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## Social Media's Impact on Academic Performance of Higher Faculties During Covid-19 Pandemic in Hyderabad, Sindh, Pakistan

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### Abstract

Social media become the dynamic tool of communication among academicians during the Covid-19 pandemic. However, a lack of research examines the impact of social media use on academic performance by higher faculties. In this study, TAM was applied as an analytical model and employed a survey as a quantitative research method. A total of 242 higher faculties from multi-disciplines of the University of Sindh, Jamshoro, Hyderabad, (Sindh) Pakistan were chosen from 1st August 2021 to 30<sup>th</sup> August 2021. The data was analyzed by SPSS version 26, based on the technology acceptance model, applied Cronbach's  $\alpha$ , regression, and Pearson correlation techniques. This study revealed the moderate correlation  $r$ -square = .674,  $p$  = 0.000, which indicated the use of social media, perceived usefulness, and teacher satisfaction have a significantly positive impact on the academic performance except perceived ease of use among higher faculties in the university. Therefore, this study concluded that the impact of social media usage on academic performance by teachers have shown significant pattern and transformed the traditional approach towards online for development of academic performance. However, social media can assist in better academic performance by promoting collaborative learning, and discussions. Hence, for further analytical evaluation, similar research must be conducted at private universities.

**Keywords:** social media impact, social media uses, academic performance, higher faculties, communication.

### 1. Introduction

The Corona-Virus disease was one of the world's most severe pandemics. Covid-19 has a harmful impact not only on faith, but also on every aspect of human life, including social, economic, and educational outcomes (Das et al., 2022). Schools and universities were also shuttered, affecting the activities, obligations, and responsibilities of millions of teachers and billions of pupils. In March 2000, the universities were shuttered in Pakistan, and transformed million of educational institutions systems on social media (Keeley, 2021).

In the global world a total 4.80 % social media user were identified, more specifically, in academic settings, social media has emerged as a popular topic of conversation (Willems et al., 2018; Jeffrey, 2022; Digital, 2023). In Pakistan, there were 71.70 million active social media users in January 2023, and 30.1 % of the total population and the users were equivalent 71.70 million in

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January 2022, 46.00 million in January 2021, and 37.00 million in January 2020 (Digital, 2023; Digital, 2022; Digital, 2021; Digital, 2020).

In the current context, the incorporation of technology-enabled higher education institutions to instruct distant learning education strategy (Mulenga, Marban, 2020). During the Covid-19 pandemic, the research reveals that proper use of social media fosters a new era of social learning, and teaching performance (Sobaih et al., 2020). Social media makes a successful association between teachers and students, where teachers put a lot of effort to integrate students (Taimur et al., 2021). Researchers have shown the social media's uses increase the collaborative learning and performance at academic institutions (Manca, 2020). Social media has been employed for collaborative learning, which significantly affects the sharing of knowledge and performance at institutions (Ansari, Khan, 2020). Researchers have also shown that social media has not only impact on instructors' performance but also on their effective communication in educational institutions (Zachos et al., 2018; Vandeyar, 2020). In addition to this, social media encourage learners to collaborate with their peers and share information (Greenhow, Lewin, 2016). Through, the use of social media, instructors engage in ongoing collaborative learning in which they share ideas and opinions (Shen et al., 2021; Phuthong, 2021).

The social media's uses for learning and teaching is still being resisted by faculties, who prefer to use only for networking than education purposes (Manca, 2020; Chugh et al., 2021). Although, in the case of teachers, who use social media have voiced concerns about its drawbacks and inadequate assessment and evaluation (Moran et al., 2011). Researchers also found social media usage may cause of distraction while study (Van et al., 2020). In the higher institutions, with limited technical adaptability, low competencies, exam anxiety and management of time were the higher discrimination between the higher and lower academic performance at universities (Talib, Sansgiry, 2012).

Nonetheless, at global level, the social media platform has had enormous impact on teachers' academic performance during the Covid-19 pandemic entails using social media as the sole and official platform for academic-related purposes, in accordance with the academic progress as determined by the TAM model. In Pakistan's higher universities has inadequacy studies on this subject. In order to fill this gap in the literature, current study is to examines impact of social media uses on maintain higher academic performance in universities institutions during Covid-19. The TAM model were adapted and modification in the constructive framework.

Conceptual Framework and Hypothesis of the Study: Technology Acceptance Model (TAM) is one of the most widely used research models for adapting and acceptance of information systems. Technology Acceptance Model (TAM) has been thoroughly examined the individuals technology acceptance behavior in different information systems designs (Ajzen, Fishbein, 1977; Davis, 1985). The model (i.e. Technology Acceptance Model) was proposed to understand the causal relationships between internal attitudes, intentions, and beliefs of users in the acceptance of computer-based technology (Davis, 1989). Particularly, the Technology Acceptance Model (TAM) has gained a lot of theoretical and empirical support (Davis, 1989). The explanation and forecasting of user acceptability of Information Communication Technology (ICT) at work (Davis, 1989). Its practical usefulness in the context of Information Communication Technology (ICT) (Chuttur, 2009).

It can be more clearly explained the variables that might impact teachers' academic performance by looking at social media use (SMU), perceived usefulness (PU), perceived ease of use (PEOU), and teachers' satisfaction (TS). this study focused on TAM model to better understand the impact of social media uses on the development of the academic performance of higher faculties at universities.

In this study, the reviews of the literature have required to develop new theoretical insights by new constructs Social Media Uses (SMU), Perceptual Usefulness (PU), Perceived Ease Of Use (PEOU), Teacher Satisfaction (TS), and Academic Performance (AP) in the Technology Acceptance Model. Hence, four hypotheses were tested the presence the findings as given below.

Social Media Uses (SMU): Social media uses contribute to the enhancement of academic performance, when it comes to standardizing the sustainability of education, which is positively related to instructors' academic performance (Al-Rahmi et al., 2019; Al-Maatouk et al., 2020). Therefore, this study examined the relationship between social media use and academic performance in the context of Pakistan's faculties of higher education. Social media is useful for improving academic performance (Ajjan, Hartshorne, 2008). Social media is used by higher education faculties in teaching (Moran et al., 2011). The instructors and learners tremendously use

social media. Therefore, this research supports the following hypothesis.

H1: Social Media Use (SMU) has a significantly positive impact on the Academic Performance (AP) of higher faculties.

Perceptual Usefulness (PU), and Perceived Ease Of Use (PEOU): Perceived usefulness (PU) defines as "the degree to which a person believes that using a particular system would enhance his/her job performance" (Davis, 1989). Perceived ease of use (PEOU) refers to "the degree to which an individual believes that using a particular system would be free of physical and mental effort" (Davis, 1989). The study by N. Park, M. Rhoads, J. Hou, K.M. Lee (Park et al., 2014) institutional instructors were found to be substantially associated with perceived ease of use (PEOU) and perceived usefulness (PU) in performance. They showed that users rate the usefulness and simplicity of the systems higher when they judge the relative advantages. Perceived usefulness is the degree to which people feel using technology ultimately improves their performance (Liu, Huang, 2015). There were statistically significant satisfaction indicators for the reported usefulness and ease of use (Mostafa, 2020).

Hence, the hypothesis H2 and H3 have been proposed in this study.

H2: Perceptual Usefulness (PU) has a significantly positive impact on Academic Performance (AP).

H3: Perceived Ease of Use (PEOU) has a significantly positive impact on Academic Performance (AP).

Teacher Satisfaction (TS): Teacher satisfaction can be defined as the degree to which someone is satisfied with technology use (Alamri et al., 2020; Lee, Lehto, 2013). According to research, when instructors feel they have achieved their desired results, they are satisfied (Lee, Lehto, 2013). Hence, this research suggests the following hypothesis.

H4: Teacher Satisfaction (TS) has a considerable positive impact on academic performance of higher faculties.

Academic Performance. The term academic performance was constructed in the context of the acquisition of knowledge, and development of skills for the accomplishment of objectives in higher education (Alamri et al., 2020). Previous literature has analyzed social media's impact on academic performance (Krasilnikov, Smirnova, 2017). However, there is insufficient research on social media and academic performance in the context of Pakistan. As a result, this study attempted to determine the impact of social media on higher faculties' academic performance employ Technology Acceptance Model. In this study, academic performance was chosen as the dependent variable, and the independent variables are social media use (SMU), teacher's satisfaction (TS), whereas perceived usefulness (PU), and perceived ease of use (PEOU) are mediator variables (Figure 1).

## 2. Materials and methods

Survey Technique. A cross-sectional survey method has been used in this quantitative study. A questionnaire was designed with close-ended questions and included six sections. Section I asks for the demographic profile of the faculties of higher education, and sections II, III, and IV were designed on a five-point measurement of the Likert scale ranging from 1 to 5 (strongly agree to strongly disagree). Technology Acceptance Model (TAM) was adapted and modified to consist of Social Media Use (1 indicator), Perceived Usefulness (2 indicators), Perceived Ease of Use (3 indicators), Teacher's Satisfaction (4 indicators), and Academic Performance (5 indicators). During the screening of the data, four questions were excluded due to incomplete values. The remaining 49 questions were utilized in data analysis. The study was conducted from 1st August 2021 to 30 August 2021, when the situation with the Covid-19 pandemic was slightly better. Nonetheless, the sampling of this study were higher faculties of the University of Sindh, Jamshoro (main campus) in the Hyderabad city of Sindh province of Pakistan. According to the calculation used in the table sample size of R.V. Krejcie and D.W. Morgan (Krejcie, Morgan, 1970)  $n = 242$  teachers were selected out of  $N = 650$  from the multidisciplinary faculties of the University. The information gathered from the survey has been coded and entered data in the Statistical Package for Social Science (SPSS) version 26. The data was analyzed in the form of frequency distribution, Cronbach's alpha was applied for analyzing reliability and validity. Secondly, multiple regression and Pearson correlation were employed to determine the association between various variables of model, as undertaken in this study.

### 3. Discussion

Social media is a kind of communication tool that enables teachers and students to online collaborate learning while adhering to social distance norms (Vordos et al., 2020). In other words, social media is a subset of computer-mediated technology that spreads ideas, fosters social awareness, sparks interest in careers, facilitates in sharing information, social networking, and creates online academic communities (Abbas et al., 2019).

However, social media has a significantly faster pedagogy approach than the traditional one (Karimi et al., 2020). According to research conducted in France proved, social media has considered a teaching tool and appears to be a successful strategy for teachers (Erhel et al., 2022). Many teachers have perceived, social media as a valuable tool in teaching activities, such as communication with peers, students, and scholars, sharing lectures, notes, and other content among them (Bold, Yadamsuren, 2019). As part of this, academicians usually use micro-blogging, facebook, documents sharing via Google Docs, Research Gates, Google Scholar, blogs, audio-video sharing, and YouTube, these channels of communication are generally utilized by teachers (Gruzd et al., 2018). Besides this, teachers have frequently used Whatsapp and Pinterest to meet the requirements of higher education in Indonesia (CJM Lake et al., 2021).

The Covid-19 pandemic was a natural calamity that influenced all people, especially, from the perspective of education. Nevertheless, teachers continued their services via social media and communication skills increase teacher's likelihood of interacting with peers and students, which enhance academic progress (Ahmad, Murad, 2020). Furthermore, higher faculties have managed their teaching, which has a higher impact on teachers' satisfaction, motivation, integrity, and performance (Putrawan et al., 2021). Besides this, teachers' mobile learning and technological expertise highly impact on their online lectures (Jie et al., 2020). In addition to this, wikis, podcasts and Whatsapp are valuable resources for sharing lectures among students (Sharma et al., 2022). It also encourages to use of social media for learning and interaction with professors and scholars (Alshwiah, Alaulamie, 2022).

On the other side of the fact, researchers have recognized that due to hindrances in using social media, lecturers in higher education have not fully grasped it (Fedock et al., 2019).

Higher faculties learn how to deal with social media as it continues to develop (Nouri et al., 2020). Social components of technologies are most frequent used in education. Those persons, who use social media regularly can communicate with one another and share information on a worldwide scale (Dwivedi et al., 2020).

Social media can help students, teachers, and educational institutions achieve their academic goals (Shafiq, Parveen, 2023). A. Alshalawi (Alshalawi, 2022) indicated 58 % more than an average of faculty members frequently users of social media application in their classes (Alshalawi, 2022). In addition to this, P.K. Boruzie et al. (Boruzie et al., 2022) study discovered that social networks were a helpful tool for enhancing higher education performance. In order to quickly and easy communicate with students, 49 % of teachers used social media in their classes (Sutherland et al., 2020).

In the context of Technology acceptance model Troussas et al. (Troussas et al., 2021) has shown indirect or direct significant impact on individual and concluded the social networking is a learning tool that can help learners to better perform and learn more.

Additionally, social media paint a more complete picture taking into account not only the variety of media used but also the range of goals connected to the use of social media in modern teaching initiatives (Gruzd et al., 2018). Respectively, the use of social media by teachers, such as Facebook, forces them to consider and position their preferred teaching role in these new social contexts (Jeffrey et al., 2022). In order to communicate with students quickly and easily, 49 % of teachers used social media (Sutherland et al., 2020). There are some factors have taken into account to develop digital literacy skills and evaluating performance (Willems et al., 2018). From previous studies indicate that using Facebook for academic purposes is beneficial, receives positive feedback, and researchers advise, its inclusion in teaching and learning (Niu, 2019).

On another side, E. Japhet et al. (Japhet et al., 2018) found in their study it offers chances for more adaptability, accessibility, and interactivity for motivating teaching and learning at the societal, groups and individual levels. S. Abdullah, Alshalawi (Abdullah, Alshalawi, 2022) indicated 58 % of academic staff members incorporate social media tools into their teaching. Further depicts that behaviour intention was strong predictor of the integration of social media applications in the teaching process.

#### 4. Results

*Respondents' Demographics Characteristics:* This section has provided descriptive analysis of the demographic characteristics of the respondents.

As can be seen in [Table 1](#), out of the 242 respondents, 133 (55 %) are male, and 102 (45 %) female teachers of university. On the age of the respondents, [Table 1](#) shows that 35 (14.5 %) of the respondents are aged from 26 to 30 years, 94 (38.8 %) are aged from 31 to 35 years, while 80 (33.1 %) are aged from 40 or older years. precisely, all the respondents are adult teachers above the age of 30 years.

**Table 1.** Respondents' Demographic Characteristics (n = 242)

Variable	Frequency	Percentage
<i>Gender</i>		
Male	133	55
Female	109	45
Total	242	100
<i>Age</i>		
26-30	35	14.5
31-35	94	38.8
36-40	80	33.1
40 or older	33	13.6
Total	242	100
<i>Marital Status</i>		
Single	72	29.8
Married	127	52.5
Divorced	25	10.3
Widow	04	1.6
Not Answered	14	5.8
Total	242	100
<i>Respondents based on their Levels of Study</i>		
Master	48	19.8
Master of Philosophy	86	35.5
Postgraduate	108	44.6
Total	331	100
<i>Respondents designation</i>		
Professors	25	10.3
Associate Professors	106	43.8
Assistant Professors	56	23.1
Lecturers	26	10.7
Research Assistants	29	20.0
Total	242	100

Regarding respondent's marital status, [Table 1](#) shows that 72 (29.8 %) of the respondents were single and that 127 teachers (52.5 %) were married. 25 (10.3 %) teachers were divorced, only four was widow while 14 teachers did not answered.

Regarding the teachers' level of studies, [Table 1](#) shows that 48 (19.8 %) teachers are Master qualified in the study with 86 of them (35.5 %) Master of Philosophy and 108 (44.6 %) postgraduated. Regarding the respondents' designation, [Table 1](#) (above) shows that 25 (10.3 %) professors, and 56 (23.1 %) assistant professors from all faculty of disciplines. The remaining high percentages include 106 (43.8 %) respondents associate professors, 26 (10.7 %) lecturers, and 29 (20 %) research assistants.

*Measurement for the Reliability:* In order to make sure that the study measurements can accurately measure the target variables, it establishes important requirements related to their reliability of construct in Technology Acceptance Model. Regarding establishing reliability among variables [Table 2](#) shows significant tests is one of the procedures' key tests ([Hair et al., 2017](#)). In the article "PLS-SEM or CB-SEM: updated guidelines on which method to use", the authors defined reliability is part of the evaluation process ([Hair et al., 2017](#)).

The Cronbach's  $\alpha$  a value of social media use, perceived usefulness, perceived ease of use, teacher's satisfaction and academic performance all are more than 0.6. According to the researchers if the indicators are higher than 0.6, the findings are considered to be reliable (Hair et al., 2017; Moran et al., 2011; Ajjan, Hartshorne, 2008; Lee, Lehto, 2013). See Table 2 for details.

In addition to this, the measurement model's outcomes supported all hypotheses and confirmed the validity and reliability of the constructs. The results of the study indicated the acceptable range of >0.50 and >0.70 respectively (Fornell, Larcker, 1981). Since the construct's reliability and validity are acceptable (>0.50 and >0.70). Thus, the measurement model's initial run did not exhibit any poor indicators. See Table 2 for details.

**Table 2.** Reliability Analysis by Cronbach's Alpha Model Based Variables

Variables	Constructs	Items	Cronbach's $\alpha$	Authors Source
Independent	Social Media Use (SMU)	16	>.665	(Moran et al., 2011; Ajjan, Hartshorne, 2008)
Mediator	Perceived Usefulness(PU)	08	>.796	(Hair et al., 2003)
Mediator	Perceived Ease Of Use (PEOU)	11	>.752	(Hair et al., 2003)
Independent	Teacher's Satisfaction (TS)	03	>.793	(Lee, Lehto, 2013)
Dependent	Academic Performance (AP)	11	>.872	(Lee, Lehto, 2013)

*Determining the Correlation between social media use, perceived usefulness, perceived ease of use and teacher's satisfaction:* Table 3 shows that social media use is moderately correlated with its academic performance, where Person's  $r = .56$  and the significance level is  $p = .01$ . Hence, we can say that H1 was accepted. This result is also reflected in Figure 1 (Adapted and Modified Framework of Technology Acceptance Model in the study). F. Davis published an article "A technology acceptance model for empirically testing new end-user information systems: Theory and results" in 1985 the researcher tried to analyse the significant impact of perceived ease of use, perceived usefulness on academic performance, because, all being equal, an easier-to-use system will result in higher job performance (Davis, 1985).

**Table 3.** Correlation between Variables

Variables	P	r
Social Media Use → Academic Performance	.01	0.565**
Perceived Usefulness → Academic Performance	.01	.758**
Perceived Ease Of Use → Academic Performance	.01	.590**
Teachers Satisfaction → Academic Performance	.01	.729**

Notes: \*\*Correlation is significant at 0.05 level (2 tailed)

Table 4 shows the model fits as the model has tested significantly ( $p < 0.01$ ) with  $F = (4, 237) = 122.660$ ,  $p < .000$ ). The regression test presented a strong inference with an  $r$  square of .674. Approximately 67 % of variations of the dependent variable (Academic Performance) can be explained by independent variables SMU, TS and mediator variable PU, PEOU, and dependent variable AP. The adjusted  $r$  square value is 0.669. See Table 4 for details.

**Table 4.** Model Summary, Predictors: (Constant), SMAU, PEOU, PU, TS.

Model	R	R <sup>2</sup>	Adj R <sup>2</sup>	Standard Error of the Estimate	F
1	.821a	.674	.669	.38167	122.660

**Table 5** examined dependent, independent and moderate variables have highly significant at  $p < 0.01$ , with a 99 % confidence level. The standardized coefficients value (beta) of SMU ( $\beta = .212$ ), PU ( $\beta = .451$ ), and TS ( $\beta = .278$ ) implies that the independent variables have highly correlated with the dependent variable academic performance. However, the beta value of PEOU ( $\beta = .034$ ) appeared insignificant. F. Davis published an article “Perceived usefulness, perceived ease of use, and user acceptance of information technology” in 1989. The perceived usefulness had a much stronger association with the usage behavior of social media than perceived ease of use. See **Table 5** for details.

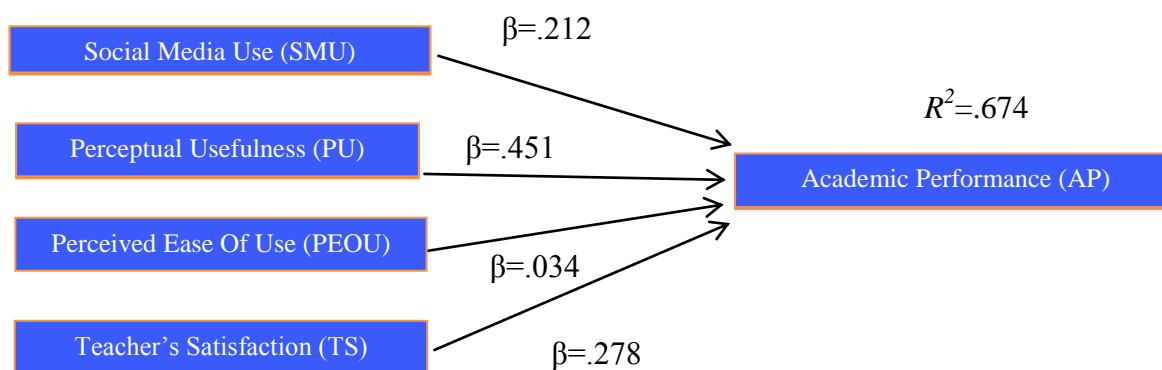
In addition, coefficients have assessed to ascertain the impact of each factor on the dependent variable. H1 evaluated the SMU has a considerable impact on the faculties AP ( $\beta = .212$ ,  $t = 3.016$ ,  $p = .003$ ,  $VIF = 1.545$ ); H1 endorsed. Besides this, H2 supported that PU has a significantly positive impact on the AP of the faculties ( $\beta = .451$ ,  $t = .451$ ,  $VIF = 2.192$ ); H2 endorsed. However, the result of Hypothesis3 has evaluated the PEOU insignificant relationship with the AP ( $\beta = .034$ ,  $t = .460$ ,  $VIF = 1.993$ ); H3 non-supported. The last structural Hypothesis4 tested the TS significant positive impact of TS on AP ( $\beta = .278$ ,  $t = 6.211$ ,  $VIF = 2.249$ ); H4 accepted. The value of F-statistics is significant in the structural model. Overall, the t-test presented a strong bond between the SMU, PU, and TS with AP variables except for PEOU. See **Table 5** for details.

**Table 5.** Regression Analysis

Variable	B	$\beta$	t	P	Sig.	VIF
Constant	-.037		-.221	.825		
SMU	.212	.139	3.016	.003		1.545
PU	.451	.435	.451	.000		2.192
PEOU	.034	.024	.460	.646	.000*	1.993
TS	.278	.345	6.211	.000		2.249

Notes: Dependent Variable: AP

\* $p < .05$



**Fig. 1.** Adapted and Modified Framework of Technology Acceptance Model in the study.

## 5. Conclusion

Finally, it can be stated that the impact of social media usage on academic performance by teachers have shown significant pattern and transformed the traditional approach towards online for development of academic performance. However, social media can assist in better academic performance by promoting collaborative learning, and discussions that support their academic performance. The study was conducted from 1st August 2021 to 30 August 2021 during the Covid-19 pandemic, when every institution transformed the teaching methods to online platforms. The academicians of public universities have accepted the digital platform for education purpose. The main purpose of the study is to examine the impact of social media use on academic performance of higher faculties at universities during pandemic Covid-19. According to the findings, virtually every faculty in each discipline have used social media extensively for academic promotion. Furthermore, The findings of the study ascertained some faculties perceived the use of

social media as an instrument to share, download, and learn resourceful educational material among their students. Moreover, universities teachers utilize Learning Management System (LMS) portal, which is web-based technology, use to design, implement, assess learning and teaching process. It has designed for the administrations, teachers, and students in all university's web page.

This research shows an adaptability of social media among higher faculties of University of Sindh, Jamshoro (Hyderabad) Pakistan in the framework based on the TAM led to these conclusions. Adaption of social media platforms in the perspective of learning and teaching tools are absolutely crucial for academicians. In this manner, teachers can effectively purpose new ideas, and collaborations and communicate knowledge among others. Nonetheless, faculties used to kept in touch with their colleagues and administration. Higher faculties have adapted the availability of social media as an instrument of learning and teaching. The results of the present study demonstrated the high impact between the use of social media and the teacher's academic performance at universities during the Covid-19 pandemic. Based on the study's findings, some practices are suggested. When it comes to online learning via social media; necessary infrastructure, teacher's training, affordable internet packages, and proper resources should be provided by the universities and the government. The findings of this study would be a significant contribution to the higher education institutions for policymakers in developing policies that support technology integration. Furthermore, this approach could assist in useful benchmarks and preliminary references for technology integration during future university closures due to epidemics. There are a few limitations, despite the interesting findings of the study. The sampled area was the only public university, "The University of Sindh, Jamshoro, Hyderabad". Thus, the results of the study cannot be generalized to the overall Pakistan context. Hence, for further analytical evaluation, similar research must be conducted at private universities.

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