the issue of review fraud and manipulation is prevalent across product types, platforms, and global markets (Hu et al. 2011; Hu et al. 2012; Zhang, Bian and Zhu 2013; Mayzlin, Dover and Chevalier 2014).

Online Reviews and Information Quantity

Information quantity deals with the amount of information available in the market to facilitate transactions in that marketing system. Grover, Lim and Ayyagari (2006) point out two opposite situations associated with information quantity: uncertainty and overload. Information uncertainty describes the absence of information and occurs when necessary information to facilitate transactions is unavailable. Conversely, information overload happens when providing more than required

information creates a cognitive burden for customers. Although traditional marketing systems may be more familiar with information asymmetry due to information uncertainty, the digital revolution has led to an era of information explosion, making information overload a pertinent influence on market outcomes.

Review generation and availability. Because of the emergence of electronic markets, consumers have gained more power by exerting increased control over the information within marketing systems. Instead of being relatively passive in receiving firm-generated marketing communications, buyers are able to develop and exercise greater control over the communication they receive and generate (Varadarajan and Yadav 2002). Moreover, consumer-generated information about product consumption sent to other consumers in online markets can provide a mechanism to shift power from companies to consumers (Hennig-Thurau et al. 2004). As discussed below, a thorough understanding of why and how consumers generate online reviews has significant implications for supporting consumer power and well-being.

Examining the micro-level marketing systems, a stream of research investigates individual motivations for creating online reviews and sharing their opinions on digital platforms. The initial research of motivation is heavily influenced by and built on the theoretical framework of traditional WOM communication. For example, Hennig-Thurau et al. (2004) identify eight factors that drive online consumer opinion sharing, such as platform assistance, venting negative feelings, concern for other consumers, self-enhancement, and social benefits.

Consumers may experience positive or negative feelings after purchases (Bae et al. 2017). Therefore, a major driver of posting online reviews is sharing their experience, warning others of bad products, and venting negative feelings against the company. Consumers are more likely to contribute their opinions when they have either high or low post-purchase experience or when their consumption experience quality deviates from the expectation formed by the existing opinions (Moe and Schweidel 2012). Fu, Ju and Hsu (2015) propose that altruism leads to the posting of both positive and negative eWOM, but self-enhancement can ultimately drive the posting of positive messages, while the belief that bad sellers should get what they deserve can lead to the sharing of negative opinions.

Because consumers' active reviews increase consumers' engagement with a company (Huang, Hong and Burtch 2017), some researchers look into marketing strategies and tactics that may promote the generation of online reviews from customers. Because online opinion sharing is often driven by an individual's social and emotional needs, Lovett, Peres, and Shachar (2013) find that brands with higher quality, visibility, and scoring on the excitement dimension tend to receive more online discussions from consumers. Similarly, Huang, Hong and Burtch (2017) suggest that on online review platforms, a company's social network integration can induce a higher volume of reviews due to a greater opportunity for consumers to gain social image and reputation. However, attracting more reviews may not always bring positive outcomes for businesses. Garnefeld, Helm, and Grötschel

(2020), find that providing incentives for writing online reviews increases review volume due to reciprocity, while Kovács and Sharkey (2014) show increasing review volume may even be accompanied by a decrease of review valence.

Studies at the meso level evaluate how the market structure or the interactions among different parties on an electronic platform can impact the generation of online reviews. Dellarocas, Gao and Narayan (2010) find that for products within the same product category (e.g., motion pictures), consumers prefer to post reviews for less available or less successful products. However, at the same time, consumers also tend to post reviews for products that are popular. These tendencies result in a U-shape relationship between buyers' propensity to review a product and the product's sales revenue.

Social interactions among consumers within an online market potentially affect individual consumers' posting tendency. Several studies support that review incidence is driven by not only individual's inherent motives as previously mentioned, but also the environmental factors such as the opinions of other consumers presented in the platform environment. Moe and Schweidel (2012) find that when the existing review community shows a more positive attitude towards a product or more disagreements about the product, frequent reviewers are more likely to post new reviews about the products. Shen, Hu and Ulmer (2015) further suggest that if a platform implements a ranking system that quantifies reviewer reputation, reviewers become more sensitive to competition among existing reviews, are more likely to review niche products, and post more differentiated reviews to capture attention in order to improve their reputation.

At the macro level, the prosperity of online consumer reviews is associated with various economic, social, and technological factors. First, the advancement of the Internet, the growth of electronic marketplaces, and the development of social networks empower online consumer reviews (e.g., Varadarajan and Yadav 2002; Chen, Fay and Wang 2011). Such technology and marketing platforms provide the infrastructure for mass-to-mass communication. In the early 1990s, virtual communities were identified as social phenomena that would revolutionize the communication method among individuals (Christodoulides, Jevons and Blackshaw 2011). They argue that firms with a marketing orientation recognize the rise of consumer communities and accept consumer WOM as a legitimate form of brand promotion. The prevalence of this marketing philosophy in society enables the shift of power towards consumers. Together these factors cultivate the consumer habit and culture of sharing their opinions in online communities.

Information overload. Because online markets and review platforms can accumulate a vast number of reviews for a single product (Hennig-Thurau and Walsh 2003), it is unlikely that consumers will process each and every single review. The collective reviews can also contain a large amount of information redundancy (Ma and Wei 2012), which may lower users' information search experience. Too much information can overwhelm consumers and cause adverse judgmental decision making (Park and Lee 2008). Most of the research we identify

that discusses the implications of information overload examines the micro-level marketing systems, either from the consumers' perspective or from companies' standpoint.

A few studies investigate consumers' coping mechanisms for processing the vast amount of information presented in online reviews. Park and Lee (2008) argue that the information quantity presented in the reviews reflects not only the review count, but also the qualitative nature of the material. The perceived review informativeness increases initially with the presence of detailed product attribute information, but decreases as review number grows.

To cope with information overload, consumers may utilize environmental cues to form mental shortcuts and reduce the cognitive burden of processing information. For example, websites sort and list reviews by helpfulness ranking, and consumers can rely on such review rankings to pick and choose which reviews to read (Lu, Wu, and Tseng 2018). From the managerial standpoint, the need to address the information overload problem has led to a stream of research that investigates the optimal design of websites features, information search engine, and recommendation systems utilizing information from online reviews (e.g., Ma and Wei 2012; Liu et al. 2013)

Online Reviews and Information Timeliness

Information timeliness deals with the timing and evolution of information within the marketing system. Researchers show that the timeliness of releasing information to the market can affect sellers' short-term and long-term outcomes. In the financial market, the timeliness of releasing earning information can impact companies' stock performance (e.g., Han and Wild 1997). In the consumer market, the timing of advertisement exposure can affect advertisements' persuasiveness (e.g., Sahni, Narayanan and Kalyanam 2019). However, not many online review researchers discuss the temporal aspects of review information.

We find that studies at the micro level include three different time-related aspects of review information. The first review attribute is recency or freshness. Because current reviews can present the latest information about products, features, and experiences (Owusu et al. 2016), consumers associate review freshness with review argument quality and hence, review usefulness (Chong et al. 2018).

The second aspect of review timing deals with the time distance between when a product is released and when a review of the product is posted. When a new product is released, early reviews gain more weight in influencing consumer behavior because less information is available in the market. As more reviews about the new product accumulate, it becomes harder for later reviews to attract readers' attention. Lu, Wu, and Tseng (2018) propose that review helpfulness is not only related to its static attributes such as reviewer expertise and review length, but also to a dynamic process based on when the review is posted relative to product release and how long the review has existed in the market.

The third aspect of review timing distinguishes the time distance between purchasing a product and posting a review of the product. For durable products like automobiles, the time elapse between a car purchase and a car review posting is a partial indicator of a consumer's experience level with the car (Wang et al. 2008A). The authors find that consumers' product satisfaction level decreases as they have more experience with the product, reflected by a lower rating if a consumer waits longer after the purchase to post a review.

At the meso-level marketing systems, because reviews are accumulated over time, companies can gain further insights into market trends by examining the dynamic changes of online reviews (e.g., Tellis and Tirunillai 2014). Many researchers observe a declining trend of the overall product ratings over time (e.g., Godes and Silva 2012). One possible reason is associated with the interactions within the review community that drive the later reviewers' posting behavior, as we discussed in the previous section (e.g., Ma et al. 2013, Moe and Schweidel 2012). Another reason is tied to different segments of consumer adopters. Li and Hitt (2008) argue that there is a self-selection bias in early adopters of a new product as they are more likely to be attracted by the product and rate the product higher. Later buyers may rate the product lower because their purchase decision is based on the product reviews posted by early buyers' who may have different preferences.

Only a few studies at the macro-level marketing systems touch upon time-related aspects. Tilly, Fischbach, and Schoder's (2015) global study reports that in general, online travel reviews report on global tourism much sooner than traditional information sources, reinforcing the advantages of online reviews as digital crowd-sourced information. Based on a study of online review evolution between 2001 and 2008, Chen, Fay and Wang (2011) document systematic changes in review behaviors as the internet usage diffuses more widely through society.

Findings: Impacts of Online Reviews on Marketing System Outcomes

Based on Layton's theory of marketing systems (Layton 2011), the marketing system efficiency reflects the added value from the assortments offered by the marketing system relative to transaction costs. The effectiveness of a marketing system is determined by the satisfaction experienced by system participants, especially customers. In this section, we summarize the findings on the impacts of online reviews on the outcomes of marketing systems at micro, meso, and macro levels. Figure 4 offers a visualization of the outcomes covered in the literature. The blank squares indicate a lack of coverage in the extant literature and areas particularly open for future research, which we will address in the final section.

Online Reviews and Marketing System Efficiency

Based on our review of the literature, the efficiency outcomes have received far more attention from researchers. Abundant

research has investigated if online reviews can impact market efficiency measures such as consumer purchase intention and product sales. In addition, several meta-analysis studies have been published to synthesize the impacts of online reviews (e.g., Qahri-Saremi and Montazemi 2019; You, Vadakkepat and Joshi 2015). We will not therefore repeat these reviews, but rather call attention to the outcomes at different levels of marketing systems.

In micro-level marketing systems, online reviews are examined in relation to consumer purchase decisions and firms' marketing performance. As discussed earlier, online reviews can reduce information uncertainty and reduce buyers' purchase risk. Thus, researchers have studied the influence of online reviews on various aspects of consumer purchase decisions, including consumer attitudes, purchase intention, and willingness-to-pay (e.g., Jeong and Koo 2015; Wu et al. 2013).

Because online reviews contain customers' preferences and feedback, companies can use the information as an indicator of their performance. Many researchers find that products with high review volume and valence (e.g., review average ratings) are rewarded with higher product sales and revenue (e.g., You, Vadakkepat and Joshi 2015; Duan, Gu and Whinston 2008; Zhu and Zhang 2010). Similarly, in online markets where multiple sellers offer the same product, sellers with high review volume and review valence tend to receive a premium in terms of sales (e.g., Livingston 2005) and selling price (e.g., Ba and Paylou 2002). On crowdfunding platforms, consumers' evaluations of crowdfunding projects have a significant impact on the project success (Wang et al. 2008B). Online reviews and discussions about companies and their products can also be used to effectively forecast the company's stock performance (e.g., Hill and Ready-Campbell 2011).

At the meso level, reviews can act as a reputation system that separates good products or sellers from bad ones. Within these marketing systems, online reviews can affect products' or sellers' market share. For example, products with positive online reviews rank higher in sales among competitors (Chevalier and Mayzlin 2006). On online auction sites like eBay, sellers with higher reviewer ratings can enjoy better bidder participation in their auctions (Li, Srinivasan, and Sun 2009). However, the impact of online reviews may vary by products and consumer segments. For example, several studies find that for products like software and video games, product review rating seems to only impact less popular niche products (e.g., Zhu and Zhang 2010). For more popular products in the market, review ratings don't appear to impact product adoption or sales (e.g., Duan, Gu and Whinston 2008).

As a source of information about the marketing system, online reviews may interact with other market information in affecting consumers' decisions. For example, when analyzing online reviews in association with promotional messages in other marketing channels. Lu et al. (2013) find that online review volume demonstrates a substitute relationship with firms' coupon offerings but a complementary relationship with online keyword advertising in driving product sales. Due to the varying characteristics of different digital platforms,

online review attributes may have different impacts on product sales across platforms (e.g., Chevalier and Mayzlin 2006).

Clemons (2007) warns practitioners of flaws in the feedback-based rating system that can lead to the ineffectiveness of marketing systems. For example, as we discussed in the last section, on some websites, the large concentration of highly rated sellers with overwhelmingly positive reviews results in the insignificant impact of review ratings on price premiums (Bockstedt and Goh 2011). Moreover, the issues of fake reviews can even jeopardize the efficiency of marketing systems. Lappas, Sabnis and Valkanas (2016) demonstrate businesses' vulnerability to fake review attacks on a large travel website – in certain markets, 50 fake reviews are sufficient for an attacker to surpass its competitors in visibility on the website.

Correspondingly, some researchers propose marketing strategies to help companies leverage online reviews and mitigate negative impacts. Strategies range from guidance for companies in responding and reacting to online reviews (e.g., Proserpio and Zervas 2017; Wang et al. 2008B) to suggestions for online marketplaces to implement better seller ranking and reputation mechanisms (e.g., Lappas, Sabnis and Valkanas 2016; Clemons 2007).

Studies at the macro level support the value of online reviews in affecting marketing efficiency, such as facilitating the purchase of high-risk products. Service is generally associated with higher purchase risk than physical goods due to the intangible and experiential nature. Online reviews provide low-cost access to abundant customer service experience and therefore impact the adoption of service. For example, Lu et al. (2013) find that restaurants with more positive and a larger quantity of reviews generate more sales.

In economies where consumers are inexperienced with online shopping, the online channel can be associated with high purchase risk. Online reviews are considered more trustworthy information than company promotional messages and hence impact the online adoption of high-risk products. For example, consumers' general attitude toward online reviews' credibility positively affects their willingness to purchase online mental health services (Mannan et al. 2019).

Some researchers also point out the cross-national and cross-cultural differences in consumers' usage of online reviews (e.g., Chiu et al. 2019; Keh et al. 2015). For cultural products like movies, marketers can use the information embedded in online product reviews to manage product sales in foreign markets (Moon and Song 2015).

Online Reviews and Marketing System Effectiveness

As will be shown, there is less consideration of the well-being-related effectiveness than efficiency when it comes to outcomes of online reviews. We identified three main themes for effectiveness outcomes of a system: consumer QOL, accessibility and coverage, and externalities (adapted from Layton 2010). What evidence exists in the extant literature that online reviews contribute to these effectiveness outcomes?

Key Themes from the Literature	Marketing Systems			
	Micro Level	Meso Level	Macro Level	
Market Efficiency	Consumer Purchase Decision	<ul style="list-style-type: none"> • Purchase intention • Willingness-to-pay 	<ul style="list-style-type: none"> • Segment differences 	<ul style="list-style-type: none"> • Product adoption • Channel adoption • Country and cultural differences
	Company Business Performance	<ul style="list-style-type: none"> • Marketing performance • Financial performance 	<ul style="list-style-type: none"> • Seller differentiation • Product or industry differences • Online platform differences 	<ul style="list-style-type: none"> • Foreign market performance
Market Effectiveness	Consumer QOL	<ul style="list-style-type: none"> • Consumer trust and loyalty • Consumer satisfaction 	<ul style="list-style-type: none"> • Community well-being • Online brand communities 	<ul style="list-style-type: none"> • Consumer protection • Consumer empowerment
	Accessibility and Coverage	<ul style="list-style-type: none"> • Disparity in companies' abilities to utilize data 	<ul style="list-style-type: none"> • Access to information • (Cultural) similarities between reviewers and readers • Compensate for unknown brands 	
	Externalities	<ul style="list-style-type: none"> • Consumer misbehavior 		

Figure 4. Online reviews and marketing system outcomes – Key themes from the literature.

Consumer QOL. On the micro level, effectiveness takes into consideration not just whether more people buy as a result of online reviews, but whether consumer satisfaction and QOL actually increase. Satisfaction, loyalty, and trust can all build towards QOL.

Clemons and Gao (2008) show that online reviews give sacrificing consumers the information to pick a cheaper but adequate product as it reduces the risk of an unacceptable product. Cervellon and Carey (2014) show that when evidence of product performance is ambiguous, external sources of information such as consumer reviews are more helpful than diagnostic product testing. Online reviews increase the amount of information patients have about physicians and improve their decision-making ability, an indication of improved market effectiveness (Gao et al. 2015). This is not to say that online reviews uniformly increase market effectiveness. For example, De Langhe, Fernbach and Lichtenstein (2016) point out that consumers over rely on the average user rating even when there are very few ratings, yielding a less effective outcome.

Although online reviews may help informedness, there is some evidence in the literature they can influence consumers in a way that is harmful to well-being. Motyka et al. (2018) show that reviewers are more susceptible to impulsive behaviors as a result of sharing their personal views with others in a public forum. Although retailers stand to gain by encouraging

emotional online reviews, the reviewers seek other rewards and are more likely to buy impulsively.

Trust is a major effectiveness outcome, primarily at the micro level. WOM quality has a positive effect on online trust (Awad and Ragowsky 2008). Online reviews give brands the opportunity to respond to negative eWOM and increase brand trust (Bhandari and Rodgers 2017). Jalilvand and Samiei (2012) provide an example of how eWOM increases the comfort level of people in their intention to travel.

However, trust in online reviews is threatened. Pressured to provide more product reviews, some companies incentivize reviews or have their own employees write them. The FTC guidelines require that any material connection between reviewer and seller should be stated “clearly and conspicuously” (in Steward et al. 2020). Consumers are not as skeptical as sometimes thought—they assume a review does not have a material connection unless otherwise stated (Steward et al. 2020). Mayzlin (2006) shows that firms sometimes pretend their promotion is a consumer recommendation and manipulate online consumer conversations. Clemons (2007) critiques online reviews as “relatively inexpensive mechanisms for masquerading, which make it possible for lower-quality merchants to act initially in ways that allow them to achieve high ratings” (p. 67). Deceptive reviews cause consumers to make less optimal choices and market effectiveness is harmed (Anderson and Simester 2014).

It is important for the quality of information flow and the functioning of a market economy that trust not be further eroded. Urban (2005) urges companies to build trust through honestly creating the best products and fairly representing them to customers. A firm should aim to provide customers “with open, honest, and complete information...so that they can find the best products, even if those products are not the company’s products” (Urban 2005, p. 157).

Consumer loyalty is another consideration of effectiveness. Zhang et al. (2018a) show that consumers’ perceived costs incurred in search for products are inversely related with customer loyalty. Therefore, readily available information in online reviews can improve customer loyalty.

On the meso level, there is some evidence that online reviews can contribute to community well-being. Yan and Tan (2017) show that patient-generated WOM information can influence other patients’ decision making process, in particular when these patients are not strongly connected to a social community who can support and encourage them in engaging in disease self management. The existence of online reviews can improve well-being outcomes for those who are more socially isolated from the broader community (Yan and Tan 2017). Online brand communities are a related domain in which research has suggested online reviews can improve well-being. Zhou et al. (2019) show how sharing negative brand experiences may result in higher online brand community happiness for consumers.

A macro-level consideration is whether online reviews result in better societal outcomes. De Langhe, Fernbach and Lichtenstein (2016) consider the actual versus perceived validity of online user ratings. For example, in the issue of product safety, they point out the danger of consumers relying on online reviews of other customers rather than experts who have tested the safety of the products. When it comes to a product like car seats for kids, most customers have no ability to evaluate how a car seat will perform in an accident; therefore, reliance on online reviews in such a product category can result in lower consumer protection on the macro level.

Nevertheless, we would expect that in many product categories consumers should be more empowered through the information available to them in online reviews. Kucuk (2016) theorizes that a balanced market is one in which consumer empowerment is enhanced and vulnerabilities are eliminated, where there is “market equalization.”

Accessibility and coverage. Here, we are interested in evidence of how online reviews impact the accessibility of information, which also touches on issues of fairness and distributive justice. At the micro level of marketing systems, there is disparity in companies’ abilities to utilize data. Large firms can benefit more from the information available, putting smaller companies at a disadvantage.

At the meso level, there may be a disparity in the availability of reviews to different groups of people. Since similarity in reviewers’ demographic and personal traits (age, lifestyle, job, gender, hobbies, etc.) is a good way for customers to analyze existing online reviews because they can focus on reviews

that best fit with their own preferences (Neirotti, Raguseo and Paolucci 2016), the online review system may not provide equal information to underrepresented groups. Research suggests that the cultural similarity between readers and reviews also influences how helpful a review is (e.g., Park and Jeon 2018). In other words, the online review system might provide more information to people in the marketing system who are similar to those who have the resources (e.g., financial and time) to shop and post more, raising a meso-level concern about fairness.

A way that online reviews can improve market effectiveness is in reducing information asymmetry, particularly for those who cannot buy more established brands. Manes and Tchetchik (2018) show that online-generated reputation scores have a greater impact on listed prices in unbranded and low star-rated hotels where uncertain quality is likely to be a more significant issue. Kim (2020) makes a similar point that online reviews are more useful in the absence of trust towards a known brand. At the meso level we can say that online reviews therefore reduce information asymmetries for lower-income consumers who may not have the resources to stay at the more established brands with high star ratings. Through online reviews, more consumers have access to information to reduce uncertainty, indicating the marketing system may be more effective for more people (Layton 2009).

Externalities. Externalities are the uncalculated costs and benefits of exchange (Mundt 1993). Online reviews create a forum for consumer misbehavior but they also provide a means by which consumers can reflect on consumer misbehaviors (Korgaonkar et al. 2020). With this exception, we found almost no substantive findings about the externalities related to online reviews. With some extrapolation, possible externalities can be imagined. For example, as mentioned earlier, since reviewers are more susceptible to impulsive behaviors (Motyka et al. 2018), it could be inferred that prevalence of online reviews may result in the unintended consequence of a more impulsive society. At the macro level, we are interested in the contribution of online reviews to externalities of marketing systems, including cultural, religious, economic, and environmental (Layton 2010). But based on the literature review, there is scant information in the extant literature on online reviews about externalities and more generally the effectiveness of marketing systems. Accordingly, in the next section we will lay out our suggested directions for future research.

Directions for Future Research

From a macromarketing perspective, we see an opportunity to consider the role of online reviews on the functioning of marketing systems and its impact on society. It is important that consideration of marketing systems outcomes keep pace with the rapidly-evolving nature of information flows. Based on our synthesis of the extant literature on information flows and outcomes (summarized in Figures 1 and 4), we have also identified under researched area. Our rationale was to maintain the

Table 1. Journal List and Article Counts.

Journal	Field	# of Papers Reviewed for the Study
ACADEMY OF MANAGEMENT JOURNAL	Management & Business	1
ACADEMY OF MANAGEMENT REVIEW	Management & Business	0
ADMINISTRATIVE SCIENCE QUARTERLY	Management & Business	2
BUSINESS & SOCIETY	Management & Business	0
BUSINESS ETHICS-A EUROPEAN REVIEW	Management & Business	0
CALIFORNIA MANAGEMENT REVIEW	Management & Business	1
CONSUMPTION MARKETS & CULTURE	Management & Business	0
ELECTRONIC COMMERCE RESEARCH	Management & Business	35
ELECTRONIC COMMERCE RESEARCH AND APPLICATIONS	Management & Business	48
ELECTRONIC MARKETS	Management & Business	18
ENTREPRENEURSHIP THEORY AND PRACTICE	Management & Business	0
EUROPEAN JOURNAL OF INFORMATION SYSTEMS	Information Science	5
EUROPEAN JOURNAL OF MARKETING	Marketing	19
HARVARD BUSINESS REVIEW	Management & Business	2
INDUSTRIAL MARKETING MANAGEMENT	Marketing	1
INFORMATION & MANAGEMENT	Information Science	19
INFORMATION PROCESSING & MANAGEMENT	Information Science	27
INFORMATION SOCIETY	Information Science	0
INFORMATION SYSTEMS AND E-BUSINESS MANAGEMENT	Management & Business	9
INFORMATION SYSTEMS JOURNAL	Information Science	1
INFORMATION SYSTEMS RESEARCH	Information Science	33
INTERNATIONAL JOURNAL OF ADVERTISING	Marketing	16
INTERNATIONAL JOURNAL OF CONSUMER STUDIES	Marketing	0
INTERNATIONAL JOURNAL OF ELECTRONIC COMMERCE	Marketing	31
INTERNATIONAL JOURNAL OF INFORMATION MANAGEMENT	Information Science	23
INTERNATIONAL JOURNAL OF MARKET RESEARCH	Marketing	13
INTERNATIONAL JOURNAL OF RESEARCH IN MARKETING	Marketing	10
INTERNATIONAL MARKETING REVIEW	Marketing	2
INTERNET RESEARCH	Management & Business	30
JOURNAL OF ADVERTISING	Marketing	1
JOURNAL OF ADVERTISING RESEARCH	Marketing	6
JOURNAL OF BUSINESS	Management & Business	0
JOURNAL OF BUSINESS & INDUSTRIAL MARKETING	Marketing	0
JOURNAL OF BUSINESS ETHICS	Management & Business	2
JOURNAL OF BUSINESS RESEARCH	Management & Business	58
JOURNAL OF BUSINESS VENTURING	Management & Business	0
JOURNAL OF BUSINESS-TO-BUSINESS MARKETING	Management & Business	0
JOURNAL OF COMPUTER-MEDIATED COMMUNICATION	Information Science	10
JOURNAL OF CONSUMER AFFAIRS	Marketing	2
JOURNAL OF CONSUMER POLICY	Management & Business	1
JOURNAL OF CONSUMER PSYCHOLOGY	Marketing	7
JOURNAL OF CONSUMER RESEARCH	Marketing	17
JOURNAL OF ELECTRONIC COMMERCE RESEARCH	Management & Business	24
JOURNAL OF ENVIRONMENTAL ECONOMICS AND MANAGEMENT	Management & Business	0
JOURNAL OF INFORMATION SCIENCE	Information Science	14
JOURNAL OF INFORMATION TECHNOLOGY	Information Science	0
JOURNAL OF INFORMETRICS	Information Science	2
JOURNAL OF INTERACTIVE MARKETING	Marketing	26
JOURNAL OF INTERNATIONAL BUSINESS STUDIES	Management & Business	0
JOURNAL OF INTERNATIONAL MARKETING	Marketing	2
JOURNAL OF KNOWLEDGE MANAGEMENT	Information Science	0

(continued)

Table 1. (continued)

Journal	Field	# of Papers Reviewed for the Study
JOURNAL OF MACROMARKETING	Marketing	0
JOURNAL OF MANAGEMENT	Management & Business	1
JOURNAL OF MANAGEMENT INFORMATION SYSTEMS	Information Science	34
JOURNAL OF MANAGEMENT STUDIES	Management & Business	0
JOURNAL OF MARKETING	Marketing	11
JOURNAL OF MARKETING MANAGEMENT	Management & Business	5
JOURNAL OF MARKETING RESEARCH	Marketing	25
JOURNAL OF PRODUCT AND BRAND MANAGEMENT	Management & Business	6
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	Management & Business	6
JOURNAL OF PUBLIC POLICY & MARKETING	Marketing	2
JOURNAL OF RETAILING	Marketing	9
JOURNAL OF RETAILING AND CONSUMER SERVICES	Marketing	33
JOURNAL OF SERVICE RESEARCH	Marketing	10
JOURNAL OF SERVICES MARKETING	Marketing	8
JOURNAL OF STRATEGIC INFORMATION SYSTEMS	Information Science	1
JOURNAL OF THE ACADEMY OF MARKETING SCIENCE	Marketing	10
JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY	Information Science	4
JOURNAL OF THE ASSOCIATION FOR INFORMATION SYSTEMS	Information Science	5
LONG RANGE PLANNING	Management & Business	0
MARKETING LETTERS	Marketing	10
MARKETING SCIENCE	Marketing	27
MARKETING THEORY	Marketing	0
MIS QUARTERLY	Information Science	23
ONLINE INFORMATION REVIEW	Information Science	37
PSYCHOLOGY & MARKETING	Marketing	18
PUBLIC RELATIONS REVIEW	Marketing	2
SCIENTOMETRICS	Information Science	1
SMALL BUSINESS ECONOMICS	Management & Business	0
SOCIAL SCIENCE COMPUTER REVIEW	Information Science	1
STRATEGIC MANAGEMENT JOURNAL	Management & Business	0
TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	Management & Business	4

same multileveled framework and to brainstorm minimally addressed questions of interest to particularly Macromarketers.

Regarding the roles of online review in the information flow of marketing systems, we find that there is ample research on information quality as compared to the other two dimensions, information quantity and information timeliness. Information overload is an area open for more research. Currently, consumers rely heavily on the design of online platforms to sort and filter review information. There should be more research on the potential impacts, both positive and negative, of platforms' sorting and filter algorithms on consumers' information processing and decision-making outcomes.

The hundreds of articles about online reviews in top journals tend to focus on narrow managerial and efficiency-oriented outcomes. There is work on the impact of online reviews on customer satisfaction, loyalty and trust, for example, but these are rarely studied at the meso or macro level, and there is almost no research on the macro-level consideration of issues like distributive justice and externalities. Nor do we see articles

that go beyond consumer loyalty and trust to directly measure the impact of online reviews on well-being and QOL. We therefore propose directions for future research to address the efficiency and effectiveness outcome gap in the research on online reviews (see Figure 5). Note that the questions tend to focus where there is less existing literature.

For space considerations, we will not reiterate all of the questions in the text, but we do want to highlight a couple points. We continue the call of Layton (2019) when he posed the following question about the future research possibilities on marketing systems, "How do we move away from the comparative statics, single level focus of much managerial marketing thought to a perspective that begins with multi-level dynamic systemic structures and behaviors?" (Layton 2019). Studying online reviews in the framework of marketing systems help us understand the role and impact of this marketing and social phenomenon on different participants in marketing systems at different levels. One of the needs is better measures of the effectiveness outcomes. As Layton (2010) points out,

Potential Research Themes		Marketing Systems		
		Micro Level	Meso Level	Macro Level
Information Flows	Information Quality			<ul style="list-style-type: none"> What policy measures should be adopted to oversee the integrity of online reviews?
	Information Overload		<ul style="list-style-type: none"> If consumers rely on digital platforms to filter and sort review information, what are the potential impacts of platform designs on consumer decisions? 	<ul style="list-style-type: none"> At what point could information overload lead to a major change in the way information is provided and accessed?
	Information Timeliness		<ul style="list-style-type: none"> How will timeliness of information transform supply/demand chains? 	<ul style="list-style-type: none"> How will online review systems continue to evolve with rich format information?
Market Efficiency	Company Business Performance	<ul style="list-style-type: none"> How can online reviews inform double and triple-loop learning to address more complex business decisions? 	<ul style="list-style-type: none"> How do different industries benefit differently based on changes in information flows? How will the gig/sharing economy be shaped by the accessibility of information? 	<ul style="list-style-type: none"> How do online reviews impact businesses in different foreign markets?
	Market Survival and Stability		<ul style="list-style-type: none"> How are different markets created or impacted by online reviews? How will the emergence of different forms of information flow change markets? 	<ul style="list-style-type: none"> When can online reviews exacerbate market failure?
Market Effectiveness	Consumer QOL	<ul style="list-style-type: none"> How can trust in online reviews be improved? 	<ul style="list-style-type: none"> How do online reviews compare to other information flows in their impact on QOL? How do online reviews alter online and traditional communities? 	<ul style="list-style-type: none"> How do online reviews alter social matrices? What are the implications of consumers relying on reviews of other consumers rather than experts (e.g., issues of product safety or health)? How are privacy concerns related to information flows evolving in different contexts?
	Accessibility and Coverage	<ul style="list-style-type: none"> What consumers do not have the literacy to benefit from online reviews? 	<ul style="list-style-type: none"> Do online reviews favor some stakeholders over others? Who has the legitimacy to control the flow of information in marketing systems? 	<ul style="list-style-type: none"> What types of information flows will best contribute to a just economic and social environment? How will the "bottom of the pyramid" be impacted by varying access to information in marketing systems?
	Externalities	<ul style="list-style-type: none"> What are the unintended outcomes for people posting reviews? 	<ul style="list-style-type: none"> How might a culture of online ratings impact other spheres (e.g., public services)? 	<ul style="list-style-type: none"> What are the implications (e.g., Environmental) of parts of the product life cycle (e.g., disposal) being neglected in online reviews?

Figure 5. Potential Future Research Questions.

there are not adequate measures for the health, responsiveness, and resilience for outcomes of a marketing system. The lack of appropriate measures limits the ability to study many aspects of

the marketing system. We also suggest that one broader direction for future research is to apply a similar approach used here on information flows to other flows and market forces.

Conclusion

The vast research on online reviews has overwhelmingly studied the micro-level efficiency outcomes. In this research, we have considered online reviews as an information flow within the functioning of marketing systems. We surveyed the existing literature to understand the efficiency and effectiveness related outcomes of online reviews. Based on the lack of research on particularly the effectiveness criteria (such as customer satisfaction, distributive justice, and externalities), we have set out future directions for research on information flows in marketing systems. We hope that our research supports the work of macro-marketers to re-think how a typically micro-level studied phenomenon is part of a marketing system that impacts society. Rather than viewing online reviews as a tool to be managed or exploited, they can be seen as an information flow with the potential to improve well-being outcomes for all stakeholders. We hope our research expands the ways of thinking of online reviews, as well as sparking renewed interest in the study of the interactions and flows between actors that will regulate the efficiency and effectiveness of a marketing system.

Associate Editor

Ben Wooliscroft.

Acknowledgments

We are indebted to Emeritus Professor Roger Layton who passed away on June 5, 2021, whose theories were central in our research and in those of so many others. We thank the excellent research assistant team for their support throughout, especially Berkay Erol, Aylin Dingil, and Aykut Demirci. We also thank the editorial team and anonymous reviewers for their support.


Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

ORCID iD

Forrest Watson  <https://orcid.org/0000-0002-8820-1434>

References

- Albaum, Gerald (1967), "Information Flow and Decentralized Decision Making in Marketing," *California Management Review*, 9 (4), 59-70.
- Amblee, Naveen and Tung Bui (2011), "Harnessing the Influence of Social Proof in Online Shopping: The Effect of Electronic Word of Mouth on Sales of Digital Microproducts," *International Journal of Electronic Commerce*, 16 (2), 91-114.
- Anderson, Eric T. and Duncan I. Simester (2014), "Reviews Without A Purchase: Low Ratings, Loyal Customers, and Deception," *Journal of Marketing Research*, 51 (3), 249-69.
- Ariely, Dan (2000), "Controlling the Information Flow: Effects on Consumers' Decision Making and Preferences," *Journal of Consumer Research*, 27 (2), 233-48.
- Awad, Neveen F. and Arik Ragowsky (2008), "Establishing Trust in Electronic Commerce Through Online Word of Mouth: An Examination Across Genders," *Journal of Management Information Systems*, 24 (4), 101-21.
- Ba, Sulin and Paul Pavlou (2002), "Evidence of the Effect of Trust Building Technology in Electronic Markets: Price Premiums and Buyer Behavior," *MIS Quarterly*, 26 (3), 243-68.
- Bae, Sung Joo, Hyeonsuh Lee, Eung-Kyo Suh, and Kil-Soo Suh (2017), "Shared Experience in Pretrip and Experience Sharing in Posttrip: A Survey of Airbnb Users," *Information & Management*, 54 (6), 714-27.
- Bakos, J. Yannis (1997), "Reducing Buyer Search Costs: Implications for Electronic Marketplaces," *Management Science*, 43 (12), 1676-92.
- Bazaarvoice (2020). "The Impact of COVID-19 on E-Commerce by Category" by Veronica Hottenworth. July 15, 2020. (Accessed on January 6, 2021). [available at <https://www.bazaarvoice.com/blog/the-impact-of-covid-19-on-e-commerce-by-category/>]
- Bhandari, Manu and Shelly Rodgers (2017), "What Does the Brand Say? Effects of Brand Feedback to Negative EWOM on Brand Trust and Purchase Intentions," *International Journal of Advertising*, 37 (1), 125-41.
- Biondo, Alessio Emanuele (2014), "Organic Food and the Double Adverse Selection: Ignorance and Social Welfare," *Agroecology and Sustainable Food Systems*, 38(2), 230-42.
- Bockstedt, Jesse and Kim Huat Goh (2011), "Seller Strategies for Differentiation in Highly Competitive Online Auction Markets," *Journal of Management Information Systems*, 28 (3), 235-67.
- Cervellon, Marie-Cecile and Lindsey I. Carey (2014), "Sustainable, Hedonic and Efficient," *European Journal of Marketing*, 48 (7/8), 1375-94.
- Chen, Yubo, Scott Fay, and Qi Wang (2011), "The Role of Marketing in Social Media, How Online Consumer Reviews Evolve," *Journal of Interactive Marketing*, 25 (2), 85-94.
- Cheung, Christy MK, Matthew K. O. Lee, and Neil Rabjohn (2008), "The Adoption of Online Opinions in Online Customer Communities," *Internet Research*, 18 (3), 229-47.
- Cheung, Christy MK and Dimple R. Thadani (2012), "The Impact of Electronic Word-of-Mouth Communication: A Literature Analysis and Integrative Model," *Decision Support Systems*, 54 (1), 461-70.
- Cheung, Man Yee, Chuan Luo, Choon Ling Sia, and Huaping Chen (2009), "Credibility of Electronic Word-of-Mouth: Informational and Normative Determinants of On-Line Consumer Recommendations," *International Journal of Electronic Commerce*, 13 (4), 9-38.
- Chevalier, Judith A. and Dina Mayzlin (2006), "The Effect of Word of Mouth on Sales: Online Book Reviews," *Journal of Marketing Research*, 43 (3), 345-54.
- Chiu, Ya-Ling, Ku-Hsieh Chen, Jying-Nan Wang, and Yuan-Teng Hsu (2019), "The Impact of Online Movie Word-of-Mouth on Consumer Choice," *International Marketing Review*, 36 (6), 996-1025.
- Chong, Alain Yee Loong, Kok Wei Khong, Teng Ma Scott McCabe, and Yi Wang (2018), "Analyzing Key Influences of Tourists' Acceptance of Online Reviews in Travel Decisions," *Internet Research*, 28 (3), 564-86.
- Christodoulides, George, Colin Jevons, and Pete Blackshaw (2011), "The Voice of the Consumer Speaks Forcefully in Brand

- Identity: User-Generated Content Forces Smart Marketers to Listen," *Journal of Advertising Research*, 51 (1), 101-111.
- Clemons, Eric K. (2007), "An Empirical Investigation of Third-Party Seller Rating Systems in E-Commerce: The Case of buySAFE," *Journal of Management Information Systems*, 24 (2), 43-71.
- Clemons, Eric K. and Guodong Gordon Gao (2008), "Consumer Informedness and Diverse Consumer Purchasing Behaviors: Traditional Mass-Market, Trading Down, and Trading Out Into the Long Tail," *Electronic Commerce Research and Applications*, 7 (1), 3-17.
- De Langhe, Bart, Philip M. Fernbach, and Donald R. Lichtenstein (2016), "Navigating by the Stars: Investigating the Actual and Perceived Validity of Online User Ratings," *Journal of Consumer Research*, 42 (6), 817-33.
- Dellarocas, Chrysanthos, Guodong Gao, and Ritu Narayan (2010), "Are Consumers More Likely to Contribute Online Reviews for Hit or Niche Products?" *Journal of Management Information Systems*, 27 (2), 127-58.
- DeQuero-Navarro, Beatriz, Julie Stanton, and Thomas A. Klein (2020), "A Panoramic Review of the Macromarketing Literature," *Journal of Macromarketing*, 41(1), 48-64.
- Doh, Sun-Jae and Jang-Sun Hwang (2009), "How Consumers Evaluate eWOM (Electronic Word-of-Mouth) Messages," *CyberPsychology & Behavior*, 12 (2), 193-7.
- Duan, Wenjing, Bin Gu, and Andrew B. Whinston (2008), "Do Online Reviews Matter?—An Empirical Investigation of Panel Data," *Decision Support Systems*, 45 (4), 1007-16.
- Engler, Tobias H., Patrick Winter, and Michael Schulz (2015), "Understanding Online Product Ratings: A Customer Satisfaction Model," *Journal of Retailing and Consumer Services*, 27, 113-20.
- Fang, Yu-Hui (2014), "Beyond the Credibility of Electronic Word of Mouth: Exploring eWOM Adoption on Social Networking Sites From Affective and Curiosity Perspectives," *International Journal of Electronic Commerce*, 18 (3), 67-102.
- Forman, Chris, Anindya Ghose, and Batia Wiesenfeld (2008), "Examining the Relationship Between Reviews and Sales: The Role of Reviewer Identity Disclosure in Electronic Markets," *Information Systems Research*, 19 (3), 291-313.
- Fu, Jen-Ruei, Pei-Hung Ju, and Chiung-Wen Hsu (2015), "Understanding Why Consumers Engage in Electronic Word-of-Mouth Communication: Perspectives From Theory of Planned Behavior and Justice Theory," *Electronic Commerce Research and Applications*, 14 (6), 616-30.
- Gao, Guodong G., Brad N. Greenwood, Ritu Agarwal, and Jeffrey McCullough. S. (2015), "VOCAL Minority and Silent Majority: How Do Online Ratings Reflect Population Perceptions of Quality," *MIS Quarterly*, 39 (3), 565-89.
- Garnefeld, Ina, Sabrina Helm, and Ann-Kathrin Grötschel (2020), "May We Buy Your Love? Psychological Effects of Incentives on Writing Likelihood and Valence of Online Product Reviews," *Electronic Markets*, 30 (4), 805-20.
- Godes, David and José C. Silva (2012), "Sequential and Temporal Dynamics of Online Opinion," *Marketing Science*, 31 (3), 448-73.
- Grover, Varun, Jaejoo Lim, and Ramakrishna Ayyagari (2006), "The Dark Side of Information and Market Efficiency in E-Markets," *Decision Sciences*, 37 (3), 297-324.
- Gvili, Yaniv and Shalom Levy (2016), "Antecedents of Attitudes Toward eWOM Communication: Differences Across Channels," *Internet Research*, 26 (5), 1030-51.
- Han, Jerry CY and John J. Wild (1997), "Timeliness of Reporting and Earnings Information Transfers," *Journal of Business Finance & Accounting*, 24 (3), 527-40.
- Hennig-Thurau, Thorsten, Kevin P. Gwinner, Gianfranco Walsh, and Dwayne D. Gremler (2004), "Electronic Word-of-Mouth via Consumer-Opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet?" *Journal of Interactive Marketing*, 18 (1), 38-52.
- Hennig-Thurau, Thorsten and Gianfranco Walsh (2003), "Electronic Word-of-Mouth: Motives for and Consequences of Reading Customer Articulations on the Internet," *International Journal of Electronic Commerce*, 8 (2), 51-74.
- Hill, Shawndra and Noah Ready-Campbell (2011), "Expert Stock Picker: The Wisdom of (Experts in) Crowds," *International Journal of Electronic Commerce*, 15 (3), 73-102.
- Hu, Nan, Indranil Bose, Yunjun Gao, and Ling Liu (2011), "Manipulation in Digital Word-of-Mouth: A Reality Check for Book Reviews," *Decision Support Systems*, 50 (3), 627-35.
- Hu, Nan, Indranil Bose, Noi Sian Koh, and Ling Liu (2012), "Manipulation of Online Reviews: An Analysis of Ratings, Readability, and Sentiments," *Decision Support Systems*, 52 (3), 674-84.
- Hu, Nan, Noi Sian Koh, and Srinivas K. Reddy (2014), "Ratings Lead You to the Product, Reviews Help You Clinch It? The Mediating Role of Online Review Sentiments on Product Sales," *Decision Support Systems*, 57 (1), 42-53.
- Huang, Ni, Yili Hong, and Gordon Burtch (2017), "Social Network Integration and User Content Generation: Evidence From Natural Experiments," *MIS Quarterly*, 41 (4), 1035-57.
- Izquierdo, Segismundo S. and Luis R. Izquierdo (2007), "The Impact of Quality Uncertainty Without Asymmetric Information on Market Efficiency," *Journal of Business Research*, 60 (8), 858-67.
- Jalilvand, Mohammad Reza and Neda Samiei (2012), "The Impact of Electronic Word of Mouth on A Tourism Destination Choice," *Internet Research*, 22 (5), 591-612.
- Jeong, Hyo-Jin and Dong-Mo Koo (2015), "Combined Effects of Valence and Attributes of E-WOM on Consumer Judgment for Message and Product," *Internet Research*, 25 (1), 2-29.
- Kannan, P. K. (2001), "Introduction to the Special Issue: Marketing in the E-Channel," *International Journal of Electronic Commerce*, 5 (3), 3-6.
- Keh, Hean Tat, Wenbo Ji, Xia Wang, Joseph A. Sy-Changco, and Ramendra Singh (2015), "Oline Movie Ratings: A Cross-Cultural, Emerging Asian Markets Perspective," *International Marketing Review*, 32 (3/4), 366-88.
- Kim, Rae Yule (2020), "When Does Online Review Matter to Consumers? The Effect of Product Quality Information Cues," *Electronic Commerce Research*, <https://doi.org/10.1007/s10660-020-09398-0>
- King, Robert Allen, Pradeep Racherla, and Victoria D. Bush (2014), "What We Know and Don't Know About Online Word-of-Mouth: A Review and Synthesis of the Literature," *Journal of Interactive Marketing*, 28 (3), 167-83.
- Korgaonkar, Pradeep, John Gironda, Maria Petrescu, Anjala Krishen, and Tamara Mangleburg (2020), "Preventing Shoplifting:

- Exploring Online Comments to Propose A Model,” *Psychology & Marketing*, 37(1), 141-53.
- Kovács, Balázs and Amanda J. Sharkey (2014), “The Paradox of Publicity: How Awards Can Negatively Affect the Evaluation of Quality,” *Administrative Science Quarterly*, 59 (1), 1-33.
- Kuan, Kevin KY, Kai-Lung Hui, Pattarawan Prasarnphanich, and Hok-Yin Lai (2015), “What Makes A Review Voted? An Empirical Investigation of Review Voting in Online Review Systems,” *Journal of the Association for Information Systems*, 16 (1), 48-71.
- Kucuk, S. Umit (2016), “Consumerism in the Digital Age,” *Journal of Consumer Affairs*, 50 (3), 515-38.
- Lappas, Theodoros, Gaurav Sabnis, and Georgios Valkanas (2016), “The Impact of Fake Reviews on Online Visibility: A Vulnerability Assessment of the Hotel Industry,” *Information Systems Research*, 27 (4), 940-61.
- Layton, Roger A. (2007), “Marketing Systems—A Core Macromarketing Concept,” *Journal of Macromarketing*, 27 (3), 227-42.
- Layton, Roger A. (2008), “The Search For A Dominant Logic: A Macromarketing Perspective,” *Journal of Macromarketing* 28 (3), 215-27.
- Layton, Roger A. (2009), “On Economic Growth, Marketing Systems, and the Quality of Life,” *Journal of Macromarketing*, 29(4), 349-62.
- Layton, Roger A. (2011), “Towards A Theory of Marketing Systems,” *European Journal of Marketing*, 45 (1), 259-76.
- Layton, Roger A. (2019), “Marketing Systems—Looking Backward, Sizing up and Thinking Ahead,” *Journal of Macromarketing*, 39 (2), 208-24.
- Layton, Roger A. (2010), “A Tale of Two Systems: Cornucopias, an Aboriginal Community and the Framing of A Theory of Marketing Systems,” In *Exploring the Frontiers of Macromarketing*, Proceedings of the 35th Annual Meeting of the Macromarketing Society, Rittenberg, TI, Peterson, M., eds. Laramie: University of Wyoming, 477-504.
- Lee, Thomas Y. and Eric T. Bradlow (2011), “Automated Marketing Research Using Online Customer Reviews,” *Journal of Marketing Research*, 48 (5), 881-94.
- Li, Mengxiang, Liqiang Huang, Chuan-Hoo Tan, and Kwok-Kee Wei (2013), “Helpfulness of online product reviews as seen by consumers: Source and content features,” *International Journal of Electronic Commerce*, 17 (4), 101-36.
- Li, Shibo, Kannan Srinivasan, and Baohong Sun (2009), “Internet Auction Features as Quality Signals,” *Journal of Marketing*, 73 (1), 75-92.
- Li, Xinxin and Lorin M. Hitt (2008), “Self-Selection and Information Role of Online Product Reviews,” *Information Systems Research*, 19 (4), 456-74.
- Liu, Hongyan, Jun He, Tingting Wang, Wenting Song, and Xiaoyang Du (2013), “Combining User Preferences and User Opinions for Accurate Recommendation,” *Electronic Commerce Research and Applications*, 12 (1), 14-23.
- Livingston, Jeffery (2005), “How Valuable Is A Good Reputation? A Sample Selection Model of Internet Auctions,” *The Review of Economics and Statistics*, 87 (3), 453-65.
- Lovett, Mitchell J., Renana Peres, and Ron Shachar (2013), “On Brands and Word of Mouth,” *Journal of Marketing Research*, 50 (4), 427-44.
- Lu, Shuya, Jianan Wu, and Shih-Lun Allen Tseng (2018), “How Online Reviews Become Helpful: A Dynamic Perspective,” *Journal of Interactive Marketing*, 44, 17-28.
- Lu, Xianghua, Sulin Ba, Lihua Huang, and Yue Feng (2013), “Promotional Marketing or Word-of-Mouth? Evidence From Online Restaurant Reviews,” *Information Systems Research*, 24 (3), 596-612.
- Ma, Baojun and Qiang Wei (2012), “Measuring the Coverage and Redundancy of Information Search Services on E-Commerce Platforms,” *Electronic Commerce Research and Applications*, 11 (6), 560-9.
- Ma, Xiao, Lara Khansa, Yun Deng, and Sung S. Kim (2013), “Impact of Prior Reviews on the Subsequent Review Process in Reputation Systems,” *Journal of Management Information Systems*, 30 (3), 279-310.
- Manes, Eran and Anat Tchetchik (2018), “The role of electronic word of mouth in reducing information asymmetry: An empirical investigation of online hotel booking,” *Journal of Business Research*, 85, 185-96.
- Mannan, Mahafuz, Reaz Ahamed, and Sifat Binte Zaman (2019), “Consumers’ Willingness to Purchase Online Mental Health Services,” *Journal of Services Marketing*, 22 (5), 557-71.
- Mayzlin, Dina (2006), “Promotional Chat on the Internet,” *Marketing Science*, 25 (2), 155-63.
- Mayzlin, Dina, Yaniv Dover, and Judith Chevalier (2014), “Promotional Reviews: An Empirical Investigation of Online Review Manipulation,” *American Economic Review*, 104 (8), 2421-55.
- Miao, Qingliang, Quidan Li, and Daniel Zeng (2010), “Fine-Grained Opinion Mining by Integrating Multiple Review Sources,” *Journal of the American Society for Information Science and Technology*, 61 (11), 2288-99.
- Moe, Wendy W. and David A. Schweidel (2012), “Online Product Opinions: Incidence, Evaluation, and Evolution,” *Marketing Science*, 31 (3), 372-86.
- Moon, Sangkil and Reo Song (2015), “The Roles of Cultural Elements in International Retailing of Cultural Products: An Application to the Motion Picture Industry,” *Journal of Retailing*, 91 (1), 154-70.
- Motyka, Scott, Dhruv Grewal, Elizabeth Aguirre, Dominik Mahr, Ko De Ruyter, and Martin Wetzels (2018), “The Emotional Review–Reward Effect: How do Reviews Increase Impulsivity?” *Journal of the Academy of Marketing Science*, 46 (6), 1032-51.
- Mudambi, Susan M. and David Schuff (2010), “What Makes A Helpful Online Review? A Study of Customer Reviews on Amazon.com,” *MIS Quarterly*, 34 (1), 185-200.
- Mundt, JoNel (1993), “Externalities: Uncalculated Outcomes of Exchange,” *Journal of Macromarketing*, 13 (2), 46-53.
- Neirotti, Paolo, Elisabetta Raguseo, and Emilio Paolucci (2016), “Are Customers’ Reviews Creating Value in the Hospitality Industry? Exploring the Moderating Effects of Market Positioning,” *International Journal of Information Management*, 36 (6), 1133-43.
- Owusu, Richard A., Crispin M. Mutshinda, Imoh Antai, Kofi Q. Dadzie, and Evelyn M. Winston (2016), “Which UGC Features Drive Web Purchase Intent? A Spike-and-Slab Bayesian Variable Selection Approach,” *Internet Research*, 26 (1), 22-37.
- Pan, Yue and Jason Q. Zhang (2011), “Born Unequal: A Study of the Helpfulness of User-Generated Product Reviews,” *Journal of Retailing*, 87 (4), 598-612.
- Park, Do-Hyung and Jumin Lee (2008), “eWOM Overload and Its Effect on Consumer Behavioral Intention Depending on Consumer Involvement,” *Electronic Commerce Research and Applications*, 7 (4), 386-98.

- Park, Hyun Hee and Jung Ok Jeon (2018), "The Impact of Mixed eWOM Sequence on BBand Attitude Change: Cross-Cultural Differences," *International Marketing Review*, 35 (3), 390-411.
- Pew Research Center (2016), "Online Shopping and E-Commerce", Aaron Smith and Monica Anderson, December 19, 2016. (Accessed on January 6, 2021). [available at <https://www.pewresearch.org/internet/2016/12/19/online-shopping-and-e-commerce/>]
- Pew Research Center (2020), "Most Americans Rely on Their own Research to Make big Decisions, and That Often Means Online Searches", Erica Turner and Lee Rainie, March 5, 2020. (Accessed on January 6, 2021). [available at <https://www.pewresearch.org/fact-tank/2020/03/05/most-americans-rely-on-their-own-research-to-make-big-decisions-and-that-often-means-online-searches/>]
- Proserpio, Davide and Georgios Zervas (2017), "Online Reputation Management: Estimating the Impact of Management Responses on Consumer Reviews," *Marketing Science*, 36 (5), 645-65.
- Qahri-Saremi, Hamed and Ali Reza Montazemi (2019), "Factors Affecting the Adoption of an Electronic Word of Mouth Message: A Meta-Analysis," *Journal of Management Information Systems*, 36 (3), 969-1001.
- Riley, John G. (2001), "Silver Signals, Twenty-Five Years of Screening and Signaling," *Journal of Economic Literature*, 39 (2), 432-78.
- Rosario, Ana Babić, Kristine de Valck, and Francesca Sotgiu (2020), "Conceptualizing the Electronic Word-of-Mouth Process: What We Know and Need to Know About eWOM Creation, Exposure, and Evaluation," *Journal of the Academy of Marketing Science*, 48 (3), 422-48.
- Sahni, Navdeep S., Sridhar Narayanan, and Kirthi Kalyanam (2019), "An Experimental Investigation of the Effects of Retargeted Advertising: The Role of Frequency and Timing," *Journal of Marketing Research*, 56 (3), 401-18.
- Shapiro, Carl (1982), "Consumer Information, Product Quality, and Seller Reputation," *The Bell Journal of Economics*, 13 (1), 20-35.
- Shen, Wenqi, Yu (Jeffrey) Hu, and Jackie Rees Ulmer (2015), "Competing for Attention: An Empirical Study of Online Reviewers' Strategic Behavior," *MIS Quarterly*, 39 (3), 683-96.
- Steward, Michelle D., Alvin C. Burns, Felicia N. Morgan, and Michelle L. Roehm (2020), "Credible Effects: The Impact of Disclosure of Material Connections Within Online Product Reviews," *Journal of Public Policy & Marketing*, 39 (3), 353-68.
- Tilly, Roman, Kai Fischbach, and Detlef Schoder (2015), "Mineable or Messy? Assessing the Quality of Macro-Level Tourism Information Derived From Social Media," *Electronic Markets*, 25 (3), 227-41.
- Tirunillai, Seshadri and Gerard J. Tellis (2014), "Mining Marketing Meaning From Online Chatter: Strategic Brand Analysis of Big Data Using Latent Dirichlet Allocation," *Journal of Marketing Research*, 51 (4), 463-79.
- Urban, Glen L. (2005), "Customer Advocacy: A New Era in Marketing?" *Journal of Public Policy & Marketing*, 24 (1), 155-9.
- Varadarajan, P. Rajan and Manjit S. Yadav (2002), "Marketing Strategy and the Internet: An Organizing Framework," *Journal of the Academy of Marketing Science*, 30 (4), 296-312.
- Wang, Jying-Nan, Jiangze Du, Ya-Ling Chiu, and Jin Li (2018a), "Dynamic Effects of Customer Experience Levels on Durable Product Satisfaction: Price and Popularity Moderation," *Electronic Commerce Research and Applications*, 28, 16-29.
- Wang, Nianxin, Qingxiang Li, Huigang Liang, Taofeng Ye, and Shilun Ge (2018b), "Understanding the Importance of Interaction Between Creators and Backers in Crowdfunding Success," *Electronic Commerce Research and Applications*, 27, 106-17.
- Wilkie, William L. and Elizabeth S. Moore (2006), "Macromarketing as a pillar of marketing thought," *Journal of Macromarketing*, 26 (2), 224-32.
- Wu, Jianan, Yinglu Wu, Jie Sun, and Zhilin Yang (2013), "User Reviews and Uncertainty Assessment: A Two Stage Model of Consumers' Willingness-to-Pay in Online Markets," *Decision Support Systems*, 55 (1), 175-85.
- Yan, Lu and Yong Tan (2017), "The Consensus Effect on Shared Treatment Experience in Online Healthcare Communities," *Journal of Management Information Systems*, 34 (1), 11-39.
- Yan, Qiang, Shuang Wu, Lingli Wang, Pengfei Wu, Hejie Chen, and Guohong Wei (2016), "E-WOM From E-Commerce Websites and Social Media: Which Will Consumers Adopt?" *Electronic Commerce Research and Applications*, 17, 62-73.
- Yang, Jun, Enping Mai, and Joseph Ben-Ur (2012), "Did you tell me the truth?: The influence of online community on eWOM," *International Journal of Market Research*, 54 (3), 369-89.
- You, Ya, Gautham G. Vadakkepatt, and Amit M. Joshi (2015), "A Meta-Analysis of Electronic Word-of-Mouth Elasticity," *Journal of Marketing*, 79 (2), 19-39.
- Zhang, Hong, Ling Zhao, and Sumeet Gupta (2018), "The Role of Online Product Recommendations on Customer Decision Making and Loyalty in Social Shopping Communities," *International Journal of Information Management*, 38 (1), 150-66.
- Zhang, Yu, Jing Bian, and Weixiang Zhu (2013), "Trust Fraud: A Crucial Challenge for China's E-Commerce Market," *Electronic Commerce Research and Applications*, 12 (5), 299-308.
- Zhou, Zhimin, Ge Zhan, and Nan Zhou (2019), "How Does Negative Experience Sharing Influence Happiness in Online Brand Community? A Dual-Path Model," *Internet Research*, 30 (2), 575-90.
- Zhu, Feng and Xiaoquan Zhang (2010), "Impact of Online Consumer Reviews on Sales: The Moderating Role of Product and Consumer Characteristics," *Journal of Marketing*, 74 (2), 133-48.