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Research article

The trustworthiness of travel and tourism information sources of social media: perspectives of international tourists visiting Ethiopia

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ABSTRACT

Credibility of social media travel information sources is one of the most debatable topics among scholars. This research is designed to address the trustworthiness of travel and tourism information sources of social media platforms. Cross-sectional research design and convenience sampling was applied. Statistical Package for Social Science version 23 was employed to compute mean, one sample T-test, independent sample T-test and one-way Analysis of variance. Eta squared was calculated to measure the effect size or magnitude of mean difference. The effective sample size is 310 visitors. The findings revealed that visitors had a positive perception towards the trustworthiness of social media travel information sources. Visitors with the age of 18–35 years have a higher level of agreement towards the trustworthiness of social media travel information sources. As the age of visitors increases, the mean scores marginally decreases where the lowest mean scores lay on visitors who are above 46 years. Limitations and managerial/industrial implications are detailed.

1. Introduction

Social media can be described as a kind of online media which encourages every user for feedback, debates and contribution of ideas and knowledge (Kaplan and Haenlein, 2010). In an era where technology dominates, social media have become essential technique in today's promotional tools (Bashar et al., 2012; Minazzi, 2015; Hays et al., 2013).

It is evident that internet technology dominates this era, and social media with exponential growth is becoming part of life for a lot of people. Reports showed that there are 4.38 billion internet users, 3.48 billion active social media users, and 3.25 billion mobile social media users. Of the social media outlets, the three top platforms are Facebook, YouTube, and WhatsApp with the active number of users 2.23 billion, 1.9 billion and 1.5 billion respectively (Global Web of index, 2019). Social media, today, is one of the existing best opportunities for a tourist destination to create awareness for potential customers and targeted ones. It is a system that cuts the traditional middle agents out through connecting organizations or tourist destinations directly with visitors as well as offering destination management organizations (DMOs) with limited human and financial resources a chance to reach visitors at a global level (Fotis et al., 2012; Hays et al., 2013). Furthermore, as noted by Kang and Schuett (2013), and Xiang and Gretzel (2010), social media is one of the main sources of information for customers in tourism and hospitality.

Nowadays, modern travellers' decision to undertake a vacation or trip is influenced mostly by recommendations of friends and relatives, online recommendations as well as comments and to some extent information given by a third party. Commercial information comes to be the last option (Senecal and Nantel, 2004). The views of Senecal and Nantel is also supported by Chung and Buhalis (2008) who argued that when a tourist makes the final decision on destination choice, the most significant information comes from online interpersonal influence - online word of mouth (e-WOM). There have been different studies conducted by scholars about the credibility of social media travel information sources. To mention a few studies among many, "Credibility of online reviews and initial trust; The roles of reviewer's identity and message valence" conducted by Kusumasondjaja et al. (2011); "Making sense of credibility on the web: models for evaluating online information and recommendations for future research" investigated by Metzger (2007); Trustworthiness of Travel 2.0 applications and their influence on tourists' behaviour: an empirical investigation in Italy studied by Chiappa (2011); "Trust and

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involvement in tourism social media and web-based travel information sources" researched by Munar and Jacobsen (2013); "Antecedents and impacts of trust in travel-related consumer-generated media" examined by Yoo and Gretzel (2010). Regarding the trustworthiness of travel and tourism information sources of socials media, the literature oscillates scholarly arguments. On the one hand, scholars acknowledged that social media travel and tourism information sources are more trustworthy (Senecal and Nantel, 2004; Buhalis, 2003; Fotis et al., 2012; Akehurst, 2009; Chung and Buhalis, 2008; Weiss et al., 2008; Gretzel et al., 2008; Xiang and Gretzel, 2010; O'Connor, 2008; Park et al., 2007). On the other hand, other studies revealed that travel and tourism information sources of social media is less credible (Cox et al., 2009; Tham et al., 2013; Yoo et al., 2009). The aforementioned literature indicates that scholars didn't reach a consensus regarding the trustworthiness of travel 2.0 applications (Munar and Jacobsen, 2014). Hence, the issue of credibility or trustworthiness of online travel and tourism information sources continued to be arguable or debatable, and topical, and it remains one of the most debatable or contestation themes among commentators, academicians or scholars. In spite of the burgeoning concern over the trustworthiness of online travel and tourism information sources, previous studies haven't also critically addressed how the credibility of social media travel and tourism information sources differed among demographic variables visitors such as age, gender and education. It is evident that demographic variables such as age, gender, and education are the most indispensable elements used by marketers for segmentation (Make, 2014; Hudson, 2008). To the best of our knowledge, research hasn't been investigated regarding trustworthiness of social media travel and tourism information sources considering visitors' demographic variables except for Escobar-Rodríguez and Carvajal-Trujillo (2014), and Riedl et al. (2010) who found the similar result showing that women have stronger trust in online shopping than men. Contrary to this, the study by Yang and Lester (2006) revealed that females have less trust in online purchasing. Hence, the previous studies focused on gender differences regarding online shopping revealed contradictory findings. Furthermore, studies regarding the credibility of social media travel and tourism information sources in developing countries are scant in general and in Ethiopia, in particular, that indicates a gap in existing literature or body of knowledge. Therefore, by providing empirical evidence from international tourists visiting Ethiopia, this study is designed to address the research objectives stated as follows. 1. To examine the trustworthiness of travel and tourism information sources of social media. 2. To ascertain the differences in the trustworthiness of social media travel information sources considering visitors' age, gender and educational level. 3. To scrutinize influential travel information sources.

2. Literature review

The credibility of information sources is one of the fundamental elements that visitors are taking into consideration while they plan to visit a certain destination. Trust is crucial for online tourism marketing because it boosts the intention to purchase (Li et al., 2020).

Social media has revealed its power by serving as a catalyst starting from Arab spring public protest up to most recent 2016 USA elections. However, whether the information created/posted and shared is credible or not is questionable. Allcott and Gentzkow (2017) indicated that the four most important sources of news and information regarding the 2016 USA elections were cable TV, network TV, websites, and local TV. Social media bag the fifth rank of the information source.

A study conducted by Cao and Lien (2014) revealed that Chinese WeChat users have higher trust in products/services commented or posted by their good friends and renowned companies. On the other hand, if a comment about products or services is posted by unclose friends or unknown companies, WeChat users have no full confidence. Contrary to Cao and Lien, it is stated that visitors have trust in information obtained from social media than commercial sources as they perceive comments or experiences on social media are posted by a third party or neutral body (Senecal and Nantel, 2004; Buhalis, 2003). It was also found that online travel reviews and user-generated contents offer more reliable information than contents or information provided or posted by tourism organizations (Fotis et al., 2012; Gretzel and Yoo, 2008).

A research by Cox et al. (2009) on "The role of user-generated content in tourists' travel planning behavior" using online survey for 12,544 hospitality and tourism consumers, suggested that though social media sites are popular, they are not yet considered as credible or trustworthy compared with travel and tourism information sources such as government-sponsored tourism websites. Of 12, 544 customers, 91% of respondents agreed that state tourism websites are the most reliable source of information, 71% agreed that they trust the information provided by travel agents, and only 36% of participants trusted social networking sites such as MySpace, Facebook. Comments written by travellers on other blog sites were reliable by just under half of all sample participants. Accordingly, Cox and his co-workers concluded social networking sites are the least trusted. A study by Grobler (2014) on 'social media marketing versus traditional marketing in the South African motor industry' confirmed that the majority of respondents (60.8% out of 120 sample industries) do not agree to purchase goods or services advertised on social networking sites, while 15% were comfortable about social media advertising to purchase goods and services. 64.2% of participants perceived that they don't trust the information posted and shared on social networks. Similarly Tham et al. (2013) stated that eWOM is considered as less credible than word of mouth (WOM), although eWOM may have more exposure and accessibility over the internet.

In contraction to Grobler (2014) and Cox et al. (2009), it is stated that user-generated content (UGC) is perceived as more trustworthy than official tourism websites, tour operators and travel agents and mass media advertising (Fotis et al., 2012). Conversely, Kusumasondjaja et al. (2011) raised contention about the credibility of online reviews since many reviews are supposed to be posted by fake users paid by business entities. The other justification that makes online reviews less credible or ambiguous is the limited availability of details about the sources of the reviewers on the sites. Kusumasondjaja et al. (2011) confirmed that compared to an anonymous source, a review with identified sources is considered as more credible, and has positive influences on initial trust towards using tourism services and facilities, whereas negative reviews with an unidentified source are supposed to be less credible than other types of reviews.

Social media particularly travel 2.0 attracts the attention of customers since online reviews and recommendations by tourists are perceived to have a higher credibility than conventional visitor information sources. It was argued that contents posted online can be trusted as long as they are created and published by independent real people having genuine experiences (Akehurst, 2009; Fotis et al., 2012; Gretzel et al., 2008; Xiang and Gretzel, 2010; Chung and Buhalis, 2008; Weiss et al., 2008). On the other hand, online content can't be perceived as trustworthy since it may be fake content posted by somebody with a vested concern (Yoo et al., 2009). With the innovation of consumer-generated media that enable internet users to post any information easily without verifying, editing or fact-checking processes (triangulation), travellers should be cautious before they perceive the information and the media as trustworthy or credible.

Park et al. (2007) noted that online consumer reviews are acknowledged to be more trustworthy and credible than information generated and distributed by product and service providers because consumers are perceived to disseminate more honest information. In this regard, Zeng and Gerritsen (2014) stated that the credibility of UGC is basically dependent on whether the readers have knowledge regarding the travelling experience, the familiarity of the writer in using ICTs or social media platforms. Hence, in order to attract a satisfactory number of potential tourists to UGC sites, it is imperative that such platforms should have quality content to be perceived as reliable. A study conducted by

Ráthonyi (2013) on "influence of social media on tourism – especially among university students" revealed that the majority of students always use social networking sites; nonetheless, they don't use such platforms to search information during their travel planning process. They perceived that information and recommendations obtained from friends and relatives are the most important and trustworthy.

Another debatable issue regarding trustworthiness of social media is biased and fake feedbacks generated from deliberate manipulation of online reviews (Banerjee and Chua, 2014; Duffy, 2010). Fake positive or negative reviews can be posted by anonymous professionals of some companies to create positive comments or reviews for themselves, and negative image or bad reputation on their competitors which can be a cause for unfair negativity, inaccurate information and excessive criticism (Hu et al., 2012). In this regard, Hensel and Deis (2010) advised consumers to be careful when searching information and reading comments or reviews on social media sites due to the chance or possibility that any organization can post fake reviews or contents of products and services having a vested interest of an increasing number of customers to enhance sales volume.

As per the report of Yan, 2010 about the use of some consumer-generated media sites are carrying out illicit acts and some managers are paying webmasters to delete or avoid consumers' negative comments as well as hiring individuals to post negative comments or reviews about competitors' products and services which makes the trustworthiness of UGC sources questionable. Likewise, (Ayeh et al., 2013) mentioned that some organizations are contracted by hoteliers for a monthly payment to write positive reviews or comments about their products and services on high profile sites like TripAdvisor. According to Assaker (2019) the trustworthiness and credibility of UGC may dependent on demographic characteristics such as gender, age and education. Studies showed that the credibility of online shopping between men and women are different (Kim et al., 2007). For instance, Escobar-Rodríguez and Carvajal-Trujillo (2014) and Riedl et al. (2010) found that females have better trustworthiness on online purchase intentions than their male counterparts. On the other hand, Yang and Lester (2006) stated that females feel more insecure in online shopping than males. Age is also one of the main segmentation variables used by tourism and hospitality marketers. The young generation and millennials have more engagement with social media travel information sources (Shearer and Matsa, 2018). In this regard, a study on "tourism and online photography" by Lo et al. (2011) indicated that the majority (79.5%) of people aged less than 26, and whose age between 26-35 (63.5%) posted photographs online. 15.6% of visitors between 56 and 65 age and only 4.9% of those over 65 years did so. Analogues to this, a survey of travellers' mobile app usage by Global Business Travel Association (2015) shows that the millennial (18–34 age) are two times more likely than baby boomers (age 56 and older) to use online travel applications for booking or reservations of hotels/travel activities (41% versus 22%), searching tourism and travel-related information (27% versus 13%), and checking reviews (30% versus 16%). It was concluded that people who post a photograph, share ideas and experience online tend to be younger, educated, and earn a higher income (Lo et al., 2011).

The abovementioned scholarly literature shows debate, contestation and argument regarding credibility of online travel information sources, and continued to be questionable and topical (Munar and Jacobsen, 2014). Hence, this study is designed to address research questions 1. Do visitors trust travel information sources of social media? 2. Are there differences in the trustworthiness of social media travel information sources among visitors' age, gender and educational level? 3. Which travel information sources are influential?

3. Methods and materials

Mixed research approach was employed and a cross-sectional research design was carried out. The survey was conducted from March 2018 to September 2018 which is for 7 months. Convenience or accidental sampling was chosen to distribute the questionnaire as long as this type of sampling procedure is the only option for study population that hasn't sampling frame. However, to increase the randomness of the sample, different days of the week were selected and the questionnaires were distributed at main tourist attractions such as the National Museum of Ethiopia, Lalibela, Gondar, Bahir Dar, Mekelle, Hawassa, Bale Mountains National park. Besides, one or two visitors were selected randomly from a group tour. Thus, a quasi-random sampling technique (where the mechanism for choosing the sample is only partly random) was applied. Visitors who are above 18 years of old, and stayed at least 24 h in Ethiopia have participated. So, transit visitors and/or day-trippers were excluded from the sample study since they are expected to be busy. To analyse the quantitative data, SPSS version 23 has been applied to compute mean, standard deviation, frequencies, one sample T-test, independent sample T-test, Eta squared and one way of ANOVA. One sample T-test has been used to compare the sample mean difference and hypothesized mean of 3.2. An independent sample T-test was employed to analyse if mean difference exists taking into account the gender of visitors, whereas One Way ANOVA has been performed to investigate if mean difference is observed considering age categories and educational level of visitors as independent variables. The sample size of the study was determined using the formula, $n = \frac{P(1-P)z^2}{E^2}$ which is recommended when the population proportion or the sampling frame is unknown (Chawla and Sondih, 2011), taking p of 0.5; where 'p' is population proportion, 'z' is the value at 95% confidence level which is 1.96, and 'E' the precision level which is 0.05. Hence, calculating the sample size using the formula $n = \frac{P(1-P)z^2}{E^2} = \frac{0.5(1-0.5)1.96^2}{0.05^2} = 384$. Most of the social science studies use 384 samples. To overcome or mitigate problems of non-response rate and invalid questionnaires, 15% of sample size (58) was added. The summation will give us 442 samples. This study approximately distributed 450 questionnaires for international tourists, of which 50 questionnaires were unreturned. In addition, 60 visitors didn't use social media for travel and tourism in particular, and hence they didn't fill the questionnaire properly as long as the majority of the items are related to social media concepts, and 30 questionnaires were incompletely filled. Hence, a total of 140 questionnaires were not useable for analysis and interpretations so that the remaining 310 questionnaires were properly filled and returned, and considered for analysis. Hence, the actual sample size is 310 indicating a response rate of 69%.

3.1. Measurement

The data instrument was a self-administrated questionnaire having two parts. The first section deals with the trustworthiness of social media travel information sources, and influential sources of travel information. The second section incorporates visitors' general profiles (Age, gender, educational status, origin, length of stay and number of visits in Ethiopia). To address the research objective or measure trustworthiness, six items (I trust the recommendations of visitors on the social media networks; I trust my friends' reviews and comments about tourism destination on social media; Social media is more reliable compared to traditional media; Information from social media is timely; Social Media is more influential than traditional media in my final travel decision; There is fake positive or negative comments from online reviews) were constructed. The items have 5- point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree", and were developed (or adapted after reviewing literature the following scholars' work comprehensively (Xiang and Gretzel, 2010; Cao and Lien, 2014; Ayeh et al., 2013; Chiappa, 2011; Cox et al., 2009; Kusumasondjaja et al., 2011; Yoo et al., 2009; Buted et al, 2014). Furthermore, to identify the most influential information sources of travel and tourism, 13 items or sources of information lists (Information and suggestions on travel agencies' websites; Travel guide books (Lonely Planet, Bradt, etc.); Tripadvisor's list of top

destinations/hotels/airlines; Trip photos and videos uploaded by friends on the social media; Advice and recommendations from friends and relatives; Official tourism organizations/destinations websites; Articles in travel magazines, newspapers; Social networking sites (Facebook, MySpace, YouTube, etc.); Positive reviews on social media travel communities and sites; Negative reviews on social media travel communities and sites (Tripadvisor, lonelyplanet.com, Booking.com); Advertisements on TV, radio; Travel agents and tour operators; Travel and tourism fairs) were developed. The items have 5 points Likert scale (1 = Not influential, 2 = Less influential, 3 = Neutral, 4 = Influential, 5 = More influential) and were modified from the work of Ghandour and Bakalova (2014); Coromina and Camprubí (2016).

3.2. Validity and reliability

Before the main survey, a pilot study was conducted to mitigate potential errors, and assess the reliability as well as face or content validity of items that measure the construct called trustworthiness of travel and tourism information sources of social media. To do so, 20 questionnaires were distributed for international visitors, and 10 questionnaires were distributed to tourism and hospitality experts. The result of the pilot study revealed that items have good internal reliability (a = .743), and experts approved that important items are included in the questionnaire which can address the research objectives. Furthermore, the pilot survey provided some further comments, proofing and editing regarding grammar, punctuations, word choice and layout that helped to improve the final version of the questionnaire. Having got export approval and done a pilot study, the self-administered questionnaire was disseminated and collected by the researchers in honey pot areas (mega tourist destinations).

After conducting the main survey, the reliability was checked using the Cronbach coefficient alpha, and the result was approximate with the pilot study. Six items were prepared to measure the construct trustworthiness of travel information sources of social media. The Cronbach's alpha result was 0.742 which shows high reliability and indicates that 74% of items have relatively internal consistency. According to Rovai et al. (2013), a Cronbach's alpha of .70 to less than .90 indicates high reliability.

3.3. Ethical concerns

The participants of the study were informed that the purpose of collecting data from them is to conduct research. The data is analysed statistically and hence visitors' profiles such as age, gender, the purpose of visit and country or nation of respondents are confidential and they are not exposed regarding the information they provided to the researcher. Participants were informed that all the information they provide used only for academic purposes and will be summarized and reported in an aggregate way. More importantly, before collecting data, the proposal including the data gathering instruments and ethical issues has been presented approved by the research committee of the School of Management Studies, Punjabi University, Patiala, India. In addition, all sources that are used throughout the research are properly cited and duly acknowledged.

4. Results of the study

4.1. General profiles of respondents

As shown in the table below, 57.4% of visitors were male and the remaining 42.6% were females. Regarding their age, the majority of them (61%) are between 18 -35 years, whereas 23.2% and 15.8% of visitors' age is 36–45 and elder than 46 respectively. The details profile of respondents concerning educational status, origin, number of visit and length of stay in Ethiopia is depicted in Table 1.

4.2. Visitors' sources of information during travel and tour planning process

Visitors were given a list of sources of information that influence them while they are planning to undertake tours or trips. It was found that the most influential information sources in descending rank order are advice

Table 1. Profiles of respondents.

Variable	Category	N	% of respondents
Gender	Male	178	57.4
	Females	132	42.6
Age	18–35	189	61.0
	36–45	72	23.2
	>46	49	15.8
Educational Status	High school	26	8.4
	College or university Student	48	15.5
	Bachelor of Degree	89	28.7
	Masters	117	37.7
	PHD and Above	30	9.7
Origin/country of visitor	Europe	145	43.28
	North America	82	24.48
	Africa	49	14.63
	Asia	44	13.12
	Latin America	9	2.69
	Australia	6	1.80
Length of stay in Ethiopia	≤4 days	102	32.6
	5–7 days	64	20.6
	8–12days	62	20.0
	≥13 days	71	22.9
Number of visit in Ethiopia	Once	230	74.2
	Twice	28	9.0
	≥ Three times	39	12.6

and recommendations from friends and relatives (M = 4.18, SD = 1.01), positive reviews on social media travel communities and sites (M = 3.59, SD = 1.15), trip advisor's list of top destinations/hotels/airlines (M = 3.58, SD = 1.19), trip photos and videos uploaded by friends on the social media (M = 3.47, SD = 1.24), negative reviews on social media travel communities and sites (Tripadvisor, lonelyplanet.com, Booking.com,…) (M = 3.37, SD = 1.25), travel guide books (Lonely Planet, Spectrum Guide, Bradit) (M = 3.35, SD = 1.34) and social networking sites (Facebook, MySpace, YouTube) (M = 3.24, SD = 1.27).

Considering mean of 3.2 as a cut-off point, the aforementioned sources can be categorized as influential travel and tourism sources of information. Unlike the above sorts, the least influential sources of information (which can be classified as not influential) in ascending order are: travel and tourism trade fair (M = 2.25, SD = 1.29), advertisements on TV, radio (M = 2.40, SD = 1.26), travel agents and tour operators (M = 2.61, SD = 1.28), official tourism organizations/destinations websites (M = 2.96, SD = 1.20), information and suggestions on travel agencies' websites (M = 3.11, SD = 1.35), articles in travel magazines, newspapers (M = 3.16, SD = 1.21).

4.3. Trustworthiness of travel and tourism information sources of social media

Visitors perceived that the recommendations of tourists on social media sites can be trusted (Mean = 3.31, SD = .922). The descriptive frequency result indicates 40.6.1% of the respondents agreed, and 15.1% disagree towards the trustworthiness of visitors' recommendations on social media while 36.5% of them remain neutral.

One sample T-test was conducted to compare whether the mean result is significantly different from the cut-off point or the test value of 3.2. The T-test result revealed that the mean score is significantly higher than the hypothetical mean (M = 3.31, SD = .922; Mean difference = .113, t (309) = 2.156, p = .032 (Sig 2 tailed); 95% CI stretching from lower boundary .01 to upper boundary .22).

Respondents were also asked whether they trust their friends' reviews and comments about tourism destination on social media. The one sample T-test and descriptive frequency result showed that participants had a positive response towards trusting the reviews and comments posted by their friends on social media. The mean score is significantly differed from the hypothetical mean which is 3.2 (M = 3.88, SD = .95; t (309) = 12.621, p = .000 (Sig two-tailed), mean difference = .681; 95% CI: .57 to .79). 71.8% of the respondents agreed, 8.4 % disagree while the others 19.6% remain neutral.

With respect to the reliability of social media compared with traditional media like newspaper, TV and Radio, 26.5 % of respondents agreed and 15.8% strongly agreed that social media is more reliable than traditional media while 19 % disagree and 8.7% strongly disagree with the statement. One sample T-test was computed and showed that there is an insignificant mean difference between the hypothetical mean (3.2) and sample mean (M = 3.22, SD = 1.180; t(309) = .241; p = .810 (Sig two-tailed), mean difference = .016; 95% CI: -.12 to .15).

Participants were asked whether information generated from social media is timely. 63% of them agreed, whereas 11% disagreed; hence, the majority of them agreed that information posted on social media is timely. The one-sample T-test indicated the mean score is significantly different from the hypothetical mean and hence visitors' level of agreement towards the timeliness of information obtained from social media is positive (M = 3.71, SD = .937; t (309) = 9.635; p = .000 (Sig two-tailed), mean difference = .513; 95% CI: .41 to .62).

The other issue was whether social media is more influential than traditional media in visitors' final travel decisions, and the response was 50.6% of respondents agree while 23% of them disagree which is supported by the one-sample T-test. As a result, respondents feel that social media is more influential than traditional media (M = 3.40, SD = 1.188; t (309) = 2.963; p = .003 (Sig two-tailed), mean difference = .200; 95% CI: .07 to .33).

The last item was whether there is biased information (fake positive or negative comments) from deliberate manipulation of online reviews on social media. More than half of the respondents (57%) agreed with this statement while 12.5 didn't agree. The one-sample T-test showed that the sample mean is significantly higher than hypothetical mean (test value of 3.2), and hence, visitors perceive that there is biased and deliberate manipulation of online reviews and information posted or created on social media (M = 3.62, SD = 1.025; t (309) = 7.257; p = .000 (Sig two-tailed), mean difference = .423; 95% CI: 0. 31 to 0.54).

In a nutshell, the trustworthiness of travel information sources of social media was measured using 6 items having a composite mean 3.31 which is greater than 3.2, and hence, respondents show a positive perception towards the trustworthiness of social media travel information sources. The composite mean of 3.2 is a cut-off point recommended by Odendaal (1997) as cited in Castro and Martins, 2010.

Independent samples T-test was carried out to compute mean difference between males and females towards their agreement level about trustworthiness of social media information sources. It is apparent from the group statistics output Table 2 that females have more positive perceptions of the trustworthiness than males for items T3 (mean for females = 3.27; mean for males = 3.18) and T5 (mean for females = 3.49; mean for males = 3.33) as long as the means of the items for females is greater than that of males. On the contrary for item T6 females suspect fake or biased comments from deliberate manipulation of online reviews on social media more than males (mean for females = 3.76; mean for males = 3.52). For item T1 males have more trust in visitors' recommendation on social media (mean for males = 3.34; mean for females = 3.28). For the remaining two items T2 and T4 the mean for both females and females are almost similar T2 (mean for males = 3.89; mean for females = 3.87); T4 (mean for males and females is same which is 3.71).

The Leven's test results in Table 3 showed the assumption of equal variance is not violated since the Significance (two-tailed) for all items is

Table 2. Group Statistics of Independent Samples T test of Trustworthiness of Information.

Trustworthiness of travel information sources of social media	Gender	N	Mean	SD	Std. Err M
I trust the recommendations of visitors on the social networks. (T1)	Male	178	3.34	.863	.065
	Female	132	3.28	.999	.087
I trust my friends' reviews and comments about tourism destination on social media (T2)	Male	178	3.89	.956	.072
	Female	132	3.87	.944	.082
Social media is more reliable as compared to traditional media like newspaper, TV, Radio etc (T3)	Male	178	3.18	1.175	.088
	Female	132	3.27	1.191	.104
Information from social media is timely. (T4)	Male	178	3.71	.934	.070
	Female	132	3.71	.945	.082
Social media is more influential than the traditional media in my final travel decision (T5)	Male	178	3.33	1.182	.089
	Female	132	3.49	1.195	.104
There is fake positive or negative comments from deliberate manipulation of online reviews on social media (T6)	Male	178	3.52	.993	.074
	Female	132	3.76	1.057	.092

greater than .05. As it is clearly seen under the section T-test for equality of means, there is no significant difference between males and females in their perception level towards the trustworthiness of travel information sources of social media for five items (T1, T2, T3, T4, and T5). The magnitude of the difference in the means showed very small effect size for the five items (for T1, eta squared = 0.0003; for T2, eta squared = 0.0004; for T3, eta squared = 0.0013; for T4, eta squared = .00003, and for T5 = eta squared statistics = 0.005) (see Table 4).

However, for item 6, there is a significance difference between males and females in their perception level towards fake positive or negative comments from deliberate manipulation of online reviews on social media (males, M = 3.52, SD = .993, and females M = 3.76, SD = 1.057; t (308) = 2.006, p = .046, two-tailed). The mean difference in the 2 scores is -.236 with a 95% CI stretching from a lower bound of -.466 to upper bound of -.004. The eta squared statistics (0.02) indicate a moderate effect size. Eta squared is widely applied to calculate the effect size of the independent sample samples T-test and interpretation and the formula is set by Cohen as follows (Mohan, 2016).

$$\text{Eta squared} = \frac{t^2}{t^2 + (N_1 + N_2 - 2)}; \quad \text{small size} \leq 0.01; \ \text{moderate effect } (0.01 - 0.06); \ \text{large effect} \geq .14.$$

where, T is the T-test value, N1 = sample size or number of observations, say in this case the number of males, $N_{2=}$ Sample size for group 2, i.e. the number of females.

A one way ANOVA was computed to identify the mean score differences on the trustworthiness of travel information sources of social media among different age categories of visitors. The assumption of homogeneity of variance is not violated (Leven's test indicating a Sig. value of .442 which is > .05). As it is shown in Table 5, the mean scores in the trustworthiness of social media travel information sources have not differed significantly at the p < .05 level for the 3 age groups: F(2,307) = 1.447, p = .237. Even though, the mean difference is insignificant, as it is depicted in multiple comparison table, compared to others comparisons, a slight mean difference is observed between the age groups 18–35 years and those who are greater than 46 years (mean difference = .16075, p = .241, 95% CI: -.0737 to .3952). It is observed in the ANOVA descriptive and mean plots figure (see Figure 1), as the age of visitors increases, the mean scores marginally decrease where the lowest mean scores (mean = 3.2) lays on visitors who are above 46 years (see Table 6).

A one way ANOVA was also carried out to check whether there are mean score differences on the trustworthiness of travel information sources of social media considering the categorical variable of educational levels of visitors. The assumption of homogeneity of variance was met (Leven's test, a Sig = .990 which is > .05). As it is revealed in Table 7, there is a significant mean score difference in trustworthiness of social media travel information sources between visitors' educational status: F (4, 305) = 2.579, p = .037. The post hoc comparisons indicated that the mean score for bachelor of degree (M = 3.45, SD = 0.61, mean difference = .32, p < 0.1) is significantly differed from Ph.D. and above (M = 3.12,

Table 3. Independent samples T test of Trustworthiness of SM information.

		Levene's Test		t-test for Equality of Means					
		F	Sig.	T	Df	Sig. (2- tailed)	Mean D/ce	95% CI, the D/ce	
								Lower	Upper
T1	T1 Equal variances assume	3.310	.070	.536	308	.593	.057	-.152	.265
	Equal variances not assumed			.524	257.74	.601	.057	-.157	.270
T2	T2 Equal variances assumed	.026	.873	.150	308	.881	.016	-.199	.231
	Equal variances not assumed			.151	284.27	.880	.016	-.198	.231
T3	T3 Equal variances assumed	.014	.905	-.629	308	.530	-.085	-.352	.182
	Equal variances not assumed			-.628	280.29	.531	-.085	-.353	.182
T4	T4 Equal variances assumed	.088	.767	.013	308	.990	.001	-.211	.214
	Equal variances not assumed			.013	280.51	.990	.001	-.211	.214
T5	T5 Equal variances assumed	.058	.809	-1.180	308	.239	-.161	-.429	.107
	Equal variances not assumed			-1.178	280.77	.240	-.161	-.430	.108
T6	T6 Equal variances assumed	.009	.923	-2.006	308	.046	-.235	-.466	-.004
	Equal variances not assumed			-1.987	272.28	.048	-.235	-.468	-.002

Table 4. Descriptive, One-way between-groups ANOVA.

Age category	N	Mean	Std. D	Std. Error	95% CI for Mean		Min	Max
					Lower	Upper		
18–35	189	3.358	.6114	.0445	3.270	3.446	1.50	4.67
36–45	72	3.280	.6782	.0799	3.121	3.440	1.83	4.83
>46	49	3.197	.5679	.0811	3.034	3.360	1.67	4.17
Total	310	3.315	.6220	.0353	3.245	3.384	1.50	4.83

Table 5. ANOVA Test of Homogeneity of Variances, age category of Visitors.

Trustworthiness	Sum of Squares	Df	Mean Square	F	Sig.	Homogeneity of Variances			
						Leven statistic	Df1	Df2	Sig
Between Groups	1.117	2	.558	1.447	.237	.818	2	307	.442
Within Groups	118.413	307	.386						
Total	119.529	309							

Table 6. Trustworthiness of social media travel information and age categories: ANOVA post Hoc.

(I) age of the visitor	(J) age of the visitor	Mean Difference (I-J)	Std. Err	Sig.	95% *CI*	
					Lower	Upper
18–35	36–45	.07793	.08601	.637	-.1246	.2805
	>46	.16075	.09956	.241	-.0737	.3952
36–45	18–35	-.07793	.08601	.637	-.2805	.1246
	>46	.08281	.11502	.752	-.1881	.3537
>46	18–35	-.16075	.09956	.241	-.3952	.0737
	36–45	-.08281	.11502	.752	-.3537	.1881

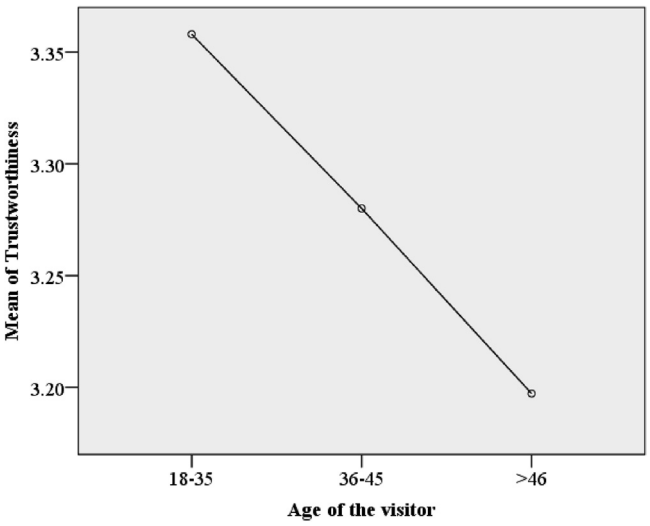

Figure 1. Mean plots of trustworthiness of social media travel information & age of visitors.

SD = .64). There is also is a difference between bachelor of degree holders (M = 3.45, SD = 0.61, mean difference = .28, p < 0.1) and university or college students (M = 3.17, SD = .61). It is observed in the ANOVA descriptive, the mean scores are high for visitors who are a holder of a bachelor of degree and masters (M = 3.34, SD = .61), and the lowest mean score exists on visitors having Ph.D. and above educational level (M = 3.12, SD, = .64) (see Tables 8 and 9).

4.4. Discussions

It is essential for destination management organizations, marketers and managers of tourism and hospitality organizations to identify the influential information sources of travel and tourism. The present study revealed that the most influential information sources are advice and recommendations from friends and relatives; positive reviews on social media travel communities and sites; trip advisor's list of top destinations/hotels/airlines; trip photos and videos uploaded by friends on the social media; guide books (Lonely Planet, Spectrum Guide, Bradit, etc.), and social networking sites (Facebook, MySpace, YouTube, etc.). The finding is in accordance with the findings of Fotis et al. (2012) who confirmed that advice and recommendations from friends and relatives are the most trustworthy source of information, closely followed by information provided by visitors on various websites and social media. A similar finding was confirmed by Pabel and Prideaux (2016), from a sample of 986 visitors (44.7%) of them recognise that family and friends are the most widely used information sources regarding travel and tour, followed by visitors who had previous experience at the destination (32.3%). Pabel and Prideaux indicated that 275 (27.9%) respondents used social media outlets, of which 73.5% ascertained that TripAdvisor was the most popular social media site followed by travel blogs (45.5%), Facebook (42.2%), Twitter (4.0%), Flickr (3.3%) and other social media platforms (6.2%). A survey by European Commission, (2013) about Europeans' attitude towards tourism pointed out the most commonly used sources of information for tour and travel planning are recommendations from friends, colleagues and relatives (56% of participants); followed by websites (46%), and previous experience about a destination (34%) while 21% and 11 % of participants used source of information from travel agencies and tourism offices and tourism brochures respectively.

The majority of scholars' findings including this research revealed that travel and tourism information sources obtained from friends and

Table 7. One-way between-groups ANOVA and Test of Homogeneity of Variances, educational status.

Trustworthiness	Sum of Squares	Df	Mean Square	F	Sig.	Homogeneity of Variance			
						Leven stat	Df1	Df2	Sig.
Between Groups	3.911	4	.978	2.579	.037	0.74	4	305	.990
Within Groups	115.618	305	.379						
Total	119.529	309							

Table 8. Descriptive, One-way between-groups ANOVA.

Level of Education	N	Mean	SD	Std. Err	95% CI for Mean		Min	Max
					Lower	Upper		
High school	26	3.23	.62	.12	2.9825	3.4791	1.50	4.17
College/university student	48	3.17	.61	.09	2.9925	3.3477	1.83	4.17
Bachelor of Degree	89	3.45	.61	.07	3.3167	3.5747	1.83	4.83
Masters	117	3.34	.62	.06	3.2293	3.4545	1.67	4.67
PHD and Above	30	3.12	.64	.12	2.8849	3.3596	1.83	4.50
Total	310	3.32	.62	.04	3.2450	3.3840	1.50	4.83

Table 9. Social media travel information and educational status (multiple comparisons): ANOVA post Hoc.

(I) Visitors' educational level	(J) Visitors' educational level	Mean difference	Std. Err	Sig.	95% CI	
					Lower	Upper
High school	College/University Student	.06063	.14992	.994	-.3508	.4720
	Bachelor of Degree	-.21492	.13726	.521	-.5916	.1617
	Masters	-.11111	.13349	.920	-.4774	.2552
	PHD and Above	.10855	.16497	.965	-.3442	.5613
College/university student	High school	-.06063	.14992	.994	-.4720	.3508
	Bachelors of Degree	-.27555	.11026	.093*	-.5781	.0270
	Masters	-.17174	.10553	.481	-.4613	.1179
	PHD and Above	.04792	.14329	.997	-.3453	.4411
Bachelor of degree	High school	.21492	.13726	.521	-.1617	.5916
	College/University student	.27555	.11026	.093*	-.0270	.5781
	Masters	.10381	.08660	.752	-.1338	.3415
	PHD and Above	.32347	.12998	.096*	-.0332	.6802
Masters	High school	.11111	.13349	.920	-.2552	.4774
	College/University Student	.17174	.10553	.481	-.1179	.4613
	Bachelor of Degree	-.10381	.08660	.752	-.3415	.1338
	PHD and Above	.21966	.12600	.409	-.1261	.5654
PHD and Above	High school	-.10855	.16497	.965	-.5613	.3442
	College/University Student	-.04792	.14329	.997	-.4411	.3453
	Bachelor of Degree	-.32347	.12998	.096*	-.6802	.0332
	Masters	-.21966	.12600	.409	-.5654	.1261

*Significant at $p<0.1$.

relatives are the most important sources of information (Ráthonyi, 2013; Fotis et al., 2012; Pabel and Prideaux, 2016; European Commission, 2013).

The present study indicated that 32.7 % of respondents prefer to use review sites such as TripAdvisor, 19.6 % of them use social networking sites such as Facebook, 13 % of them choose photo sharing sites (Instagram, Flickr), 11.7% favour multi-media sharing (e.g. YouTube), and the remaining 10%, 9 % and 4% of respondents use blogs, forums, and micro-blogging (twitter) respectively. Analogues to this finding, Kang and Schuett (2013) indicated from a sample of 1,048 respondents, 52% of leisure travellers used social media sites such as Facebook, MySpace, Twitter, LinkedIn, Friendster, Second life and Bebbo in their tour to share their travel experiences. Xiang and Gretzel (2010) stated that social media websites related to travel and tourism such as TripAdvisor, VirtualTourist and IgoUgo are becoming increasingly popular utilities assisting visitors in travel and tour planning decision making.

Trustworthiness is a key factor for successes in the travel and hospitality sectors (Choi et al., 2019), and it is crucial for online marketing. This study revealed that international visitors have a positive perception towards the trustworthiness of social media travel information sources. The result is consistent with the findings of researchers who agreed the trustworthiness of social media travel and tourism information sources (Akehurst, 2009; Chung and Buhalis, 2008; Gretzel and Yoo, 2008; Weiss et al., 2008; Fotis et al., 2012; Weiss et al., 2008; Gretzel et al., 2008; Xiang and Gretzel, 2010; Park et al., 2007).

Demographic variables such as age, gender, and education are the most crucial elements used by marketers for segmentation (Make, 2014; Hudson, 2008). According to Assaker (2019), the trustworthiness of user-generated content may dependent on demographic variables such as gender, age and education. Regarding the gender of visitors, the present study shows that there is no significant difference between males and females in their perception level towards the trustworthiness of travel information sources of social media. The result is inconsistent with the findings of Riedl et al., 2010; and Escobar-Rodríguez and Carvajal-Trujillo, 2014. Escobar-Rodríguez and Carvajal-Trujillo, 2014 and Riedl et al. (2010) found that females have better trustworthiness in online purchases than their male counterparts.

Studies indicate that the young generation and the millennial have more engagement with social media travel information sources (Shearer and Matsa, 2018). In this regard, the one way ANOVA descriptive statistics indicates as the age of visitors increases (greater than 46 years), their perception towards the trustworthiness of social media travel information sources decreases. This result is in accordance with the findings of Pabel and Prideaux (2016) who stated respondents aged 50 and older were the least likely to use social media applications to find out information about tourist destinations. Analogues to this, Global Business Travel Association (2015) shows that the millennial (18–34 age) are two times more likely than baby boomers (age 56 and older) to use online travel applications for booking or reservations of hotels/travel activities, searching tourism and travel-related information and checking reviews for travel and tourism purposes. Taking visitors' educational status into consideration, the one way ANOVA indicates that bachelor of degree and masters' holders have a relatively higher level of agreement towards the trustworthiness of travel information sources of social media. The result of this study supports the work of Lo et al. (2011) who argued that people who engaged in sharing ideas, photos and experiences online tend to be younger and educated.

4.5. Conclusions, practical implications and limitations of the study

The main conclusion drawn from the study is that visitors show a positive level of agreement towards the trustworthiness of travel information sources of social media. It was also indicated that there is no significant difference between males and females towards the trustworthiness of social media travel information sources. The findings show that visitors with the age of 18–35 years tend to have a higher level of positive perceptions towards the trustworthiness of travel information sources of social media than elders. Hence, the young generation is inclined towards using digital ecosystem particularly travel 2.0 applications. Taking visitors' educational status into account, bachelor of degree and master's holders have a relatively higher level of agreement towards the trustworthiness of travel information sources of social media.

4.5.1. Managerial/Practical implications

The result of the research provides some managerial and practical implications. International visitors are using both types of social media and traditional media as a source of travel and tourism information. Hence, tourism and hospitality organizations should devise an integrated marketing strategy that incorporates both traditional and social media. In line with this, marketers had better adopt a segmented marketing approaches such as digital marketing for youngsters and traditional marketing approaches for elders. Some tourism related organizations didn't use social media platforms to promote their company as well as Ethiopia as a tourist destination. Besides, there is a problem with timeliness of information in some tourism organizations since some information is not up-to-date, absence and details of information (especially price, hours of operation, contact number). Consequently, it is recommended that organizations should update and include all important information on their social media pages and websites. With relatively cheap cost, social media marketing provides an advantage of reaching targeted customers or visitors throughout the world. Most importantly, tourism and hospitality companies should adopt specific destination travel application sites that help visitors to find all information in Ethiopia and provide internet or Wi-Fi facilities in places where visitors spend time.

The credibility of social media information with respect to travel and tourism is one of the top agendas in the digital marketing domain. Some respondents thought that certain reviews may be fake or bias since they aren't original, unknown if positive reviews, likes and shares are sponsored or paid, and some locals may feed a fake data in order to build a positive image of their country, but in actual terms, one might face the negative experience. Hence, visitor contact personnel should cordially request visitors to share their real experience with others through various ways such as e-WOM and WOM. Last but not least tourism and hospitality entities should post the real and all-inclusive information in their travel 2.0 applications and web sites, as well as destination management organizations had better utilise the comments raised by visitors to promote their company and tourist destinations and to improve tourist services thereby increasing tourist satisfaction. Tourism and hospitality organizations should devote to provide excellent services and facilities to visitor because a satisfied visitor is a powerful weapon of promotion for organizations and tourist destinations through word of mouth and travel 2.0 applications.

To develop and manage a competitive tourist destination that can attract an adequate number of visitors sustainably, it requires an integrated and collaborative effort amongst concerned bodies. Stakeholders of tourism and hospitality sectors should pay due attention for the key dimensions of destination competitiveness that includes infrastructures and facilities (accommodations, transportations, shopping), natural and cultural resources, international openness as well as safety and security (Mustafa et al., 2019; Fernández et al., 2020). It is argued that destination competitiveness relies on tourism and hospitality educations that can produce highly qualified and competent human resources who are responsible for environmental protection and sustainability, health and hygiene (cleanliness), innovation and new product development, setting reasonable price, ICT readiness for destination marketing and promotion, and quality of service provisions as well (Croes et al., 2020). As noted by Mango et al. (2020), most sub-Saharan Africa countries face challenges of destination promotions as they are dependent on static techniques such as traditional media (printed materials, radio and television) as well as websites that don't have interactive maps. Hence, to manage and promote tourism resources that aim at increasing the number of visitors, it needs a paradigm shift to use advanced web-based geographic information system having features of interactive maps and a system that can update tourism-based pop-ups information and communication. It is noted that almost all visitors use ICT to obtain information regarding tourism destinations, accommodations, and accessibility (Ramos et al., 2020). Therefore, applying innovative technologies in tourism and hospitality marketing helps to attract more customers.

4.5.2. Limitations of the study

Obviously, there is no perfect research design, and the present research faced some limitations. With regard to the sampling method, due to the nature of the study population where sampling frame of visitors is not available, mostly incidental or convenience sampling method which is non-probable was employed, and hence the issue of representativeness is questionable. Domestic visitors were not included in this study, as a result, their perspectives towards trustworthiness of social media travel and tourism information sources are not investigated. Even though the number of Chinese visitors in Ethiopia is increasing, only 2 Chinese were participated in the study due to language problem, since the questionnaire was only prepared in English language because of financial constraints, as such mainly English speakers were the subject of the study.

Declarations

Author contribution statement

K.B. Melese and S. Raj: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Wrote the paper.

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The authors declare no conflict of interest.

Additional information

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