Sharing of fake news on social media: Application of the honeycomb framework and the third-person effect hypothesis

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ABSTRACT

Sharing of fake news on social media platforms is a global concern, with research offering little insight into the motives behind such sharing. This study adopts a mixed-method approach to explore fake-news sharing behaviour. To begin with, qualitative data from 58 open-ended essays was analysed to identify six behavioural manifestations associated with sharing fake news. Thereafter, research model hypothesizing the association between these behaviours was proposed using the honeycomb framework and the third-person effect hypothesis. Age and gender were the control variables. Two data sets obtained from cross-sectional surveys with 471 and 374 social media users were utilized to test the proposed model. The study results suggest that instantaneous sharing of news for creating awareness had positive effect on sharing fake news due to lack of time and religiosity. However, authenticating news before sharing had no effect on sharing fake news due to lack of time and religiosity. The study results also suggest that social media users who engage in active corrective action are unlikely to share fake news due to lack of time. These results have significant theoretical and practical implications.

1. Introduction

The spread of fake news on the Internet is a cause of great concern for all members of society, including the government, policymakers, organisations, businesses and citizens. Fake news is specifically designed to plant a seed of mistrust and exacerbate the existing social and cultural dynamics by misusing political, regional and religious undercurrents (Wardle and Derakhshan, 2017). Shu et al. (2017) argue that fake news has an adverse impact on individuals and society as it deliberately persuades consumers to accept false beliefs that are shared to forward specific agendas. The circulation of fake news poses significant challenges for organisations and brands. In fact, fake news that promotes a specific viewpoint or opinion about a product, brand or organisation, which may not be true, can be deliberately designed to mislead consumers (e.g., Potthast et al., 2017). For example, consumers threatened to boycott McDonald's after the fake news regarding its use of ground worm filler in its burgers became viral (Taylor, 2016). Some recent studies have also noted the impact of fake news on brands and organisations (e.g. Cheng and Chen, 2020; Visentin et al., 2019). Such false information can potentially harm retailers' interests by negatively influencing consumers' intentions to buy. Conversely, consumers may also be misled into buying certain products based on fake reviews, which have been acknowledged as a form of online forgery (Martens and Maalej, 2019). Thus, fake news and its viral circulation have become a grave concern in the era of social media, where anonymity, user-generated content and geographical distance may encourage fake-news sharing behaviour.

While academic research on the dark aspects of social media use, which includes information overload, social media fatigue, fear of missing out and coping strategies, has intensified (e.g., Dhir et al., 2018a,b; Dhir et al., 2019; Luqman et al., 2018; Malik et al., 2020), the perceptions and behaviours underlying the sharing of fake news are not clear. In fact, little is known about the motives for sharing disinformation on social media platforms (SMPs) (e.g., Jang and Kim, 2018; Talwar

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et al., 2019). We argue that understanding the reasons and associated behaviours that induce people to share falsehood online can help in identifying a solution to tackle the growing menace. Further, a better understanding could also prove useful for marketers, retailers, brand managers, policymakers and scholars. Thus, the lack of studies on factors that exacerbate the fake-news sharing behaviour represents a gap in the literature that needs to be bridged. The current study attempts to address this gap by examining the behaviour of SMP users towards authentication and sharing of fake news. The research questions (RQs) guiding this study are as follows: **RQ1**: What are the different manifestations of fake-news sharing behaviour on SMPs? **RQ2**: What are the potential associations between the manifestations of fake-news sharing behaviour of SMP users?

This study uses a mixed-method approach, mainly because of the limited literature on this topic. We first conduct a qualitative study (N = 58) to identify the different behavioural manifestations associated with the sharing of fake news on SMPs. The obtained qualitative data are analysed using grounded theory, and the generated themes (i.e. fake-news sharing behavioural manifestations) are examined using the honeycomb framework, which is a popular theoretical framework from social media literature (Kietzmann et al., 2011). We use the framework to sort the different manifestations by relevance. Associations between the manifestations are examined via key theories in the field of media, sociology, psychology and information systems, such as uses and gratifications theory (Katz et al., 1974), social identity theory (Tajfel and Turner, 1986), social exchange theory (Malinowski, 1922) and the socio-technical model of media effects (Marwick, 2018).

The associations are hypothesised using the third-person effect (TPE) (Davison, 1983). TPE has been used recently in studies on sharing of fake news (e.g., Jang and Kim, 2018). Our developed research model consists of four independent variables: (1) active corrective action on fake news ('AC' hereafter), (2) passive corrective action on fake news ('PC' hereafter), (3) instantaneous sharing of news for creating awareness ('INS' hereafter) and (4) authenticating news before sharing online ('AN' hereafter). The two dependent variables are sharing fake news due to lack of time ('LT' hereafter) and sharing fake news due to religiosity ('SR' hereafter). The model controls for age and gender.

The proposed model is tested with the help of two independent cross-sectional studies (N = 471, 374). The results showed that instantaneous sharing of news for creating awareness (INS) among social media users positively correlated with sharing fake news due to lack of time (LT) and religiosity (SR). However, authenticating news before sharing (AN) did not correlate with sharing fake news due to LT and SR. Further, social media users who engaged in active corrective action (AC) were unlikely to share fake news due to LT. These findings offer a theoretical foundation for further empirical examination of fake-news sharing behaviour, an topic with limited literature. Deeper insights into fake-news sharing behaviour can also be useful to businesses looking for better strategies to protect themselves against the threat of unauthenticated news going viral.

The salient contributions of this study are as follows: (a) it responds to urgent calls from scholars for empirical research on the spread of fake news; (b) it shifts the focus of studies on fake news from detection methods to sharing behaviour, which fuels the uncontrollable spread of falsehood; (c) the study examines measures not used previously to model fake-news sharing behaviours by grounding them in a popular social media model – the honeycomb framework – and tests the associations of the proposed model by using a key media and psychology theory – third-person perception (TPP); (d) it strengthens the debate on the link between consumer behaviour and fake news, which has been an under-explored area and (e) finally, the robustness of the methodology, in terms of qualitative intervention and quantitative testing through multiple data sets, enhances the study's validity and relevance.

2. Theoretical background

2.1. The honeycomb framework

The honeycomb is a popular framework that sheds light on the possible reasons for sharing of information on SMPs (Fig. 1). Developed by Kietzmann et al. (2011), the framework covers seven social media building blocks: identity, conversations, sharing, presence, relationships, reputation and groups (Table 1). Scholars have used the honeycomb framework to study social media adoption (Ngai et al., 2015), online recovery strategies (Azemi et al., 2019), etc. Highlighting the shortage of frameworks and theories to analyse social media strategies, Effing and Spil (2016) suggested that the framework serves as a reasonable basis for examining the various functions of social media. Given that the framework explores the reasons for exchange of information on SMPs, it is ideal for the current study's focus on the dissemination process of fake news. In this study, we use it to better understand the emergent themes that represent the manifestations of fake-news sharing behaviour.

2.2. The third-person effect (TPE) hypothesis

The proliferation of media has led us to consider the effect of so many media messages on us and our behaviour. The TPE hypothesis, proposed by Davison (1983), explains that the receivers of such messages tend to believe that these messages will affect others more than themselves. In other words, TPE is based on the self-other difference that individuals perceive when they try to assess the effect of messages in media. The theory can be understood through its two corollaries.

The first corollary comes from the perceptual component, TPP, which posits that individuals perceive that socially undesirable and negative media messages affect others more than themselves. This view is supported by seminal studies that found that individuals overestimated the impact of socially undesirable content, like gambling, pornography and alcohol advertisements, on others (e.g., Rojas et al., 2012). Houston et al. (2011) argued that TPP for news with opinionated and biased comments was higher. Thus, prior literature clearly suggests that the social desirability of messages in media is a key consideration in TPE and that undesirable messages are perceived to have bad effects on others. The TPP part of TPE has also been explained in prior studies as a self-serving or a self-enhancement bias (Gunther and Mundy, 1993). That is, individuals tend to project a superior image of themselves by showing that they are less susceptible to negative content than others. At the same time, they try to show that they are more receptive to socially
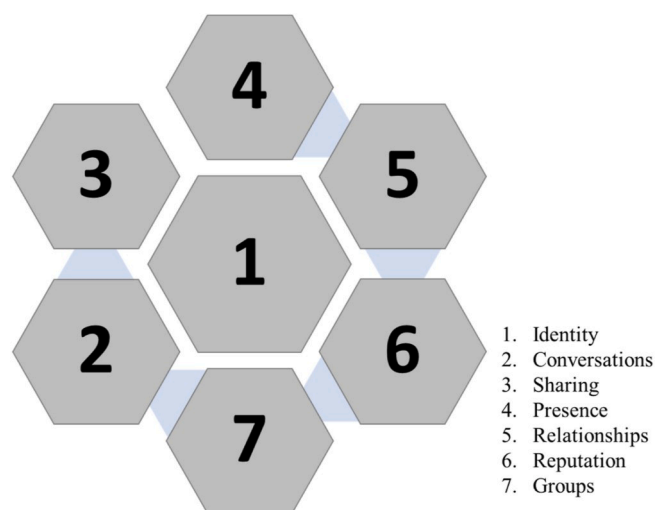

Fig. 1. The honeycomb framework of social media (Kietzmann et al., 2011 p. 243 p. 243).

1. Identity
2. Conversations
3. Sharing
4. Presence
5. Relationships
6. Reputation
7. Groups

Table 1
Seven social media building blocks (Kietzmann et al., 2011).

Building block	Description
Identity	Social media users reveal their identities to other users, but every user differs in how much they reveal about themselves.
Conversations	Social media is designed for communication with other users. The conversations may happen due to many reasons, including building self-esteem and positioning oneself as a presenter of innovative ideas or trending information.
Sharing	Social media is designed to share, exchange, distribute and receive content.
Presence	Social media affordances include features to ascertain the availability and accessibility of other users.
Relationships	Social media provides opportunities for connectedness, and this block represents the degree to which users are connected to other users.
Reputation	Social media users have a concern about how they are perceived by others. Reputation can be seen as a matter of trust.
Groups	Social media groups represent the intrinsic need of users to be members of online social groups.

desirable media messages.

The second corollary of TPE, known as the social distance corollary, is explained through the concept of social distance (Cohen et al., 1988). According to the corollary, individuals feel that those who are at a social distance from them are affected more by negative media messages than those closest to them. This social distance can refer to inferiority in certain aspects, geographical distance, psychological attributes, difference in status or other socio-demographic distinctions. Social distance causes individuals to act and protect others who they think are more gullible to undesirable messages circulated on media (McLeod et al., 2001). On the whole, TPE implies that individuals feel that others are affected more by negative messages shared via media. Further, they believe that the impact is higher on those who are at a greater social distance from them. The TPE also indicates that individuals believe that media messages produce a greater change in the attitude of others in comparison to themselves (Davison, 1983).

Our review of literature on TPE finds that social media scholars are increasingly interested in using this theory to better understand different online social media behaviours. For example, Chung and Moon (2016) found that TPP had an impact on attitudinal and behavioural responses to messages in the media. Scholars have extended the use of TPE beyond its original domains of application. For instance, when TPE was proposed originally, it focused on actions such as censorship of media messages. However, recent research has introduced a new dimension of behaviour, which is related to taking corrective action. Such corrective action includes attempts to counterbalance harmful outcomes (Barnidge and Rojas, 2014) and cope with the negative impact of socially undesirable messages (Lim, 2017).

Endorsing the application of TPE to social media, recently, Jang and Kim (2018) used the theory for studying fake news and found a high perceptual corollary (TPP). Their results also confirmed the social undesirability of content to be one of the positive predictors of TPP. They also confirmed the presence of the social distance corollary by showing that individuals believed that fake news would affect out-group members more than them and their in-group members. Since the current study also explores fake-news sharing behaviour, we find it appropriate to invoke this theory to explore the association between the explanatory and dependent constructs.

3. Research methodology

As part of the mixed-method approach of the study, we first performed a qualitative intervention (Study A), which resulted in an item pool of different measures for fake-news sharing behaviour. The process resulted in the identification of six measures, which included two forms of coping mechanisms for fake-news sharing behaviour: AC and PC. The

other measures were INS, AN, LT and SR. The developed measures were examined using the honeycomb framework to understand their relevance to social media usage (Fig. 2). We then developed the research model to examine the association between the six behavioural manifestations in the context of fake-news sharing behaviour (Fig. 3).

The study used TPE to examine the hypothesised associations. The dependent variables were SR and LT, and a model was proposed to test the influence of INS, AC, PC and AN as explanatory variables. The model was tested using two independent cross-sectional surveys (Study B1, N = 471; Study B2, N = 374). The participants consisted of WhatsApp users.

3.1. Data collection

3.1.1. Study A
An open-ended essay-based study was conducted to understand fake-news sharing behaviour among 58 WhatsApp users (53.4% females, 20–23 years old). The open-ended essays sought information on a) the nature of fake news – what it is and whether the respondents received fake news from others; b) actions taken by the respondents to check the authenticity of the received news or information; c) coping mechanisms (reacting or responding) used by respondents if they knowingly or unwittingly shared fake news; d) coping mechanisms (reacting or responding) used by respondents if their friends, family and acquaintances knowingly or unwittingly shared fake news.

3.1.2. Study B
Two independent cross-sectional data sets were generated with the help of a questionnaire based on Study A, in line with the approach used by many recent studies (e.g., Talwar et al., 2020a,b). Both the surveys were conducted in India, where a sampling frame of WhatsApp users is not available. Therefore, we used non-probability judgemental sampling to select survey participants. Participants of the surveys consisted of WhatsApp users from northern India (B1, N = 471) and western India (B2, N = 374). The average age of the respondents in B1 was 21 years (42% males) and in B2 was 20 years (45% males). The mean age of the respondents was between 18–23 years in both data sets. This specific age group was selected because the existing studies suggest that young adults are voracious users of SMPs (Smith and Anderson, 2018). The respondents were briefed about the objective of the study, and responses were collected in person by one of the researchers. The selection criterion was that the respondent should have used WhatsApp actively at least in the past six months. We defined active use as spending at least 1 h daily on WhatsApp.

3.2. Analysis of data

3.2.1. Study A
Qualitative data were analysed using NVIVO. Open codes from the qualitative data were identified and later classified using axial codes in order to develop key themes (Miles and Huberman, 1994). The obtained high-level themes were further evaluated on the basis of prior literature, in line with the standard protocol in qualitative research to develop a pool of items (Hesse-Biber and Leavy, 2011). The pool of items developed was later tested with a group of experts: two university professors and three experts on social media research, as recommended by extant findings (Saunders et al., 2016). Fifteen social media users, who represented the target population of WhatsApp users, were invited to pilot-test the item pool. This step helped us check the face validity of the items and determine whether they were clear in language and relevant to the study. The developed measures representing fake-news sharing behaviour were then assessed using the honeycomb framework to understand their relevance in the context of social media usage.

3.2.2. Study B
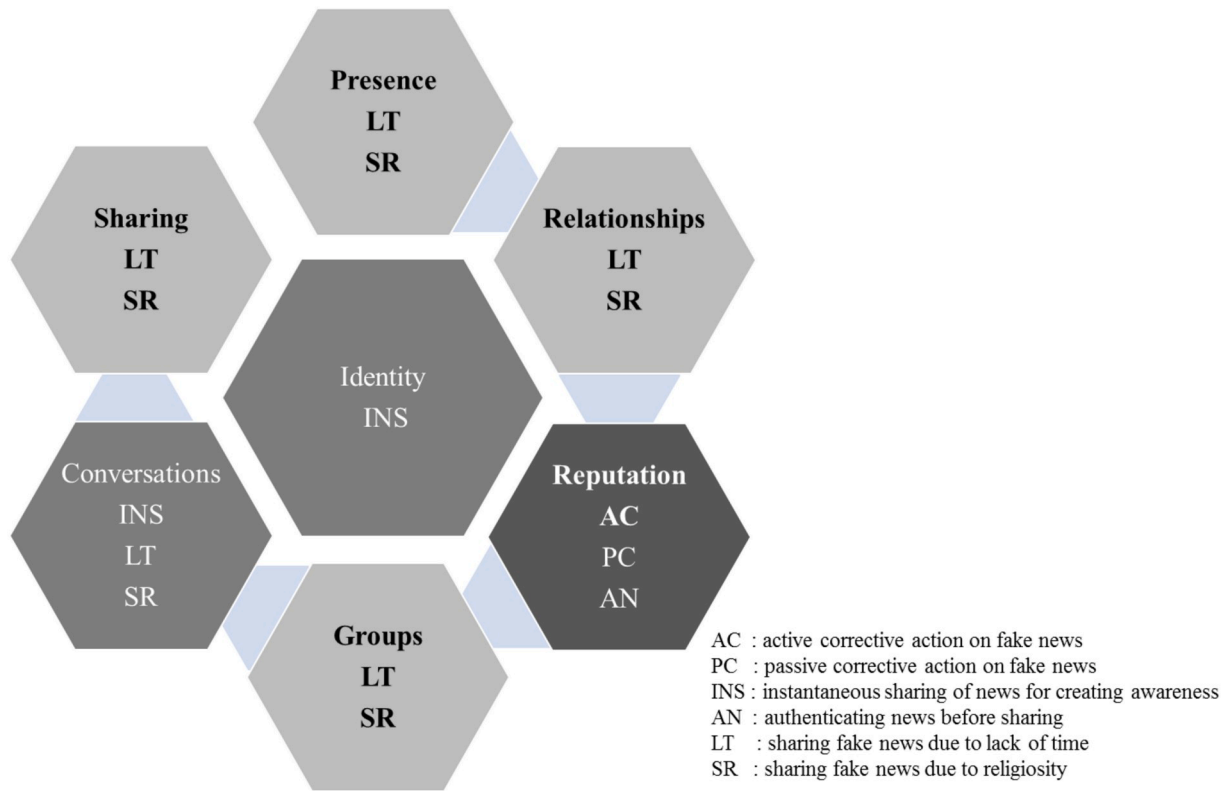Owing to the lack of studies in the domain, we developed multi-item

AC : active corrective action on fake news
PC : passive corrective action on fake news
INS : instantaneous sharing of news for creating awareness
AN : authenticating news before sharing
LT   : sharing fake news due to lack of time
SR : sharing fake news due to religiosity
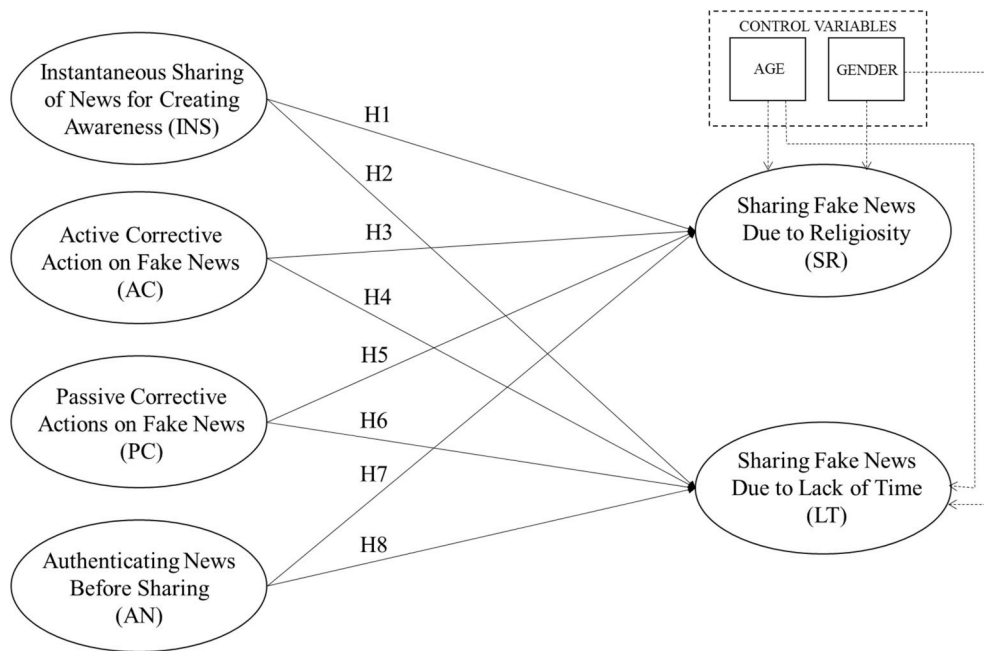
Fig. 2. Our research model.

Fig. 3. Application of Honeycomb framework to the current study.

scales for this study (Hair et al., 2010). The six-factor measurement model, developed from the six measures generated during the qualitative study, was evaluated using confirmatory factor analysis (CFA). The proposed hypotheses were tested via structural equation modelling (SEM). SPSS 25 and AMOS 25 were used to analyse the data related to all the items.

3.3. Research hypotheses

3.3.1. Instantaneous sharing of news for creating awareness (INS)

Tajfel and Turner (1986) proposed the social identity theory to explain why individuals instantaneously share news to create awareness among others. They noted that being part of a group boosted the self-esteem of individuals as the groups provided a social identity and a sense of belonging to the social world. To belong to a social network that

is updated and well-informed is one of the main reasons that people strive to share information. However, the risk with instantaneous sharing of news is that it may inadvertently lead to dissemination of fake news.

Relatively recent research finds that people tend to share fake news without authenticating it as they may believe it to be factual (i.e. fake news resembles credible journalism) (Hunt, 2016). Further, scholars argue that fake news is made viral through social bots that spread it rapidly, thus severely limiting the receiver's fact-checking capacity (Jun et al., 2017). In other words, SMP users may share news as they soon as receive it. The sharing behaviour may be more pronounced with religious news in groups with known members as people exercise caution in expressing opinions on social media only in unfamiliar situations (Moe et al., 2014). Thus, online social media groups with largely known members, such as on WhatsApp, do not hinder the free expression of opinion. Further, the socio-technical model of media effects (Marwick, 2018) posits that users share fake news not only because they have been misled by partisan media but also because the fake news may align with their worldviews, social positions and beliefs. Thus, both time and religious factors may play a key role in the sharing of fake news. On the basis of this discussion, we hypothesise that INS positively correlates with LT and SR.

H1. INS has a positive association with SR.

H2. INS has a positive association with LT.

3.3.2. Active and passive corrective actions on fake news

The social distance corollary is another widely discussed aspect of TPE (Cohen et al., 1988; McLeod et al., 2001). According to the corollary, people perceive that those who have a lower status than them or are at some distance from them, physically or psychologically, are more susceptible to negative messages on media and need to be protected. The social distance corollary lays the ground for taking steps against the spread of fake news. The need to protect those at a social distance from oneself may motivate individuals to take corrective action against the spread of fake news. Corrective action can be taken in different forms, such as censorship of media (Xu and Gonzenbach, 2008) and online participation through public comments (Chung et al., 2015). Our qualitative study found that social media users engage in two types of corrective action: AC and PC. AC involves advising the sender of fake news to stop sharing and verify the authenticity before sharing as well as raising awareness about the fake news. On the other hand, PC involves reporting or blocking the social media user who sends fake news. Taking corrective action (AC and PC) is also in line with the propositions of TPP, which hypothesises that social media users try to protect others from the unfavourable effects of fake news through their corrective action, which may be positive (e.g. advising) or negative (e.g. blocking). SMP users engaging in AC and PC are less likely to share such news due to LT and SR. Accordingly, we propose the following hypotheses:

H3. AC has a negative association with SR.

H4. AC has a negative association with LT.

H5. PC has a negative association with SR.

H6. PC has a negative association with LT.

3.3.3. Authenticating news before sharing (AN)

Prior literature suggests that TPP has a self-enhancement bias (Gunther and Mundy, 1993; Shen et al., 2015). In an attempt to project a superior image, guided by the self-enhancement bias, SMP users may tend to authenticate news before sharing. They may do so to protect others with whom they make a downward comparison (Sun et al., 2008).

This authentication behaviour is also consistent with the fundamental concept of social exchange theory (Malinowski, 1922), which propounds that individuals make decisions based on positive outcomes or long-term benefits. Thus, individuals are likely to authenticate news before sharing as it may lead to positive outcomes such as earning the trust of members within their social groups and an improvement in their image. The extant literature also considers trust as the most important variable influencing interpersonal dynamics and group behaviour (Golembiewski and McConkie, 1975). Trust was also identified as important in other online contexts (e.g., Talwar et al., 2020a,b). Thus, trust may be seen as a key motivator for SMP users to share authenticated information. Authenticating news before sharing can earn individuals social approval and enhance their reputation of being trustworthy. Users motivated by self-enhancement bias can be expected to be careful while sharing news. Therefore, we hypothesise that the social media users who engage in AN are less likely to share fake news due to LT and religiosity SR.

H7. AN has a negative association with SR.

H8. AN has a negative association with LT.

4. Results

4.1. Honeycomb framework

We mapped the seven dimensions of honeycomb framework to the themes derived from the qualitative study A (Fig. 3). One or more of the seven dimensions helped anticipate the behaviour of SMP users towards sharing of unauthenticated news. For instance, the "conversation" block (Table 2), captured the need of SMP users to sustain conversations in the group by sharing rumours, jokes, wishes, information and news. Thus, the conversations on SMPs may be influenced by the need to entertain and gossip, create awareness or simply share beliefs with social groups. This behaviour has also been discussed previously (e.g., Katz et al., 1974; Okazaki et al., 2013). Such information-sharing behaviour provides the context for the themes derived from the qualitative study. This block supports INS as one of the aspects of online news sharing. It also explains why people may share fake news because of LT and SR. Information on how each measure is grounded in the building blocks is given in Table 2.

4.2. Quantitative data diagnostics

Data for all items were found to be normally distributed since kurtosis and skewness were within the threshold limit of ± 1. The Jarque and Bera, 1987 Jarque Bera test statistics confirmed continuous and multivariate normal distribution of variables. Next, we checked for multicollinearity to avoid any increase in the standard error of loadings (Kock and Lynn, 2012) and found no related issues. The variance inflation factor was below three, and tolerance was greater than 0.1. To detect and control for common method bias, which is a concern with self-reported surveys (Podsakoff et al., 2003), we used both procedural and statistical approaches. To this end, all the questions in the questionnaire were close-ended, responses were collected during face-to-face interactions and the confidentiality of responses was maintained. Harman's single factor test (Harman, 1976) confirmed that common method bias was not a concern in the current study.

4.3. The measurement model: reliability, validity and goodness of fit

The composite reliability (CR) score of all the study measures was above 0.70, indicating sufficient internal reliability (Nunnally, 1978) (Tables 3 and 4). The average variance extracted (AVE) of the measures

Table 2
Grounding the emerging themes: the application of the honeycomb framework.

Building block	Description
Identity	Implies that users disclose information to project themselves in a certain way. Thus, users can be expected to instantaneously share news on social media to create awareness (INS) as doing so may enhance their sense of belonging and shape their identities in certain ways.
Conversations	Implies that social media users can be expected to keep the conversation on the group going by sharing trending information, sometimes with the purpose of creating awareness or, at other times, for the purpose of remaining active in the group. Thus, this block supports the INS measure as one of the aspects of sharing information and news online. It also explains why people may share fake news due to lack of time (LT) and religiosity (SR).
Sharing	Implies that members of social media groups are inclined to keep exchanging information with other users. In their desire to keep sharing content, users may not think of checking all the information they receive and may share it further without authentication, in favour of speed and popularity. Thus, this block can explain the behaviour related to SR and LT.
Presence	Refers to the affordances of social media that allow users to know how accessible other users are. This may gratify the social needs of users to connect with others and cause them to manifest SR and LT, knowing that they have an available audience.
Relationships	Implies that since the identities of the group members are generally known, it leads to more connectedness and results in the sharing of fake news or gossip, knowingly or inadvertently. Further, users can be expected to converse more freely in their known social groups as opposed to sharing information on sites that can be accessed by strangers as well. Thus, they might manifest SR and LT.
Reputation	Implies a concern for projecting a positive image that could motivate users to take corrective action against fake news circulating in their social network. It also causes users to authenticate news before sharing it, particularly news related to religion. This explains the behaviour of active corrective action on fake news (AC) and passive corrective action on fake news (PC). This argument also justifies why authentication of news before sharing (AN) is another aspect of the image-related utility behind the motivation to share factual information on online social media.
Groups	Implies that in the quest to remain popular within the group, social media users might share fake news, both non-religious and religious. It has been argued that fake news is also more sensational, and sharing it might provide some kind of gratification, e.g., entertainment. Thus, this block serves as the basis for anticipating manifestations of SR and LT.

was above the cut-off value of 0.50, which confirmed their convergent validity (Fornell and Larcker, 1981) (see Tables 3 and 4). Discriminant validity was ensured as the square root of AVE was higher than the inter-construct correlations, all the diagonal values were greater than the off-diagonal values in the same row and column and the correlation between any two study measures did not exceed 0.80 (Fornell and Larcker, 1981). The unidimensional nature of each measure was also confirmed since the item loadings for all the measures were above 0.60, as suggested by Hair et al. (2010) (see Table 5). Further, both the data sets returned satisfactory model fit indices (Kline, 2016) (Table 6).

4.4. The structural model

Both models A and B showed satisfactory goodness-of-fit indices (Table 6). Model A explained a 20% variance, and Model B explained a 13.2% variance in SR. With regard to sharing fake news due to LT, Model A explained 10% variance, and Model B explained 19.5% variance (Figs. 4 and 5). Although human behaviour is difficult to predict than, say, physical processes, R^2 values are considered acceptable, as

recommended by Falk and Miller (1992).

In Model A, hypotheses H1 to H4 and in Model B, hypotheses H1, H2, H4 and H6 were supported. Results of H1 and H2 showed positive effects of INS on SR (model A: $\beta = 0.36$, $p < 0.001$; model B: $\beta = 0.31$, $p < 0.001$) and LT (model A: $\beta = 0.30$, $p < 0.001$; model B: $\beta = 0.24$, $p < 0.001$) in both the models.

Results of H3 and H4 revealed a significant negative association between AC with SR in Model A (model A: $\beta = -0.28$, $p < 0.001$) and with LT in models A and B (model A: $\beta = -0.15$, $p < 0.01$; model B: $\beta = -0.24$, $p < 0.001$). However, AC did not share any association with SR in Model B.

Results of H5 and H6 showed that PC did not share any significant association with SR in both the models (model A: $\beta = 0.05$, $p > 0.05$; model B: $\beta = -0.10$, $p > 0.05$) or with LT in Model A ($\beta = -0.02$, $p > 0.05$). However, it had significant negative association with LT in Model B ($\beta = -0.18$, $p < 0.01$).

The results of H7 and H8 showed that AN did not share any statistically significant association with SR (model A: $\beta = 0.12$, $p > 0.05$; model B: $\beta = -0.24$, $p > 0.05$) or LT (model A: $\beta = -0.01$, $p > 0.05$;

Table 3
Validity and reliability (model A).

	CR	AVE	MSV	ASV	SFLT	ISNCA	ACAF	PCAF	ANBS	SFNR
SFLT	0.87	0.76	0.30	0.07	0.87					
ISNCA	0.83	0.72	0.10	0.08	0.23	0.85				
ACAF	0.86	0.55	0.16	0.07	−0.05	0.31	0.75			
PCAF	0.89	0.80	0.15	0.06	−0.02	0.19	0.29	0.89		
ANBS	0.85	0.67	0.16	0.09	0.02	0.31	0.40	0.39	0.82	
SFNR	0.81	0.58	0.30	0.09	0.55	0.31	−0.11	0.08	0.13	0.76

Table 4
Validity and reliability (model B).

	CR	AVE	MSV	ASV	SFLT	ISNCA	ACAF	PCAF	ANBS	SFNR
SFLT	0.87	0.77	0.22	0.07	0.88					
ISNCA	0.85	0.74	0.08	0.05	0.14	0.86				
ACAF	0.83	0.50	0.17	0.06	−0.22	0.23	0.70			
PCAF	0.89	0.81	0.14	0.05	−0.19	0.15	0.22	0.90		
ANBS	0.82	0.61	0.17	0.08	−0.09	0.26	0.41	0.37	0.78	
SFNR	0.78	0.54	0.22	0.06	0.47	0.27	−0.01	−0.11	−0.01	0.74

Note: Values in diagonal are the square root of AVE, and the off-diagonal values are correlations.
Note: ACAF: active corrective action on fake news; PCAF: passive corrective action on fake news; ISNCA: instantaneous sharing of news for creating awareness; ANBS: authenticating news before sharing; SFLT: sharing fake news due to lack of time; SFNR: sharing fake news due to religiosity.

Table 5
Study measures, items factor loadings and model fit indices for measurement models.

Study Measure	Survey items	Model A	Model B
Instantaneous Sharing of News for Creating Awareness (INS)#	I try to create awareness by sharing news online	0.85	0.94
	I want to educate my online friends by sharing news content online	0.84	0.78
Active Corrective Actions on Fake News (AC)	I advise the sender of fake news to stop sharing it	0.67	0.59
	I try to make people aware of fake news	0.78	0.71
	I advise the sender of fake news to always crosscheck its authenticity before sharing	0.83	0.81
	I educate the sender of the fake news on ways to authenticate it	0.79	0.75
	I inform the sender who forwards me a fake message	0.62	0.65
Passive Corrective Actions on Fake News (PC)	I report the account which constantly sends fake news to me	0.82	0.89
	I block accounts that send me fake news	0.96	0.90
Authenticating News Before Sharing (AN)	I rely on TV news channels to check the authenticity of any message before sharing it	0.88	0.88
	I ask my friends to check the authenticity of any message before sharing it	0.89	0.87
	I ask my family/relatives to check the authenticity of any message before sharing it	0.56	0.54
Sharing Fake News Due to Lack of Time (LT)	I often share fake news because I don't have time to check its authenticity	0.89	0.79
	I share fake news because I don't have time to check facts through trusted sources	0.85	0.96
Sharing Fake News Due to Religiosity (SR)	People share news that has religious appeal without even realising its fake	0.76	0.65
	People share fake news about religion, believing it to be true	0.80	0.84
	People believe in the news about religion, even if its fake	0.71	0.71

Note. #measures developed based on a qualitative study.

model B: $\beta = 0.10$, $p > 0.05$) in both models. The results of the hypotheses testing are presented in Table 7.

4.5. Control variables

Age and gender are important variables in studies on social media usage (e.g., Abel et al., 2016; Kircaburun et al., 2018). The use of control variables increases the robustness of study results (Gao and Waechter, 2017). In our research model, we also controlled for age and gender. The age variable influenced sharing of fake news due LT in both models (model A: $\beta = 0.11$, $p < 0.05$; model B: $\beta = -0.25$, $p < 0.001$), but it influenced sharing of fake news due to SR only in Model B (model A: $\beta = 0.01$, $p > 0.05$; model B: $\beta = -0.18$, $p < 0.01$). The gender variable influenced LT only in Model B (model A: $\beta = -0.03$, $p > 0.05$; model B: $\beta = -0.13$, $p < 0.05$), and it influenced SR only in Model A (model A: $\beta = -0.15$, $p < 0.01$; model B: $\beta = -0.06$, $p > 0.05$).

5. Discussion

The results across both data sets supported the proposed positive association of INS with SR, implying that users in social media groups share news instantaneously (in accordance with TPE), particularly if it is related to religion, to create awareness among group members. This result supports the findings of previous studies that opinions may be shared more freely in familiar situations like social groups (e.g., Moe et al., 2014). It is also in line with the building blocks of "relationship and sharing" proposed in the honeycomb framework (Kietzmann et al., 2011). It confirms the view that individuals believe and share any religion-related news they receive if it aligns with their views and

Table 6
Model fit indices for measurement and structural models.

Measure	Model A		Model B		Recommended values
	CFA	SEM	CFA	SEM	
CMIN/DF	1.61	2.23	1.88	1.96	< 4
GFI	0.96	0.94	0.94	0.94	> 0.9
AGFI	0.94	0.91	0.92	0.90	> 0.9
TLI	0.98	0.94	0.96	0.94	> 0.9
CFI	0.98	0.96	0.97	0.96	> 0.9
NFI	0.97	0.93	0.93	0.91	> 0.9
RMSEA	0.04	0.05	0.05	0.05	< 0.08

Note. Chi-square ratio degrees of freedom (CMIN/DF), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) Goodness of Fit Index(GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Root mean square error of approximation (RMSEA).

beliefs, as argued by the sociotechnical model of media effects (Marwick, 2018). Finally, the finding also reinforces the tenets of TPE, which suggest that individuals want their group members to know any religion-related news that they believe to be true.

The association of INS with LT was supported in both models. This implies that users are likely to share all information and news coming their way on social media, which may lead to the inadvertent sharing of fake news. In other words, people want to share more and more information with their group members as fast as possible, and, in the interests of speed, they might also share fake news that seems true (Hunt, 2016). This outcome is consistent with the TPE hypothesis, the behaviour postulated by the social identity theory (Tajfel and Turner, 1986) and the interpretation of the building blocks of "identities and conversations" in the honeycomb framework (Kietzmann et al., 2011).

The relationship between AC with both SR and LT was hypothesised to suggest that social media users who are mindful of their reputation within their social group may adopt AC measures, such as educating the senders of fake news on how to authenticate it. Both hypotheses were supported for Model A. This finding lends support to the social distance corollary of TPE (Davison, 1983), which proposes that people act to protect others from harmful media messages, as well as the social exchange theory (Malinowski, 1922), which proposes that people like to make decisions that lead to positive perceptions within their social groups. A positive outcome of taking corrective action is the possibility of greater trust; that is, social media users who make other users aware of the falsehood of a news item can succeed in earning their social group's trust. The same can also be inferred from the "reputation" building block in the honeycomb framework (Kietzmann et al., 2011).

In the case of Model B, an association of AC with SR was not supported. This may be linked to the location of sample collection. Data for Model B was collected from a metropolitan city in India, where the young generation is exposed to a more cosmopolitan culture. They are unlikely to participate in religion-related discourse. However, this is a preliminary conclusion, and more data are needed to verify it. On the other hand, support for the association of AC with LT in Model B confirms that young users in metropolitan cities who take active corrective action against fake news are conscious of their responsibility to curtail the spread of fake news.

The proposed relationship between PC (passive corrective action such as blocking senders of fake news) with SR and with LT was not supported in Model A. This finding is in contrast with the behaviour anticipated according to the "reputation" building block of the honeycomb framework (Kietzmann et al., 2011), the social exchange theory (Malinowski, 1922) and prior research on the concept of trust. This is possibly because this study focused on young WhatsApp users who may
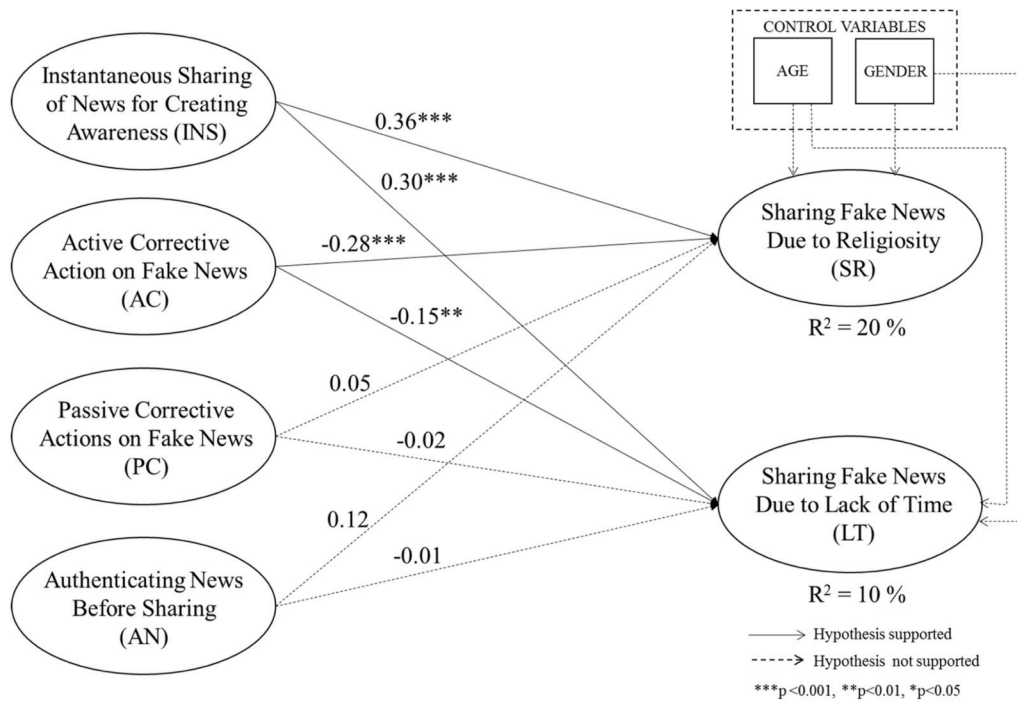
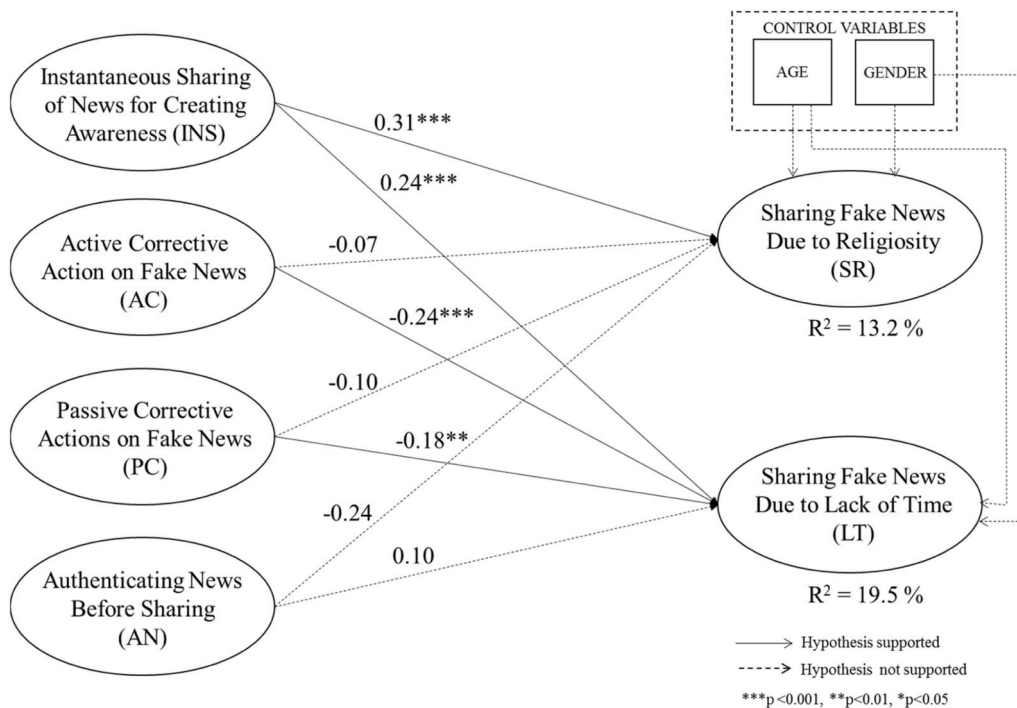**Fig. 4.** The results of hypotheses testing (Model A).

Fig. 5. The results of hypotheses testing (Model B).

be unwilling to take passive corrective action (such as blocking the fake new sender), as WhatsApp groups typically comprise friends and acquaintances, and blocking someone may attract inter-personal problems as well as backlash from other group members. To draw more conclusive inferences, future research should examine a similar hypothesis among other age groups of social media users. Interestingly, the association between PC and SR was not supported in Model B either. However, the association between PC and LT was supported, which again highlights the importance of the sample location and should be explored in depth

in future studies. The support for the hypothesis implies that users who adopt PC measures are not likely to share fake news due to LT, in consonance with the social exchange theory and the "reputation" building block of the honeycomb framework.

Finally, the hypotheses that users who authenticate any news before sharing it are likely not to share the fake news because of SR and LT were not supported by either model. This result deviates from the "reputation" building block in the honeycomb framework (Kietzmann et al., 2011) and the social distance corollary of TPE (Davison, 1983). It is

Table 7
Result of hypothesis testing.

Hypothesis	Path	Model A		Model B	
		β	Support	β	Support
H1	INS → SR	0.36	Yes	0.31	Yes
H2	INS → LT	0.30	Yes	0.24	Yes
H3	AC → SR	-0.28	Yes	-0.07	No
H4	AC → LT	-0.15	Yes	-0.24	Yes
H5	PC → SR	0.05	No	-0.10	No
H6	PC → LT	-0.02	No	-0.18	Yes
H7	AN → SR	0.12	No	-0.24	No
H8	AN → LT	-0.01	No	0.10	No

Note: AC: active corrective action on fake news; PC: passive corrective action on fake news; INS: instantaneous sharing of news for creating awareness; AN: authenticating news before sharing; LT: sharing fake news due to lack of time; SR: sharing fake news due to religiosity.

possible that social media users with a tendency to authenticate news are less prone to sharing news in general. Our findings are, however, consistent with a recent study by Talwar et al. (2019), who also found that authenticating news before sharing had no significant association with most explanatory variables. Like Talwar et al. (2019), we emphasise the need for more investigations on the relationship between authenticating news before sharing and other exploratory variables, which take into account moderating influences.

6. Conclusion

This study explored the different manifestations related to fake-news sharing behaviour of SMP users via two research questions. To answer RQ1, a qualitative study was conducted, identifying the various behaviours related to sharing of unauthenticated news. The process resulted in the development of six measures that included two forms of coping mechanisms: AC and PC. The other measures were INS, AN, LT and SR. As this is an exploratory study, we specially developed scales for various measures and examined whether the behaviours in the qualitative study were in consonance with the results from prior studies. Accordingly, we mapped the themes derived from the qualitative study to the honeycomb framework and found that the manifested behaviours were consistent with one or more building blocks of the honeycomb framework. For instance, the "reputation" block explained why users make efforts to take corrective action against the spread of fake news. Similarly, the identity block clarified the motivation to share news instantaneously. These linkages corroborate the findings of the qualitative study and lend credibility to the manifestations of sharing fake news.

To answer RQ2, we explored the associations between different manifestations of fake-news sharing behaviour with the help of the TPE hypothesis. The proposed research model was tested by applying SEM to two different data sets collected from two different locations in India. The results showed that INS had a positive relationship with SR and LT, but AN shared no association with SR or LT in both data sets. The results also revealed that young users who took positive corrective action were unlikely to share fake news due to LT and SR. Further, the path co-efficients suggested that users' age had a significant effect on sharing of fake news due to LT, whereas gender had an effect on sharing fake news due to SR. The current study and its findings have some key theoretical and practical implications for organisations, brands, service providers, practitioners and researchers.

6.1. Theoretical implications

First, the study extends the application of the honeycomb framework as well as the TPE theory beyond the traditional media to explain the phenomenon of fake news spread through SMPs. The honeycomb framework is a popular theoretical lens, widely used by practitioners

and the scientific community. While it has been mainly used to study social media use behaviour and social media ecology from an organisational perspective, our study introduces a new dimension by applying it to fake news sharing. Similarly, we have empirically tested and validated the applicability of seminal theories like TPE in the context of sharing of fake news on SMPs.

Second, our study makes a significant contribution to the current knowledge on sharing of fake news on SMPs by proposing and testing the validity of new and less-known measures. Instantaneous sharing of news online, active and passive corrective action against fake-news sharing, authenticating news before sharing and sharing of fake news due to lack of time and religiosity are measures that have not been explored before. The developed measures can potentially help the scholarly community deepen the research on fake-news sharing behaviour, which is currently at a nascent stage.

Third, these findings have uncovered new facets of fake-news sharing and SMP use behaviour. For instance, the six behavioural manifestations of fake-news sharing, along with the honeycomb framework, suggest that the sharing behaviour associated with fake news is no different from general information sharing behaviour on SMPs. SMPs offer a sense of social identity and belongingness, which blurs the divide between what should be shared and what is not true. Thus, it is likely that the sharing of fake news may not stem from malice but from a psychological need to keep groups informed and to remain connected. This, perhaps, makes the menace of online fake news even more difficult to counter. Our study findings on corrective action and authentication of news before sharing suggest that social media affordances provide the basis for socially responsible behaviour as well. Positive outcomes such as earning the trust of social group members and enhancement of self-reputation can encourage users to engage in corrective action that will ultimately help in combating the fake news problem. These revelations contribute to the theoretical knowledge in the domain.

Fourth, our study adopted a mixed-method approach, which is fast becoming a tool for more robust analysis (Creswell, 2013). In this context, the study reinforces the usefulness of a mixed-method approach for grounded theory studies (Glaser and Strauss, 1967). Further, by testing the research model through multiple data sets collected from different locations, the study opens the debate on whether locational factors influence the sharing of fake news within the same country.

Finally, this study focuses on SMP users living in a developing country. This in itself is a valuable contribution because of the dearth of studies on fake news in such regions. By shifting the attention to developing countries, we open the possibility of initiating future research in diverse geographies, which can yield more globally relevant and authentic results. This is especially useful given the growing use and penetration of social media in developing countries.

6.1.1. Practical implications

Sharing of news without authentication, especially if it is fake, can have extremely damaging consequences for organisations and brands. For instance, poor reviews on SMPs can have severe implications for a brand or serve as a source of advertising, particularly in an increasingly connected society, characterised by the rising importance of customer engagement (Islam et al., 2019a, 2019b; Zhou and Duan, 2016). Understanding the behaviour of users who share fake news without the appropriate corrective action can help marketers develop strategies to combat its spread. For instance, they can design communication that encourages individuals to take corrective action against the fake news they receive on social media and thus promote positive and relevant information about their brands.

Second, the negative association between AC and SR in our findings suggests that governments can formulate and spread messages that encourage social media users to undertake corrective behaviour. This can go a long way in mitigating the spread of fake news, especially related to religion or ethnicity, which has become a grave concern globally.

Third, our results show a positive association of INS with SR and LT, respectively. This indicates that news-sharing instincts push people to forward news items instantaneously. This supports the need for regulatory control of SMPs to some extent, particularly during a crisis such as the COVID-19 global pandemic (WHO, 2020), wherein fake news spread can induce fear and panic among the public. This poses an enormous challenge, especially because fake news items may resemble credible journalism (Hunt, 2016), causing people to believe them and act accordingly.

Finally, our study results suggest that social media users share news and information to gratify their social needs. Earlier studies have also discussed the gratifications associated with SMP use among various age groups (Dhir et al., 2017, 2018). Users' social stature and reputation in online social groups can improve significantly if they establish their identities as those who take corrective action against the circulation of fake news. Regulators, brands, service providers and organisations could benefit from these findings and utilise them to stem the spread of fake news.

6.2. Limitations and avenues for further research

Despite the use of a mixed-method design approach with a large sample size, the study suffers from the limitations associated with any cross-sectional study that is based on self-reported information, including various methodological biases and lack of information on causality. Future studies could address this limitation by adopting longitudinal and experimental research designs.

Second, our samples consisted of young social media users living in India. This imposes some restrictions on the generalisability of the findings. It would be interesting to replicate these investigations among social media users of other age groups and from different geographies.

Third, we mainly focused on six behavioural manifestations related to fake-news sharing behaviour. However, exploring other interesting aspects related to fake-news sharing on SMPs, such as gossip-sharing behaviour, fear of missing out, social media fatigue and the dark side of social media use, could offer interesting insights.

Lastly, we have not tested the moderating influences of educational background, income or other variables that could have provided more granular results. Studies undertaken in future should identify and investigate moderating variables in order to highlight individual differences in fake-news sharing behaviour. Despite these limitations, however, this study makes a significant contribution to the emerging research domain of fake-news sharing behaviour.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jretconser.2020.102197.

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