



What makes an online review credible? A systematic review of the literature and future research directions

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Abstract

Online reviews of products and services are strategic tools for e-commerce platforms, as they aid in consumers' pre-purchase decisions. Past research studies indicate online reviews impact brand image and consumer behaviour. With several instances of fake reviews and review manipulations, review credibility has become a concern for consumers and service providers. In recent years, due to growing *web-care* attitude among managers, the need for maintaining credible online reviews on the e-commerce platforms has gained attention. Though, there are several empirical studies on review credibility, the findings are diverse and contradicting. Therefore, in this paper, we systematically review the literature to provide a holistic view of antecedents of online review credibility. We examine variables, methods, and theoretical perspective of online review credibility research using 69 empirical research papers shortlisted through multi-stage selection process. We identify five broad groups of antecedents: source characteristics, review characteristics, consumer characteristics, interpersonal determinants in the social media platform and product type. Further, we identify research issues and propose directions for future research. This study contributes to existing knowledge in management research by providing the holistic understanding of the "online review credibility" construct and helps understand what factors lead to consumers' belief in the credibility of online review. The insights gained would provide managers adequate cues to design effective online review systems.

Keywords Review credibility · Systematic literature review · Online review · eWOM credibility

JEL Classification M00 · M30 · M31

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1 Introduction

Online reviews of products and services have become an integral component of product information on e-commerce platforms and are often used as strategic instrument to gain competitive advantage (Gutt et al. 2019). They are influential in marketing communications and help shoppers identify the products (Chen and Xie 2008) and make informed pre-purchase decisions (Hong and Pittman 2020; Eslami et al. 2018; Klaus and Changchit 2019; Reyes- Menendez et al. 2019). In the absence of physical interaction with the product, they aid consumers to take decisions based on experiences shared by previous users on the e-commerce platform (Klaus and Changchit 2019). Reviews facilitate the free flow of consumer-generated content that help managers promote their products or brand or company (Smith 2011). The products that get at least 5 reviews have a 270% higher conversion rate compared to the products with no reviews (Collinger et al. 2017).

With the growing popularity of online reviews, there is an overwhelming interest among researchers to understand the characteristics of reviews and reviewer that contribute to the credibility of online reviews (Cheung et al. 2009; Chih et al. 2020; Fang and Li 2016; Jimenez and Mendoza 2013; Liu and Ji 2018; Mumuni et al. 2019; Qiu et al. 2012; Tran and Can 2020; Yan et al. 2016). The credibility of online information and digital media is often contested, due to the lack of quality control standards and ambiguity concerning the ownership of the information with the convergence of information and media channels (Flanagin and Metzger 2007). As all online reviews cannot be trusted (Johnson and Kaye 2016) and when sources are uncertain (Lim and Van Der Heide 2015) consumers often use cues to assess review credibility. The credibility issue also arises due to review manipulation practices by asking the reviewers to write a positive review in favour of the brand and to write a negative review attacking the competitor's product, by incentivizing the reviewer (Wu et al. 2015).

Recent meta-analysis studies on electronic word of mouth (eWOM) communications have focused on factors impacting eWOM providing behaviour (Ismagilova et al. 2020a), the effect of eWOM on intention to buy (Ismagilova et al. 2020b), the effect of source credibility on consumer behaviour (Ismagilova et al. 2020c), factors affecting adoption of eWOM message (Qahri-Saremi and Montazemi 2019) and eWOM elasticity (You et al. 2015). Moran and Muzellec (2017) and recently Verma and Dewani (2020) have proposed four-factor frameworks for eWOM Credibility. Zheng (2021) presented a systematic review of literature on the classification of online consumer reviews.

Even though there are literature reviews and meta-analysis on eWOM, they address different research questions or constructs in eWOM and no attempt to synthesise the antecedents of online review credibility, in the context of products and services has been made. Xia et al. (2009) posit that all eWOM are not formulated equally and classify eWOM as “many to one” (e.g., No of ratings, downloads calculated by computers), “many to many” (e.g., Discussion forums), “one to many” (e.g., Text-based product reviews), and “one to one” (instant messaging). Studies confirm that the effort to process and persuasiveness of different forms of eWOM

vary (Weisfeld -Spolter et al. 2014). Senecal and Nantel (2004) argue that consumers spend significantly more time and effort to process online reviews than any other form of eWOM. Hence understanding credibility of the online reviews and the factors that influence credibility is important for managers of e-commerce platforms.

Our objective in this paper is three-fold: First, we revisit, review, and synthesize 69 empirical research on online review credibility that focuses on textual online reviews of products and services (“one to many” form of eWOM). Second, we identify the antecedents of review credibility. Finally, we identify gaps and propose future research directions in the area of online reviews and online review credibility. From theoretical perspective, this systematic review synthesises the antecedents of review credibility, in the context of online reviews of products and services. As in past literature, eWOM and online reviews are interchangeably used, we carefully analysed both the eWOM credibility and online review credibility and selected studies that focused on reviews of products and services. Studies on sponsored posts on social media, blogs, the brand initiated eWOM communication were excluded. From managerial perspective, this study would aid managers of e-commerce platforms, a holistic view of review credibility and aid in the design of online review systems.

1.1 Defining online review credibility

Mudambi and Schuff (2010) define online reviews as “peer-generated product evaluations, posted on company or third-party websites”. Person-to-person communication via the internet is eWOM. An online review is a form of eWOM. There are various channels of eWOM such as social media, opinion forums, review platforms, and blogs. Past literature posits that credible eWOM is one that is perceived as believable, true, or factual (Fogg et al. 2001; Tseng and Fogg. 1999).

The perception a consumer holds regarding the veracity of online review is considered as the review credibility (Erkan and Evans 2016). Several research studies (Cheung et al. 2009; Dong 2015) define credible online reviews as a review that the consumers perceive as truthful, logical, and believable. Past research defines credibility to be associated with consumers’ perception and evaluation and not as a direct measure of the reality of reviews (Chakraborty and Bhat 2018a). The credibility of online reviews is described as consumers’ assessment of the accuracy (Zha et al. 2015) and validity of the reviews (Chakraborty and Bhat 2017).

2 Research methods

This paper uses the systematic literature review method (Linnenluecke et al. 2020; Moher et al. 2009; Neumann 2021; Okoli 2015; Snyder 2019) to synthesize the research findings. Liberati et al. (2009) explains systematic review as a process for identifying, critically appraising relevant research and analyzing data. Systematic reviews differ from meta-analysis with respect to methods of analysis used. While meta-analysis focuses primarily on quantitative and statistical analysis; systematic reviews use both quantitative and qualitative analysis and critical appraisal of the

literature. In a systematic review, pre-specified protocols on inclusion and exclusion of the articles are used to identify the evidence that fits the criteria to answer the research question (Snyder 2019). In this paper, we follow the steps proposed by Okoli (2015) for conducting the systematic review process and the recommendations given by Fisch and Block (2018) to improve the quality of the review. The purpose of our systematic literature review is to identify and synthesize the antecedents of online review credibility.

The study uses journal articles from two popular research databases (Scopus and Web of Science) to conduct a systematic search of articles on review credibility/eWOM credibility. As online reviews are interchangeably used with other related concepts such as eWOM, user-generated content, and online recommendations in the literature, we used a diverse pool of sixteen keywords (refer Fig. 1) for the initial search. The keywords were identified through an initial review of literature and articles having these terms in the title, abstract, and keywords were chosen. Initial

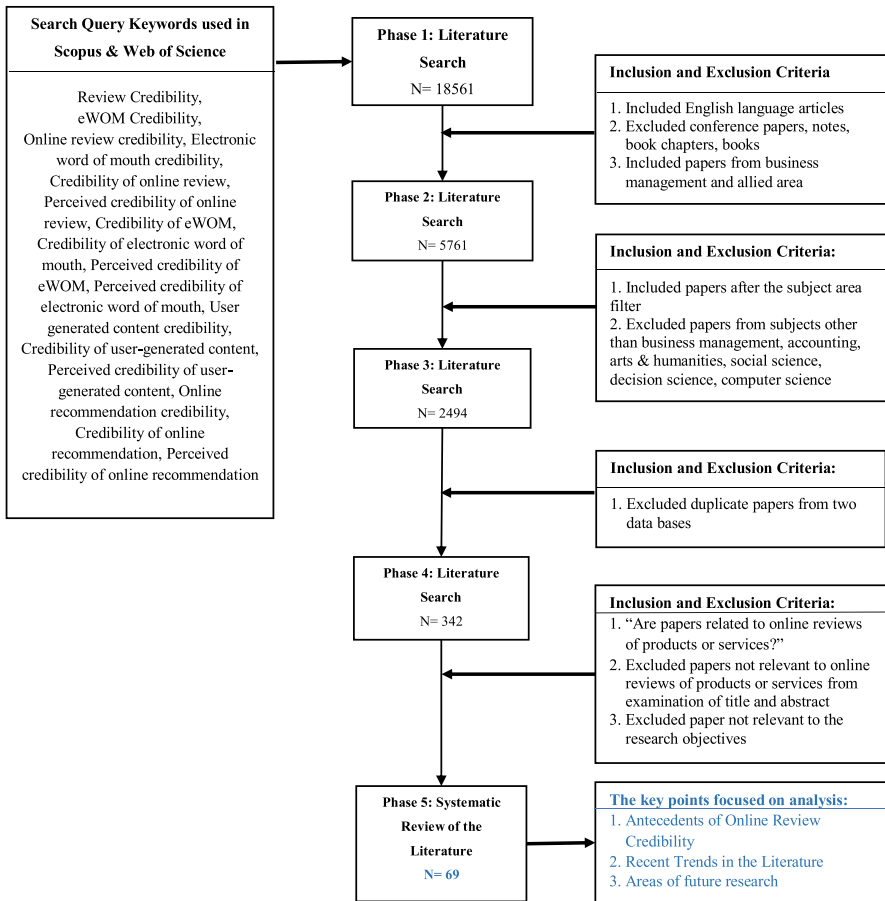


Fig. 1 Systematic review process

search and document retrieval were done in January 2022. Studies published till October 2022 were later updated in the paper. A set of filters using inclusion and exclusion criteria were applied to arrive at a focused set of relevant papers. The full-length empirical articles in English language, related to business management and allied areas were included for systematic review. Using multiple phases of filtering and reviewing (refer Fig. 1), we shortlisted the final list of 69 empirical papers that used either review credibility or eWOM credibility as a construct with a focus on reviews of products and services. In line with previous systematic reviews (Kuckertz and Brändle 2022; Nadkarni and Prügl 2021; Walter 2020) we excluded work in progress papers, conference papers, dissertations or books from the analysis.

2.1 Descriptive analysis of empirical research on online review credibility

The 69 empirical research articles included 36 experimental design studies and 33 cross-sectional survey-based studies. Figure 2 summarises the review credibility publication trends in the last decade with their research design choices.

Research on review credibility has used samples from diverse geographical regions, the highest number of studies being in the USA, China, and Taiwan (refer to Table 1). Table 2 and Table 3 summarizes the sample and analysis methods used in these studies. Even though online review is commonly used in tourism and hospitality, there are only six studies examining review credibility.

3 Theoretical perspectives in review credibility literature

Most of the empirical research (88 percent) on review credibility has used theories to explain the antecedents of review credibility. A total of 48 different theories have been invoked in explaining various dimensions of review credibility antecedents.

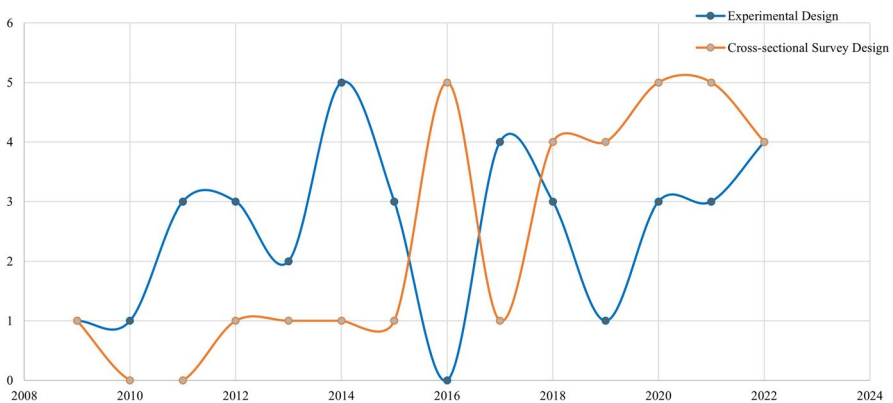


Fig. 2 Research designs of Review credibility articles

Table 1 Country wise distribution of the studies

Country	No. of studies ($N=69$)
USA	13
China	13
Taiwan	8
Republic of Korea	4
Hong Kong	3
India	7
Germany	2
Spain	2
Others (1 each from Netherlands, France, Switzerland, South Africa, Indonesia, Vietnam, Ukraine, Turkey, Israel, Australia, Romania, Malaysia, Thailand, Belgium, Italy, Jordan, Nigeria)	17

Table 2 Sample Subjects Used in the Studies on Review Credibility

Sample audience/ subjects	No. of studies ($N=69$)
Student	24
Online review forum users	17
Social media users	13
Online experiment platform	8
Other consumers in tourism/hospitality	5
Generation Y	2

We observed five broad groups of theories from the underlying 48 theories that contribute to understanding the different aspects of online review credibility assessment by consumers. We discuss them in the following sections.

3.1 Information processing in online review

Several theories provide a lens to understand ways in which individual consumes or processes the information available in the online reviews. The popular theories discussed in the review credibility literature such as the elaboration likelihood model, heuristic—systematic model, accessibility—diagnosticity theory, and attribution theory describe how an individual processes information.

Building on the elaboration likelihood model (ELM) several studies have examined characteristics of online review content such as argument quality (Cheung et al. 2009; Hussain et al. 2018; Thomas et al. 2019), review sidedness (Cheung et al. 2012; Brand and Reith 2022), review consistency (Brand et al. 2022; Brand and Reith 2022; Cheung et al. 2012; Thomas et al. 2019), and source credibility (Cheung et al. 2012; Hussain et al. 2018; Reyes- Menendez et al. 2019). These dimensions

Table 3 Analysis methods used in the empirical studies on review credibility

Methods	No. of studies
Experimental design (36 studies)	
ANOVA	21
Regression analysis	8
ANCOVA	4
MANCOVA	3
MANOVA	3
Structured equation modelling (SEM)	2
PLS-SEM	3
General linear model(GLM)	1
Cross-sectional survey design (33 studies)	
Structured equation modelling (SEM)	18
Partial least squared – structured equation Modelling (PLS-SEM)	9
Regression analysis	6
ANOVA	4
MANOVA	1
Cluster analysis	1
Independent Sample <i>t</i> -test	1

are also examined using the heuristics-systematic model (HSM). These two theories are similar in their function as both ELM and HSM posit two routes (the central vs. peripheral route and the systematic vs. heuristic route) for judging the persuasiveness of messages (Chang and Wu 2014). In literature, the elaboration likelihood model has received more empirical support compared to the heuristics systematic model. The yale persuasive communication theory covers a wider array of factors that can affect the acceptance of the message (Chang and Wu 2014). This theory has been adopted by studies to evaluate the relationship between these factors with review credibility.

The psychological choice model posits that the effectiveness of online reviews gets influenced by environmental factors like product characteristics and consumer’s past experience. These factors influences the credibility assessment by the consumer and purchase decision based on their interaction with the online reviews.

Consumers’ use of information for judgment also depends upon the accessibility and diagnosticity of the input as proposed in accessibility-diagnosticity theory. This theory helps in understanding the utilization of information by individuals and posits that the information in hand has more value than information stored as a form of memory (Tsao and Hseih 2015; Chiou et al. 2018). The attribution theory helps in understanding the nature of the causal conclusion drawn by the consumers in the presence of negative and positive information (Chiou et al. 2018).

Overall, the theories related to information processing have contributed well to understanding the influence of strength of the message, argument, valence, source reputation, consistency, persuasiveness, and diagnosability.

Theories such as media richness theory (Tran and Can 2020) and language expectancy theory (Seghers et al. 2021) provided insights into the relevance of the quality of the information shared in online reviews. Several other theories focus on the information adoption process (ex. Information adoption mode, informational influence theory, dual-process theory). For example, cognitive cost theory has been used to explain review adoption due to the effect of different levels of cognitive involvement of the consumer when they are exposed to reviews from different platforms simultaneously (Yan et al. 2016).

The contribution of technology acceptance model (TAM) to the review credibility literature is operationalized in the study by Liu and Ji (2018). Hussain et al. (2018) uses TAM to complement ELM in the computer-mediated communication adoption process.

We observe that the theories in information processing in the online review have provided a theoretical lens to understand the role of the quality of the information in the online review credibility assessment.

3.2 Trust in online reviews

Studies have examined the trust formation and perception of the trustworthiness of the source of the information in online reviews using the theoretical lens of trust transfer theory and source credibility theory. Virtual communities do not support the face-to-face interaction between sender and receiver of the message. Therefore, the receiver has to rely on cues such as the reputation of the source, credibility of the source, and the reviewer profile. These cues are observed as some of the antecedents of review credibility. Trust transfer theory contributes to our understanding of how online reviews shared on a trusted e-commerce website makes the consumer consider that review is credible compared to the review shared on a website that is not trustworthy (Park and Lee 2011). Source credibility theory suggests trustworthiness and expertise of the source of the review have a positive relationship with review credibility (Mumuni et al. 2019; Shanhuyenzva et al. 2016). These theories note that when a person perceives the origin of online review as trustworthy, he would be more likely to consume the information.

3.3 Socio-cultural influence in online reviews

Individuals' innate values or beliefs help shape their behaviour. As online reviews are more complex social conversations (Kozinets 2016) there is a need to gain perspectives on how these conversations differ in terms of country and culture (Bughin et al. 2010). The theories such as culture theory, and Hall's categorization provide a lens to examine the influence of culture on online review consumption and assessment of review credibility (Brand and Reith 2022; Chiou et al. 2014; Luo et al. 2014).

In general, attention paid to understanding the influence of cultural factors on online reviews is very limited (Mariani et al. 2019; Gao et al. 2017). However, much attention has been given to understanding the role of social influence through

the use of theories like social influence theory, role theory, social identity theory, social information processing theory, socio-cognitive systems theory, and value theory. The most prominent theory related to this theme is the social influence theory. Social influence theory emphasizes the social pressure faced by consumers to form a decision based on online reviews (Jha and Shah 2021). Social identity theory posits that an individual may reduce uncertainty by choosing to communicate with other people who share similar values and social identities (Kusumasondjaja et al. 2012).

Social information processing theory posits the importance of the closeness between review writer and reader on social networking as an alternative cue, in the absence of physical interaction (Lim and Van Der Heide 2015). The social standings of an individual in terms of the number of friends on social networks (Lim and Van Der Heide 2015), nonverbal cues such as profile photos (Xu 2014), and their impact on review credibility have been studied using this theory. In a nutshell, these theories explain individuals' belief that gets shaped due to the influence of the social groups and how it impacts the credibility of the review.

3.4 Consumer attitude and behaviour towards online reviews

Consumers attitude towards computer-mediated communications and online reviews have been examined in past studies (Chakraborty and bhat 2017; Chih et al. 2020; Hussain et al. 2018; Isci and Kitapci 2020; Jha and Shah 2021) using several theoretical frameworks. Theories such as attitude—behaviour linkage, cognition-affect-behaviour (CAB) model, expectancy-disconfirmation theory (EDT), needs theory, regulatory focus theory, search and alignment theory, stimulus-organism-response model, theory of planned behaviour, yale attitude change model, associative learning theory were used in literature to examine the factors that influence the formation of the attitude and behaviour towards online reviews. These factors and their relationship with credibility evaluation have been studied by the yale attitude change model (Chakraborty and Bhat 2017, 2018b), and the stimulus-organism-response model (Chakraborty 2019). Jha and Shah (2021) adapted attitude-behavior linkage theory to study how the exposure to past reviews acts as an influence to write credible reviews.

The consumer's expectation about product experience and credibility assessment is studied using theories like expectancy-disconfirmation theory (Jha and Shah 2021), needs theory (Anastasiei et al. 2021), and regulatory focus theory (Isci and Kitapci, 2020; Lee and Koo, 2012). Overall, these theories have contributed to the advancement of the understanding of the holistic process involved in consumer attitude formation and behaviour in online reviews.

3.5 Risk aversion

The theories such as category diagnosticity theory, prospect theory, uncertainty management theory, and uncertainty reduction theory provide a theoretical lens to examine how consumers rely on credible information to avoid uncertain outcomes. Hong and Pittman (2020) use category diagnosticity theory and prospect theory

to hypothesize negative online reviews as more credible than positive reviews. An individual who focuses on reducing loss perceives negative online reviews as more diagnostic and credible. Kusumasondjaja et al. (2012) also argue that consumers try to avoid future losses by spending effort to find credible information before making a decision. With the help of these underlying assumptions, studies have used perspectives drawn from theories to understand the loss-aversion behaviour and higher perceived diagnostic value of negative information. Prospect theory suggests consumers attempt to avoid risks or loss and expect gain. Consumers avoid choosing the experience which has more negative online reviews because of the risk and loss associated with the negativity of the reviews (Floh et al. 2013). The risk aversion-related theories have contributed to understanding the consumers' quest for credible information in negative reviews.

4 Antecedents of online review credibility

Literature on review credibility reveals varied nomenclature and operationalisation of antecedents of review credibility. However, we can broadly categorize review credibility antecedents into five broad groups: source characteristics, message characteristics, consumer characteristics, social/interpersonal influence, and product type (Refer to Fig. 3).

We discuss these antecedent themes along with the major constructs in each theme in the following sections. In the final section, we also summarise the theoretical perspectives in each antecedent themes.

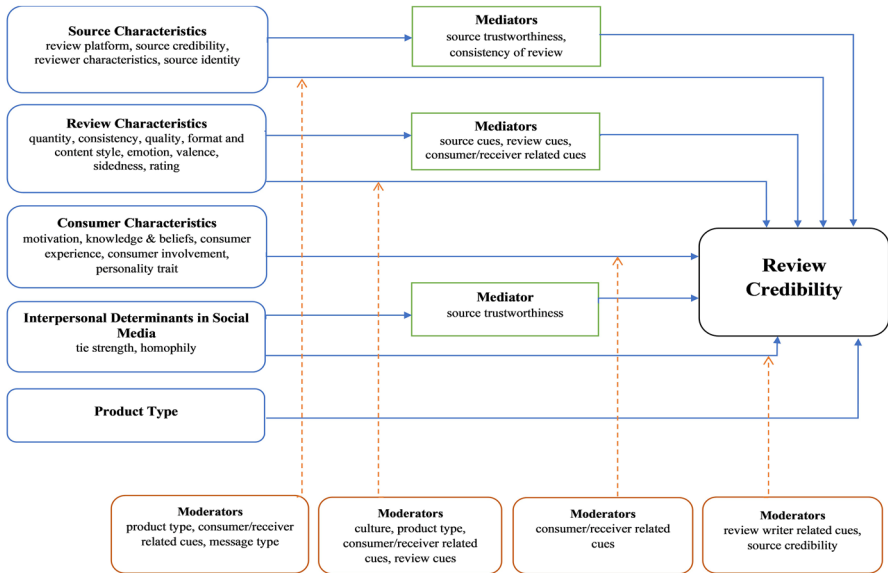


Fig. 3 Antecedents of review credibility

4.1 Source characteristics

Literature reveals that several characteristics of the source influence the credibility perception and evaluation of review by consumers. Chakraborty and Bhat (2017) define a source as the person who writes online reviews. Researchers have operationalized the source characteristics primarily through reviewers' knowledge and reliability (Chakraborty and Bhat 2017); reviewer characteristics such as identity disclosure, level of expertise, review experience, and total useful votes (Liu and Ji 2018). In several studies (Cheung et al. 2012; Chih et al. 2013; Mumuni et al. 2019; Newell and Goldsmith 2001; Reyes- Menendez et al. 2019; Yan et al. 2016), expertise and trustworthiness of the reviewer is one of the most common conceptualizations of source credibility. Cheung and Thadani (2012) define source credibility as the "message source's perceived ability (expertise) or motivation to provide accurate and truthful (trustworthiness) information".

Source credibility is used as a single construct in several studies (Abedin et al. 2021; Chih et al. 2013; Cheung et al. 2009, 2012; Mumuni et al. 2019; Reyes-Menendez et al. 2019; Yan et al. 2016; Luo et al. 2014). Studies have also conceptualized its sub-dimensions such as source trustworthiness (Chih et al. 2020; Lo and Yao 2018; Shamhuyenzhanva et al. 2016; Siddiqui et al. 2021; Thomas et al. 2019; Tien et al. 2018); reviewer expertise (Anastasiel et al. 2021; Fang 2014; Fang and Li 2016; Jha and Shah 2021) and reviewers' authority (Shamhuyenzhanva et al. 2016), as separate antecedents to review credibility. Mumuni et al. (2019) posited that reviewer expertise and reviewer trustworthiness as two distinct constructs. Chih et al. (2020) define source trustworthiness as the credibility of the information presented by the message sender. Thomas et al. (2019) operationalize reviewer expertise as a peripheral cue and found that the amount of knowledge that a reviewer has about a product or service is influential in consumer's perception of review credibility. Information presented by professional commentators who are perceived as experts in the specific field was found to have a positive influence on credibility (Chiou et al. 2014).

Source cues help in assessing the credibility and usefulness of the information shared in product reviews (Liu and Ji 2018). Reviews written by the source whose identity is disclosed have higher credibility compared to the reviews written by unidentified sources (Kusumasondjaja et al. 2012). However, in case of positive reviews with disclosed identity of the sponsor the review, credibility is negatively affected (Wang et al. 2022). Zhang et al. (2020) found that suspicion about the identity of the message sender influences negatively on the message's credibility. Past studies found that when the number of friends of a reviewer (Lim and Van Der Heide 2015) and a number of trusted members of the reviewer (Xu 2014) are high in the online review community, reviews of such reviewers are considered as more credible. If a reviewer involves very actively in writing the review, the number of reviews posted by the reviewer provides evidence to the reader that the reviews written by such reviewers are credible (Lim and Van Der Heide 2015). The consumer also believes online reviews to be credible when they perceive the reviewer as honest (Yan et al. 2021) and caring (Yan et al. 2021). The source characteristics as antecedents of review credibility are summarized in *Table 4*.

Table 4 Antecedents of review credibility: source characteristics

Constructs	Authors
<i>Review Platform</i>	
Source (consumer developed site vs marketer developed site)	Bae and Lee (2011)
Social media review type (provider driven vs consumer driven)	Ha and Lee (2018)
eWOM platform <i>Moderator: Product type</i>	Tsao and Hsieh (2015)
Website reputation	Chih et al. (2013); Guzzo et al. (2022); Majali et al. (2022); Thomas et al. (2019); Tran and Can(2020)
Website usability	Guzzo et al. (2022)
Website brand	Guzzo et al. (2022)
Trust in online shopping mall	Lee et al. (2011)
<i>Source Credibility</i>	
Source credibility	Abedin et al., (2021) ¹ ; Cheung et al. (2012); Cheung et al. (2009); Chih et al.(2013); Luo et al. (2014) ² ; Mumuni et al. (2019); Reyes-Menendez et al. (2019); Yan et al. (2016)
<i>Moderator: Reader's involvement¹, individualism-collectivism orientation²</i>	
Author credibility	Brand et al. (2022)
Source trustworthiness	Chih et al. (2020); Shamhuyenzva et al. (2016); Siddiqui et al.(2021)
Reviewer expertise	Anastasiei et al. (2021) ³ ; Fang(2014) ⁴ ; Fang and Li (2016) ⁵ ; Jha and Shah (2021); Lo and Yao(2018); Majali et al. (2022); Thomas et al.(2019); Tien et al. (2018)
<i>Moderator: Deprivation epistemic curiosity⁴, message type³</i>	
<i>Mediator: Consistency checking⁵</i>	
Source (reviewer expertise and trustworthiness)	Chakraborty and Bhat(2018b); Chakraborty and Bhat (2017)
Task attraction (source/reviewer)	Fang (2014)
<i>Moderator: Deprivation epistemic curiosity</i>	
Authority (reviewer)	Shamhuyenzva et al. (2016)
<i>Mediator: Source trustworthiness</i>	
Advisor expertise	Guzzo et al. (2022)
<i>Reviewer Characteristics</i>	
No. of trusted members of the reviewer	Xu (2014)
Reviewer characteristics	Liu and Ji (2018)
Reviewer profile (no. of friends and no. of reviews)	Lim and Van Der Heide (2015)
<i>Moderator: Familiarity with the platform</i>	
Type of reviewer (professional vs consumer)	Chiou et al. (2014)
Reviewer's perceived honesty	Yan et al.(2021)
Perceived reviewer's caring	Yan et al.(2021)
<i>Source Identity</i>	
Source identity	Kusumasondjaja et al. (2012)
Suspicion of identity	Zhang et al. (2020)
Sponsorship disclosure of positive reviews	Wang et al.(2022)
<i>Moderator: Emotional Intensity, Tie strength</i>	

Several studies also define the source with the characteristics of the platform where the review is published. Consumers' trust on the website (Lee et al. 2011) and the reputation of the website (Chih et al. 2013) were found as antecedents of the review credibility. If a consumer perceives an online shopping mall as trustworthy, he would believe that reviews posted in shopping mall as credible (Lee et al. 2011). Chih et al. (2013) posit that in addition to the source credibility (reviewer expertise), consumers evaluate the quality of contents of a website based on website reputation, which in turn leads to higher trust on the website and higher perceived credibility of the review. Website reputation is defined as the extent to which consumers perceive the platform where the review is published to be believable and trustworthy (Chih et al. 2013; Thomas et al. 2019; Tran and Can 2020; Guzzo et al. 2022; Majali et al. 2022). Bae and Lee (2011) found that consumer-developed sites were perceived as more credible than marketer-developed sites. Similarly, Tsao and Hsieh (2015) found that review quality as perceived by consumers had a higher impact on review credibility on independent platforms than on corporate-run platforms. Ha and Lee (2018) found that for credence service (eg. Hospital), the provider-driven platform and reviews were more credible and for experience goods (eg. Restaurant), consumer-driven platforms were perceived as more credible.

4.2 Review characteristics

Several characteristics of the message or the review are found to influence the review credibility on online review platforms (presented in Table 5). A product with a large number of reviews provides evidence of higher sales and popularity of the product (Flanagin and Metzger 2013; Hong and Pittman 2020; Reyes- Menendez et al. 2019). When online review for a product or service is higher, it directly influences the review credibility (Hong and Pittman 2020; Reyes- Menendez et al. 2019; Thomas et al. 2019; Tran and Can 2020).

If the reviewer agrees with most of online reviews or recommendations of others those reviews are considered as consistent reviews (Chakraborty and Bhat 2017, 2018b; Chakraborty 2019). The consistent online reviews were found to have higher credibility (Abedin et al. 2021; Baharuddin and Yaacob 2020; Brand and Reith 2022; Chakraborty and Bhat 2017, 2018b; Chakraborty 2019; Cheung et al. 2009, 2012; Luo et al. 2014; Tran and Can 2020). Fang and Li (2016) found out that receiver of the information actively monitors the consistency of the information while perceiving the credibility of review. The degree of agreement in aggregated review ratings on the review platform creates consensus among the reviewers (Qiu et al. 2012). Information evolved from such consensus is perceived as highly credible (Lo and Yao 2018; Qiu et al. 2012). However, a few studies (Cheung et al. 2012; Luo et al. 2015; Thomas et al. 2019) have reported contradicting findings and argue that when the involvement of consumers is low and consumers are knowledgeable, review consistency has an insignificant impact on the review credibility.

Past studies have found strong evidence on the impact of review argument quality (Anastasiei et al. 2021; Baharuddin and Yaacob 2020; Cheung et al. 2012; Thomas et al. 2019; Tran and Can 2020; Tsao and Hsieh 2015) and review quality (Bambauer-Sachse and Mangold 2010; Chakraborty and Bhat 2017, 2018b; Chakraborty

Table 5 Antecedents of review credibility: review characteristics

Constructs	Authors
<i>Review Quantity</i>	
e-WOM volume <i>Moderator: Frequency of online information¹</i>	Flanagin and Metzger (2014) ¹ ; Reyes-Menendez et al. (2019)
Number of reviews	Hong and Pittman (2020)
Review quantity	Majali et al.(2022); Thomas et al. (2019); Tran and Can (2020)
<i>Review Consistency</i>	
Recommendation/ information consistency <i>Moderator: Individualism-collectivism orientation²</i>	Baharuddin and Yaacob (2020); Cheung et al. (2009); Luo et al. (2014) ²
Review consistency <i>Moderator: Culture⁴, reader's involvement³</i>	Abedin et al. (2021) ³ ; Brand and Reith (2022) ⁴ ; Brand et al. (2022); Chakraborty (2019); Chakraborty and Bhat (2018b); Chakraborty and Bhat (2017); Cheung et al. (2012); Fang and Li (2016); Guzzo et al. (2022); Tran and Can (2020)
Message characteristics (vividness and consensus) <i>Moderator: Brand commitment</i>	Chang and Wu (2014)
Review rating consistency	Lo and Yao (2018)
Conflicting aggregated rating <i>Mediator: Product-related attribution</i>	Qiu et al. (2012)
<i>Review Quality</i>	
Argument quality (accuracy, completeness) <i>Moderator: Individualism-collectivism orientation², message type⁵</i>	Anastasiei et al. (2021) ⁵ ; Brand et al. (2022); Cheung et al. (2012); Luo et al. (2014) ² ; Majali et al. (2022); Thomas et al. (2019); Tran and Can (2020)
Argument concreteness	Shukla and Mishra(2021)
Review quality	Bambauer-Sachse and Mangold (2010); Chakraborty (2019); Chakraborty and Bhat (2018b); Chakraborty and Bhat (2017); Liu and Ji (2018)
eWOM quality <i>Moderator: Product type⁶</i>	Baharuddin and Yaacob (2020); Tsao and Hsieh (2015) ⁶
Argument strength <i>Moderators: Consistency checking⁸, deprivation epistemic curiosity⁷, sense of membership⁹</i>	Cheung et al. (2009); Fang (2014) ⁷ ; Fang and Li (2016) ⁸ ; Luo et al. (2015) ⁹
Review objectivity <i>Moderator: Reader's involvement³, sense of membership⁹,</i>	Abedin et al. (2021) ³ ; Luo et al. (2015) ⁹
Review attribute <i>Moderator: Subjective knowledge</i>	Lee and Koo (2012)
Persuasiveness of eWOM messages	Tien et al. (2018)
Level of detail in a review	Jimenez and Mendoza (2013)
Message readability	Guzzo et al. (2022)
eWOM informativeness	Gvili and Levy (2016)
Message content	Siddiqui et al. (2021)
eWOM utilitarian function	Ran et al. (2021)

Table 5 (continued)

Constructs	Authors
Interestingness <i>Mediator: Source trustworthiness</i>	Shamhuyenzva et al. (2016)
Graphics <i>Mediator: Knowledge based validation, Consistency checking</i>	Fang and Li (2016)
External links <i>Mediator: Knowledge based validation</i>	Fang and Li (2016)
Suspicion of truthfulness	Zhang et al. (2020)
Review Format and Content Style	
Review score information format (aggregated vs disaggregated)	Camilleri (2017)
Vernacular features <i>Mediator: Perceived appropriateness (attitude towards vernacular features)</i>	Seghers et al. (2021)
Visual information	Shukla and Mishra (2021)
Social presence (Group based presentation form vs Individual based presentation form)	Niu et al. (2022)
<i>Review Emotion</i>	
Emotionality of review <i>Moderator: Need for affect</i> <i>Mediator: Source credibility</i>	Vendemia (2017)
eWOM entertainment	Gvili and Levy (2016)
eWOM irritation	Gvili and Levy (2016)
<i>Review Valence</i>	
<i>Review valence</i> <i>Mediator: Consumer attribution</i> ¹⁰ , <i>emoticon</i> ¹² <i>Moderator: Regulatory focus</i> ¹¹	Chiou et al. (2018) ¹⁰ ; Hong and Pittman (2020); Kusumasondjaja et al. (2012); Lee and Koo (2012) ¹¹ ; Lim and Van Der Heide (2015); Lo and Yao (2018); Manganari and Dimara (2017) ¹² ; Pentina et al. (2017); Pentina et al. (2018); vanLohuizen and Trujillo-Barrera (2019); Seghers et al. (2021); Shin et al. (2020)
Ratio of messages (Positive- Negative) <i>Mediator: Consumer involvement, prior knowledge</i>	Doh and Hwang (2009)
Message characteristics	Xue and Zhou (2010)
Positive review valence	Shukla and Mishra (2022)
<i>Review Sidedness</i>	
Review sidedness <i>Moderator: Individualism-collectivism orientation</i> ² , <i>reader's involvement</i> ³ , <i>recipient's expertise</i> ¹³ , <i>recipient's involvement</i> ¹³ , <i>sense of membership</i> ⁹	Abedin et al. (2021) ³ ; Brand et al. (2022); Chakraborty (2019); Cheung et al. (2012) ¹³ ; Guzzo et al. (2022); Luo et al. (2015) ⁹ ; Luo et al. (2014) ²
eCommerce eWOM integrity	Yan et al. (2016)
<i>Review Rating</i>	
Star rating	Hong and Pittman (2020)
Product or service rating	Majali et al. (2022); Thomas et al. (2019); Tran and Can (2020)

Table 5 (continued)

Constructs	Authors
Review / eWOM Rating <i>Moderator: culture⁴,sense of membership⁹</i>	Baharuddin and Yaacob (2020); Brand and Reith (2022) ⁴ ; Brand et al. (2022); Luo et al. (2015) ⁹
Recommendation / information rating <i>Moderator: Individualism-collectivism orientation²</i>	Cheung et al. (2009); Fang (2014); Fang and Li (2016); Luo et al. (2014) ²
Framing of wall postings(Rating) <i>Mediator: Knowledge-based validation</i>	Fang and Li (2016)

2019; Liu and Ji 2018) and argument strength (Cheung et al. 2009; Fang 2014; Fang and Li 2016; Luo et al. 2015) on review credibility. Concreteness in the argument also positively impacts the review credibility (Shukla and Mishra 2021).

According to Petty et al. (1983), the strength of the argument provided in the message represents the quality of the message. Cheung et al. (2009) define argument strength as the quality of the information in the online review. Chakraborty and Bhat (2017) present review quality as the logical and reliable argument in the online review. Recent studies (Thomas et al. 2019; Tran and Can 2020) considered accuracy and completeness as dimensions of argument quality.

Review attribute helps in classifying the review as an objective review or subjective review based on the information captured (Lee and Koo 2012). Jimenez and Mendoza (2013); Gvili and Levy (2016) operationalize the level of detail as the amount of information present in the review about a product or service. Past studies have found evidence for the positive relationship between different attributes of reviews such as review objectivity (Luo et al. 2015; Abedin et al. 2021), level of detail (Jimenez and Mendoza 2013), review attribute (Lee and Koo 2012), message readability (Guzzo et al. 2022), persuasiveness of eWOM messages (Tien et al. 2018), interestingness (Shamuyenzva et al. 2016), graphics (Fang and Li 2016) and suspicion of truthfulness (Zhang et al. 2020) with review credibility. Vendemia (2017) found that the emotional content of information in the review also influences the review credibility. While assessing the review credibility, the utilitarian function of the review (Ran et al. 2021) and message content (Siddiqui et al. 2021) play an important role.

Several studies confirm that review valence influences review credibility (Lee and Koo 2012; Hong and Pittman 2020; Lo and Yao 2018; Manganari and Dimara 2017; Pentina et al. 2018; Pentina et al. 2017; vanLohuizen and Trujillo-Barrera 2019; Kusumasondjaja et al. 2012; Lim and Van Der Heide 2015; Chiou et al. 2018). Chiou et al. (2018) explain review valence is negative or positive evaluation of the product or service in online reviews. Review valence is often operationalized in experimental research at two levels: positive reviews vs negative reviews. Several studies report that negative reviews are perceived to be more credible than positive reviews (Chiou et al. 2018; Kusumasondjaja et al. 2012; Lee and Koo 2012; Lo and Yao 2018; Manganari and Dimara 2017). Negative reviews present a consumer's bad experience, service failure or low quality and they create a loss-framed

argument. Tversky and Kahneman (1991) explain that loss-framed arguments have a greater impact on the behaviour of consumer than gain-framed arguments. Contradictory to these findings, a few studies found that positive reviews are more credible than negative reviews (Hong and Pittman 2020; Pentina et al. 2017, 2018). Lim and Van Der Heide (2015) found that though negative reviews impact greatly on consumer behavior it is perceived to be less credible.

Several studies (Chakraborty 2019; Cheung et al. 2012; Luo et al. 2015) have observed the impact of review sidedness (positive, negative or two-sided reviews) on review credibility and found that two-sided reviews are perceived as more credible. Further, Cheung et al. (2012) found that when consumers' expertise level was high and involvement level was low, review sidedness had a stronger impact on review credibility.

Star ratings are numerical evidence of product performance (Hong and Pittman 2020). Star rating represents the average rating of all the review ratings therefore it helps to assess the conclusions in general (Tran and Can 2020). Rating evaluation needs a low amount of cognitive effort while processing the review information (Thomas et al. 2019). Past studies have found star ratings (Hong and Pittman 2020), aggregated review scores (Camilleri 2017), product or service ratings (Thomas et al. 2019; Tran and Can 2020), review ratings (Luo et al. 2015), and recommendation or information rating (Cheung et al. 2009) act as peripheral cues influencing the review credibility.

4.3 Consumer characteristics

Receiver is the consumer of the review and consumer needs, traits, motivation, knowledge, and involvement have been found to influence the review credibility. Chih et al. (2013) posit that online community members have two types of needs: functional need (need to find useful product information) and social need (need to build social relationships with others). These needs motivate consumers to use online reviews and form perceptions of review credibility. Consumers refer to online reviews to understand the product's pros, cons, and costs (Hussain et al. 2018); reduce purchase risk, and information search time (Schiffman and Kanuk 2000).

Past research studies indicate consumer's motivation to obtain more information on purchase context (Chih et al. 2013), self-worth reinforcement (Hussain et al. 2018), opinion seeking from other consumers (Hussain et al. 2018), and prior knowledge of the receiver on the product (Cheung and Thadani 2012; Wang et al. 2013), influences review credibility. When the online reviews are congruous to the consumer's knowledge and experiences, the message is perceived to be credible (Chakraborty and Bhat 2017, 2018b; Chakraborty 2019; Cheung et al. 2009). Chiou et al. (2018) found that high-knowledge consumers find reviews less credible. Studies in the past have also used prior knowledge of consumers as a control variable (Bae and Lee 2011) and moderating variable (Doh and Hwang 2009) when studying other factors. Bambauer-Sachse and Mangold (2010) found that knowledge on manipulations on product reviews influenced consumers' product evaluations, negative reviews, in particular, and when they come from a highly credible source.

Lim and Van Der Heide (2015) observed differences in the perceived credibility of users and non-users of the review platform and found an interaction effect between users' familiarity with the review platform and reviewer profile (number of friends and number of reviews) characteristics of review credibility. Consumer experience with online reviews affects their perception of review credibility (Guzzo et al 2022). Izogo et al (2022) posit that consumer experiences such as sensory, cognitive and behavioral experience also influences review credibility. Consumer motivation, beliefs, and knowledge, as antecedents in literature, are summarised in Table 6.

Cheung et. al (2012) posited that the influence of source and message characteristics on review credibility depends on two characteristics of the consumer: involvement and expertise. The authors found that level of involvement and knowledge of consumers moderate the relationships between review characteristics (review consistency and review sidedness) source credibility, and review credibility. Consumers process the information through central route, when making high involvement

Table 6 Antecedents to review credibility: consumer characteristics

Constructs	Authors
<i>Motivation</i>	
Opinion seeking	Hussain et al. (2018)
Self-worth re-enforcement	Hussain et al. (2018)
Obtaining buying related information	Chih et al. (2013)
<i>Knowledge and Beliefs</i>	
Receiver	Chakraborty (2019); Chakraborty and Bhat (2018b); Chakraborty and Bhat (2017)
Confirmation of prior belief	Cheung et al. (2009)
Negative eWOM financial risk perception	Işçi and Kitapçı (2020)
Receiver's familiarity with the platform	Lim and Van Der Heide (2015)
Knowledge-based validation (Receiver's prior knowledge)	Fang & Li (2016)
Perceived honesty/sincerity	Guzzo et al. (2022)
<i>Consumer Experience</i>	
Online experience	Xue and Zhou (2010)
Consumer experience	Guzzo et al. (2022)
Experience type (Sensory, Emotional, Cognitive, Behavioural, Relational Experience)	Izogo et al. (2022)
<i>Moderator: Shopping experience (positive vs negative), Shopper type (Experienced vs Novice)</i>	
<i>Consumer's Involvement</i>	
Consumer involvement	Hussain et al. (2018); Reyes-Menendez et al. (2019); Siddiqui et al. (2021)
Product involvement	Xue and Zhou (2010)
<i>Personality Trait</i>	
Dispositional trust	Zhang et al. (2020)

decisions and carefully read the content (Lin et al. 2013; Park and Lee 2008). When consumers have low involvement decisions, they are more likely to use peripheral cues and pay lesser attention to the review content, resulting in low eWOM credibility. Xue and Zhou (2010) found that consumers with high involvement decisions trusted negative reviews. In a recent study, Zhang et al. (2020) found that personality traits such as dispositional trust can trigger suspicion about the truthfulness of the message and may in turn, impact review credibility.

4.4 Interpersonal influence in the social media

Earlier research shows that interpersonal influence (Chu and Kim 2011) and tie strength (Bansal and Voyer 2000) positively influences online reviews. Consumers perceive online reviews as more credible when social status and cognitive dissonance reduction can be achieved through online forums (Chih et al. 2013). The previous studies have considered these factors under the theme related to source or communicator of the message (Verma and Dewani 2020)). However, the constructs tie strength and homophily represent an interpersonal relationship between the communicator and the reader. Therefore, we discuss them separately. Tie strength is considered to be higher in an online community when the members have close relationships with other members and frequently communicate with each other. Consumers who have similar tastes and preferences share information in brand communities and enjoy meeting other members in a meaningful way (Xiang et al. 2017). Reviews are found to be more credible when review writers get exposed to past reviews written by others (Jha and Shah 2021). The exposure to past reviews moderates the relationship between disconfirmation and perception of online review credibility (Jha and Shah 2021). The recommendations of the members on social networking sites have also been found to be influencing the credibility of online reviews (Siddiqui et al. 2021).

Consumers' perceptions of their similarity to the source of message are believed to impact their credibility assessment (Gilly et al. 1998; Wangenheim and Bayon 2004). Brown and Reingen (1987) define similarity or homophily as the "degree to which individuals are similar to sources in terms of certain attributes". Herrero and Martin (2015) found that hotel consumers would perceive reviews more credible when there is a similarity between users and content creators. Source homophily is found to have an impact on review credibility in the e-commerce context as well (Abedin et al. 2021). Similarity of the source is often described in terms of interests of consumers and content generators. Xu (2014) posits that when a greater number of trusted members for reviewers are present on the website, it increases trust, thereby impacting the perceived credibility of the review. (Table 7).

4.5 Product type

The type of the product (search or experience product) is found to impact user's evaluation of review credibility (Bae and Lee 2011; Jimenez and Mendoza 2013) and review helpfulness (Mudambi and Schuff 2010). Experience products differ

Table 7 Antecedents to Review credibility: Interpersonal Determinants in Social Media

Constructs	Authors
<i>Tie Strength</i>	
Tie strength	Chih et al. (2020)
Social orientation through information	Chih et al. (2013)
Social influence (Normative influence, informative influence)	Hsu et al. (2016)
Review writer's exposure to others' past review <i>Moderator: Review writer's product experience</i>	Jha and Shah (2021)
Disconfirmation <i>Moderator: Review writer's exposure to others' past review</i>	Jha and Shah (2021)
Recommendations of SNS members	Siddiqui et al.(2021)
<i>Homophily</i>	
Homophily <i>Mediator: Source trustworthiness¹</i>	Chih et al. (2020); Shamhuyenhanzva et al. (2016) ¹
Source homophily <i>Moderator: Source credibility</i>	Abedin et al. (2021)
Similarity (between users and content creators)	Herrero et al. (2015)
Source similarity	Pentina et al. (2017); Pentina et al. (2018)
Perceived similarity	Guzzo et al. (2022)

from search products. They require more effort in retrieving product's attribute-related information online and often require direct experience to assess the product features accurately. Bae and Lee (2011) found that when review originates from the consumer-owned online community, consumers find review credible for experience products. Tsao and Hsieh (2015) found that the credibility of eWOM is stronger for credence products than search products. Credence goods are those whose qualities cannot be confirmed even after purchase, such as antivirus software and sellers often cheat consumers due to information asymmetry and charge higher prices for inferior goods.

Jimenez and Mendoza (2013) found differences in consumers' evaluation of review credibility for search and experience products. The study found that for search products detailed reviews were considered more credible and for experience products, reviewer agreement impacted review credibility (Jimenez and Mendoza 2013). Chiou et al. (2014) found that the review credibility was perceived differently for elite (eg: Classical musical concerts) and mass (eg: movies) cultural offerings. The study posited that when consumers read reviews of elite cultural offerings, and it originates from professionals, it is perceived as more credible. (Table 8).

Table 8 Antecedents to Review Credibility: Product Type

Constructs	Authors
Search vs experience product	Bae and Lee (2011)
Search vs credence product	Tsao and Hsieh (2015)
Cultural offering (elite vs mass)	Chiou et al. (2014)

4.6 Summary of antecedent themes and theoretical perspectives

Review characteristics, followed by source characteristics, are the most researched themes in terms of the number of studies and theories used (refer to Fig. 4). It indicates the wide coverage of different theoretical perspectives examined in these two areas. Consumer characteristics, interpersonal determinants in social media, and product type were less researched antecedent themes and lesser examined through a theoretical lens.

The most popular theories in review credibility literature are the elaboration likelihood model, social influence theory, accessibility- diagnosticity theory, attribution theory, and theory of reasoned action. Contribution from these theories was noted in at least four antecedent themes identified in our study. Table 9 summarizes the theories used in each antecedent theme identified in the current review.

5 Review credibility: future research directions

Though there is ample research on online review credibility, there are several gaps in understanding the aspects of consumer behavior in online review evaluation and mitigation of issues with credibility. We identify six research issues that need further investigation and empirical evidence.

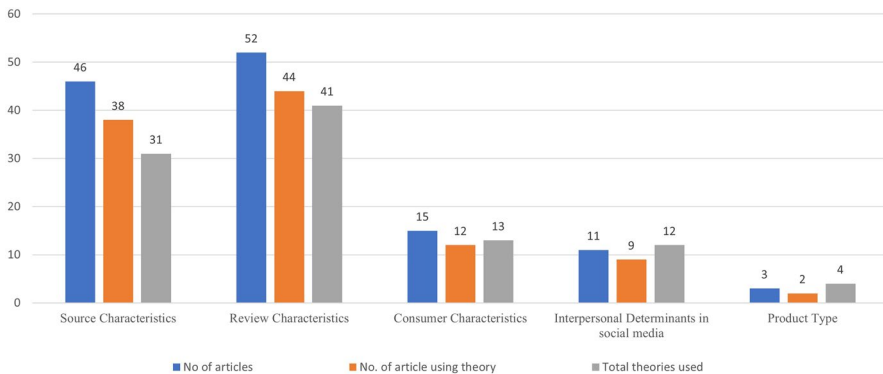


Fig. 4 Antecedent themewise articles and theories

Table 9 Theories Used in Antecedent Themes

Theories used	Source characteristics	Review characteristics	Consumer characteristics	Interpersonal determinants in social media	Product type
<i>Information Processing in Online Review</i>					
Accessibility—diagnosticity theory	Yes	Yes	Yes		Yes
Affect as information theory	Yes	Yes			
Attribution theory	Yes	Yes	Yes		Yes
Cognitive cost theory	Yes	Yes			
Communication process model		Yes		Yes	
Dual process theory	Yes	Yes			
Elaboration likelihood model	Yes	Yes	Yes	Yes	
Framing theory	Yes	Yes			
Heuristic—systematic model	Yes	Yes		Yes	
Information adoption model	Yes	Yes			
Informational influence theory	Yes			Yes	
Language expectancy theory	Yes	Yes			
Mathematical theory of communication	Yes	Yes	Yes	Yes	
Media richness theory	Yes	Yes			
Psychological choice model		Yes	Yes		
Schema theory			Yes		
Signaling Theory		Yes			
Technology acceptance model	Yes	Yes	Yes		
Theory of reasoned action	Yes	Yes	Yes	Yes	
Yale persuasive communication model		Yes			
<i>Trust in online reviews</i>					
Source credibility theory	Yes	Yes		Yes	
Trust transfer theory	Yes				
<i>Socio-cultural influence in online reviews</i>					
Culture theory		Yes			
Hall's categorization		Yes			
Role theory		Yes			
Social identity theory	Yes	Yes			
Social influence theory	Yes	Yes		Yes	Yes
Social information processing theory	Yes	Yes	Yes		

Table 9 (continued)

Theories used	Source character-istics	Review character-istics	Consumer character-istics	Interpersonal deter-minants in social media	Product type
Social learning theory		Yes			
Social Presence theory		Yes			
Socio-Cognitive systems theory		Yes			
Theory of tastes	Yes	Yes			
Value theory		Yes			
<i>Consumer attitude and behaviour towards online reviews</i>					
Associative learning theory	Yes	Yes			
Attitude—Behavior linkage	Yes			Yes	
Cognition-affection-behavior model	Yes			Yes	
Expectancy-disconfirmation theory	Yes			Yes	
Needs theory	Yes	Yes			
Regulatory focus theory		Yes	Yes	Yes	
Search and alignment theory		Yes			
Stimulus- organism-response model	Yes	Yes	Yes		
Theory of Planned Behaviour		Yes	Yes		
Yale attitude Change Model	Yes	Yes	Yes		
<i>Risk aversion</i>					
Category Diagnosticity Theory		Yes			
Curiosity theory	Yes	Yes			
Prospect theory		Yes			
Uncertainty Management theory	Yes				
Uncertainty reduction theory	Yes	Yes			

5.1 Research issue 1: review credibility in a high-involvement decision-making context

Several studies have examined credibility of reviews in experience products such as movies (Chiou et al. 2014; Flanagan and Metzger 2013), restaurants (Ha and Lee 2018; Pentina et al. 2017; vanLohuizen and Trujillo-Barrera 2019), hotels (Lo and Yao 2018; Manganari and Dimara 2017), and search goods such as audiobooks

(Camilleri 2017), consumer electronics (Bambauer-Sachse and Mangold 2010; Chiou et al. 2018; Lee et al. 2011; Lee and Koo 2012; Tsao and Hsieh 2015; Xu 2014), few studies (Jimenez and Mendoza 2013; Doh and Hwang 2009; Xue and Zhou 2010; Bae and Lee 2011) have examined both experience and search products.

However, most of the products involve low to medium involvement of consumers and there is a gap in understanding online review usage, credibility, and impact in the context of high involvement decisions. There are several online review platforms on high involvement goods and services such as cars (eg: carwale, auto-drive), and destination holiday planning (TripAdvisor). Consumers often use online reviews to reduce purchase risk. As purchase risks are higher in high involvement decisions, consumers would spend more time searching online to evaluate the product. It is also necessary to understand to what extent consumers trust online reviews in a high involvement decision context, which often combines online information, reviews, and offline experiences (eg: visit to a car dealership for a test drive). Previous studies on consumer involvement (Hussain et al. 2018; Lin et al. 2013; Park and Lee 2008; Reyes-Menendez et al. 2019; Xue and Zhou, 2010) have operationalized involvement as a multi-item construct that captures the level of involvement of consumers, using consumers' response. Experimental design studies, using high involvement goods and their reviews would help to establish causal relationships, in high involvement goods context. As an exception, one of the recent studies by Isci and Kitapci (2020) uses experimental design using automobile products as the stimuli for the experiment. However, as observed in our analysis, there are scarce studies in high involvement decision making context.

5.2 Research issue 2: mitigation of low credibility of the online review

While extant literature is available on factors affecting review credibility and its impact on brand and consumer behavior, there is limited literature and discussion on how companies can mitigate the impact of low credibility of reviews and improve trust. More evidence and empirical research is required to demonstrate effectiveness of measures that firms can take to build credibility and improve trust. As reviews are an important component of product information in e-commerce websites and reviews are used to form pre-purchase decisions, research on mitigation of poor credibility would be useful. For example, while past research shows that reviews on marketer-developed sites are perceived less credible for experience products than consumer-developed sites (Bae and Lee 2011). There is a need to study strategies that marketers can use to gain the trust of consumers.

5.3 Research issue 3: mitigating impact of negative online reviews

Past studies have indicated that consumers pay more attention to negative reviews (Kusumasondjaja et al. 2012; Lee and Koo 2012; vanLohuizen and Barrera 2019; Yang and Mai 2010), and trust (Xue and Zhou 2010; Banerjee and Chua 2019) more than positive reviews. Negative reviews are found to be persuasive and have a higher impact on brand interest and purchase intention (Xue and Zhou 2010). There are

also limited studies discussing the ways to mitigate the impact of negative reviews and strategies to deal with them in a wide variety of contexts. While extant literature is available on review characteristics such as review sidedness, review valence, and its impact on review credibility (Refer to Table 5), there is little empirical evidence on strategies to deal with negative reviews. An exception is a study by Pee (2016), that addressed this issue by focusing on marketing mix and suggested that managing the marketing mix can mitigate the impact of negative reviews. However, more research is needed to equip marketers with mitigation techniques and fair strategies to deal with negative reviews.

5.4 Research issue 4: credibility of brand initiated online reviews

Brand-initiated eWOM often incentivizes consumers to share the content with their friends and it is unclear whether such initiatives are perceived as less credible. Brands use a variety of strategies to promote products on social media and facilitate person-to-person communications of brand content such as referral rewards, coupons, and bonus points (Abu-El-Rub et al. 2017). Incentivized reviews can easily manipulate consumers as their motive is not to provide unbiased information to make an informed decision (Mayzlin et al. 2014).

These practices followed by the service providers, or the vendors could jeopardize the trust consumers have towards them. More research in this area would provide insights into the best social media marketing practices that are considered credible. Future research must focus on guiding marketers on ethical and credible practices in social media marketing and managing online reviews.

5.5 Research issue 5: presence of fake online reviews

Unlike incentivized reviews, deceptive opinion spams are written to sound real and to deceive the review readers (Ott, Cardie and Hancock 2013; Hernández Fusilier et al. 2015). Spammers use extreme language when it comes to praising or criticizing (Gao et al. 2021). These spammers are active on several social media and review platforms. As technology is continuously evolving deceptive opinion spam has found a way through the use of artificial intelligence. The social media platforms like Twitter and Facebook have experienced the rise of bot or automated accounts. This trend is even entering into online review systems and is a threat to the online review system Tousignant (2017). A study conducted by Yao et al. (2017) argues that the reviews generated by bots are not only undetectable but also scored as useful reviews. This is a serious issue as the whole purpose of online review platforms is to provide information that would lead an individual to make an informed decision, but these fake reviews severely damage the credibility of review site (Munzel 2016). In recent years, researchers started contributing to this area and have proposed models to detect fake reviews in different platforms such as app stores (Martens and Maalej 2019), online review platforms (Singh and Kumar 2017), and filtering fake reviews on TripAdvisor (Cardoso et al. 2018). However, presence of fake reviews can make the review users skeptical towards using the reviews. Future research must focus on

the role of artificial intelligence in online review systems and its impact on consumers' assessment of online review credibility. Research into tools to detect and curb the spread of fake reviews is needed to improve credibility of reviews.

5.6 Research issue 6: new forms of online reviews

Rapid technological developments have resulted in new digital formats of online reviews such as video and images. Past experimental design studies have primarily used stimuli in the form of textual reviews. As consumers use more and more multimedia data and engage in platforms such as Youtube.com or Instagram.com, research is required to examine the online review credibility and practices using new forms of reviews.

6 Theoretical contribution and managerial implications and conclusions

This paper makes three important theoretical contributions. First, it provides a consolidated account of antecedents, mediators and moderators of the construct online review credibility identifies five broad groups of antecedents. Second, this paper also makes a maiden attempt to map the antecedent themes to the theoretical frameworks in the literature. This mapping provides a holistic understanding of theories that examine various facets of online review credibility. In the process, we also identify theoretical lenses that are less investigated. Third we identify research gaps and issues that needs further investigation in the area of online review credibility. Some of the areas of future research include mitigation strategies for negative reviews and credibility of reviews in purchase of high-involvement product or service. Emergence of new forms of multimedia reviews, fake reviews and sponsored reviews have also triggered the need to push research beyond simple text reviews. Future research could use theoretical lens that have been less explored to investigate research issues in review credibility. There is a need to advance online review credibility research beyond the popular theoretical frameworks such as elaboration likelihood model, social influence theory, accessibility- diagnosticity theory, attribution theory, and theory of reasoned action.

The paper has several managerial implications. The lower credibility of reviews poses threat to its relevance in digital marketing and electronic commerce. Therefore, managers of electronic commerce must strive to adopt practices to preserve the trust and integrity of online reviews. Our review indicated five groups of antecedents of online review credibility: source characteristics, review characteristics, consumer characteristics, interpersonal characteristics in social media, and product type. Managers cannot control completely all the factors on the social media. However, by appropriately designing the e-commerce platform with the elements that influence credibility, managers will be able to improve their marketing communications. Awareness of review characteristics that impact review credibility would help managers to choose more appropriate measures to deal with negative and positive

reviews. Managers must adopt a social media marketing strategy that is suitable to the context of the review and type of product.

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Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

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