



## Role of Digital Media in Spreading Covid-19 Awareness- Structural Equation Modelling based Study

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### ABSTRACT

Due to the rise of media technology and the abundance of Social Media platforms, healthcare awareness and information gathering are simple, easy, and efficient. This study also aims to investigate the role of Social Media to obtain Covid-19 information and updates. The researcher used the cross-sectional study design and selected a sample of  $n=265$  respondents from Islamabad, Pakistan. Further, to validate the phenomenon, the researcher developed and tested the self-structured model using Structural Equation Modelling. The SEM analysis involved Internal consistency assessments, Coefficients of Determination  $R^2$ , and Path Analysis. Findings indicated a strong significant relationship between Social Media, Ease of Access ( $p \geq .000$ ), Ease of Use ( $p \geq .011$ ), Internet Availability ( $p \geq .013$ ), and Information Acceptance ( $p \geq .042$ ). Thus the results revealed a significant role of Social Media to spread Covid-19 awareness reinforcing positive healthcare attitudes among the public. Therefore, the researcher suggests more studies on the proposed research model, to scrutinize the role of the Social Media infodemic during the Coronavirus outbreak.

**Key words:** Covid-19, Ease of Access, Ease of Use, Healthcare, Information Acceptance, Social Media Infodemic, Pandemic,

### 1. INTRODUCTION

Today digital media is playing a distinguished role in facilitating our life. Now communication process is fast, effective, and aims at a diverse audience for both interaction and persuasion purposes. This digitalized communication is multi-dimensional as the exchange of information is two-way, and accompanied by both sharing and receiving processes [1]. Similarly, the role of social media in health communication is of greater magnitude as healthcare organizations and professionals can easily access the individuals, educate them about healthy lifestyles, and disease prevention measures [2].

For instance, World Health Organization launched an online platform during the Covid-19 pandemic to communicate directly with the public, share the details about preventive measures, and also keep the public behavior under observation [3]. Due to information availability, tracking the infectious disease, causes, symptoms, and recorded cases help the healthcare practitioners to stay updated. It also helps the public to stay aware and take all the prescribed measures [4]. Especially due to technological advancement, access to information is easy, efficient, and rapid. Citizens avail fresh information and stay updated about the healthcare phenomenon [5].

In this regard, the role of Social Media concerning the healthcare information-seeking behavior of the users remains prominent. The public also expects the government and concerned organizations to provide information on the online platforms [6] as the role of Social Networking matured over time. For instance, the role of Social Media concerning Auto Immune Deficiency Syndrome (AIDS) awareness is of greater significance. Digital platforms enabled people to receive and share relevant information, helped them to adopt preventive measures in the United States. Using Social Media to disseminate HIV awareness not only helped the users to attain pre-existing information but also, kept them updated about the modifications in the diagnosis and treatment process [7]. As noted by [8], the use of Social Media by the stakeholders within healthcare largely facilitated the users. Broadly speaking, Social Media in healthcare is used as a tool to inform, educate and share knowledge. Particularly during Covid-19. this brisk and innovative technological expansion offers healthcare information that can be highly beneficial. This information availability is highly associated with reinforcing positive attitudes towards preventive measures. This online information consumption can also help to mitigate the Covid-19 in a broader context [9] as Social Media platforms are an important source of information concerning Covid-19. Today when we are physically separated, information is available with just a single click [10]. The National Institute of Health (NIH) greatly resorted to Social

Media platforms to run the awareness campaigns, emphasizing the use of facemasks, Personal Protective Equipment (PPE), handling the suspected individuals, measures of personal hygiene, and others [11]. As a result, social media in Pakistan supported much in introducing and implementing protocols concerning transmission, prevention, and deflection. The NIH also initiated public awareness campaigns on traditional and regarding The Federal and Provincial governments planned new strategies including lockdown across the country and the closure of public and private sector education institutions [12]. Indeed, Covid-19 is a war with an invisible enemy for a developing country like Pakistan. The government and the public need to mobilize and find better solutions to counteract it. Better healthcare management is the need of the day and besides government, public institutions such as media platforms, are also playing their role [13].

Thus, by keeping in view the importance of social media in healthcare communication, this study also examined the impacts of social media-based information campaigns in the Pakistani context. The researcher **first** described the issues in both global and Pakistani context, the **second** phase consists of citing the relevant literature for the hypotheses development. In the **third** section, the researcher discussed the methodology used for the current study. In the fourth phase, the researcher conducted the Structure Equation Modelling for the data analysis process. Finally, in the **fifth** phase, the researcher discussed the results and made the conclusions accordingly.

## 2. LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

### 2.1 Social Media & Ease of Access to Healthcare Information

Social Media work as a repository of information for its users. Online technology enabled us to receive and share information with others. Both individuals and organizations make productive use of digital media to meet their informational needs [14]. In this regard, [15] highlighted the accessibility to healthcare information on Social Media facilitating patients and healthcare practitioners. According to the authors, Social Media provide healthcare information with ease of access which facilitates patient-physician interaction. This indicates the strategic presence of healthcare organizations and members to not only keep their patients updated but also, reinforce positive healthcare attitudes among them. These services are accessible for everyone at a relatively low cost, ensuring better outcomes. Also discussed by [16], stated that online media provide different platforms to receive healthcare information i.e. blogs, wikis, web-based

applications, media sharing sites, and others. These online resources are widely used to improve healthcare practices, patient care policies, and programs. Healthcare professional often uses these sites and access their patients which witnesses the benefactions offered by Social Media for the healthcare system. To further affirm this, [17] examined the structure, approach, and impacts of online healthcare platforms i.e. Mumsnet, My Pro Ana, PatientsLikeMe, and Treatment Action Campaign. The researchers used peer-reviewed research literature and scrutinized the efforts made by relevant sites to sustain their services. Findings revealed that these sites are widely accessible, having a larger number of daily users. However, the sites lack any organized updates schedule which could further reduce their users. The researchers concluded that the presence of these online communities is helpful for patients and other daily users. If organized properly, the users will be more benefitted and it will reinforce positive healthcare behaviors among them. [18] also investigated the use of Social Media by healthcare experts for healthcare information due to its wider accessibility. The researcher used the review approach and selected  $n= 20$  relevant research studies published from 1995-2012. Results showed that E-healthcare facilitates access to healthcare information and services through different Social Networking platforms and applications. The medical sector is also improving its services by utilizing Social Media in a positive constructive manner. According to [19], healthcare services providers and professionals possibly provide access to online platforms where relevant information is available. Users also expect to avail this information and use it to improve their health. Another study to examine the accessibility and role of digital media to disseminate healthcare information was conducted by [20]. The researchers selected  $n= 22$  peer-reviewed research articles addressing six diverse healthcare themes: social expression, information sharing, comparison, emotional support, healthcare updated, and psychological well-being. Results showed that Social Media usage largely facilitated access to healthcare platforms where patients not only shared the health-related information also, communicated with their healthcare services providers. Furthermore, [21] examined the accessibility regarding Social Media usage for healthcare information. The researchers used a cross-sectional study method and selected a sample of  $n= 254$  local individuals. Results revealed that Wikipedia, YouTube, Facebook, and Google Plus are the most preferred online resources to avail healthcare information. For the respondents, these sites are easily accessible and provide relevant information which facilitates them. Also validated by [22], as they analyzed the role of Social Media as a promising source of healthcare information and awareness. The researchers utilized the literature review technique and selected a sample of  $n= 135$

relevant studies. Results indicated that the majority of the studies witnessed a greater reliance on Social Media platforms for quick, efficient, and accessible healthcare information. Although the amount and type of information varied on the different platforms yet, it was accessible for the potential users.

**H1:** There is a positive relationship between Social Media and Ease of Access to Healthcare information

## 2.2 Social Media & Ease of Use to Gather Healthcare Information

According to [23], Social Media enabled users to avail healthcare information with just a simple click. People with health issues share and receive information, directly communicate with their health service providers. Doctors are also sharing healthcare information, current issues, and their solutions. This keeps patients updated about the ongoing health phenomenon and also improving the therapeutic regimens as [24] discussed the use and benefits offered by Social Networking Sites to avail healthcare information. According to the researcher, online platforms like YouTube, health blogs, Second Life, Myspace, and others are widely preferred to easily gather healthcare information. Another website named "PatientsLikeMe" is specially designed for the patients to communicate and share their experiences and stay updated. In this regard, [25] reported Social Media for healthcare communication especially between medical professionals and patients. According to the researchers, for the patients, online platforms provide an easy and accessible source to avail personal healthcare information. specially by using their mobile phones or tablet devices, they easily get an immediate response to their health-related queries. Digital technology usage for staying updated about healthcare matters largely facilitated the patients to enhance their autonomy and interaction with their healthcare professionals. To further affirm this, [26] investigated the use of Social Media to receive and share healthcare information by a medical professional in the United States. The researchers used a qualitative approach and selected a sample of  $n= 17$  physicians. Data gathered from telephone-based semi-structured questionnaires revealed that physicians mainly prefer Social Networking as it provides comparatively easy and two-way communication. For the majority of the respondents, it also provides the ease of access to monitor their patient's health and improve their healthcare practices. Similarly, [27] examined the Social Media characteristics concerning healthcare information. The researchers selected a sample of  $n= 21$  research studies published between 2011 and 2016. Results indicated that most of the Social Media usages indicated information seeking regarding diabetes. According

to the researchers, this usage largely reflected the ease of use as information is available at affordable rates with simply designed, user-friendly applications.

Social Media widely offer content and information about users' choices. People can access the information with just a single click. Especially, healthcare organizations have introduced new mobile applications and websites that ensure reliable information with just a single click [28]. Further validated by [29] as they investigated the mechanisms concerning the use of Social Networking to seek healthcare information. The researchers selected a sample of  $n= 156$  respondents from India. Results revealed that due to the ease of use, the majority of the respondents prefer Facebook and WhatsApp to seek healthcare information. Respondents also emphasized that healthcare professionals should authenticate online healthcare information as it is useful and easily accessible to them. [30] also highlighted the use of Social Media for seeking healthcare information. According to the researcher, people prefer Social Networking due to its unique and improved yet simplistic features. Social Media usage for healthcare information is briskly increasing. Results obtained by reviewing  $n= 20$  peer-reviewed research articles revealed that online platforms are comparatively more simple and efficient to access and comprehend healthcare information. New media as compared to traditional media, offer improved quality of information which is a basic reason behind increased Social Media usage today. Another study to affirm the Social Media, healthcare information, and ease of use was conducted by [31]. The researchers examined the criteria according to which people prefer using Social Media for acquiring health-related information and selected  $n= 65$  research articles. Findings revealed that out of all the relevantly affirmed mechanisms, ease of usage was one of the most prominent factors responsible for preferring Social Media. The studies witnessed Social Media as a simple and accessible tool to gather healthcare information which also improves public healthcare behavior.

**H2:** There is a positive relationship between Social Media and Ease of Use to Gather Healthcare information

## 2.3 Social Media and Internet Availability to Gather Healthcare information

Healthcare professionals and patients increasingly prefer online interactive platforms for healthcare information. For this reason, today the internet has become a highly preferred source of information, attracting millions of users worldwide [32]. In this regard, [33] reported internet availability as the main mechanism of online healthcare information gathering. According to the researcher, health information is highly reliant on internet availability. This information is

comparatively more easily accessible, simple, and providing several opportunities for personal healthcare and well-being. Even when interacting with healthcare professionals, people also prefer internet-based services to make online checkups and appointments. To experimentally validate this phenomenon, [34] examined internet availability and its correlation with healthcare information seeking in Islamabad, Pakistan. The researcher used structured, closed-ended questionnaires and selected a sample of  $n= 600$  university-level students. Results indicated that participants largely use the internet for different purposes including healthcare information. Access to online healthcare platforms and avail information related to their healthcare aspirations. Similarly, [35] analyzed internet availability as the basic healthcare information gathering source in Nigeria. The researcher used the cross-sectional approach and selected a sample of  $n= 488$  respondents from the University of Ibadan. Results revealed that due to internet availability, the majority of respondents rely on internet-based websites to avail themselves of healthcare information. For the participants, internet-based health services and information are highly beneficial for personal healthcare.

According to [36], the popularity of Social Media has heightened due to the ease of internet availability and accessibility. Access to information is possible due to better services and growing interest in online information channels. To affirmed this phenomenon, [37] highlighted the importance of internet availability and its impacts on Social Media adoption among the masses. According to the researchers, due to the rise of internet technology and its availability, we are briskly moving towards better opportunities regarding information gaining and communication. Internet providers from all over the world are continuously working for the better and improved provision of internet services to their customers. Thus internet users have accessibility to avail more information with their mobile devices which is a sophisticated and comparatively more preferred way of obtaining information. [38] also scrutinized internet availability as a motivating factor to avail of online healthcare information in the United States. The researcher obtained data by using The Health Information National Trends Survey (HINTS) in four cycles (from 2011 to 2014). Results showed that the availability of the internet motivates people to prefer online sources of healthcare information. Although the participants did not consider web-based information as a traditional method of health checkups stills, for them it provides influential healthcare information. Furthermore, [39] examined the correlation between Social Media usage, health information, and internet availability. The researcher discussed the topic under the Theory resources and Appropriation theory. Findings revealed that internet availability as equal distribution of digital services is a leading

factor behind Social Media usage. Moreover, the respondents also revealed that internet accessibility is affordable for them, and for many, it became a source of livelihood which motivated them to adopt Social Media usage for different purposes. According to [40], the advent of internet technology and consistent modifications have greatly revolutionized communication and information transmission. Today, this service is comparatively fast, cheaper, and accessible for everyone as the cyber world has become an integral part of life, we are reliant and expect better services with ease of access offering greater usability. Also scrutinized by [41] as they interrogated the internet usage for healthcare purposes by the university students in Ghana. The researchers used closed-ended, self-administered questionnaires and selected a sample of  $n= 740$  local students from three different universities. Results indicated that 72% of students largely prefer internet-based information for personal healthcare and only 28% of respondents use the internet for general healthcare information. Therefore, the researchers concluded that internet availability and ease of use are the basic mechanisms that motivate users to prefer digital media.

**H3:** There is a positive relationship between Social Media and Internet Availability to Gather Healthcare information

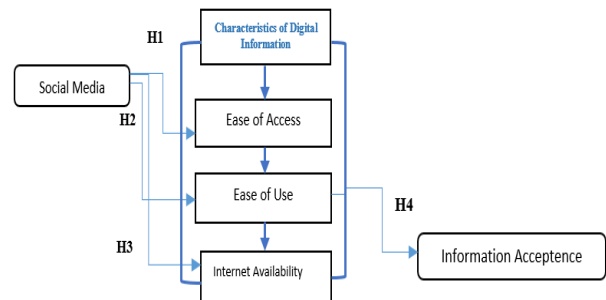
## 2.4 Social Media, Ease of Access, Internet Availability & Information Acceptance

Fast, accessible, and reliable information, is the basic mechanism that determines the acceptance of online healthcare information among the users. Especially during the SARS outbreak in 2002, despite the physical distances, people relied much on digital media for healthcare information, resulted in positive healthcare behavior adoption among the masses. Also facilitated by the rise of mobile technology, Social Networking Sites are an important source of healthcare information [42]. In this regard, [43] analyzed Social Media usage by the public health departments in the United States. The researchers selected a content analysis approach and selected a sample of  $n= 30$  Social Media messages among the health service providers and the patients. Findings revealed that the majority of the respondents (89%) mainly preferred Facebook, blogs, and flicker accounts to stay connected to their patients. The Social Media posts were mainly to monitor the patients and gather healthcare information which was the basic motives behind online media adoption. [44] also analyzed the Social Media adoption among the healthcare professionals in the United States. By using a cross-sectional study design, the researchers selected a sample of  $n= 17$  local physicians. Results indicated that as an effective and efficient method of accessing and monitoring the patients, the majority of the respondents revealed their higher reliance on Social

Media platforms. For them, Social Media have greatly improved the quality of healthcare services bringing positive outcomes both for the patients and the healthcare practitioners. Similarly, [45] also investigated Social Media usage among healthcare professionals and patients. The researchers used a literature review approach and selected a sample of  $n= 284$  research studies. Findings showed that due to interaction and communication between patients and healthcare professionals, people widely prefer digital Media. These online services are highly preferred due to certain services offered at easy and affordable rates that help people to adopt digital healthcare services. According to [46], one of the most leading factors behind Social Media acceptance is an increased interest to modify the patients' healthcare experiences. Besides physicians, patients also prefer Social Media to avail better healthcare experiences. The researchers further investigated the patients' healthcare experiences in the digitized environment. Results revealed that respondents directly access their healthcare providers which enables them to monitor and keep a follow-up of their health condition. However, despite the greater preference, their healthcare providers do not make any necessary modifications regarding their digital services. Therefore, the respondents emphasized improving the digital services to improve their experiences. According to [47] due to brisk changes and improvements in internet technology, people are widely accepting Social Media for communication and information. This is also increasing their sensibility towards information gathering, bringing positive outcomes regarding positive healthcare behavior. Also affirmed by [48], as they examined Social Media usage by the healthcare professionals in Baltimore, Maryland USA. The researcher utilized the survey method and selected a sample of  $n= 181$  Ph.D. medical doctors. Findings revealed that the respondents mainly preferred health-related blogs, Facebook, Twitter, and YouTube to spread healthcare awareness. The study participants also expressed a greater reliance on online platforms to receive health information and stay updated about the healthcare scenarios all over the world. Another study to scrutinize Social Media acceptance for healthcare purposes was conducted by [49], as they scrutinized the use of Social Media by healthcare professionals to stay connected with their patients. The researchers used closed-ended questionnaires and selected a sample of  $n= 366$  respondents from South Texas. Results indicated that 87.9% of healthcare workers prefer Social Networking Sites as they provide them fast and direct access to their patients. They continuously monitor their patients' health condition and make regular checkups which are more feasible than traditional methods of medical examination. Furthermore, [50] investigated the reasons behind Social Media acceptance among healthcare professionals in the United Arab Emirates. The researchers

selected a sample of  $n= 203$  healthcare practitioners and found that internet accessibility, ease of use, and better outcomes are the major factors behind Social Media usage among them. They also expressed their greater reliance and frequent Social Media usage to fulfill their professional requirements. **Fig 1** below graphically represents the conceptual model of the current research:

**H4:** There is a positive relationship between Characteristics of Social Media & Information Acceptance:

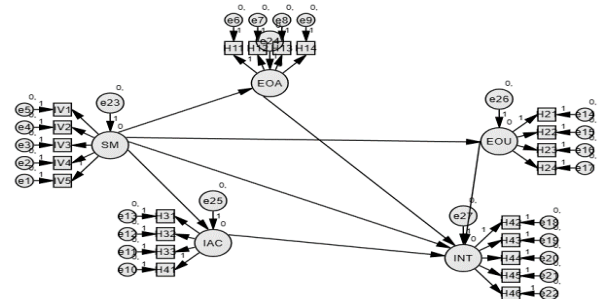


**Figure 1:** Conceptual Model

### 3. METHODOLOGY

#### 3.1 Research Instrument

This study is exploratory. The researcher used  $n= 156$  closed-ended, well-structured questionnaires for data gathering purposes as close-ended questionnaires help to gather data efficiently. They have the potential to gather a large number of responses which is easy to manage and analyze [51]. The questionnaire was designed on the three-point Likert scale (1= yes, 2= no & 3= Neutral) and sent the questionnaires through email and asked for the respondents' consent to fill them. Further, the researcher conducted both descriptive and inferential statistics to examine the data. In this regard, the researcher used Statistical Package for Social Sciences and AMOS Ver 23 for the Structural Equation Modelling [52]. **Figure 2** below represents the path diagram of the research model



**Figure 2:** Path Diagram for the Structural Equation Modelling

### 3.2 Population & Sampling

The study universe comprised the population from Islamabad, Pakistan. However, due to limited resources and time frame, the researchers used a convenient sampling method. According to [53], the convenient sampling technique is a method where the only criterion is the researcher’s convenience as in the existing lockdown situation, it was nearly impossible to utilize self-administered field surveys.

### 3.3 Sources & Assessment of Research Model:

As noted earlier, the researcher used the survey method for data collection purposes, Table 1 indicates the sources of measurement scales. The Cronbach Alpha Values in Table 2 further affirm the reliability of the research model as all the values are ranging from .711 to .791, indicating that research scales are strongly reliable.

**Table 1:** Sources of Study Scales Selection

Scales	Sources
Social Media	[54]
Ease of Access	[55]
Ease of Use	[56]
Information Acceptance	[57]

### 3.4 Construct Reliability & Convergent Validity

To examine the internal consistency of the research model, the research conducted Construct Reliability, Convergent Validity, and Discriminant Validity Analyses as suggested by Golfashni, (2011). **Table 2** summarizes the results of Construct Reliability and Convergent Validity assessments. We can observe that; the Cronbach Alpha Values are higher than the threshold value of 0.7 as they are ranging from .711 to .795. Besides, the values of Composite Reliability are also higher than the threshold value of 0.7 as they are ranging from .737 to .94, the Construct Reliability of research model is successfully established [58]. Moreover, regarding the convergent validity, all the Average Variance Extracted Value is also greater than the threshold value of 0.5, also the Factor Loading values are surpassing the same threshold values, indicating that the Convergent Validity of the research model is successful established [59], [60].

**Table 2:** Convergent Reliability Analysis (Factor Loading, Composite Reliability, Cronbach Alpha, Average Variance Extracted)

Variables	Items	FL	CA	AVE	CR
SM	SM1	.883	.727	.899	.945
	SM2	.909			
	SM3	.841			
	SM4	.924			
	SM5	.942			

EOA	EOA1	.948	.756	.873	.909
	EOA2	.818			
	EOA3	.837			
	EOA4	.891			
EOU	EOU1	.882	.711	.881	.915
	EOU2	.875			
	EOU3	.922			
	EOU4	.845			
INT	INT1	.917	.791	.861	.905
	INT2	.903			
	INT3	.888			
	INT4	.736			
IAC	IAC1	.793	.765	.716	.737
	IAC2	.726			
	IAC3	.554			
	IAC4	.746			
	IAC5	.762			

**Note:** SM; Social Media, EOA: Ease of Access, EOU: Ease of Use, INT: Internet Availability, IAC: Information Acceptance

### 3.5 Discriminant Validity

After assessing the Convergent Validity and Construct Reliability, the researcher examined the Discriminate Validity of the research model as suggested by Koonce & Kelly, (2014). For this purpose, we first utilized Fornell-Larcker Criterion Scale. As visible in **Table 3**, the square root values of Average Variance Extracted are greater than the correlation values mentioned in the table, discriminant validity is partially established. Likewise, **Table 4** represents the values of the correlation to calculate the Heterotrait-Monotrait Ratio Scale. After manually calculating the average values and employing the Heterotrait-Monotrait Ratio Scale, we found the HTM value at -0.762, indicating that it is much lower than the designated value of 0.85. Thus, we can affirm that the discriminant validity of the research model is fully established [62].

**Table 3:** Fornell-Larcker Criterion

	SM	EOA	EOU	INT	IAC
<b>SM</b>	.528				
<b>EOA</b>	-.293	.571			
<b>EOU</b>	-.152	.504	.505		
<b>INT</b>	-.140	.221	.481	.625	
<b>IAC</b>	-.360	.361	.515	.456	.585

**Table 4:** Heterotrait-Monotrait Ratio Scale

	SM	EOA	EOU	INT	IAC
SM					
EOA	-.194				
EOU	-.062	.604			
INT	-.140	.339	.414		
IAC	-.360	.242	.155	.547	

**Note:** SM; Social Media, EOA: Ease of Access, EOU: Ease of Use, INT: Internet Availability, IAC: Information Acceptance

#### 4. DATA ANALYSIS AND RESULTS

##### 4.1 Demographics and Analysis of Variance

The descriptive analysis of demographics indicated that,  $n = 231$  or 87.1% percent of study participants were males and the rest of  $n = 44$  or 12.8% were females. Furthermore, according to the age of participants,  $n = 105$  or 39.6% were 16 to 25 years old,  $n = 81$  or 30.5% were 36-45 years old,  $n = 75$  or 28.3% were 26 to 35 years old, and only  $n = 4$  or 1.8% of respondents were 46 years old or above. Likewise,  $n = 79$  or 24.2% of respondents had secondary school certificate,  $n = 66$  or 20.2% had high school certification,  $n = 68$  or 20.8% had a bachelor degree,  $n = 26$  or 8.0% were university graduates,  $n = 82$  or 30.9% possessed masters level degree and  $n = 6$  or 1.8% of participants had a PhD degree.

Similarly, to examine any potential difference in responses based on the respondents' demographics, the researcher conducted a one-way Analysis of Variance [63]. **Table 5** summarizes the results of the One-way Analysis of Variance. As visible that, based on the gender, age, and educational level of the participants, all the values are controlled with the significance level at **Gender:** .000, **Age:** .74, **Education:** .003, we did not find any discrepancies based on the demographics of the study participants.

**Table 5:** Demographics and One-way Analysis of Variance

Variables	Constructs	F	%	Levene Statistics	Sign.
Gender	Male	231	70.6%	10.214	.000
	Female	34	12.8%		
Age	16-25	105	39.6%	9.671	.074
	26-35	75	28.3%		
	36-45	81	30.5%		
	46 or Above	4	1.5%		
Educational Level	Secondary School	79	24.2%	5.315	.003
	High School/Intermediate	66	20.2%		
	Bachelors	68	20.8%		
	Graduation	26	8.0%		
	Masters	82	30.9%		
	Doctorate	6	1.8%		

#### 5. COEFFICIENTS OF DETERMINATION R<sup>2</sup>

The researcher examined the latent values by conducting the Coefficients of Determination R<sup>2</sup> as suggested by [64]. **Table 6** summarizes the results of the Coefficients of Determination R<sup>2</sup>. As visible that, all the values are ranging from .700 to .713, indicating that the research model has a strong predictive power [54], [65]

**Table 6:** Coefficients of Determination R<sup>2</sup>

Variables	R <sup>2</sup>	Strength
Ease of Access	.713	Moderately strong
Ease of Use	.708	Moderately strong
Information Acceptance	.700	Moderately strong

##### 5.1 Hypotheses Testing

According to Emmert-Streib & Dehmer, (2019), hypothesis testing helps us to validate whether the data is typical or atypical regarding its generalizability to the particular study population. Thus, to affirm the relevant generalizability of the research proposition, the researcher conducted Path Analysis and Linear Regression analysis. To further strengthen the results, the researcher also obtained the t-value, f-value, and significance value of the relationships between study variables. With the Path Value of 0.687, we found that ease of access to healthcare information described 10% of the variance,  $R^2 = .10$ ,  $F(1, 154) = 17.621$ ,  $p \leq .000$ . Thus our first hypothesis significantly predicted the positive relationship between Social Media usage and ease of access to healthcare information,  $B = .460$ ,  $t = 16.739$ ,  $p \leq .000$ . Moreover, we found the Path Value of 0.641 regarding the second hypothesis proposing a relationship between social media and ease of use along with 4% of the variance,  $R^2 = .04$ ,  $F(1, 154) = 6.609$ ,  $p \leq .011$ . Thus our second hypothesis significantly anticipated the significant relationship between Social Media usage and ease of use to gather healthcare information,  $B = .664$ ,  $t = 9.061$ ,  $p \leq .011$ . Similarly, with the Path Value at 0.539 and .08% of the variance,  $R^2 = .08$ ,  $F(1, 176) = 2.218$ ,  $p \leq .013$ , the third hypothesis is also validated as it significantly predicted the relationship between Media and Internet Availability to Gather Healthcare information,  $B = 1.537$ ,  $t = 6.572$ ,  $p \leq .013$ . Finally, regarding the fourth study hypothesis, we found 0.673 as the Path Value and Ease of use regarding healthcare information explained 2% of the variance,  $R^2 = .02$ ,  $F(1, 154) = 4.221$ ,  $p \leq .042$ . Thus our second hypothesis significantly anticipated the positive relationship between Social Media usage and ease of use to gather healthcare information,  $B = 1.530$ ,  $t = 9.318$ ,  $p \leq .042$ . **Table 7** summarizes the results of path analysis and regression analysis for the study model:



**Table 7: Path Analysis & Linear Regression Analysis**

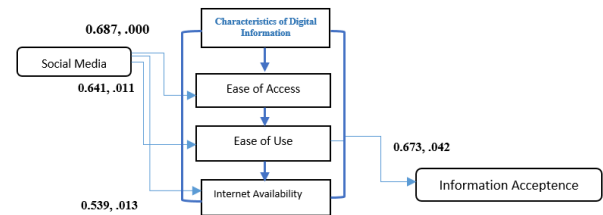
H	Relationships	Path	f	t	Sign
H1	SM>EOA	0.687	17.621	16.739	.000***
H2:	SM>EOU	0.641	6.609	9.061	.011**
H3:	SM>INT	0.539	2.218	.6572	.013**
H4:	CHR>IAC	0.673	4.221	9.318	.042*

**Note:** SM; Social Media, EOA: Ease of Access, EOU: Ease of Use, INT: Internet Availability, IAC: Information Acceptance

### 6. DISCUSSION AND CONCLUSION

The Healthcare system is an engine that introduces new strategies to cope with ongoing health concerns and their solutions. If a healthcare system is strong enough to cope with the emerging challenges, they will introduce new ways including technology usage to spread relevant information among the public [67] as digital technology is capable of spreading healthcare information, enabling the people to take personal protective measures [68]. Especially during the Covid-19, the challenge is to devise communication and access to information so that the public may stay updated and take effective steps to protect themselves. In Pakistan, due to home isolation, school closure, remote working, lockdown, and other reasons, people mostly prefer digital media to avail information and interact with the healthcare service providers [69]. In this context, online platforms have a Social Responsibility to keep people informed and reinforce healthy behaviors [70]. Also affirmed by current study results as during the times of physical distancing, the role of online media to spread healthcare information and updates cannot be underestimated [71]. In this context, we found that a significant relationship between Social Media and Ease of Access with the significance level at  $p \leq .000$ . These results are consistent with the study conducted by [72], as they also found a strong relation between digital media and accessibility in the global context. Similarly, the significance level at .011\*\* also affirmed a significant relationship between Social Media and Ease of Use. These results were also compatible with previous studies such as [1], [73]–[75]. Hence the second hypothesis is also validated and accepted. Moreover, the third hypothesis assuming the relationship suggested a strong relationship between Internet Availability and Social Media (usage) with the significance level at .013, validating the third study hypotheses. Finally, the fourth and the last hypothesis assumed the relationship between all the variables mentioned above as the characteristics of social media, which further enhance the chances to accept the

message. This hypothesis is accepted with the significance level at  $p \leq .042$ , and showing compatibility with the study conducted by [57], [76] as both cited studies also found social media as a source of information sharing and accelerating Acceptance among the users.



Thus, online media involvement is one of the major reasons behind better healthcare services and measures as people tend to prefer direct, firsthand information to cope with the existing challenges. Here we can assume that online media platforms are playing a pivotal role to disseminate Covid-19 information [67]. People receive firsthand information from online resources and share it with their friends, family, and other community members [70]. Twitter, YouTube, Facebook, and others being primary vehicles of information, carry useful information capable of influencing the public as adequate information from official resources i.e. the World Health Organization, UNESCO, UN, and others will not only reinforce positive attitudes but also, it will decrease the fear and concern concerning Coronavirus [77]. According to [78], data gathered from Social Networking Sites provides a tremendous amount of information concerning the current pandemic. During the Covid-19 online information helps people to understand the measures to cope with the outbreak as Social Media provides several opportunities to share and receive updates concerning health promotion, patients' education, and patient-doctor communication especially during the major healthcare crisis [79]. To attain healthcare information, several individuals get benefitted from Social Media platforms, for instance, only in the United States, more than 67% of individuals use online resources to gather healthcare information [80]. Therefore, the extensive literature and the survey results documented an extensive dependency and use of Social Media for healthcare information in general and the Covid-19 based information in particular. Overall, this study shows community engagement during the current health crisis as Social Media provides autonomy, self-efficacy, trust, motivation, and active participation to adopt a healthy lifestyle and take the important measures to halt the potential impacts of healthcare concerns [81]. Hence, social media platforms are rigorously playing their role to spread healthcare information, especially during the current pandemic. We provided quantification of Social Media dependency during the Covid-19 in Pakistan, affirming



ease of healthcare information availability. However, more efforts from stakeholders are still required to inform and educate the public about mitigating the impacts of Covid-19. For this purpose, along with Social media, traditional media platforms should also play their role to harness the potential role of mass media to disseminate healthcare information and awareness.

### 6.1 Limitations & Recommendations

The researcher used convenient sampling for the data gathering process which limits the scope of this study. Also, the study sample was limited which might affect the generalizability of the results, further narrowing down its scope. However, the researcher carefully analyzed the phenomenon and highlighted the brighter aspects of Social Media, especially during the current pandemic. Moreover, this study is based on a self-constructed conceptual framework which is validated by the cited literature and the results. The proposed study model can be used for future studies as it can help to dig out new findings regarding the constructive use of digital media technology. Therefore, the researchers suggest more investigations to analyze the Social Media based information acceptability in other scenarios to highlight the positive aspects of Social Media usage in the future.

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