Analyzing Behaviour change in students and teachers during COVID-19: A Perspective from Theory of Planned Behaviour.

Dr. Zoya Wajid Satti[1], Muhammad Omair khan[2] and Jaweria Tariq[3]

Abstract

The study seeks to assess the relation between attitude towards the study environment, subjective norms, perceived behaviour control, knowledge sharing behaviour, and adoption intention mediate in the context education sector. The sample for this study is taken from the educational sector of Pakistan. This research is based on primary and cross-sectional data from 400 plus respondents by using a convenience sampling technique. Almost 450 questionnaires were given back, representing a response rate of 88.8%. The usable questionnaires were 419 for this research study.

This research also takes part in the existing literature in three ways. This study about the relation between Attitude towards study environment and knowledge sharing behaviour is not so direct. Some variables are influencing and mediating this relationship. Therefore, this research tests a model and develops a complex relation between Attitude towards study environment and knowledge sharing by involving mediators (Adoption Intention). Secondly, studies on Attitude towards study environment and knowledge sharing are done in our country Pakistan. This study is done in developing countries like Pakistan which can help in explaining the effect of this online learning in the broader context. Thirdly, the studies on the linkage of Adoption Intention and Knowledge sharing behaviour have been focused on the education sector. This research focuses on the education sector.

Keywords: Attitude, Study environment, Subjective norms, Perceived behaviour control, Adoption, Intention, knowledge sharing behaviour.

[1] Assistant Professor, SZABIST, Islamabad

[2] Muslim Youth University Islamabad

[3] Muslim Youth University Islamabad

1. INTRODUCTION

COVID-19 is a disease that spread quickly and when COVID-19 started it had to be locked down to prevent it. When the lockdown occurred due to COVID-19, there was a lot of change in people's working behaviour, especially when teachers and students had to turn to online education, they faced a lot of difficulties. All those people did not have good online skills in the education field, so they also needed extra-role behaviours. These behaviourus also help with online education in sharing knowledge.

Corona virus can be transmitted very quickly just in one minute via droplets and through touching surface metals (Toquero,2020). More ever the younger and older are affected easily, Because of this new disease no one's save once this infection hits someone then all people are affected (Bender, 2020; Meng, Bian, 2020). Because of this Infection, all the educational institutes as of April 6th, 2020 included school colleges and Universities were closed all over the world . According to UNESCO (2020) in 188 countries out of 91.3% total learners, almost 1, 576, 021, 818 affected learners in all levels of learning. According to the department of health (DOH,2020) because of the 4,195 confirmed cases on April 10th, 2020 covid-19 caused an effect in higher educational Institutions. But the most teachers are not ready to understand online education due to poor knowledge of digital skills they are facing many problems and not able to share knowledge with their peers as well as online education is a new way of learning for students than they are also facing different problems. Covid-19 has an extensive effect on higher education systems like universities (Perrotta, 2020). Researchers suggest higher education systems need to focus on digital learning (Houlden Veletsianos, 2020). This study will explain the first behaviour response from university.

Most significantly the aim of this research examines the impact of COVID-19 on working behaviour towards university students and faculty. What changed in student's and teacher's behaviour due to COVID-19 Initially people did not have acceptance and no awareness about online training. In recent days COVID-19 has caused a great many changes in daily life. In contrast, University students and faculty are affected by these changes (Hamzelon, 2020). That

year they were facing many challenges that never happened before on this scale. Secondly, the result of COVID-19 schools closed all over the world. As a result of dramatically, e-learning is rising, teaching is changed on digital platforms and undertaken remotely. According to this research online learning has been shown to increase the adoption intention. Prior Studies explain that the theory of planned behaviour is predicting behaviour and intentions towards online learning. Similarly, by using the theory of Plant Behaviour in this research It will be seen how COVID -19 brought a change in people's behaviour regarding the learning process.

Problem Statement

The Education sector is going through intensive competition. Due to covid-19 a great many changes in the daily life of students and faculty are affected by these changes. The result of covid-19 school and Universities are closed in all the world, as a result, the rise of e-learning teaching is changed to a totally on a digital platform (Perrotta 2020). According to this study digital platform has shown to increase the adoption intention. Therefore because of covid-19, in the beginning, it was very difficult for students and faculty to accept online classes so person attitude towards the study environment was negative on the other hand perceived behaviour control and subjective norms have forced people to come to online study then people feel it is not possible to live without online study then they accept online study and Perceived behaviour control helped them a lot accept this change. Furthermore, students and teacher learned online skills and started using these skills not only by themselves but also teach this skill to other. All those people did not have good online skills in the education field, Due to which they needed extra-role behaviour. This behaviour also has to do with online education in sharing knowledge. Recent research advocates Attitudes towards online study Because of COVID -19 Online classes started Initially it was very difficult for everyone to accept online classes so personal Attitude towards online study was negative (Verity, kill 2020). On the other hand, subjective Norms have forced people to come to online studies When people realized that it is not possible to live without online studies Because of this, Students and teachers had accepted online studies. Perceived behavioural control helped them a lot to accept this change. In lockdown, apart from online studies, there was no other way to get an education, therefore, people developed positive attention towards online studies. They accepted this change and online skills not only that but also taught other people. By comparison perceived, behavioural control and subjective norms effect have a positive on adoption intention (Yao-

Tinan,2021). When people have positive intentions towards online studies because of this people started learning online skills via the media. Likewise, teachers and students learned skills online and then started using these skills in education. Not only did they learn these skills themselves Rather; teach these skills to other people associated with them. This is the reason Due to which the process of online classes is being used successfully now.

Thirdly, On the contrary mental health has a lot of impacts and it leads a person to depression (Mushtaq, 2014) Due to the lockdown during Covid -19 people started going into depression but social media like Facebook play an important role to reduce depression and increase the connectedness (Koeze and Popper, 2020). Similarly, in this study, the opinion is being raised that how to increase the connectedness through social media or social resources through these, how do the attitude change and this attitude towards study environment have also bring a positive change in the working behaviour this is the contribution of the study.

Fourth, this research used the theory of Planned behaviour to represent the clarification of attitude towards the study environment between adoption intention and the behaviour of knowledge sharing. In this study, Adoption intentions are used as a mediator of the Subjective norms, perceived behaviour control, and attitude towards a study environment, and knowledge sharing behaviour in their relationship creates new bits of knowledge on its effects.

Fifth, results advance the behaviour research on how attitudes towards the study environment may impact the effects of adoption intention on knowledge sharing behaviour of students and teachers. It is fundamental to comprehend the intervening impact on knowledge-sharing behaviour.

2. LITERATURE REVIEW

Ajzen (1985) has proposed the planned behaviour theory through his article. This theory examines the from intentions to actions. The theory has come from the Reasoned action theory which was proposed by Martin Fishbein together with Icek Ajzen in 1980.

On the other, hand addition was the third factor of behavioural control. Perceived behavioural control examines the degree to which a belief of person that they can perform

a given behaviour. Indeed behavioural control includes all the perception of the people's own ability to perform the behaviour.

Therefore, most human behaviour is goal-directed (Lewin, 1951). Human social behaviour can be explained well in less or more Formulated plans.

According to the reasoned action theory to goal-directed behaviours, but has limited volitional control of individuals. First, influence the factors of internal and external that volitional control is identified.

To begin with, the theory of planned behaviour by (Ajzen,1985) explains the conditions of volition control by the reasoned action theory. It's including beliefs, resources, and all the Opportunities, and for performing a behaviour that is given. The most opportunities and resources individuals think they have owned Their perceived behaviour control should be greater over the behaviour (Howells,1980).In the same way as normative beliefs and behavioural, it is made sure to separate this normative behaviour and treat them as factors of behaviour this is also an independent determinant.

These points referring to behavioural dispositions, like social norms, personality traits, and attitudes have played a vital effect in these attempts to define and predict human behaviour (Sherman & Fazio, 1983) as well as self-evaluations is a vital part of human behaviour. Indeed, the broad attitudes and personality traits affect specific behaviours and influencing indirectly more of the factors these factors are linked closely to the behaviour. (Ajzen & Fishbein, 1980).

The theory of planned behaviour is an addition to the reasoned action theory (Fishbein & Ajzen, 1975) made importantly by the model's limitations these limits are pure and in dealing with behaviours in which people have proper control and this control is incomplete. The main determinate in the planned behaviour theory is people's intentions with the help of the given intention's performance to a behaviour. Intentions are capturing the motivation factors of the behaviour and influence to act.

2.1 Knowledge sharing behaviours

According to situations that need prospective different definitions of knowledge sharing are presented knowledge sharing is a way that is meant to obtain experiences from one to others so it is also called 'knowledge transfer (M Patterson 2001). Knowledge transfer not only included the sharing of knowledge by the knowledge sources and applications of knowledge are also part of knowledge sharing. Knowledge transfer describes the movement of knowledge sharing between the organizations and different units but knowledge sharing typically defines the knowledge sharing between individuals.

2.2 Adoption intention

In the theory of planned behaviours, the main factor is a people's intention for performing a given behaviour (Fishbein, 1980). Therefore Intentions are explained to capture the motivational factors. These factors influence our behaviours. Indications to people are willing to try it. They make the plans and thinking about how much of an effort is required to perform the behaviours. Like for the stronger intentions to bounded in a behaviour Likely should be its performance therefore it should verify that our behaviours intentions can line and express behaviours (Ajzen, 1988).

Still, there is a high degree of correlation between behaviour and intention (Sheppard, 1988). Besides when analyzing the knowledge sharing behaviour for Online Study researchers have identified significant positive effects between intention to adopt and knowledge sharing behaviour (Saba, 2003). Because Adoption Intention Can Influence knowledge-sharing behaviour.

More specifically subjective norms affect the adoption intention (Ali, 2020). Many existing pieces of research have played a vital role of subjective norms in developing the intentions toward adoption behaviour (Shin, 2018). Hence, subjective norms are basically to be a strong predictor that has a specially positive influence on behavioural intentions.

Therefore, due to this research, we have explained an informative moderated mediation framework to explain the online convenience dimensions these dimensions influence adoption intention in the digital learning context. These outcomes show that transaction, post-benefit, and benefit convenience significantly affect digital learning intention to adopt.

2.3 Attitude Towards Online Study

Individuals will estimate the behaviours either negatively or positively which is called attitude (Ajzen, 1991). However, attitude one of the most special determinants because without the attitude behaviours are not influences and intentions depend on TPB theory. As a result, attitude determinants can affect the peoples' attitude which is the good-perceived result from that behaviour or the last result from that behaviours. In the present study, attitude is described as an important and valuable element for all the intention for giving by the behaviour of the people who perceive high as a positive practice. As Mishra study and Datta (2014) additionally explained attitude is an important element for individuals as well as the group of people in accepting and using online learning.

According to the outbreaks of SARS and H1N1 in 2002 and 2008, Honk Kong applied for a proper and complete online schooling system (Barbour et al., 2011). Therefore, this presented limited research focus on how students are affected when schools, as well as universities and all the educational institutions, have to close unexpectedly, indefinitely, then schools and universities are moves to the online learning system, according to the documented during Hurricane Katrina and Rita (Lapraire & Hinson, 2006). Existing studies on Ebola outbreaks have defined knowledge of sharing and attitudes towards study environment of students on disease transfer can help inform important examples for public health practices (Holakouie-Naeieni et al., 2015). Additional media and all the social resources may play an important role in spreading information and take a good part in connecting different groups of people, they have found during the 2016 flooding of Louisiana (Kim & Haska, 2018).

2.4 Subjective Norms

The intention of people can be observed and affected by social factors (Ajzen,1991) these factors are highly affecting on recognized as norms. On the other hand, according to Ajzen (1991), any type of suggestions from third parties just like life partners, siblings, family friends, or friends can impact the perception of a peoples behaviours. All the intentions for hibah giving were positive effects between the social groups, mostly positive perception results proved that perception will directly influence an individual's intention.

Secondly subjective norms as one of the determinants of intentions. All the same Subjective norms included an individual's beliefs about these beliefs significant with others think and also they should engage in the behaviour.

Previous studies verify that subjective norms also change the attitudes and Affect the mediator Therefore Subjective norms give the values and helps to Take changes due to their subjective norms students and teachers accept the online system and share knowledge (Woods, 2014).

The analysis of Conner and Armitage (2001) defined the subjective norm as the dim intentions of the predictor according to the TPB studies. Furthermore, almost partly, this research and shows strongly attributable to the use of single-item measures these measurements are with lower reliability. Where studies employed reliable multi-item, measures are used to measure subjective norms were specifically stronger predictors of intentions, although some attributes were still dim than attitudes or PBC.

2.5 Perceived behavioral control

According to Ajzen described perceived behavioural control is the ability of people to act as maintained by the resources as well as the opportunity and then individuals performing some acts and action (Ajzen 1991). In other words, perceived behavioural control examine and define a person's behaviours and actions based on their steps of proficiency and capability to control (Ajzen, 2012). Futhermore Ajzen (2012) included that people's behaviour may be affected by all the environmental factors and individuals. This factor shows that if people have accepted strongly that they have a good ability for control in the situation, they have a deep intention to perform that action. However, perceived behavioural control is described as the capability to perform a perception of an individual's hibachi-giving behaviour showed on the influence of internal and external constraints in this research. Existing research (Mishra et. al., 2014; Malebana, 2014) described perceived behavioural control to be a positive significant factor for behaviour because of this an individual's strong norms and belief that they have the best skills to perform that action. Therefore, Perceived behavioural control is very valuable because they increase the demand of the theory beyond easily performed, on the other hand, volitional behaviours to those behaviours and difficult goals are fully dependent on the performance of a difficult part of other behaviours

(Fishbein 2005). To the shaped that PBC perfectly reflects actual control, it control should provide a good guideline of behaviour.

An individual's perceived ease or particular behaviour performance is present behaviour control. A given behaviour does not occur When motivation and ability to perform that behaviour (Zhou, 2013). By using the theory of planned behaviour perceived behavioural control is used to generate the intention to act. More aware PBC is the most important control factor that influences the consumer's self-efficacy and availability.
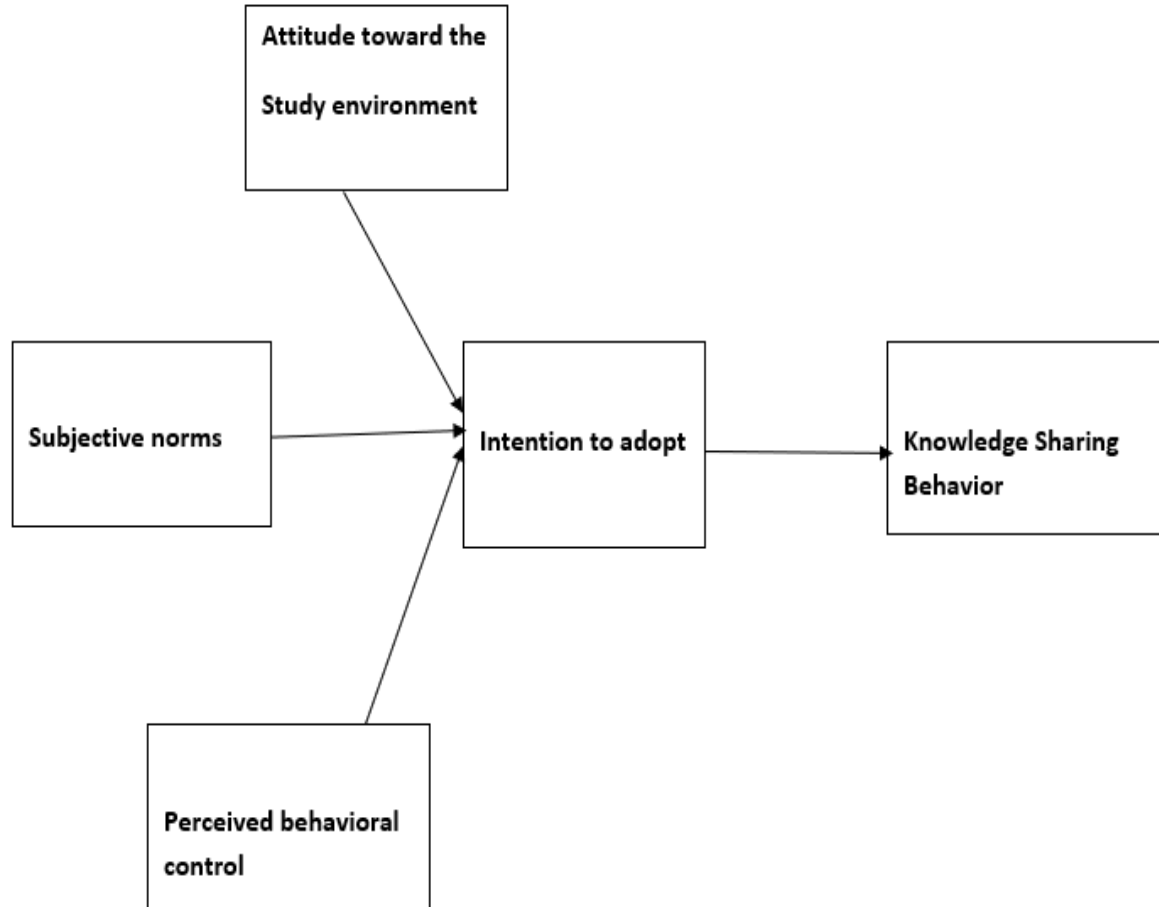
The study describes attitude, subjective norms, PBC as strong predictors of intentions, intentions, and PBC as a strong direct effect on predictors of behaviour.

METHODOLOGY

3.1 Theoretical Framework

The theory of planned behaviour is used to understand and predict behaviours. It links beliefs to behaviour that behaviour is quick, determines the behavioural intentions, and predicts behaviour under certain circumstances (Fishbein 1980). This theory maintains three components: attitudes toward behaviour, subjective norms, and perceived behavioural control.

According to Keller intention to adopt a is very complex it is a key point of a consumer when the consumer evaluating a product (Keller, 2001) In the same way behaviour is influenced by psychological motivations. Adoption intention is a significant factor when students and teachers start online study. Depending on the situation, this effect is the reason for the attention behaviour gap. Perceived control determines the behaviours with high accuracy (Ajzen, 2017). There is a higher degree of correlation between intention and behaviour. Perceived behaviour-controlled helps to accept the changes and accept Technology over time.

Attitude toward the Study environment

Subjective norms

Intention to adopt

Knowledge Sharing Behavior

Perceived behavioral control

Based on theoretical framework, the following alternate hypotheses will be tested in this study.

H1: Attitude towards the study environment has a positive significant impact on Intention to adopt.

H2: Attitude towards the study environment has a positive significant impact on knowledge sharing behaviour**.**

H3: Intention to adopt has a positive significant impact on Knowledge sharing behaviour.

H4: Perceived Behaviour control has a positive significant impact on Intention to adopt**.**

H5: Perceived Behaviour control has a positive significant impact on Knowledge sharing behaviour.

H6: Subjective Norms have a positive significant impact on Intention to adopt.

H7: Subjective Norms have a positive significant impact on knowledge sharing**.**

H8: Attitude towards online study has a significant positive impact on the behaviour of knowledge sharing through the mediating impact of intention to adopt.

H9: Perceived Behaviour control has a significant positive effect on the behaviour of knowledge sharing through the mediating impact of intention to adopt.
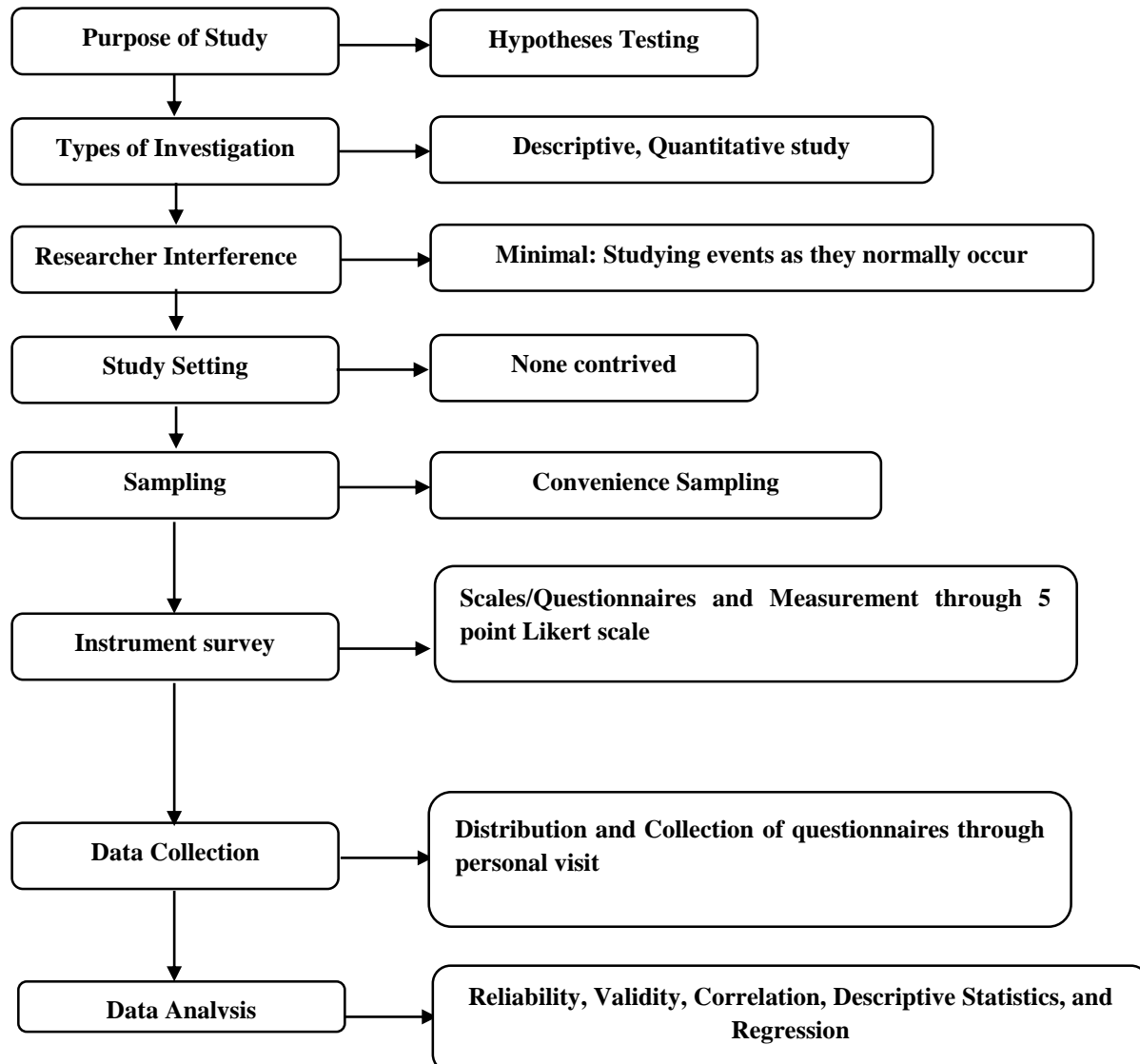
H10: Subjective Norms have a significant positive effect on the behaviour of knowledge sharing through the mediating impact of intention to adopt.

3.2 Research Design

The research design is described as the logic of any research project which gives information on how the research is to be done. It is made to find the way by which the required data is gathered and analyzed to give a solution (Sekaran, 2003). The research design of this study has many steps shown in the below figure.

Type of Study

The type of current study is descriptive and explanatory. To examine the situations in this study,

Purpose of Study →	**Hypotheses Testing**
Types of Investigation →	**Descriptive, Quantitative study**
Researcher Interference →	**Minimal: Studying events as they normally occur**
Study Setting →	**None contrived**
Sampling →	**Convenience Sampling**
Instrument survey →	**Scales/Questionnaires and Measurement through 5 point Likert scale**
Data Collection →	**Distribution and Collection of questionnaires through personal visit**
Data Analysis →	**Reliability, Validity, Correlation, Descriptive Statistics, and Regression**

hypothesis testing is called for. In this research, we will examine the effect on working behaviour in the COVID-19 situation.

Unit of analysis

The unit of analysis is individual which would-be teachers and students of the university. Because we will see that the teacher-student is also working in the situation of the COVID 19, then what is the effect and change of their behaviour?

Time Horizon

Furthermore, the time horizon is cross-sectional because of the limited period.

Researcher interference

The research interference for the study is to a minimum level as the data is to be collected on the structured survey-based questionnaire. The data will be collected through the convenience sampling technique. To avoid any kind of misunderstanding or misinterpretation of data, the researcher personally interacted with the respondent and thoroughly briefed the background research context.

Population

This study is based on a known population that includes (Professors, teachers, and students) working in the education sector of cities of Pakistan.

Sample

The sample for this study is drawn from the above-stated population. The estimated sample size for the study is 450. The sample size for social sciences includes 200 to 500 (Rosccoe, 1975).

Scales/Measures

The following are the measurement scales of the study:

Constructs	No of Items	Adopted /Adapted	Measure Scale	Source
Attitude Towards the online Study	3	Adopted	Likert 3 Points	

|				Asif et al. (2018)
Subjective Norms	3	Adopted	Likert 3 Points	Asif et al. (2018)
Perceived Behavioural Control	4	Adopted	Likert 5 Points	Asif et al. (2018)
Intention to adopt	3	Adopted	Likert 5 Points	Ramayah et al., 2010; Zhang et al., 2013
Knowledge Sharing Behaviour	5	Adopted	Likert 5 Points	Kozhakhmet & Nazri(2017) Akhavan & Hosseini (2015)

3.3 Data Analysis Procedure

To test the conceptual model, (SEM) Structural equation modelling with all partial least square and composite reliability/validity, model fitness, and SPSS 23 is employed to unfold the pathway of the relationship between constructs.

Structural Equation Modeling

The statistical technique has been analyzed in the SMART Plus software (Ringl, Wende, & Becker, 2015). The study tests the confirmatory factor analysis by using structural equation modeling. "SEM technique is better on empirical and theoretical statistical grounds" (Iacobucci, Saldanha, and Deng, 2007). However, SEM is a second-generation statistical technique (Urbach & Ahlemann, 2010).
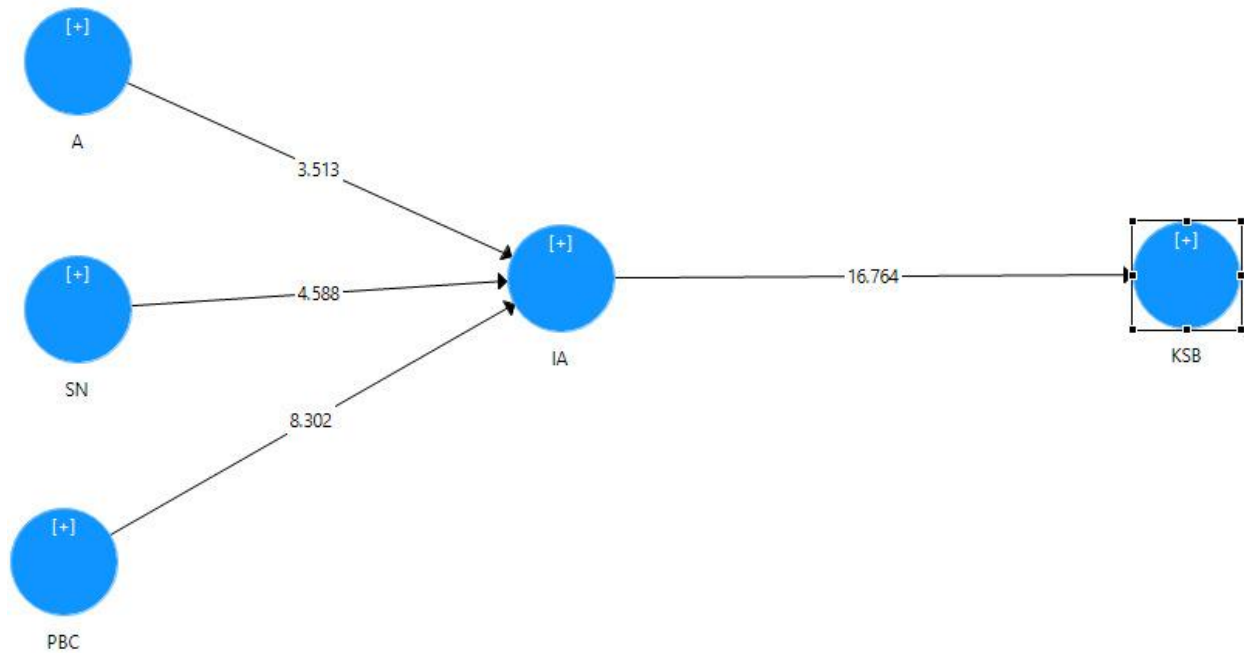
(Figure 3 measurement model)

Convergent validity develops by using factor examination. For this purpose, the Average Variance Extracted (AVE) was calculated. Hulland, 1999 explained that, if an AVE statistic having a value of 0.5 or greater then convergent validity is established

Another standard for better quality measurement is reliability (Bajpai, 2011). Reliability concerns the popularity of the findings (Hair, Celsi, Money, Samouel, & Page, 2003). Moreover, coefficient alpha (α) is a measure that is used for reliability whose range is from 0 to 1. If the value of α is near to 1 then it is showing good reliability and if a value is low then it is assigned to the items that are few or there is less or a little parallel among the items. To test reliability in this study Cronbach's alpha is used.

3. RESULTS AND DISCUSSION

4.1 Data preparation

Data preparation is consists of different steps like data entry, coding, and editing of data to get valid and reliable results (D. Cooper & Schindler, 2008). The current study done data collection after that data is being coded and constructs names are assigned as follows.

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Table 4.1 variables coding

Variable name	Code
Attitude Towards the Online Study	ASE
Subjective Norms	SN
Perceived Behavioural Control	PBC
Intention to adopt	IA
Knowledge Sharing Behaviour	KSB

After data entry data screening is implemented, data screening explains the detection of data errors missing values and outliers. Skewness and kurtosis, outliers and normality of the current study are checked by using the descriptive method. Skewness and kurtosis are under range so there is no outlier in the current study (see Table 5.4). Missing values are called those values to which respondents do not respond completely and the best way is to deal with missing values is to delete the whole case (Hair et al., 2010), so missing cases are excluded in this study for data analysis. Furthermore, multicollinearity of data is also checked to see the correlation between constructs. Cooper, Seiford, and Tone (2000) suggested that the correlation value should be less than 0.80. To check the multicollinearity correlation matrix is used and no issue was found (consult Table 5.5)

Data collection

Keeping in view the possibility of a low rate of response, the number of the questionnaire was distributed more than the required sample. The data collection process was completed in two months and personnel contacts were used for the collection of data.

Table 4.2: Data collection

City	Questionnaires distributed	Questionnaires received	Rate of response
Attock	330	320	96.96%
Wah	50	39	78%
Abbottabad	70	60	85.71%

A total of 450 questionnaires were distributed and questionnaires were received with a 93.11 % response rate however, 320 questionnaires out of 330 were partially filled which were collected from Attock. While 11 incompletes from Wah, a Total of 419 were usable with an 88.89% response rate. Out of these 320 Responses, 190 were from Attock, 39 from Wah, and 60 from Abbottabad.

Demographics statistic of respondents

Demographic statistics show the characteristics of respondents working in the health sector. Among 419 respondents 119 (28.4%) were male and 300 (71.6%) were female respondents. Its shows that fewer males are working in equation sector as compared to female. Respondents are distributed into different 5 age groups, majority of respondents were 170 (40.57 %) from age group 21-25 while 120 (28.263%) were age group 26-30, 70 (16.70%) from and age group 31-35,20(4.77%) were age group 36-40,30(7.16%) were age group 41-45 and much minute's respondents from last age group 45&above that is 9 (2.17%). Table 4.3 reported that most of the respondents were teachers 150 universities students200, university teachers 40, 25 equational staff, and only 4 professors. Results reveal that employees working in an equation sector are educated and professionals. The average experience of respondents is less than 5 years. Most of the employees 90 (26.5%) were in a 1–5-year tenure and very few of them 2 (0.6%) are working in the equation sector above 21 years. Data about types of equation sector represents that 150(44.2%) employees were from public hospitals 279(20.1%) were from private hospitals.

Table 4.3.1 Demographics statistic of respondents

Demographics of Variables	Classification of variables	Frequency	Percent
Gender	Male	119	28.4 %
	Female	300	71.6 %
Age	21-25	170	40.57%
	26-30	120	28.63%
	31-35	70	16.70%
	36-40	20	4.77%
	41-45	30	7.16%
	45&above	9	2.17%

Designation	Teacher	150	35.79%
	University teachers	200	47.73%
	Students	40	9.54%
	Equational Staff	25	5.96%
	Professor	4	0.95%
Experience	1-5 months	180	42.95%
	6-10	210	50.11%
	11-15	10	2.38%
	16-20	14	3.34%
	21 & above	5	1.19%
Type of Institutions	Public Institution	50	11.9%
	Private Institution	369	88.06%

Data uniformity is checked by the shape of data distribution and to measure its shape the value of skewness and kurtosis is used (Hair et al, 2010). According to Doane and Seward (2011), "skewness is used to measure the degree of asymmetry of distribution and kurtosis is used to check whether data is peaked or flat as per normal distribution. The standard value of skewness and kurtosis is below 1.5 and above -10 (Tabachnick & Fidell, 2013). Skewness and kurtosis are under range as shown in table 4.3.2.

Table 4.3.2 Range of skewness and kurtosis

Items	Mean	Skewness		Kurtosis	
	Statistics	Statistics	Std. Error	Statistics	Std. Error
A1	2.833	0.028	1.000	-1.109	5.000
A2	2.990	-0.061	1.000	-1.179	5.000
A4	2.923	0.011	1.000	-1.113	5.000
A5	3.072	-0.192	1.000	-0.996	5.000
A6	2.758	-0.148	1.000	-1.098	5.000
IA1	3.165	-.0.288	1.000	-0.965	5.000
IA2	3.227	-0.367	1.000	.0.929	5.000
IA3	3.158	-0.304	1.000	-0.967	5.000

KSB1	3.411	-0.632	1.000	-0.306	5.000
KSB3	3.543	-0.785	1.000	-0.069	5.000
KSB4	3.524	-0.713	1.000	-0.045	5.000
KSB5	3.493	-0.786	1.000	-0.015	5.000
PBC1	3.014	-0.193	1.000	-1.051	5.000
PBC2	3.156	-0.299	1.000	-1.001	5.000
PBC3	3.081	-0.160	1.000	-0.984	5.000
PBC4	3.101	-0.135	1.000	-0.963	5.000
SN1	2.904	-0.106	1.000	-1.226	5.000
SN2	2.940	-0.013	1.000	-1.257	5.000
SN3	2.866	-0.039	1.000	-1.239	5.000

Measurement Model Assessment

(Hair et al., 2011) stated that the measurement model includes evaluation of scale reliability (factor loadings), internal consistency (Composite reliability), convergent validity (Average variance extracted), and discriminant validity. As discussed below
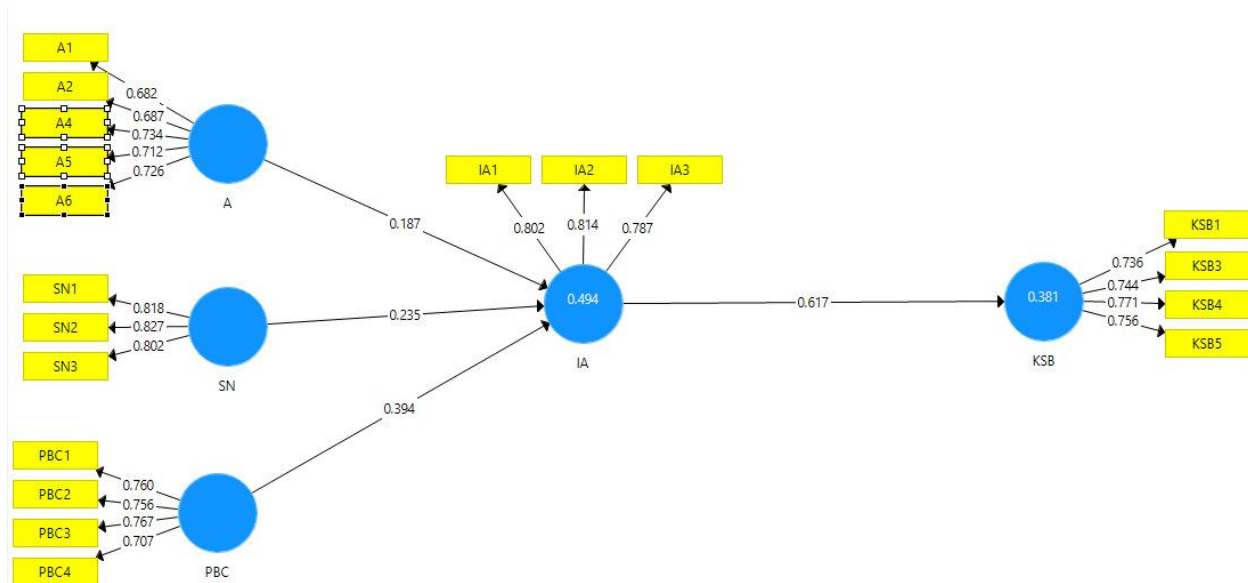
(Figure 4.4 measurement model)

Reliability Analysis

"Smart PLS is used to check to construct reliability through analyzing of factor loading Cronbach's alpha and composite reliability Cronbach's alpha of all variables is above the standard value that is 0.7 (Nunnally & Bernstein, 1994). The reliability of the constructs is checked by factor loading. De Vellis, (1991) advised that factor loading must be greater than 0.5, in this study factor loadings for all items are greater than 0.5 which is a significant value (shown in table 5.7). There are important two techniques to check the composite reliability; one is Cronbach's alpha and composite reliability. It should be greater than 0.70 but lower than 0.95 (Ringle et al., 2018). Table 5.8 shows the value of composite reliability.

Table 4.4.1 Composite Reliability analysis

Constructs	Item	Loadings	Cronbach's Alpha	CR
Attitude			0.753	0.834
	A1	0.682		
	A2	0.687		
	A4	0.734		
	A5	0.712		
	A6	0.726		
Intention to Adopt			0.721	0.843
	IA1	0.802		
	IA2	0.814		
	IA3	0.787		
Knowledge Sharing Behaviour			0.745	0.83
	KSB1	0.736		
	KSB3	0.744		
	KSB4	0.771		

	KSB5	0.756		
Perceived			0.736	0.835
Behavioural				
control	PBC1	0.446		
	PBC2	0.760		
	PBC3	0.756		
Subjective Norms			0.749	0.856
	SN1	0.398		
	SN2	0.818		
	SN3	0.827		

Convergent validity

"To measure the validity of constructs convergent validity is used, AVE (average variance extracted) is used to check convergent validity (Campbell & Fiske, 1959). Fornell and Larcker (1981), suggested that CV (convergent validity) is established when AVE is greater than 0.5."

Table 4.4.2 Convergent Validity

Variable	AVE
Attitude towards online study	0.502
Intention to Adopt	0.642
Knowledge sharing Behaviour	0.566
Perceived behavioural control	0.559
Subjective Norms	0.665

Discriminant validity

Hair et al., (2010) indicated that discriminant validity can be checked by inter-construct correlation and by taking the square root of AVE. Furthermore, Bartels, Schaik, and Kock (2011) defined discriminate validity as the extent to which that one construct item is not be confused by respondents with other constructs items.

Table 4.4.3 shows the inter-constructs correlation.

Variables	A	IA	KSB	PBC	SN
A					
IA	0.775				
KSB	0.605	0.838			
PBC	0.822	0.871	0.771		
SN	0.864	0.775	0.527	0.732	

Table 4.4.4 Discriminant validity

Variables	A	IA	KSB	PBC	SN
A	0.708				
IA	0.582	0.801			
KSB	0.461	0.617	0.752		
PBC	0.614	0.637	0.571	0.748	
SN	0.651	0.571	0.396	0.545	0.816

Structural model evaluation

Smart PLS 3 is used to analyze the model. Factor loading is used to determine the reliability of the constructs. In table 5.9 loading values of all constructs are more than 0.5; to check the value of R^2

and path analysis for all constructs which represents the significance and non-significance of the relationship PLS algorithm techniques are used.

Path Coefficient

Path coefficient specifies the strength and significance of affiliation between variables. Path coefficient should be greater than 0.1 and the R2 value above 0.1 shows a significant relationship between constructs (Huber et al., 2007). Following are the values of path coefficient see table 4.5.1

Table 4.5.1 Path Coefficient values

Path	Coefficient
A>IA	0.185
IA> KSB	0.617
PBC>IA	0.394
SN>IA	0.235

R Square

R square indicates the value of percentage change independent variable due to change in independent variable and its value should be greater than 0.19 (Chin, 1998). The following table indicates the value of the R square.

Path	R Square
IA	0.494
KSB	0.381

The model explains the R square of IA that one item change in A will bring 49.4%% variation in IA. However, IA change by one unit can bring changes in KSB 38.1%.

Hypotheses Testing

H1 Attitude towards study environment has a positive significant impact on Intention to adopt.

Result reveals that Attitude towards study environment has a significant impact on Intention to adopt. Where (β= 0.186) While T= (3.513) and P= (0.000). R square values show 49.4% variation

in Intention to adopt by Attitude towards the study environment that's why the hypothesis is accepted.

H2 Attitude towards study environment has a positive significant impact on Knowledge sharing behaviour.

Result reveals that Attitude towards study environment has a significant impact on Knowledge sharing behaviour. Where (β= 0.115) While T= (3.452) and P= (0.000). R square values show 38.1% variation in Knowledge sharing behaviour by attitude towards study environment that's why the hypothesis is accepted.

Table 4.6.1 Complete model

S.No	Hypothesis	B value	T value	Std. error	P value	Results
H1	A→IA	0.186	3.513	0.053	0.000	Accepted
H2	A →KSB	0.115	3.452	0.033	0.001	Accepted
H3	IA→KSB	0.619	16.764	0.037	0.000	Accepted
H4	PBC→IA	0.395	8.302	0.047	0.000	Accepted
H5	PBC→ KSB	0.245	6.660	0.037	0.000	Accepted
H6	SN→IA	0.235	4.588	0.051	0.000	Accepted
H7	SN→KSB	0.145	4.506	0.032	0.000	Accepted
H8	A ->IA ->KSB	0.115	3.452	0.033	0.000	Accepted
H9	PBC ->IA->KSB	0.245	6.660	0.037	0.000	Accepted
H10	SN->IA->KSB	0.145	4.506	0.032	0.000	Accepted

(Table 4.6)

Hypothesis	B value	Std. error	T value	P value	Result
A> IA>KSB	0.115	0.033	3.452	0.000	Accepted
PBC>IA> KSB	0.245	0.037	6.660	0.000	Accepted
SN->IA- >KSB	0.145	0.032	4.506	0.000	Accepted

H3 Intention to adopt has a positive significant impact on Knowledge sharing behaviour.

Result reveals that there is a significant relationship between Intention to adopt and Knowledge sharing behaviour where (β= 0.619). While T= (16.764) which is greater than 1.965 (P< 0.05) which shows a significant relationship between Intention to adopt and Knowledge sharing behaviour. R square values show 49.4% variation in intention to adopt knowledge-sharing behaviour that's why the hypothesis is accepted.

H4 Perceived Behaviour control has a positive significant impact on Intention to adopt.

Results confirmed that there is a significant relationship between Perceived Behaviour Control and Intention to adopt where (β= 0.395). While T= (8.302) is greater than 1.965 (P< 0.05). R square values show a 49.45% variation in intention to adopt knowledge sharing behaviour that's why the hypothesis is accepted.

H5 Perceived Behaviour control has a positive significant impact on Knowledge sharing behaviour.

Results confirmed that there is a significant relationship between Perceived Behaviour Control and Knowledge sharing behaviour where (β= 0.245). While T= (6.660) is greater than 1.965 (P< 0.05). R square values show a 38.1 % variation in Perceived Behaviour control by knowledge sharing behaviour that's why the hypothesis is accepted.

H6 Subjective Norms have a positive significant impact on Intention to adopt.

Result reveals that there is a significant relationship between Intention to adopt and Subjective Norms where (β= 0.235). While T= (4.588) which is greater than 1.965 (P< 0.05) which shows a significant relationship between Intention to adopt and Knowledge sharing behaviour. R square values show 49.4% variation in intention to adopt by subjective Norms that's why the hypothesis is accepted

H7 Subjective Norms have a positive significant impact on Knowledge sharing behaviour.

Results confirmed that there is a significant relationship between Subjective Norms and Knowledge sharing behaviour where (β= 0.145). While T= (4.506) is greater than 1.965 (P< 0.05). R square values show a 38.1 % variation in Subjective Norms by knowledge sharing behaviour that's why the hypothesis is accepted.

4.8 Mediation analysis

Barron and Kenny (1986) defined the mediating construct as the third variable used to account for the influence on the association between the dependent variable and independent variable. They also defined four steps of mediator analysis.

Step 1 dependent and independent variables should have a significant relationship.

Step 2 Analyze the relationship between independent and mediator variables.

Step 3 Analyze the relationship of dependent and mediator variables.

Step 4 Analyze the difference between direct and total effect.

(Barren and Kenny, 1986) further defined path C as total effect while path C' as direct effect and if C-C'=0 then there is full mediation and if after mediation analysis if C is greater than C' then there is partial mediation. Moreover (Barron and Kenny, 1986) suggested that partial mediation is more realistic than full mediation model because no third variable explains the relationship between a dependent and independent variable
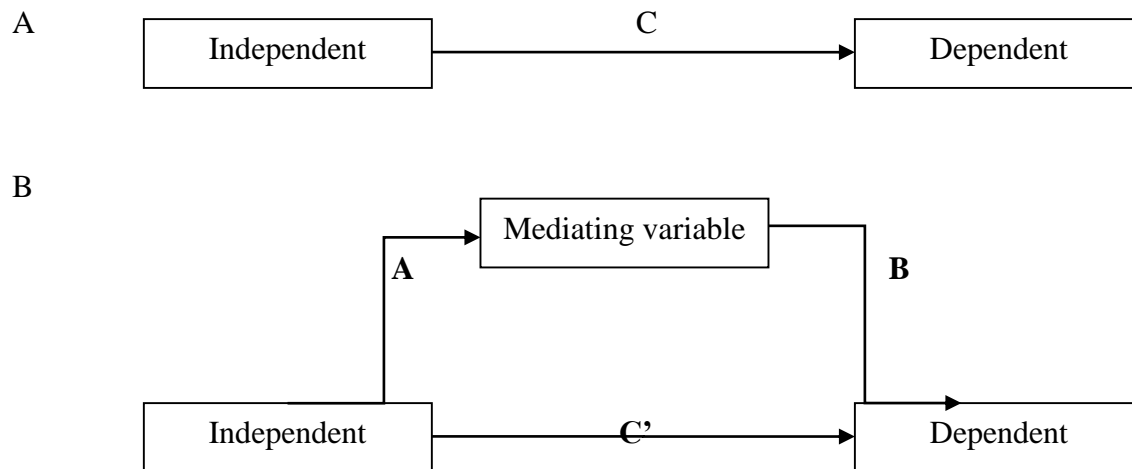
(Figure 4.7 Kenny (2011) adopted mediation model)

H8: Attitude towards online study has a significant positive effect on the knowledge-sharing behaviour through the mediating impact of intention to adopt.

Table 4.7.1: Results of Mediation Model

Total effect (s)			Direct Effect (s)		
Relationship	B	P	Relationship	T	P
A-> KSB	0.115	0.000	SL->LS	3.452	0.001
Mediation					
Hypotheses	B		T		P
A-> IA-> KSB	0.115		3.452		0.000

Mediation analysis was performed to assess the mediating role of Adoption to Intention on the linkage between A and KSB. The results reveal that the total effect of A on KSB was found significant. (Beta = 0.115, T=-3.452, P= 0.000).

Due to the inclusion of a mediator, the effect of A on IA was not reduced. However, it is significant (Beta = 0.115 T=3.452, P= 0.000) the results from specific indirect effects reveal that the mediating role of mediator IA is significant so there is full mediation.

H9: Perceived Behaviour control has a significant positive effect on knowledge-sharing behaviour through the mediating impact of intention to adopt.

Table 4.7.2: Results of Mediation Model

Total effect (s)			Direct Effect (s)		
Relationship	B	P	Relationship	T	P
PBC->KSB	0.245	0.000	PBC->KSB	6.660	0.339
Mediation					
Hypotheses	B		T		P
PBC-> IA-> KSB	0.245		6.660		0.000

Mediation analysis was performed to assess the mediating role of Adoption Intention on the linkage between PBC and KSB. The results reveal that the overall impact of PBC on KSB was found significant. (β = 0.245 T=-6.660, P= 0.000).

With the inclusion of mediator IA, the effect of PBC on KSB was not reduced. However, it is significant (β= 0.245, T=6.660, P= 0.000) the results from specific indirect effects reveal that the mediating role of a mediator is significant so there is full mediation.

H10: Subjective Norms have a significant positive effect on knowledge-sharing behaviour through the mediating impact of intention to adopt.

Table 4.7.3: Results of the Mediation Model

Total effect (s)			Direct Effect (s)		
Relationship	**B**	**P**	**Relationship**	**T**	**P**
SN>KSB	0.145	0.000	SN->KSB	4.506	0.000
Mediation					
Hypotheses		**B**	**T**	**P**	
SN-> IA-> KSB		0.145	4.506	0.000	

Mediation analysis was performed to assess the mediating role of Adoption Intention on the linkage between SN and KSB. The results reveal that the overall impact of SN on KSB was found significant. (β = 0.145 T=-4.506, P= 0.000).

With the inclusion of mediator IA, the effect of SN on KSB was not reduced. However, it is significant (β= 0.2145, T=4.506, P= 0.000) the results from specific indirect effect reveal that the mediating role of the mediator is significant so there is full mediation

DISCUSSION AND IMPLICATION

This research is aimed to search out the relationship between attitude towards study environment and their impacts on behaviour of knowledge sharing, through the mediation of Intention to adopt. *H1: "Attitude towards study environment has a positive significant impact on Intention to adopt".*

Despite the attestation, the examination found a positive connection between "Attitude towards study environment and Intention to adopt". The results are explained in the previous researches (Datta,2014) where the "Attitude towards study environment and Intention to adopt" relationship

was found significant and substantiated by the results of (Hafizah Binti Zainal 2020) where these variables have found a positive relationship. This study aims to find the direct impact of "attitude towards study environment " on intention to adopt, also results were found positive.

H2 "Attitude towards study environment has a positive significant impact on Knowledge sharing behaviour".

This study found a significant relationship between "attitude towards online study and knowledge sharing behaviour". These results are relevant to the previous studies' results which also found a positive relationship between these variables (Nik Hasnaa Nik Mahmood 2012). Research studies on attitude suggest that knowledge-sharing behaviours are the most important factor determining Intention to adopt (Senturk & Sagnek, 2012). knowledge sharing behaviour has been typically used to identify the movement of knowledge between individuals.

Furthermore, "If the attitude towards study environment has a positive effect on behaviour than people can share knowledge it is important to create and maintain relationships between the individuals. In light of the findings of the study, it can be stated that attitude, which plays a significant role in knowledge sharing, efficiency and achievement of objectives" (Sıgnır, 2013), is also strongly affected by behavior

H3 "Intention to adopt has a positive significant impact on Knowledge sharing behaviour"

This research shows the significant effect of "Intention to adopt" on the knowledge-sharing behaviour of teachers and students. In previous research (Farhan Rasool 2020) they also found a positive relationship between these variables.

H4 "Perceived Behaviour control has a positive significant impact on Intention to adopt".

H5 "Perceived Behaviour control has a positive significant impact on Knowledge sharing behaviour".

Results show that "perceived behaviour control" has a significant effect on the knowledge-sharing behaviour of teachers and students in line with the results of previous researches. In other words, behavioural control may examine a person's behaviour depend on their quantity of capacity to behavioural control (Ajzen, 2012). Furthermore, Ajzen (2012) described a person's behaviour towards knowledge as affected by environmental factors and persons. Therefore, if persons have

powerfully received that they have good skills to control all the conditions and situations the individual and group of people have a good intention to perform all the actions according to behaviour.

These behavioural controls have to face high competition, tough schedules, and limited resources to touch the sky or produce up-to-the-mark results. However, the need for intention to adopt is greatly felt in the education sector and institutions.

H6: "Subjective Norms has a positive significant impact on Intention to adopt".

H7: "Subjective Norms has a positive significant impact on Knowledge sharing behaviour".

This study shows the significant impact of "subjective norms" on the behaviour of knowledge-sharing and intention to adopt teachers and students. In previous research (Sareye & Haji Othman, 2017) defined a relationship between subjective norms towards intention this relationship is significant. The study regarding the purchasing of positive intention to adopt described subjective norms as a significant factor for intention (Awan, Siddiquei & Haider, 2015).

H8: "Attitude towards online study has a significant positive effect on the knowledge sharing behaviour through the mediating impact of intention to adopt''

The finding of this research shows that intention to adopt does mediates the relation between "attitude towards online study "and "knowledge sharing behaviour" as a p-value less than 0.05. This study found the existence of full mediation of IA between "attitude towards online study "and "knowledge sharing behaviour". No literature clearly shows the mediating role of IA. Hence, this research seems to be the first to examine if IA mediates the relation between "attitude towards online study "and "knowledge sharing behaviour".

H9: "Perceived Behaviour control has a significant positive effect on the knowledge sharing behaviour through the mediating impact of intention to adopt.".

The finding of this research shows that intention to adopt does mediate the relation between "perceived behaviour control and knowledge sharing behaviour" as a p-value less than 0.05. This study found the existence of full mediation of IA between "perceived behaviour control and knowledge sharing". In the recent three decades, many researchers have explained that perceived behaviour control affects intentions (i.e., work fulfillment, burnout, and work commitment).

Furthermore, the intention to adopt related factors includes developing a strong behaviour intention.

H10: "Subjective Norms has a significant positive effect on the knowledge sharing behaviour through the mediating impact of intention to adopt"

The finding of this research shows that intention to adopt does mediate the relation between "subjective norms "and "knowledge sharing behaviour" as a p-value less than 0.05. This study found the existence of full mediation of IA between "subjective norms "and "knowledge sharing behaviour".

4. CONCLUSION

In this study, the first four sections set the base of this research. The first section presents the context of the research. It highlights the research objectives, problem, and research questions. Also, it discusses the significance, scope, and contribution of this research. The second section examines the related literature, define all the concept, and relationship between different type of variables under study. The third section presents the conceptual framework based on research hypotheses and literature review. This section examines the research design of the study. The fourth section reports the results of the empirical research.

This research tried to give an explanation of the mediating role of intentions to adopt between "attitude towards study environment" "subjective norms" "perceived behaviour control" and knowledge sharing behaviour" in teachers and students of the education sector. It is a logical idea that attitude towards study environment could directly improve intentions in the education sector and in the result of that improves knowledge sharing behaviour, but IA is never supposed as the mediating factor "attitude, subjective norms, behaviour control, and behaviour of knowledge sharing". This research tried to cover this gap and explain the mediating role of IA. The research study began with an extensive literature review that focuses on attitude, subjective norms, perceived behaviour control, and knowledge-sharing behaviour. A study of the research literature showed a considerable absence of empirical studies that examined the impact of attitude towards an online study on KSB in the education sector. Also, there is a considerable lack of research studies that examine the mediating role of IA in the education sector. Literature highlights that subjective norms have a positive significant influence on IA, and IA has a positive significant influence on knowledge-sharing behaviour. Based on this relation, it was results that there is an

indirect effect of "subjective norms" perceived behaviour control on the behaviour of knowledge sharing" mediated by IA.

This research was survey-based using quantitative approaches with a positivist research paradigm (Blaxtar, Hughes, & Tighet, 2006). The population for this research was from different institutions from District Attock is taken for this study. A convenience sampling technique was utilized. A questionnaire was based on the constructs from earlier researches. Some items were removed in the pre-testing stage. Descriptive analysis was performed using SPSS while the structural and measurement models were made by using structural equation modeling SEM.

The structural model measured the impact of "Attitude towards study environment, subjective norms, perceived behaviour control on knowledge sharing". Results of this structural model show that for educational institutions to enhance the level of students and teacher's knowledge sharing, they should make some efforts to provide better intentions that will increase the "level of sharing" of students and teachers which are underlined in this study and the present literature.

Furthermore, the research's main significance was if IA acts as a mediator between attitudes and subjective norms. The result was full mediation in both cases of IA as mediator.

Limitations

In this research, some limitations can be improved in future studies. Mainly these were related to the choice of method. The conclusion of this study could be made stronger if more data (more hospitals) were included. It only accepted particular types of analysis, henceforth the survey was using the primary data collection technique. If cost and time were not issues in finishing this study then it would be made the results much stronger.

Since this study has focused only on the education sector, further studies could investigate this topic with a focus bank sector as well. Moreover, on the current topic, it is suggested that further research is to be done in other developing countries, as results could be different in other countries. Then the findings could be compared gained from different countries.

The research has established the limitations that shall be in the spotlight. This research had a relatively not too small or not very large sample size. In further future research, larger sample size may give the benefit of researchers to explain and generalize the results. All the same, this is a cross-sectional study and all the findings represent a snapshot scenario of the impact of attitude towards an online study on knowledge sharing behaviour with mediating role of intention to adopt

could be worthwhile for future research to conduct a longitudinal study in examining the inter-relationship between subjective norms, perceived control of behaviour, subjective norms, and behaviour of knowledge sharing overtime to uncover any changes in an attitude and their impact on and knowledge sharing behaviour.

 Implications of Findings

Finally, previous studies have mentioned individual linkages of these variables. However, the mediation effect of Intention to adopt on the relationship between self-efficacy and knowledge sharing behaviour has not been studied yet. The results of this research confirmed that better intention to adopt are mediating variables between attitude towards study environment and knowledge sharing behaviour. The education sector is based on providing education facilities to the teachers and students are very much important in educations organizations but this form of knowledge sharing is highly deficient in the education sector leading to a lot of inadequacies with a resultant impact on the community of developing nation like ours. Knowledge-sharing behaviour plays an important role in motivating the teachers and students regarding their career growth and produce a sense of satisfaction among them. There is very little work in the field so the research work has a lot of significance.

The education sector of Pakistan is characterized by a competitive and dynamic environment. There exists a dire need to manage the knowledge sharing of the students and teachers by giving them adequate intentions which help them work without being influenced by work stress. In this border context of knowledge sharing between the teachers and students, this study will help teachers and students to make the organizational environment better in the education sector to optimize their worker's life satisfaction which will ultimately improve their performance and leads to achieving organizational goals.

After understanding the impact of intentions on knowledge sharing in education sectors. Intentions will give more consideration to take the ways which will make knowledge sharing better to keep their teachers and students work more efficiently.

6.4 Future Research directions

Future studies will also use this model for the countries that are developing and developed to improve all the l validity of external. The present study was focus on assessing the impact of attitude, subject norms, perceived behaviour control on sharing behaviour of knowledge with mediating role of intentions to adopt. This study explored the role of mediators IA. Likewise other

variables foe example self-efficacy, promotion focus, career commitment, empowerment at work, work-life enrichment, job stress, and employee well-being, also can explain the relationship between the two variables. The present study only assessed the impact of a single knowledge-sharing behaviour; to clarify the impact, future research in this area should also investigate the effects of other behaviour styles such as task performance behaviour, staying with the organization behaviour, and counter-productivity work behaviour of teachers and students.

Additionally, the study found that attitude towards study environment and knowledge sharing behaviour was positively related, which is opposite to the look forward to the relationship. This could be attributed to definite moderating variables that may mold the await relationship. Hence, future studies may judge the role of difference moderating variables such as work-family balance, work-life conflict, or fit between organizational and personal values.

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