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# **Information Literacy Skills as Predictor of Misinformation Sharing Among Undergraduate Students in Nigeria**

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## **Abstract**

Information literacy is an essential competence for the discernment of information quality online, particularly social media because of the freedom the platform provide to publish ideas without evaluation mechanism. Students also consult online information for academic and social needs which has exposed them to misinformation and resulted to further interaction with the and subsequently sharing among their network on social media. The circulation of misinformation has led concerns from governments, social media and researchers to curtail it spreads online Information literacy skills assist in use of information ethical, thus this study ascertains the influence of information Literacy (IL) competency of misinformation sharing among undergraduate of federal university South-West, Nigeria. Data was collected with the aid of questionnaires from a sample of 400 with 379 copies found to be usable for the study. The descriptive analysis revealed that students have a high level of information literacy skills, while the inferential analysis of simple regression revealed The result indicates that information literacy skills does not significantly influence misinformation sharing on social media (MSOS) among federal university students of South-West, Nigeria ( $\beta= 0.065$ ,  $t=1.293$ ,  $p>0.05$ ). The study recommended that university administrators and librarians should consider factors that influence student information literacy skills.

**Keywords: Information Literacy, Misinformation Sharing, Federal university, undergraduate, Social Media, Nigeria**

## **1. Introduction**

### **Background of the Study**

Social media creates opportunities for information sharing on diverse topics and formats. However, this led to circulation of misinformation due to lack of editorial review, features and users anonymous. This information may contain misleading, exaggerated, malicious, manipulated and false content. Individuals, students inclusive depend on social media for information relating to their personal needs, academic pursuits and current happenings. This suggests that individuals may encounter misinformation on social media. Apuke and Omar (2021) reported that social media users shared wrong tips on covid-19 pandemic on social media

in Nigeria. On the other hand, information is an essential component for decision making, reduction of uncertainty, solving of problem and creation of new knowledge. Thus, for optimization of social media benefits, diverse solutions and researches has been conducted to reduce misinformation online.

These solutions include government and social media organizations regulation of information. Similarly extant studies recommended nudging individuals on accuracy of information (Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020).), indicating of warning cues (Geary, 2017) and teaching individuals on how to identify incorrect information online (Guess, Lerner, Lyons, Montgomery, Nyhan, Reifler & Sircar, 2020). With regards to education, different literacies have been suggested including news literacy, metaliteracy, literacy 2.0, media literacy, digital literacy and information literacy skills (Mackey,2020).. Among the literacies, information literacy appears to be suitable. Sullivan (2018) argued that information literacy skills may not be useful in curtailing misinformation. Sirlin et al (2021) maintain that information ability lies in evaluation but not necessary in circulation. Significantly, information literacy was reported to facilitate judgment of fake news and decrease circulation of misinformation (Idris & Khan, 2019; Apuke, Omar & Tuncar, 2022). Among other solutions, information literacy skills could contribute in reducing the spread of misinformation on social media.

Information literacy empowers people to confidently access, search, evaluate, manage and share information. IL is significant as true and false information become blurred, individuals require competency to recognize misinformation (Adjin-Tettey, 2022). Researchers found that ability to search evaluate and share is critical to restrict spread of wrong information (Khan and Idris, 2019). The existing studies on information literacy and misinformation sharing are from developed countries Jones-Jang,et al., (2019); Al Zou'bi (2021); Keselman, Smith, Leroy & Kaufman (2021). There are dearth of empirical studies from Nigeria (Apuke & Omar, 2020 and library and information science perspectives (Igbinovia, Okuonghae & Adebayo, 2020) .This study will attempt to contribute to existing literature on misinformation using quantitative approach to explore influence of information literacy on misinformation sharing of social media among undergraduates of federal university, South-West, Nigeria. It is significant for librarians

and information scientists to understand information literacy efficacy in the fight against misinformation for effective development of IL training.

### **Objective of the Study**

1. investigate influence of information literacy skills on misinformation sharing on social media

### **Hypothesis**

2. Information literacy skills do not significant influence on misinformation sharing on social media

### **Literature Review**

#### **Information Literacy and Misinformation Sharing**

A growing body of literature is emerging on misinformation sharing and information literacy skills. These articles provide diverse views and elicited argument on the relevance of information literacy in reduction of misinformation on social media. Some scholars hold the view that information literacy skills may reduce sharing of misinformation. In other words, information literacy skills may assist people to spot and identify misinformation and subsequently reduce misinformation sharing on social media. The possible explanation is that information literacy is a set of skills that assist in using information ethically irrespective of the context (Dawes, 2017). However, scholars have alleged that information literacy skills may not fully support individuals to discern the quality of information, particularly on social media (Sullivan, 2018). This is because IL models, guidelines and standards were produced prior to collaborative technology such as social media. This have led to the emergence of news literacy, metacognitive, literacy 2.0 and critical literacy as well as comparison with media and digital literacies in curtailing misinformation sharing on social media (Mackey & Jacobson, 2011 & 2014; Mackey, 2020).

The scholars assumed that IL does not underline individuals as information creators or associate them with critical thinking but focuses on academic settings. Machete and Turpin (2020) alleged that critical thinking is a part of information literacy, it empowers individuals to be critically with information online. Likewise, Evaluation ability, a component of IL underscores critical

thinking skills (Chow & Wong, 2020). Nevertheless, information literacy is a broader term that constitutes media and digital literacies (Dawes, 2017; Courtney, 2018; Khairunissa, 2020). However, this distinction is exemplified in a study by Jones-Jang et al. (2019), which investigated measures of three literacies; media, digital and information to determine their competence in reducing misinformation. Information literacy was observed to be the most effective literacy for supporting individuals to decrease the circulation of misinformation. Information literacy has been acknowledged as a factor for the reduction of misinformation on social media.

Khan and Idris (2019) to ascertain information literacy skills support Internet users in Jakarta, Pakistan in identifying fake news and reduce intention to share it. The study found that IL skills predict misinformation sharing. Specifically, three constructs of information seeking (search), verification (evaluation) and sharing (communication) abilities vital for reduction in spreading of misinformation. This implies that information literacy skills are necessary for discerning and spotting inaccurate information on social media. It appears also that people ability to identify wrong information could hinder them from further sharing the information. In addition, Keselman, Smith, Leroy and Kaufman (2021) used a web-based survey comprising 150 individuals from the USA to ascertain their willingness to share a no-evidence based YouTube videos on health issues. The study found that people without ability to verify information shared the videos by relating with information literacy and science literacy. The result showed that both literacies, were significantly relates to intention to share videos. The author observed that individuals vulnerable to sharing misinformation lacks information and science literacies competencies, however, when both literacies were compared information literacy highly and positively contributed in reducing individuals propensity to spread misinformation.

Using a different data collection method, quasi-experiment Al Zou'bi (2021) analyzed data of 100 undergraduate at Al al-Bayt University (AABU) Jordan that enrolled on the Media and information literacy course. The study also found that media and information literacy skills were positively significant in detection of fake news. The authors noted that training students in MIL enable then to distinguish between facts and false information. This suggests that MIL enables users to distinguish between facts and opinions, hence deter them from spread of false news.

Likewise, Lim, Dollah and Rahman (2021) surveyed Master level students of Faculty of Information Management (FIM) in UITM campus Puncak, Perdana to examine relationship between IL competency and fake news phenomenon in SNS. The study found that IL competencies of the students were high and there was a significant relationship between IL competency and fake news phenomenon in social networking sites. The high level of Information Literacy (IL) was attributed to introduction of IL to the students of the Faculty of Information Management (FIM) thus were equipped abilities to access, research and use information.

In addition, Adjin-Tettey (2022) conducted a quasi-experiment that involved 187 third-year Public Relation students at a public university in Ghana to determine how media and information literacy influence their sharing of fake news on social media. The study found that the students trained in MIL were more able to verify information and were less likely to share fake news unlike students that were not taught. The study concluded that as training on MIL increases, then sharing of fake news reduces on social media. From the perspectives of Nigeria, Igbinoia, Okuonghae and Adebayo (2020) examined 138 Library and Information Science students in Nigeria to determine how information literacy competence supported them amid the spread of COVID-19 fake news on social media. First, the study found that the students had high information literacy skills in assessment and evaluation of information. However, being information literate did not prevent some sharing of fake news, especially if it conforms to the students' personal beliefs. These studies show that application of IL skills is vital in social media setting.

In a recent study by Apuke, Omar and Tunca (2022) employed quasi –experiment that consists of 470 undergraduates of the faculty of communication and media studies in public university in Nigeria to ascertain how three literacies, IL, media and digital influence their intention to share fake news on social media. The study found that the literacies include information literacy predict people intention to share fake news on social media. This implies teaching students how to interact ethically on social media using Il reduces the spread of misinformation. Despite the overload information, Apuke et al (2021) argued that literacies are essential in improving people ability to hand the deluge of information on fake news on social media. This implies that

information literacy can contribute to the reduction of misinformation sharing on social media. The literature reviewed that information literacy is compared with other literacies in different context revealed it prevalent irrespective of the subjects. The base of information literacy is to provide individuals with knowledge on how to deal with information in distinctive setting (Julien, 2016). Thus, it is vital to consider it among other intervention in the dealing with misinformation.

### **Methodology**

This study adopted a survey research design with a population of 83, 760 undergraduate from three federal universities in south-west, Nigeria. In order to determine the sample of size, the Taro Yamane formula (1973) was used for calculation which resulted to 400 undergraduates. The convenience sampling was used to select students for inclusion in the study considering the current variation of university calendar. The instrument for data collection was a structured closed-end questionnaire titled Information Literacy Skills and Misinformation Sharing On Social Media (ILSMSSM) which was modified to suit the study context. The instrument has three sections; demographic details, misinformation sharing with 11 items (Chadwick & Vaccari, 2019 & 2021; Apuke & Omar, 2020) and information literacy skills with 31 items (Bents & Stubbing, 2011; Kahn & Idris, 2019). The modified instrument used a five-point Likert-scale to solicit for responses. A reliability test was conducted with Cronbach's Alpha to ascertain the instrument for internal consistency. The values revealed that misinformation had 0.89 while information literacy skills 0.94. This implies that the instrument is valid for the study because of the value that is above 0.70. The data were collected for one month and two weeks with supports of trained research assistants. The 400 copies of questionnaires were returned but 397 were found usable for the study 99.25% response rate. Afterwards the instrument were collated, coded and inputted into the SPSS version 21 software and descriptive statistic of mean and standard deviation and inferential statistic of simple linear regression were employed for the variables analyses.

## Analysis and Results

**Table 1: Frequency Distribution of Respondents Demographic Details**

<b>Demographic Details</b>	<b>Items</b>	<b>Frequency (N=397)</b>	<b>Percentage (%)</b>
<b>Name of University</b>	University of Lagos	219	<b>55%</b>
	University of Ibadan	96	<b>24%</b>
	Federal University of Technology Akure	82	<b>21%</b>
<b>Level of Study</b>	100	91	<b>23%</b>
	200	81	<b>20%</b>
	300	79	<b>20%</b>
	400	99	<b>25%</b>
	500	46	<b>12%</b>
	600	1	<b>0%</b>
<b>Gender</b>	Male	192	<b>48%</b>
	Female	205	<b>52%</b>
<b>Social Media Used</b>		Yes	No
	WhatsApp	360(90.7%)	<b>37(9.3%)</b>
	Facebook	270(68.0%)	<b>127(32.0%)</b>
	Instagram	264(66.5%)	<b>133(33.5%)</b>
	YouTube	235(59.2%)	<b>162(40.8%)</b>
	Snapchat	213(53.7%)	<b>184(46.3%)</b>
	Twitter	161(40.6%)	<b>236(59.4%)</b>
	Tik Tok	154(38.8%)	<b>243(61.2%)</b>
	Pinterest	125(31.5%)	<b>272(68.5%)</b>
Telegram	26 (6.5%)	<b>371(93.5%)</b>	

The result in Table 1 shows the frequency distribution of respondents according to demographic details. Of the 379 participants more than half 219 (55%) of the respondents were found in the University of Lagos (Unilag) while the least number of respondents was from the Federal University of Technology, Akure (FUTA), 82 (21%). This implies that UNILAG has more respondents than the other two universities because of their population. With regards to gender, a little above half (52%) 205 of the respondents were female and 192 (48%) were male. Based on level of study, a quarter of the respondents 99 (25%) were in 400level, while the least was 600 levels with a respondent 1 (0.3%). The data in Table 1 also showed that majority 360 (90.7%) of the respondents indicated that they use WhatsApp while few of the respondents 26 (6.5%) use

Telegram. This suggests that students of the federal university, South-West, Nigeria use different social media.

**Table 2 Distributions Respondents Misinformation Sharing**

Misinformation Sharing	Mean	(SD)
<b>N= 397</b>		
Exaggerated Information	<b>2.33</b>	<b>1.18</b>
Inaccurate Information	<b>2.27</b>	<b>1.01</b>
Manipulated Information	<b>2.24</b>	<b>1.12</b>
Misleading Information	<b>2.03</b>	<b>0.96</b>
Malicious Information	<b>1.81</b>	<b>1.02</b>
Overall mean	2.14	.87

**Source: Field Survey, 2021**

Decision Rule: If mean is 1.0-1.49 = Never; 1.50-2.49 = To a Low Extent; 2.5-3.49 = To Some Extent; 3.5-4.49 = To a High Extent; 4.5-5.0 = To a Very High Extent.

The result of Table 2 indicates the overall mean score of 2.14 on a scale of 5 means respondents shared misinformation to a low extent on social media. Specifically, the respondents reported that they shared exaggerated information shared (M=2.33), followed by inaccurate information (M=2.27), then manipulated information (M=2.24), next was misleading information (M=2.03) and the lowest was malicious misinformation (M=1.81). Specifically among the types of misinformation, many of the respondents consented that though misinformation of various nature was shared to a low extent, exaggerated information was the highest shared and the least was malicious. This implies that the federal university students, South-West, Nigeria shared misinformation that had a bit of true information embedded in it. This may also suggests that the students shared misinformation unintentionally.

**Table 3 Information Literacy skills of Respondents**

<b>Items on Information literacy skills</b>	<b>Mean Score</b>	<b>Standard Deviation</b>	<b>Result</b>
<b>N=397</b>			
Ability to Identify Information Need	3.82	0.87)	High level
Ability to Access Information	3.80	0.86)	High level
Ability to Evaluate Information	3.71	0.80)	High level
Ability to Construct Search Strategies	3.69	0.84)	High level
Ability to Present Information	3.60	0.88)	High level
Ability to Manage information professionally and ethically	3.58	0.83	High level
<b>Overall mean</b>	<b>3.69</b> <b>(.67)</b>		

**Source: Field Survey, 2021**

Decision Rule: If mean falls between 1.0-1.49 = To a very low level; 1.50-2.49 = To a low level; 2.5-3.49 = To a moderate level; 3.5-4.49 = To a high level; 4.5-5.0 = To a very high level

Table 3 depicts information literacy skills level of respondents. Based on the descriptive analysis, the overall means of respondents information literacy skills level was high (mean = 3.69) on a scale of 5. Among the six indicators used for measuring the participants information literacy level, ability to identify information need had the highest mean score of 3.82; followed by ability to access information (M=3.80); then ability to evaluate information (M=3.71); next was ability to construct search strategies (M=3.69); and ability to present information (M=3.60); and the least mean score of 3.58 was for ability to manage information professionally and ethically. Even though the IL level was to a high level, it is noteworthy that these students' respondents had a lesser means score in managing information ethically and in presenting information.

**Table 4 Influence of information literacy skills on Misinformation Sharing on Social Media**

<b>Variable (Model 1)</b>	<b>B</b>	<b>Std. Error</b>	<b>Beta (β)</b>	<b>T</b>	<b>P</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>Adjusted R<sup>2</sup></b>	<b>F</b>	<b>DF</b>	<b>P</b>
Constant	20.196	2.684		7.515	.001						
Information Literacy skills	.030	.023	.065	1.293	.197	0.065	.004	.002	1.673	395	.197
<b>Dependant Variable: Misinformation Sharing on Social Media</b>											

Table 4. shows the result of the simple regression analysis for testing hypothesis one that is the influence of information literacy skills on misinformation sharing on social media. The result indicates that information literacy skills does not significantly influence misinformation sharing on social media (MSOS) by federal university students in South-West, Nigeria ( $\beta = 0.065$ ,  $t = 1.293$ ,  $p > 0.05$ ). Information literacy skills do not significantly influence misinformation sharing on social media ( $R^2 = 0.004$ ,  $F_{1,395} = 1.673$ ,  $p > 0.05$ ). The coefficient of determination  $R^2 = .004$  indicates that information literacy skills explains 0.04% variance in misinformation sharing on social media. This implies that information literacy skills cannot influence misinformation sharing on social media. Based on the result the null hypothesis one ( $H_0$ ) which states that information literacy skills do not significantly influence misinformation sharing on social media by federal university students in South-West, Nigeria therefore will fail to reject.

### **Discussion of Findings**

The study aims to ascertain the information literacy skills influence on misinformation sharing on social media among students of federal university in South-West, Nigeria. The result revealed that information literacy skills do not significantly influence misinformation sharing on social media. This implies that information literacy skills may not necessary prevent individuals from sharing of misinformation on social media in this case among federal university students, South-West, Nigeria. This finding was unexpected and suggests that other factors may influence information literacy skills of students, thus IL skills do not impact on misinformation sharing on social media. However, the result of the study is contrary to findings of Khan and Idris (2019); Jones-Jang, Mortensen and Liu (2019); Al Zou'bi (2021); Keselman, Smith, Leroy and Kaufman (2021); Lim, Dollah and Rahman (2021); Apuke, Omar and Tunca (2022) that information literacy skills predict misinformation sharing on social media. Even though Igbinoia, Okuonghae and Adebayo (2020) consented to information literacy skills predicting

misinformation sharing on social media, it found that youths with high information literate skills spreads information on COVID-19 pandemic because of personal beliefs/ideologies.

This inconsistency may be due to individual inability to process the overload information that emerges on social media. In other words, misinformation could result to heightened dissemination of diverse information regarding the issue or topic. For individuals to comprehend or find solution or get updates on it, the need to search different sources, social media and the Internet can expose them to large amount of information that their cognitive capacity cannot hold or process thus their vulnerability to share unverified information. This is better explained by the theory of cognitive load that people have capacity limit regarding the amount of information they can hold or process. Students' inability to navigate and apply appraise to information was due to the information overload hence their susceptible to inaccurate information consequently forwarding it among their networks on social media (Petrucco & Agostini, 2020; Laato, Islam, Islam & Whelan, 2020). This appears that information literate individuals may share misinformation due to certain factors.

## **Conclusion**

Based on the findings, this study concluded that misinformation sharing although was not predicted by the information literacy skills, does not imply that it do not play significant role in misinformation sharing on social media. The need to consider factor that may influence information literacy skills among the students of federal university, South–West, Nigeria is to help curtail circulation of misinformation. Thus university administrators, information literacy instructors and academic library administrators, need to consider reviewing or extending IL course contents to include factors interfere with IL. Although the study deployed a cross-sectional design means that data was collected within a short time the need for longitudinal research may provide more insights on students' misinformation sharing on social media. Further research should be conducted to determine the efficacy of information literacy skills in context of misinformation sharing on specific social media platforms.

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