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ORIGINAL ARTICLE

Exploring the Credibility and Trustworthiness of Web 2.0 Tools during Covid-19 from the Eyes of Information Providers

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ABSTRACT

Background: In addition to posing serious obstacles to international health systems, the coronavirus (COVID-19) has created a deluge of false information. During COVID-19, the librarian must have the most recent information available in their capacity as an information manager. The use and methods used by librarians to assess the validity of information and the legitimacy of Web 2.0 technology providers are examined in this study.
Aim: Using a survey approach, the reliability and trustworthiness of web tools were investigated in this quantitative study during COVID-19.
Method: The study's 82% response rate was sustained. In terms of representation, men remained in the majority over women. Study population: Pakistani university librarians in the public sector. It's clear that the bulk of responders 59.48% attend universities in Punjab, followed by those in Islamabad (17.24%), KPK (13.79%), Sindh (6.9%), Balochistan 1.72%), and GilgitBaltistan 0.86%.
Results: The results demonstrate that web 2.0 tools had a significant impact on librarians' knowledge of health information seeking behaviors during COVID-19; however, the information they accessed on social media during the pandemic was shared information about the disease and came from discussion groups. Among other things, during COVID, web 2.0 tools' credibility and trustworthiness greatly improved, and the importance of message credibility also increased.
Conclusion: The study found that web 2.0 tools for health information during Covid-19 were mainly trusted by information professionals, with discussion groups on social media being the main source of health information. The majority of respondents (59.48%) were aged 26-35, with a high trustworthiness ratio in Balochistan, Sindh, and Punjab. The study also found a high ratio in Sindh.
Key words: Trustworthiness, Credibility, Web 2.0 tools, Information Providers, health information

INTRODUCTION

On social media, user-generated content is occasionally mistrusted. Readers do not consider it to be a reliable source of information. The worldwide social, economic, and healthcare systems are still seriously threatened by the COVID-19 epidemic, which started in China. Director-General of the World Health Organization (WHO): "We're fighting an infodemic, not just an epidemic"[1-2].

As stated by the author[3]acquiring knowledge about COVID-19 through four distinct digital media platforms has been a crucial factor in motivating people to pay attention. Preventive actions were intimately linked to access to COVID-19-related material, whether directly or indirectly, through online media, social live streaming services, and Microsoft networks. During an infectious disease pandemic, using COVID-19 information on social media, MSN, and SLSS could cause serious alarm and encourage preventive behavior[3-4].

Practical Implication: There is a need to establish a liaison among information professionals, information technology experts and medical professionals to make sure the availability of customized health information during pandemics.Trustworthiness and credibility: These and other studies support our view that web information is vitally important. Because online content has the power to influence consumers' opinions, convictions, and other important decisions, the internet will always be a cheap source of knowledge, especially when it comes with generous incentives. This combination of factors has led to a large amount of inaccurate and untrustworthy information. It was made available online. The search for credibility evaluation elements is influenced by the goal of enhancing customer support in evaluating the reliability of digital content[7]. It seems sense that if the correct set of factors is analyzed, customers will be able to make more informed decisions with less subjectivity. Without any doubt, social media has a significant effect on peoples' lives and reshaping communities. Despite of this fact social media can create havocs due to a vast amount of information coming from un authentic sources[5-7]**.** The trustworthiness of health information on social media is a concern, as the information shared on these platforms can influence health outcomes[8].

A study by the National Academy of Medicine found that individuals and for-profits may be highly credible and influential sources of health information in social media, but the credibility of the information depends on various factors[8]. Additionally the author talks about the legitimacy of blogs. He claims that the author found a substantial correlation between authority and credibility in blog credibility measures, suggesting a close association between these two characteristics. The findings of this study indicate that while "focused," "permanent," and "Regular" are substantially correlated with the second component (i.e., the reliability of the blog content), the three attributes ("authentic," "insightful," and "informative") are near indicators.

Consequently**, t**hey claim that the reputation stems from both experimental and theoretical studies. This study suggests that one factor influencing decisions about trust is credibility. Based on statistical evidence, this is the most important factor[9]. Evaluating the credibility of health information on social media is crucial to ensure that the information is reliable and accurate[9]. The content of the health information should be accurate, reliable, and relevant to the user's needs. It should be supported by evidence-based research and scientific studies. The source of the health information should be reputable and trustworthy. On social media, people and for-profit businesses can be very reliable and significant sources of health information. Expert sources, including physicians, possess greater credibility and persuasive power compared to non-expert sources.

The goal of the current study is to examine how information producers perceive the legitimacy and trustworthiness of social media platforms.

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Objectives of the Study

1. To gauge the legitimacy and dependability of web 2.0 resources for health information.
2. To investigate the association between social networking sites' credibility and trustworthiness for health information during COVID-19
3. To investigate how credibility affects the reliability of the Web 2.0 resources for medical data

The purpose of this study was to examine, from the standpoint of a librarian, the reliability and validity of health-related content on social media. A quantitative research design was used to accomplish the goal. Current research indicates that the study is within the category of quantitative research design.

RESEARCH METHODOLOGY

The method of survey research was applied. A questionnaire about students' trust judgment when seeking information online was modified from reading the literature with the aid of a literature review. The accuracy and reliability of research findings are influenced by a number of factors, including sample size, sampling processes and methodology, equipment design and methodological study.

Researching the whole population is not always simple, particularly if the population is big, the length and expense of any study are always determined using a representative sample of participants for the entire community. A sample is a subset of the population that is representative of the target population of the study.

The approach of purposeful sampling was employed to gather data from the population. The study's goal was to learn how university librarians perceived the legitimacy and dependability of web 2.0 applications. Therefore, the only people targeted were central library professionals employed by Pakistani public universities. The researcher employed the Purposive Sampling approach in order to meet the criterion[10].

Purposive sampling as selecting a sample for a topic based on a particular goal as opposed to a level or area. The list of 141 public sector universities is available on the website of the Higher Education Commission of Pakistan. The list includes only public universities that are under the administrative jurisdiction of Higher Education and are located on the HEC website.

In order to gather data, the researcher sent out a questionnaire by phone, social media, and email, specifically targeting Balochistan and Gilgit. A questionnaire was distributed, and the researcher also went to the libraries[11]. The questionnaires had a good response rate of 82%; out of 141 respondents, the researcher received 116 responses.

RESULTS

After entering the data, the researcher used SPSS Version 21 for data analysis. The goal was to be accomplished using cross tabulation, applied regression analysis, mean, standard deviation, frequency, descriptive statistics, and econometric analysis. Three distinct approaches have been utilized by researchers to assess the social media credibility, message, and trustworthiness of SNS sites. The chapter on results and discussion included graphs and tables that discussed the results.

To evaluate web 2.0 health information systems for message authenticity and trustworthiness: Using a poll based on a Likert scale that included several questions and diverse dimensions of acceptable usage and web 2.0 tool trustworthiness, the study estimated social media credibility and trustworthiness. By using a linear combination of all the questions with average values, we were able to estimate the index. Table 1 demonstrates the reliability of social media during COVID 19. Knowledgeable information was supplied by experts (41.38%), transparent (31.9%), trustworthy (42.24%), enthusiastic (50%), influential (50.86%), professional (38.79%), and knowledgeable (53.45%).

The respondents generally felt that social media was a credible source of information during the COVID-19 pandemic, as indicated by the proportion of social media credibility statistics. While 23.52% of respondents were neutral, 44.04% of respondents agreed that social media conveyed reliable information at this time. However, 15.03% of respondents don't feel that social media is a reliable source. On the other hand, 13.3% of respondents strongly agreed and 4.06% strongly disagreed. Finally, it was found that the majority of respondents agreed that social media was reliable. As a result, the following table demonstrates that respondents believe social media to be a reliable resource for finding health information.

Table 2 displays the reliability of information posted on social media during COVID-19. Regarding social media content, participants rated it as follows: full (43.97%), succinct (43.1%), consistent (50.86%), attractive (50%), educational (56.03%), real (30.17%), targeted (46.55%), precise (32.17%), up to date (62.93%), and well-liked (51.72%).

Web 2.0 tool statistics indicate that message credibility is high in terms of trustworthiness, and most respondents (46.80%) agreed that message credibility is popular in social media. The majority of respondents think that web 2.0 tools' message credibility is useful for information sharing since it is targeted and up to date.

To investigate social media sites' credibility as sources of health information: This section examines the reliability of social media networking sites, including message credibility, social media app usage, and the relationship between social media and SNS trust. We have used the correlation test in this respect, and the results show that trustworthiness and social media credibility are positively correlated. Message credibility has the highest ratio in social media, at 0.6537. Other indicators, such as time usage, show a negligible link with each other.

Table 3 displays the reliability of social networking sites based on responses to a questionnaire. 31.9 percent disagreed with SNS sites based on facts, while 56.7 percent agreed with varied points of view. However, respondents agree (55.17%) that it's easy to find information on social media. Conversely, 25.86% of respondents were ambivalent about the health information on social media, saying it was well-reported and reliable. Most respondents (52.59%) agreed when asked to verify the source of health information seen on social media[12]. Furthermore, 50.43% of respondents said they checked the currency level of material on social media by looking at the date of publication, and more than half (53.04%) said they read reviews and comments before believing anything.

Less than half of participants agreed when asked how they felt about social media health information during COVID-19 based on factual (41.38%) and fair (41.07%) data. Just 45.61% of respondents agreed when asked if they could distinguish between facts and opinion with ease. However, 36.74% of respondents expressed anxiety about their privacy on social media. While 39.66% of respondents thought social media cared about community wellness, they also thought it helped build sensation during COVID-19 (40.87%). Of these respondents, 40% thought social media watched out for the public interest.

Statistics show that the majority of respondents agreed with the claims regarding the dependability of health information on social media sites, and that 43.91% of respondents agreed with the statements on the trustworthiness of social media sites. Social media sites are trusted by respondents, as seen by the 23.38% of respondents who identified as neutral. Lastly, respondents to the COVID showed a high degree of trust for web 2.0 tools.

The connection between Web 2.0 tool trustworthiness, message credibility and media credibility: The relationship between message credibility, medium credibility, and trustworthiness on social media is displayed in Table 4. Using test correlation, we discovered that the message credibility value was 0.6042 and the trustworthiness value was 0.5564. They were

discovered to be extremely significant (P-Value = 0.0000), positive, and correlated.

Credibility's Effect on Web 2.0 Tools: In this section, the study presents linear regression models to quantify the influence of credibility on the trustworthiness of web 2.0 tools. The results showed that trustworthiness may be strongly predicted by social media and message credibility, which also play a major role in encouraging users to trust web 2.0 products. The findings indicate a positive β value, indicating that online tools will become more trustworthy as the medium and message become more credible. R2 showed that a change in message credibility resulted in a 37% change in the dependent variable, whereas a change in medium credibility caused a 30% change in the dependent variable.

For models one through three, the overall model explanations of 48%, 52%, and 54% that respect constants are significant. Three models show that when all independent variables are held constant. Web 2.0 tools that are trustworthy and social media-based are still resistant

Table 1: Message credibility on social media**s**ocial media health information during covid 19 is.

Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
knowledgeable	1.72	13.79	9.48	53.45	21.55
Influential	0.86	6.03	28.45	50.86	13.79
Passionate	2.59	9.48	29.31	50	8.62
Transparent	7.76	20.69	31.03	31.9	8.62
Reliable	8.62	20.69	19.83	42.24	8.62
Professional	3.45	16.38	22.41	38.79	18.97
Shared by experts	3.45	18.1	24.14	41.38	12.93
Total	4.06 %	15.03 %	23.52 %	44.04 %	13.3 %

Table 2: Source credibility of social media - Social media health information during COVID 19 is:

Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Complete	3.45	22.41	21.55	43.97	8.62
Concise	2.59	15.52	31.03	43.1	7.76
Consistent	0.86	15.52	23.28	50.86	9.48
well presented	1.72	17.24	18.1	50	12.93
Informative	1.72	5.17	14.66	56.03	22.41
Authentic	7.76	27.59	23.28	30.17	11.21
Focused	0.86	15.52	23.28	46.55	13.79
Accurate	4.31	30.17	23.28	32.76	9.48
Current	2.59	5.17	15.52	62.93	13.79
Popular	2.59	6.9	16.38	51.72	22.41
Total	2.8%	16.12%	21.0%	46.80%	13.18%

Table 3: Trustworthiness of health information on social media sites

Statements	SD	D	N	A	SA
I believe the health information on social media is based on fact	2.59	31.9	25.8	29.3	10.34
Health information on social media provides diverse point of view	1.72	8.62	21.5	56.9	11.21
It is easy to find information on social media	1.72	6.03	16.4	55.2	20.69
The health Information on social media seemed well reported and trustworthy.	5.17	25.86	25.9	31.9	12.07
I always check the source of health information provided on social media	1.72	15.5	16.4	52.6	13.79
I read the reviews and comments before believing on information	4.35	6.09	17.4	53.4	19.13
I check the date of information published on social media	2.61	6.96	15.7	50.4	24.35
Social media health information during COVID 19 is factual	3.45	18.1	29.3	41.4	7.76
Social media health information during COVID 19 is fair	6.25	22.3	20.5	41.1	9.82
I can easily separate facts from opinion	2.63	11.4	27.2	45.6	13.16
Social media respects people's privacy concerns	6.14	19.3	27.2	36.8	10.53
Social media watch out public interest	1.74	14.8	29.6	39.6	13.91
Social media cares for community well being	3.45	19.1	29.3	39.7	8.62
Social media contributed to create sensation during Covid-19	2.61	8.7	25.2	40.9	22.61

Table 4: Correlation among variables used in analysis

	Social media credibility	Message credibility	Trustworthiness
Social Media Credibility	1		
Message Credibility	0.6537 (0.0000)	1	
Trustworthiness	0.5564 (0.0000)	0.6042 (0.0000)	1

Table 5: Impact of social media credibility, message credibility on Trustworthiness of Web 2.0 tools

Variables	Trustworthiness				
	B	SE	β	t	p
Constant	1.809	.250		7.22	.000
*Medium Credibility	.479	.070	.550	.68	.000
Constant	1.546	.24		6.22	.000
**Message Credibility	.550	.069	.608	7.92	.000

Predictor; Medium Credibility: *R^2=.302, Predictor; Message Credibility: **R^2=.370, Dependent variable. Trustworthiness

DISCUSSION

The quick development of the internet has changed how information is disseminated and put traditional media outlets under pressure. The manner that information is disseminated has changed due to the rise of online news consumption as a new and powerful communication medium[13]. Online news sources are still, nevertheless, viewed with suspicion and mistrust, particularly in social media settings. During the COVID-19 epidemic, librarians are essential in disseminating health information and stressing the value of utilizing reliable sources. Some of the factors that impact the usage of social media for health education and communication include lower rank, less professional experience, and younger age. To manage the intricacies of online interactions and preserve

confidence in online news sources, health practitioners require official training and well-defined protocols[14,16].

Social media and Web 2.0 tools are now important information sources that influence public attitudes and views. The intricate interplay among media credibility, message credibility, and the dependability of these instruments shapes people's information consumption and trust behaviors. While message credibility relates to the reliability of certain facts, messages, or content delivered across several platforms, media credibility refers to the reliability of broadcasting organizations, online journals, and traditional news sources. A key factor in assessing the credibility of information provided via Web 2.0 applications is its trustworthiness. Increasing believability, being susceptible to false information, and being influenced by algorithms are some of the difficulties[16]. Education about media literacy, platform policies and transparency, and cooperation with traditional media are some methods for improvement[16]. By tackling these issues and putting plans in place to improve[15-16].

Social media now has more health-related content available than before the COVID-19 pandemic, however the veracity of this material is frequently in doubt. Credibility is influenced by a number of factors, such as audience involvement, consistency with existing knowledge, transparency and accountability, and source expertise. The spread of false information, algorithmic impacts, and a lack of regulations are some of the difficulties. Social media companies should give priority to material from reputable health groups and professionals, conduct public health education campaigns, and improve users' digital literacy in order to address these problems. Credible health information can predominate in an atmosphere that fosters responsibility, transparency, and teamwork, which will support well-informed decision-making and the general welfare of the population. It takes a team effort from social media platforms, health groups, and individual users to ensure message legitimacy[17-18].

The spread of health information has been greatly impacted by social media, especially during the Covid-19 outbreak. But there have been questions about how reliable health advice on social media is. Filter bubbles, lack of experience, the rapid transmission of unconfirmed information, and the dissemination of misinformation and disinformation are some of the challenges. Opportunities include campaigns for education, quick reaction, community involvement, and information sharing. The exposure of content from reliable health organizations and professionals should be prioritized. Fact-checking groups should be partnered with, public health initiatives should be funded, and open communication should be maintained[20]. In order to guarantee that health-related content on social media is reliable, it is essential to support reliable sources, work with fact-checking groups, fund public health initiatives, and keep lines of communication open. People need to practice critical thinking and only trust reliable sources[19-23].

CONCLUSION

Increased exposure to social media platforms provides the opportunity to access a wide population and cater to their health concerns. But uncheck spread of health information may cause disasters in the field of health care. These sources can better be utilized if professionals devise ways to maintain the trustworthiness and credibility of information being shared through these sites. There is a need to establish a liaison among information professionals, information technology experts and medical professionals to make sure the availability of customized health information during pandemics.

The study comes to the conclusion that information professionals' perceptions of the reliability and credibility of web 2.0 tools for health information during COVID-19, and their use of social media for sharing and obtaining health information are comparable. The primary source of health information sought by respondents was social networking site discussion groups, which they primarily trusted for their message's authenticity. Based on the results of the survey, the majority of respondents (59.48%) were from Punjab Universities, followed by Islamabad (17.24%), KPK (13.79%), Sindh (6.9%), Baluchistan 1.72%), and Gilgit Baltistan 0.86%. These findings suggest that social media is a reliable source of information. 50.86% of respondents were between the ages of 26 and 35, while in the age range of 36 to 45, respondents trusted the message's reliability. Statistics on social media credibility, message credibility, and trustworthiness indicate that Balochistan has a higher trustworthiness ratio than Sindh and Punjab. Sindh has a higher message credibility ratio than Punjab. Punjab and Gilgit have a same ratio on social media; however Sindh has a higher ratio.

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1. Conception and design of or acquisition of data or analysis and interpretation of data.
2. Drafting the manuscript or revising it critically for important intellectual content.
3. Final approval of the version for publication.

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