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# The Internal and Extrinsic Determinants Predicting Fake News Dissemination Among Social Media Users: The Moderating Influence of Fake News Awareness.

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**Abstract:**

Fake news is becoming more and more investigated, but little is known about the relative effects of various elements on the spread of false news and how to stop it. This research addresses user motivation and the online environment as extrinsic and intrinsic elements, respectively, to bridge this gap. It also looks at the impact that knowledge of fake news plays in halting the spread of fake content. This study uses partial least square (PLS) to describe the outcomes of an Indian sample (N=450) in order to ascertain the effects of "extrinsic factors (trust in network, homophily, norm of reciprocity, and tie strength)" and intrinsic factors (altruism, information sharing, socialisation, and status-seeking) on the spread of fake news. In contrast to other studies, I approached the two primary components as higher-order entities. This research showed that among Indian social media users, the attraction of the online environment was more important in influencing the spread of bogus news than user motivation. Researcher also discovered that reduced sharing of fake news was correlated with greater knowledge of fake news. This finding highlights the value of raising awareness about fake news as an intervention tactic to stop its spread. Further studies are required to expand on our results and evaluate them in cross-cultural contexts. Time series analysis will also be used to understand better the impact of growing knowledge of fake news over time.

**Keywords:** Fake news awareness, Fake news, Online environment, Social media users, User motivation.

## 1. Introduction

A combination of factors, including the increasing reliance on mobile phones for news consumption and distribution and the broad usage of social media platforms, has hastened the dissemination of fake news.[1] In the last several years, academics and decision-makers have paid close attention to and scrutinized misinformation and false news. This is due to the fact that the dissemination of false information is seen as an information disorder with social, political, and economic ramifications.[2][3] In a similar vein, policymakers have been searching for answers through a variety of approaches, including creating tools "for news verification and fake news detection,[4] (Tandoc et al., 2018), enforcing stringent laws and regulations.[5] (Roozenbeek & van der Linden, 2019), and encouraging digital literacy or fake news awareness in the public to stop the spread of fake news."[6]

Many studies have been drawn to the growth of false news in the contemporary day and examined predictors of the dissemination of fake news.[7] The majority of research papers that looked at predictors of false news used the "Uses and Gratification theory (UGT): to show how various reasons might predict the distribution of fake news on social media.[8][9] A few studies combine multiple perspectives to explain the phenomenon, such as affordance theory and cognitive load.[10][11] "social network site dependency theory and social impact theory,"[12] and UGT. Unfortunately, these studies couldn't show how several elements affected the propagation of false news since they only looked at one part of the component at a time. This study aims to examine the relationship between user motivation (an internal component) and the online environment (an external component) in relation to the propagation of disinformation. In contrast to earlier studies, higher-order constructs are used to tackle internal and extrinsic variables. Additionally, this study's findings could support initiatives to lessen the negative effects of fake news.[13-15] As far as we are aware, little research has been done on how understanding fake news might help to counteract its spreading effects. This is why my study includes familiarity with

disinformation as a moderating factor. I anticipate that this will serve as a preventive measure to halt the dissemination of fake news.

## 2. Studies of fake news

Numerous prior researches have focused on user-related aspects to understand the spread of false news better researchers have. Confirmation bias,[16] "self-promotion, entertainment, exploration, and religiosity,[17] altruism, information sharing, information seeking, and passing the time,[18] lack of knowledge, laziness in authenticating information sources, and lack of critical thinking are just a few of the individual factors they found that contribute to the spread of fake news on social media." However, an increasing number of researches looked at variables other than users. According to Chen et al. (2015),[19] individuals are more likely to spread false information when the material is credible and relevant than when the source is mentioned. According to other research, social media's wealth of knowledge helps propagate fake news.[20] Overwhelming amounts of information are often linked to information overload, which has been shown "to be a strong predictor of COVID-19 unverified news dissemination."[21] The findings imply that user-related variables have varying impacts in various circumstances. This is partially due to the fact that earlier research examined the variables as independent predictors rather than as a cohesive predictor to demonstrate the impact of the user factor in connection to other components.

To fill this knowledge vacuum, this study develops a research model to examine the factors as cohesive predictors of the spread of false news on social media, taking into account both extrinsic (related to the online environment) and intrinsic (to the user themselves) motivation. To emphasise, "the intrinsic" element includes the following: sharing of knowledge, socialising, benevolence, and status-seeking. In our opinion, altruism is when people share knowledge on social media to benefit others without considering the possibility of receiving anything in return. Information sharing focuses on the factors that motivate social media users to educate others. Socialization refers to the process of exchanging information with other network users in order to promote togetherness and camaraderie. Attempting to get attention by sharing material in order to maintain one's status on social media is called status-seeking. Confidence in the network, norm of reciprocity, homophily, and tie strength are examples of extrinsic influences. Researcher characterise a person's trust in other members of their network as their level of trust in them. The similarity between network members that encourages them to exchange news freely is known as homophily. The idea that individuals would reciprocate news that we share with them is known as the norm of reciprocity, and the degree of connection strength that exists online is known as tie strength. The Social Capital Theory (SCT) and the Uses and Gratification Theory (U&G) provide the basis for the extrinsic and intrinsic elements, respectively.

Research on disinformation and false news has increased, but emerging nations—particularly those in Asia—have received less attention.[22] This calls for further research to be done in this field. "The majority of research that is published in the literature focuses on the relationship between fake news and politics. Examples of this include studies on fake news public opinion in Japan, South Korea, and Thailand[23] fake news governance in Asia-Pacific (Neo, 2022), and misinformation regulation in Asia-Pacific."[24] There aren't many studies that look at why individuals in Asian societies spread false information. For instance, political prejudice and cognitive aptitude were shown by Tandoc et al. (2021)[25] to be significant predictors of false news sharing in Singapore, while online trust, self-disclosure, and "FOMO were found to be predictors of fake news sharing behaviour in India by Talwar et al.[26] Altruism, ignorance, and entertainment were found to be significant predictors of the spread of fake news related to the COVID-19 pandemic in India,[27] while self-promotion, exploration, entertainment, and religiosity were found to be significant predictors in Bangladesh."[28] Since "most of the world's social media users reside in Asia," it is crucial to remember this[29] As a result, additional study with an Asian perspective is required. In the process, we concentrated on India, a developing nation. Given that the percentage of Indians with internet access "reached 88% in 2020 and is expected to rise to 89.6% in 2025 (Statista Research Department, 2022), it is critical to comprehend the factors that encourage the spread of false information in one of Asia's most internet-connected nations." Therefore, the results of this research may indicate a more widespread pattern of the issue in the worldwide network.

## 3. Development of theoretical frameworks and hypotheses

In order to understand "intrinsic (i.e., user motivation) and extrinsic (i.e., online environment) causes for false news distribution on social media, I merged the Uses and Gratification Theory (UGT) and Social Capital Theory (SCT)." As we contend that UGT fails to account for the extrinsic elements influencing sharing, this research incorporates SCT

assumptions in order to provide a deeper understanding of the phenomena that extend beyond the user component. A moderator of fake news awareness was also added in this study to mitigate the effect of the identified predictors on the online sharing behavior of false news among Indians.

### 3.1. The uses and gratification theory (UGT) viewpoint on intrinsic user motivation

It has been shown that "the UGT is often used to analyse social media gratifications," indicating that people utilise technology to fulfil their psychological and social needs.[30] In conclusion, the idea focuses on what people do with the media rather than what people are affected by it.[31] The UGT has gained popularity recently as a means of understanding the underlying reasons people use various digital platforms in various contexts and domains.[32][33] Additionally, "it has been used to investigate news sharing, knowledge sharing, and false news behaviour."[34] Drawing on the UGT and other research, this study's user component included status-seeking, kindness, sociability, and knowledge-sharing. Hence, we postulated that:

"**H1. The user factor will have a positive relationship with the spread of fake news.**"

### 3.2. Social capital theory's viewpoint on the extrinsic online environmental component

Coleman (1988) developed the social capital hypothesis, which holds that social media sharing is an extension of the benefits individuals get from interacting with others. [35] To summarise, the theory posits that social relationships facilitate the development of value via the interchange of information and resources. [36] Consequently, social capital is deeply ingrained in the relationships that individuals have with one another and with their cultures.[37] Relational, cognitive, and structural components are the three elements of social capital.[38] The structural component considers the overall structure of relationships that exist between individuals. Individuals with certain connections inside a network, for instance, may have faster access to information than others. According to Nahapiet and Ghoshal (1998),[39] the relational dimension comprises trust, identity, duty, and reciprocity standards. Shared language, codes, and narratives make up the cognitive component.[40] But homophily has been introduced to this element by recent research.[41]

The present research used tie strength, trust, reciprocity, and homophily as social capital variables. Information and knowledge sharing,[42] information searching,[43] and news sharing[43] have all been tested in the past using the social capital dimensions. It could be relevant to false news dissemination, given that it has been effectively used to assess "news-sharing behaviour." Therefore, we hypothesised that:

**H2. The spreading of fake news is likely correlated with the online environment component.**

### 3.3. Awareness of fake news as a moderating element

Research indicates that human behaviour plays a significant role in the spread of fake news, as individuals may carelessly share false information they come across on social media.[45] Therefore, users, if they are more knowledgeable and able to recognize the existence of frecognise, might have a significant role in helping to reduce it.[46] Researchers have also shown that those who use social media without exercising critical thought are more susceptible to false information.[47] The findings of this research largely concur that critical thinking, which educates individuals about fake news and its serious social repercussions, is linked to the capacity to "distinguish between true and false news."

According to this research, people's tendency to spread false information may be reduced or avoided if they are sufficiently aware of it. "The practical knowledge of what fake news" is and the ability to identify it because of rising media literacy are the parameters by which we characterise fake news awareness in this research. According to earlier studies, having the necessary expertise to spot false news when it's encountered is also crucial.[48] According to earlier research, media literacy interventions may enable "social media users" to counteract incorrect information, and using "critical thinking" is essential to disprove misleading material.[49] Research indicates that the application of deductive reasoning can aid individuals in distinguishing between factual and misleading content.[50] Additionally, individuals who possess greater awareness and knowledge of fake news are more likely to double-check information before sharing, consuming, and believing it.[51] On the usefulness of raising awareness of false news as a countermeasure to its spread, there are divergent opinions. For instance, Papapicco et al.[52] discovered that people—despite being aware of the practice of spreading fake news—share inaccurate information on social media. The inability of individuals to discern between false news and real news has also

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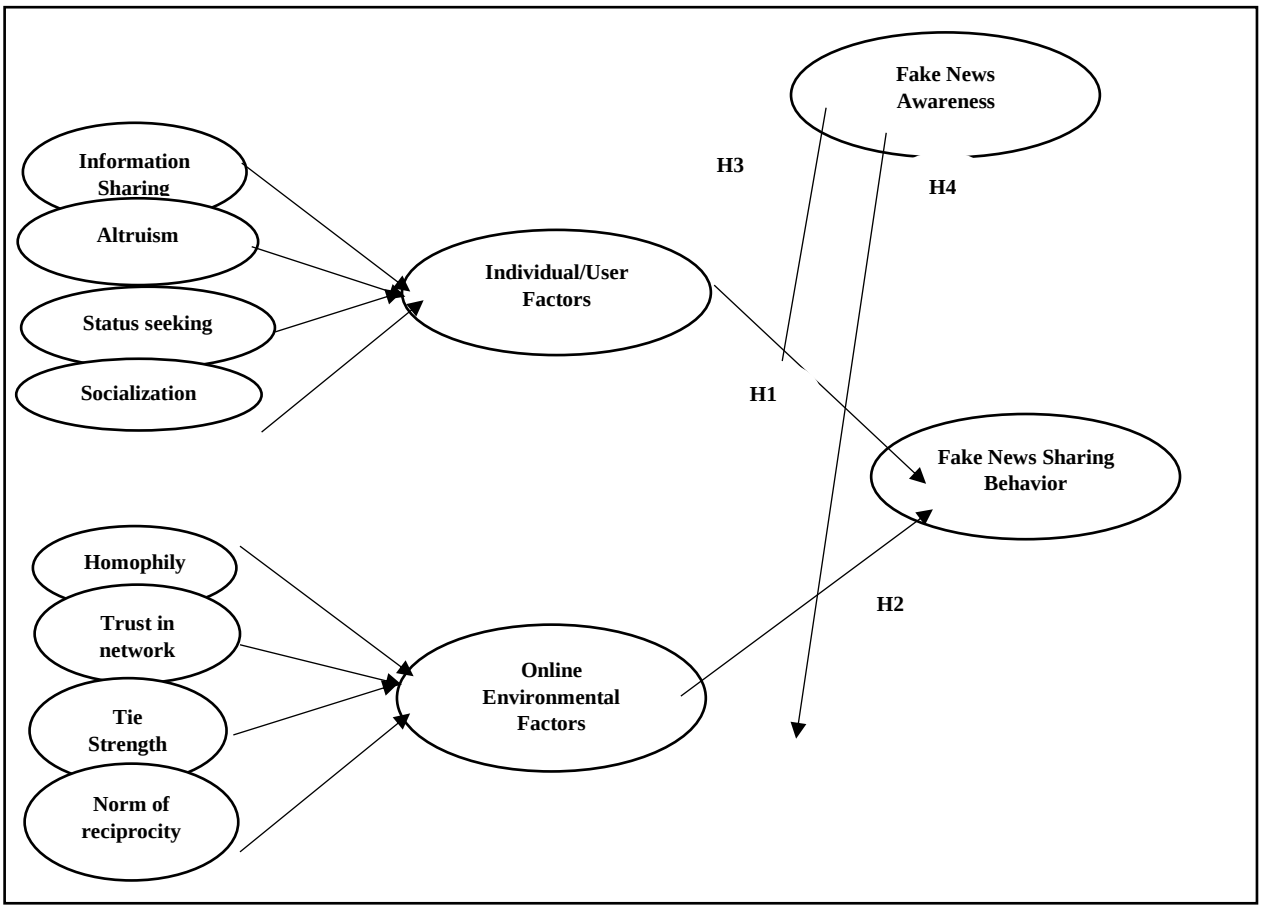
been linked to information overload, indicating that raising people's knowledge of fake news may not have as much of an impact as it might.[53]

Figure-1: A structural model at a higher level of fake news dissemination




Results on the impact of being aware of fake news are inconclusive. Researcher use a moderating factor approach, drawing from several lines of reasoning, to ascertain if online environment and user factor have a greater influence on the spread of false news among those with poor fake news awareness, as opposed to acting as a direct predictor. Our aim is to investigate and confirm if raising awareness about fake news might reduce the inherent and extrinsic factors that encourage the spread of false information. Consequently, we hypothesised that:

"**H3. The association between user factor and the spread of fake news will be moderated by fake news awareness, making it stronger for those with lower levels of awareness.**"

"**H4: The association between the online environment factor and false news sharing will be tempered by fake news awareness, with the relationship being higher for those with lower levels of awareness.**"

## 4. Methods

### 4.1. Samples and research design

The present research used a participative approach to crowdsource survey responses in order to gather data and viewpoints from a large population that is often accessed over the Internet.[54] There are several benefits to this approach. Researchers may get a variety of data in real time via "crowdsourced data collection, which is more effective and less costly than standard data-gathering techniques."[55] Over the course of two months, the researcher gathered 650 replies using this methodology. The researcher established two requirements for inclusion: respondents had to be active social media users and older than eighteen. Just 450 of the 650 replies were deemed genuine, and 200 cases had straight lines that needed to be fixed. When respondents provide almost similar answers to the majority of questions, this is known as a straight-line pattern.[56]

The researcher examined the straight-lining issue in this research using Microsoft Excel, and all 200 examples were discarded for further examination. The researcher utilised information on the distribution of the Indian population to inform our sample selection since the crowdsourcing data-gathering approach is known to introduce sampling bias.

The demographics of the study participants are shown in Table 1.

Table-1: Distribution of Respondents Demographics

| Characteristics | Frequency | Percentage (%) |
|---|---|---|
| **Gender** | | |
| Male | 285 | 63.33 |
| Female | 165 | 36.67 |
| **Age** | | |
| 18-25 | 223 | 49.55 |
| 26-35 | 148 | 32.89 |
| 36-45 | 33 | 7.34 |
| 46-55 | 25 | 5.55 |
| 56 and above | 21 | 4.67 |
| **Education** | | |
| Up to X$^{th}$ Class/SSC | 95 | 21.12 |
| Intermediate | 131 | 29.11 |
| Graduation | 150 | 33.33 |
| Post-Graduation | 46 | 10.22 |
| Others | 28 | 6.22 |
| **Frequently Used Social Network System** | | |
| Facebook | 93 | 20.66 |
| Whats App | 235 | 52.23 |
| Instagram | 69 | 15.34 |
| Twitter | 31 | 6.89 |
| Others | 22 | 4.88 |
| **Time** | | |
| 1-3 hours | 175 | 38.88 |
| 4-6 hours | 182 | 40.44 |
| 7-9 hours | 45 | 10.00 |
| 10 hours and above | 48 | 10.66 |

Source: Filed study

### 4.2. Measures:

All metrics were modified from previous research, with the exception of "false news awareness, which was created specifically for this study." The researcher modified the concepts of "intrinsic and extrinsic" variables by drawing on supporting theoretical arguments and empirical data from earlier research. Furthermore, the study's intrinsic and extrinsic incentive clusters have been statistically confirmed to include them. A 5-point Likert scale, ranging from strongly disagree (1) to agree (5) strongly, was used to assess the constructs. This socialising should be mentioned that this research's introduction defines every concept. While the researcher modified "socialising, knowledge sharing, and status-seeking from Thompson et al. (2019),[57] Researcher adapted altruism from the research of Apuke and Omar."[58] This research implies that the recognised constructs have been shown to be important in the explanation of the user factor. Liu et al. (2016)[59] provided the norm of reciprocity, Apuke and Omar (2021)[60] provided the trust in the network, and Ma et al. (2014)[61] research provided the tie strength and homophily. According to this research, factors that influence sharing behaviour confirming online include homophily, norms of reciprocity, confidence in the network, and tie strength. Items that spread fake news were taken from research by "Chadwick and Vaccari (2019)[62] and Laato et al. (2020)."[63] Regarding the fake news awareness measure, we extrapolated from earlier research indications of knowledge and expertise in

identifying false news (Tor des et al., 2018). The signs were pre-tested on a few social media users before being confirmed by a team of specialists. Researcher developed the fake news awareness test items in accordance with Moore and Benbasat's (1991)[64] methodology, "which was further validated by statistical analyses of conformant validity and discriminant validity" performed in this research (refer to the findings section).

### 4.3. Common bias in methods

Tests for common method bias are required since the researcher gathered all of our replies from the same source. The Harman's single-factor test was performed to look for any possible bias. Since a component only accounted for 23.4% of the biggest variation explained, it is less than 50%, which suggests that there is no problem with common method bias.[65] In accordance with Memon et.al., (2021)[66] recommendations, the full collinearity test was used to test common method bias once a dummy variable was regressed against every variable in the model. The findings indicated that every value was below the 3.3 threshold, indicating that our study is not affected by "common method bias" (see Table 2).

**Table-2: Complete evaluation of collinearity**

| "Variable | Random dummy variable |
|---|---|
| Information Sharing | 2.036 |
| Altruism | 1.752 |
| Status seeking | 1.743 |
| Socialisation | 2.454 |
| Homophily | 1.956 |
| Trust in network | 1.447 |
| Tie Strength | 1.644 |
| Norm of reciprocity | 1.925" |

Source: Field study

## 5. Data Analysis

Our proposed model was double-checked utilizing a two-stage procedure, the first of which was evaluating the measurement model and the second the structural model, as is typical in any study "using partial least square (PLS)" analysis.[67] Since PLS is capable of handling complex models with both formative and reflecting components, it was chosen by the researchers. Through the use of the repeated indicator approach, this study examined "the reflective-formative HCM of the user factor and the online environment factor." This methodology works best when the lower order constructs—"trust in networks, homophily, norm of reciprocity, and tie strength—have a similar number of indicators and the higher order constructs are exogenous variables for reflective formative type II modelling." [68] Next while analyzing the higher-order "formative constructs of user factors and online environment factors," the researcher took into account the weights of all lower-order components, multicollinearity, and redundancy analysis. An explanation in depth is given in the subheadings that follow.

### 5.1. Evaluating the lower-order reflective constructions

Researcher examined internal consistency, convergent validity, and discriminant validity in order to assess the lower-order reflective components. [69] "Using Cronbach's alpha, composite reliability (CR), and rho_A, internal consistency was assessed. Utilising factor loadings and average variance extracted (AVE), convergent validity was examined. Utilising the Hetero-trait-Mono-trait Ratio of Correlations (HTMT), the discriminant validity was assessed." With the exception of IS 3, IS5, FNA 1, 2, 11, and 12, we discovered that all of the factor loadings in this view were higher than the 0.7 criterion. Thus, loadings less than 0.7 were eliminated (see Table 3). Additionally, the suggested thresholds of 0.5, 0.7, rho_A, and CR were exceeded by AVE, CR, CA, and rho_A, respectively. Since all of the HTMT values were less than 0.85, we were able to rule out any issues with discriminant validity.

### 5.2. Evaluating the formative, higher-order structures

The formative and reflective constructions use different methods of evaluation. The formative constructs assess external weights' relevance and significance, as well as convergent validity and collinearity issues. If the outside weight is not

significant, researchers are encouraged to use the outer loading, provided it is more than 0.50. A redundancy analysis was run with a single global item initially. Because the user factor's path coefficient value was 0.762 and the online environment factor's value was 0.845, both of which were more than the recommended threshold of 0.70, we were able to conclude that convergent validity was not an issue.[70] (See Table 5). Additionally, as all of "the outer VIF fell below the 3.3 cut-off point" multicollinearity was not a problem (see Table 6). Furthermore, the online environment factors and the four dimensions of the user factor had significant values for the outer weights ($p < 0.001$). This suggests that the weights of the indicators were meaningful and substantial. They thus clearly contributed to their respective constructs.

### 5.3. "Evaluation of the structural model"

When "evaluating the structural model," we adhered to Sarstedt et al. (2021)'s[71] advice. First, as regression analyses were used to compute the route coefficient connecting the constructs, we examined the structural model's VIF. Through this approach, researchers may determine whether or not collinearity difficulties taint the regression findings were. Table 8 shows that "the predictors' VIF values did not above the 3.3 threshold, indicating that there are no collinearity problems. Second, we evaluated the T-value, effect size (f2), predictive relevance (Q2), coefficient of determination (R2), and relevance and importance of the structural model (beta, β). The bootstrapping approach was used to determine the path coefficient's significance, using a 5000 resampling on a one-tail test option."

## 6. Results

Table 8 demonstrates that the user factor strongly predicted the spreading of bogus news "($\beta = 0.228$, $p<0.001$), hence supporting H1." Furthermore, the behaviour of spreading bogus news was substantially predicted by the online environmental factor, as expected "($\beta = 0.408$, $p<0.001$). This validated H2 (refer to Figure 2). When it came to impact size, the 002 threshold included a modest to moderate range. We used the cross-validated redundancy measure" (Q2) to assess "the predictive" significance of the model after determining the effect size (Hair et al., 2017). This result indicated that the Q2 was higher than zero ($Q2=0.214>0$), indicating a strong predictive significance for our model. In summary, we found that "42% of the variation in people's sharing behaviour" of false news can be explained by our model (See Fig. 2). According to Cohen's(1988)[72] rule, a level of prediction accuracy of 0.26, 0.13, and 0.02 is considered significant, moderate, and weak. Based on these values, this variance is classified as substantial. Furthermore, R2 values of 0.10 or above are suggested by Falk and Miller (1992)[73] as a sufficient threshold for the variance explained by a particular concept.

According to the moderation hypotheses (H3 and H4), there will be less of a correlation between the user component and the online environment factor and the distribution of false news as knowledge of fake news increases. "The interaction term between the user factor and knowledge of false news showed negative significance ($\beta = -0.187$, $p<0.001$) in the results. This supports H3. Fake news sharing behaviour was the endogenous variable, and the second interaction term of online environment factor fake news awareness was also negatively significant ($\beta= -0.285$, $p<0.001$). This lends acceptance to H4. These findings are further explained in Figures 3 and 4."

Table-3: Convergent Validity in Reflective Constructs of Lower Order

| Second order construct | Items | Outer Loading | CA | rho_A | CR | AVE | M | SD |
|---|---|---|---|---|---|---|---|---|
| **Information Sharing** | IS1 | 0.858 | 0.765 | 0.766 | 0.864 | 0.681 | 4.085 | 0.751 |
| | IS2 | 0.841 | | | | | 4.203 | 0.703 |
| | IS3 (deleted) | 0.405 | | | | | 3.511 | 1.001 |
| | IS4 | 0.776 | | | | | 3.956 | 0.782 |
| | IS5(deleted) | 0.507 | | | | | 3.194 | 1.064 |
| **Altruism** | ALT1 | 0.741 | 0.831 | 0.834 | 0.880 | 0.597 | 4.134 | 0.721 |
| | ALT2 | 0.793 | | | | | 4.160 | 0.711 |
| | ALT3 | 0.795 | | | | | 4.052 | 0.783 |
| | ALT4 | 0.774 | | | | | 3.981 | 0.811 |
| | ALT5 | 0.758 | | | | | 3.846 | 0.868 |
| **Status seeking** | SS1 | 0.740 | 0.871 | 0.875 | 0.906 | 0.662 | 3.546 | 1.037 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | SS2 | 0.844 | | | | | 3.280 | 1.105 |
| | SS3 | 0.854 | | | | | 3.094 | 1.115 |
| | SS4 | 0.775 | | | | | 3.091 | 1.103 |
| | SS5 | 0.847 | | | | | 3.258 | 1.080 |
| **Socialization** | SOC1 | 0.774 | 0.834 | 0.835 | 0.882 | 0.601 | 3.954 | 0.797 |
| | SOC2 | 0.772 | | | | | 3.717 | 0.954 |
| | SOC3 | 0.810 | | | | | 3.757 | 0.871 |
| | SOC4 | 0.764 | | | | | 3.897 | 0.811 |
| | SOC5 | 0.754 | | | | | 3.761 | 0.927 |
| **Homophily** | HOMP1 | 0.811 | 0.881 | 0.880 | 0.917 | 0.736 | 3.548 | 0.905 |
| | HOMP2 | 0.882 | | | | | 3.453 | 0.962 |
| | HOMP3 | 0.867 | | | | | 3.395 | 1.007 |
| | HOMP4 | 0.868 | | | | | 3.431 | 0.972 |
| **Trust in Network** | TRN1 | 0.811 | 0.886 | 0.888 | 0.921 | 0.745 | 3.158 | 0.983 |
| | TRN2 | 0.748 | | | | | 3.140 | 0.991 |
| | TRN3 | 0.803 | | | | | 3.234 | 0.943 |
| | TRN4 | 0.871 | | | | | 3.311 | 0.954 |
| **Tie Strength** | TS1 | 0.838 | 0.750 | 0.751 | 0.857 | 0.667 | 3.637 | 0.868 |
| | TS2 | 0.762 | | | | | 3.474 | 0.950 |
| | TS3 | 0.764 | | | | | 3.721 | 0.866 |
| **Norm of Reciprocity** | NORM1 | 0.801 | 0.805 | 0.805 | 0.872 | 0.633 | 3.322 | 1.006 |
| | NORM2 | 0.834 | | | | | 3.333 | 1.057 |
| | NORM3 | 0.833 | | | | | 3.313 | 1.020 |
| | NORM4 | 0.853 | | | | | 3.544 | 0.912 |
| **Fake news Sharing** | FNS1 | 0.746 | 0.933 | 0.937 | 0.945 | 0.685 | 3.216 | 1.084 |
| | FNS2 | 0.817 | | | | | 3.114 | 1.063 |
| | FNS3 | 0.858 | | | | | 2.987 | 1.113 |
| | FNS4 | 0.858 | | | | | 2.952 | 1.132 |
| | FNS5 | 0.860 | | | | | 3.005 | 1.141 |
| | FNS6 | 0.800 | | | | | 3.021 | 1.111 |
| | FNS7 | 0.821 | | | | | 2.826 | 1.192 |
| | FNS8 | 0.852 | | | | | 2.764 | 1.170 |
| **Fake news Awareness** | FNA1(Deleted) | 0.581 | 0.781 | 0.872 | 0.864 | 0.66 | 3.755 | 0.980 |
| | FNA2(Deleted) | 0.234 | | | | | 3.755 | 0.980 |
| | FNA3 | 0.783 | | | | | 3.755 | 0.980 |
| | FNA4 | 0.820 | | | | | 3.755 | 0.980 |
| | FNA5 | 0.820 | | | | | 3.755 | 0.980 |
| | FNA6 | 0.794 | | | | | 3.755 | 0.980 |
| | FNA7 | 0.811 | | | | | 3.755 | 0.980 |
| | FNA8 | 0.797 | | | | | 3.755 | 0.980 |
| | FNA9 | 0.776 | | | | | 3.755 | 0.980 |
| | FNA10 | 0.881 | | | | | 3.755 | 0.980 |
| | FNA11(Deleted) | 0.420 | | | | | 3.755 | 0.980 |
| | FNA12(Deleted) | 0.421 | | | | | 3.755 | 0.980 |

Source: Filed data

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**Table-4: Heterotrait-Mootrait (HTMT) Discriminant Validity**

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| **Altruism** | | | | | | | | | |
| **Fake news awareness** | 0.383 | | | | | | | | |
| **Fake news sharing** | 0.290 | 0.535 | | | | | | | |
| **Homophily** | 0.441 | 0.401 | 0.495 | | | | | | |
| **"Information sharing** | 0.777 | 0.318 | 0.171 | 0.461 | | | | | |
| **Norm of reciprocity** | 0.277 | 0.464 | 0.547 | 0.674 | 0.281 | | | | |
| **Socialization** | 0.666 | 0.487 | 0.440 | 0.577 | 0.770 | 0.544 | | | |
| **Status seeking** | 0.396 | 0.601 | 0.624 | 0.485 | 0.275 | 0.548 | 0.631 | | |
| **Tie strength** | 0.354 | 0.324 | 0.307 | 0.661 | 0.471 | 0.671 | 0.503 | 0.241 | |
| **Trust in network** | 0.245 | 0.471 | 0.475 | 0.486 | 0.154 | 0.564 | 0.430 | 0.427 | 0.413" |

Source: Filed data

**Table-5: Convergent validity of formative conceptions using redundancy analysis**

| "Construct | Global Item | Beta Value |
|---|---|---|
| **Online Environment factor** | **ONF** | **0.844** |
| **User Factor** | **USF** | **0.761"** |

Source: Field data

**Table-6: Test of Collinearity (Formal Constructs)**

| "Higher order | Lower order | Outer VIF |
|---|---|---|
| **User factors** | Information Sharing | 1.455 |
| | Altruism | 1.222 |
| | Status seeking | 1.566 |
| | Socialization | 2.223 |
| **Online Environment factor** | Homophily | 1.344 |
| | Trust in Network | 1.688 |
| | Tie strength | 1.111 |
| | Norm of reciprocity | 1.877" |

Source: Field data

**Table-7: The weight of the indicator's significance and relevance**

| "Higher order constructs | Lower order constructs (Formative indicators) | Outer Weight value | Std. Error | t-value | P-value | 95% BCa CI | |
|---|---|---|---|---|---|---|---|
| | | | | | | LB | UUB |
| **User factors** | Information Sharing | 0.217 | 0.010 | 19.427 | 0.0000 | 0.200 | 0.237 |
| | Altruism | 0.335 | 0.014 | 22.018 | 0.0000 | 0.311 | 0.362 |
| | Status seeking | 0.332 | 0.022 | 14.310 | 0.0000 | 0.356 | 0.402 |
| | Socialization | 0.377 | 0.013 | 26.921 | 0.0000 | 0.356 | 0.402 |
| | Homophily | 0.378 | 0.013 | 27.586 | 0.0000 | 0.357 | 0.403 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Online Environment factor** | Trust in Network | 0.335 | 0.015 | 21.220 | 0.0000 | 0.311 | 0.363 |
| | Tie strength | 0.227 | 0.010 | 20.214 | 0.0000 | 0.211 | 0.246 |
| | Norm of reciprocity | 0.331 | 0.012 | 25.700 | 0.0000 | 0.310 | 0.353" |

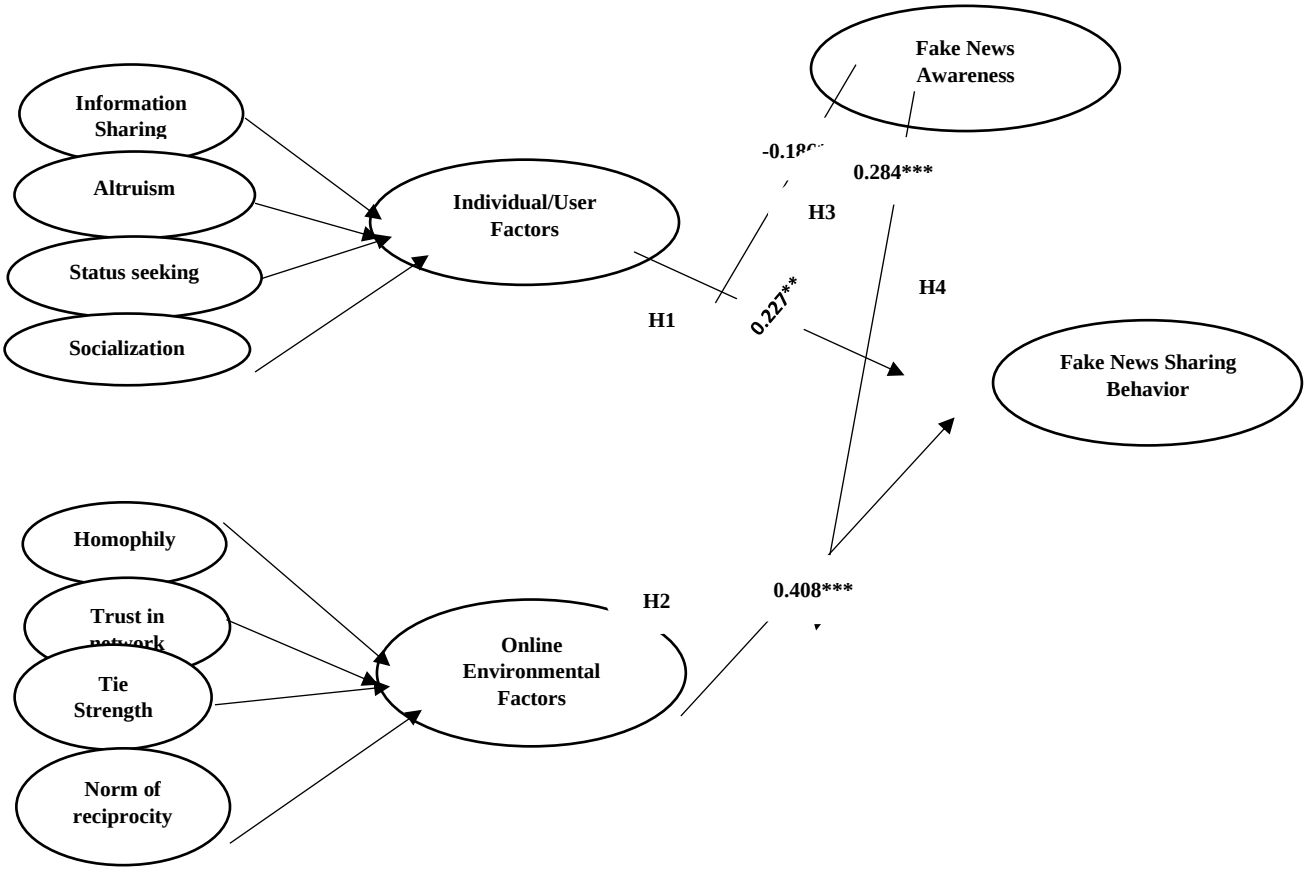
Field data

**Table-8: Path Coefficient, $Q^2$, and $f^2$ Results**

| "Relationship | Beta | Std. Err | T-Value | 95% BCa CI | | $Q^2$ | $f^2$ | VIF | Decision |
|---|---|---|---|---|---|---|---|---|---|
| | | | | LB | UB | | | | |
| Online environment factor →Fake News Sharing | 0.407 | 0.044 | 9.030*** | 0.326 | 0.474 | - | 0.153 | 1.466 | Accepted |
| User Factor→ Fake News Sharing | 0.227 | 0.047 | 4.751*** | 0.148 | 0.303 | 0.213 | 0.068 | 1.477 | Accepted |
| Online environment factors*fake news awareness -→ Fake news sharing | -0.284 | 0.038 | 4.815*** | -0.240 | -0.097 | - | 0.320 | - | Accepted |
| User factors *fake news awareness - →Fake news sharing | -0.186 | 0.038 | 2.920*** | -0.140 | -0.087 | - | 0.167 | - | Accepted" |

Field data

**Figure-2: The structural Model**



## 7. Discussions

Our research adds to the body of knowledge by indicating that extrinsic and internal variables both significantly influence the spread of false news. Users of social media are driven to spread false information by both personal incentives and the collective impact of their network or the virtual world. Here, we go beyond research suggesting that the primary explanations for false news distribution are either online environmental characteristics. [74][75] or user motivation.[76] Previous research has tended to investigate the complex idea of "user motivation and the online environment" based on each of the concept's dimensions. For instance, previous studies on user motivation looked at a variety of motivational aspects as a single component, including information-seeking, self-representation, benevolence, and enjoyment. In contrast to other research, we integrated the factors to create a crucial component that embodies both inner and extrinsic drives. In doing so, we used PLS analysis to determine the measurement of the main variables, treating them as "higher-order constructs." Our findings support the influence of the online environment (extrinsic component) and user motivation (intrinsic factor) on the spread of fake news.

### 7.1. Theoretical contributions

According to our research, user motivation significantly influences the distribution of false news, which means that UGT's underlying presumptions may still be used to explain why fake news spreads on social media. Previous research has mostly focused on UGT since it has consistently shown the impact of user motivation on the dissemination of bogus news.[77] Apart from the internal element, our research also revealed evidence for the external factor since the influence of the internet environment on the dissemination of fake news was shown to be considerable. Our results corroborate previous study utilising the SCT approach, which found that the following factors predicted the spread of false news: homophily, confidence in the network, norm of reciprocity, and tie strength.[78] As a result, our research supported both UGT and SCT. Furthermore, the researcher examined the moderating effect of fake news knowledge to see whether it might be used as an intervention to stop the spread of false information. By extending the model for fake news dissemination, the addition of fake news awareness improves our knowledge of fake news predictors and preventative measures.

### 7.2. Practical implications

These results highlight the significance of digital and information literacy, which has to be instilled in children at a young age. According to the study, because most of them already possess tablets and smartphones by that age, 44% of children between the ages of 8 and 11 and 87% of children between the ages of 12 and 15 use social networking sites.[79] Therefore, we propose that the curriculum for elementary schools should include instruction in digital and information literacy from an early age. It has come to our notice that digital literacy programs in Indian schools mostly concentrate on technical proficiency, particularly in the area of computer and internet application use, with little emphasis placed on the ability to assess online material and information. As of right now, digitization of all spheres of society, including education, is a top priority for many nations, including India. Given the widespread nature of this growth on a worldwide scale, our results may be extrapolated to other contexts where digital transformation is on the rise. As the next generation of global citizens, it is critical that they possess both technical and content digital literacy. This will help them avoid engaging in the risky practice of sharing false information online and, in the future, prevent its spread as they become older.

## 8. Limitations

There are several limitations to this research. Initially, it should be noted that the results were obtained from just one survey, which presents challenges in terms of inferring causes. To get a better understanding of how fake news spreading is impacted by rising public knowledge of it over time, further research on the topic across various periods is required. Second, 450 people is a rather small sample size for this research, considering that 820 million people in India are anticipated to be active Internet users in 2023.[80] While it satisfies the conditions of "the Krejcie and Morgan formula, which is computed at 95% of CL and 5% of CI, further research may consider increasing the sample size, which might resemble a large-scale study in some ways. Thirdly, we must acknowledge the limitations of our approach to gathering crowdsourced data, which may result in sampling bias and, ultimately, an unrepresentative sample." However, the distribution of our sample is almost identical to that of the Indian population, which may somewhat mitigate the generalizability issue. Fourthly, the Indian setting is the main emphasis of this work. Even if it's reasonable to believe that spreading false news is a global problem, more research may confirm the conclusions by using cross-national or cross-cultural studies to get a deeper understanding

of this issue. Finally, this research claimed that raising awareness of false news may be a useful strategy for halting its spread. Hence, further study is needed to analyze the diffusion of fake news throughout several time periods to comprehend the effects of a steadily increasing knowledge of its influence.

## 9. Conclusion

This study sheds light on potential countermeasures for the rising danger posed by false news. Fake news sharing was implied to be predicted by both extrinsic and internal elements, with the latter having a stronger effect than the former. It has also been established that the spread of false news on social media is decreased when people are aware of it. This research backs up the idea that human behaviour is the primary cause of the dissemination of fake news. Still, it also makes the case that individuals must take the initiative to halt the spread of fake news by developing the necessary knowledge and abilities to recognise it when it appears on social media.

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