EXAMINING THE FACTORS AFFECTING TEACHERS' USE OF DIGITAL LEARNING RESOURCES WITH UTAUT2

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ABSTRACT

Digital learning resources include various tools and applications that effectively plan and evaluate instructions, increase student learning, and make the teaching process more efficient. Although digital learning resources are compatible with Generation Z students' learning paths and are used to make the teaching planning, implementation, and evaluation process more practical, teachers do not frequently use them. This study aims to determine the predictive powers of variables within the framework of the UTAUT2 model for teachers' intention to use and their use behavior of Digital Teaching Resources. In line with the research purpose, data from 355 teachers working at different education levels were collected through the UTAUT2 scale. In the UTAUT2 model, Social Influence, Facilitating Conditions, Hedonic Motivation, Performance Expectancy, Effort Expectancy, Price Value, and Habit are exogenous variables. Furthermore, Use Behavior is endogenous and Behavioral Intention is the mediator variable. Path analysis was used for determining the predictive level of the exogenous variables and the mediating variable. According to the results, teachers' Intention to Use digital learning materials is predicted by Hedonic Motivation, Performance Expectancy, and Habit. Similarly, the Use Behavior is predicted by Behavioral Intention and Habit. Extrinsic variables directly explain 81% of the variance in Behavioral Intention, while exogenous variables and Behavioral Intention directly or indirectly explain 67% of the variance in Use Behavior.

Keywords: *UTATUT2 model; digital learning resources; teacher's behaviors*

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INTRODUCTION

Introduced to digital tools and materials at a very young age, Generation Z children do not know a world without smartphones and the internet. Generation Z's information sources, learning styles, interests, skills, and motivations differ from previous generations (Schwieger & Ladwig, 2018; Seemiller & Grace, 2017; Seemiller & Grace, 2016). Technology has become a way of life rather than a tool for the Z generation (Seemiller & Grace, 2016); while it is a facilitating factor for teachers, it also is a compelling factor. Teachers should adopt all kinds of digital learning resources and bring them to the classroom and using them in order to produce teaching materials or mediums ultimately facilitates learning. Additionally, changes in students' needs force teachers to adapt to this change and change the teaching methods and learning resources they are familiar with. Teachers of generation Z students need enriched learning-teaching materials more than ever to draw their attention to the lesson in the classroom (Cilliers, 2017). Educational videos (Carmichael & Karpicke, 2018), animations (Berney & Bétrancourt, 2016), e-books (Swanson, Austin, Stewart & Scammacca, 2020), z-books (Hakkari, Yeloğlu, Tüysüz & İlhan, 2017), digital stories (Robin, 2008), digital competition

(Wang, & Tahir, 2020), digital puzzles (Whisenand & Dunphy, 2010), learning management systems (Conde, García-Peñalvo, Rodríguez-Conde, Alier, Casany & Piguillem, 2014), online experiments (Crippen, Archambault & Kern, 2013), virtual classrooms (Blume, Göllner, Moeller, Dresler, Ehlis & Gawrilow, 2019), and many materials and applications are digital learning resources showed to be effective on student learning and make the teaching process more efficient. These materials are used to support the learning of generation Z students and make teachers' teaching planning, implementation, and evaluation processes more practical and efficient. Due to the rapidly developing technological opportunities, applications that facilitate teachers planning and evaluation of teaching and increase student learning are offered every day. There are platforms for teachers to prepare their plans whenever they want and share them with different teachers (Van Nuland, Hall & Langley, 2020). Teachers can now easily share teaching materials online with their students, receive their homework the same way, and make assessments through this channel (Beer, 2019; Hargittai, Fullerton, Menchen-Trevino & Thomas, 2010). Communication with parents can now be done easily, either face-to-face or via messaging (Wasserman & Zwebner, 2017).

Although many digital applications and materials are available to teachers, they do not sufficiently use them in the classroom. Recent studies show that teachers' use of digital learning resources is quite low (Ardıç, 2021; Celebi, 2019; Çiçek, 2019; Köde & Çoklar, 2020; Savasci, 2014). Although it increases learning and facilitates teachers' planning, measurement, and communication activities, research on why digital materials is not used are common. In their review of the literature, Spiteri and Rundgren (2020) gathered the factors affecting teacher behaviors under four headings: school culture, teacher's knowledge level, attitude, and skills. The school environment, other teachers' use of digital materials, and the administration's support affect teacher behaviors. Teachers also need to know how to use digital materials and integrate them into their lessons. Teachers' self-confidence in using technology also significantly impacts their use. However, the lack of ready-made materials suitable for the course, the unsuitability of the curriculum (Özdemir, 2017), and the lack of education and support services (Ahmadi & Reza, 2018) are limiting factors. Although teachers want to bring and use technology to their classrooms, the lack of infrastructure facilities such as technological equipment and high-speed internet creates obstacles. It is seen that Turkey has deficiencies in technological infrastructure, and it lags far behind the European Union countries (European Union (EU), 2019). However, the existence of technology does not guarantee its use (Ahmadi & Reza, 2018).

The Ministry of National Education of the Republic of Turkey provides infrastructure services such as placing smart boards in classrooms, providing internet access, and establishing computer laboratories (Ministry of Education (MEB), 2021) to expand the use of technology in the classroom. They also provide training to increase the technology literacy of teachers. In their legal documents, the Ministry shows that they expect digital competence from teachers (Turkish Education Association Think Tank (TEDMEM), 2021). Since eliminating the reasons for teachers not using technology does not guarantee their use (Ahmadi & Reza, 2018), the factors that will support their use of technology should be determined, and supportive studies should be carried out. The Unified Theory of Acceptance and Use of Technology (UTATUT2) model offers a comprehensive perspective in determining the factors that predict teachers' behaviors in using technology in their classrooms. There are also studies to explain teachers' adaptation to educational technologies in education of the UTATUT2 model, which has been mainly preferred to explain individual technology adaptation for many years. In the UTATUT2 education area, teachers' tablets (Mutlu, 2016), smartboards (Avcı & Çakır, 2021), learning management software (Khan, 2018; Raman & Don, 2013), MOOCs (Tseng, Lin, Wang, & Liu, 2019), teaching methods (Azizi, Roozbahani & Khatony, 2020), online teaching (Nguyen & Nguyen, 2021), and e-learning systems (Arain, Hussain, Rizvi & Vighio, 2019; El-Masri & Tarhini, 2017) are applied to predict their adaptations. Although there are studies on using digital materials individually, UTATUT2 does not have research to determine teachers' behaviors using digital learning resources. Many digital learning resources led the researcher to conduct a holistic study. This study aims to determine the predictive powers of variables within the framework of the UTAUT2 model for teachers' intention to use and their use behavior of Digital Teaching Resources.

Digital Learning Resources

Although digital learning is synonymous with concepts such as distance learning and e-learning, which express remote access to learning resources in the literature (Lin & Chen, 2017), this study discussed it in a

context that includes all kinds of digital tools and applications (The Every Student Succeeds Act (Essa), 2015). From a broad perspective, digital learning refers to using all kinds of digital resources from the teaching planning, implementation, and evaluation processes to ensure student learning (Burdick & Willis, 2011; Essa, 2015; Lin & Chen, 2017). In line with the definition, digital learning resources such as; Interactive learning resources (simulation, training videos, online experiments), databases (online encyclopaedia, online dictionary, e-book), online assessments, online interaction tools (remote support modules, social media tools), (Essa, 2015), learning management systems (Conde et al., 2014) can be classified as instructional design tools (Chen, 2016).

The Unified Technology Acceptance and Use Theory (UTAUT) model

Researchers have developed the Unified Technology Acceptance and Use Theory (UTAUT) model by making use of many models and theories to predict the technology acceptance behaviors of individuals (employees) in the organisational framework (Venkatesh et al., 2003). In this model, there is performance expectancy (PE), effort expectancy (EE), facilitating conditions (FC), and social influence (SI) variables to predict technology intention (Behavioral Intention-BI) and usage behavior (Use Behavior-UB) (Venkatesh et al., 2003). Researchers then added hedonic motivation (HM), price value (PV), and habit (H) variables to the model, which they named UTAUT2, to determine the technology acceptance behaviors of individual volunteer users (Venkatesh et al., 2012). The UATUT2 model was preferred in this study because the teachers were free to use digital materials. The UATUT2 model explains the variables that predict an individual's behavior using a technological tool or application (Venkatesh et al., 2012).

The behavior of using the UTAUT2 model describes how often the teacher uses digital teaching materials in their lessons. The most important predictor of the using behavior in the model is BI. Intention is an individual's motivation or willingness to do a behavior. According to many theories, such as reasoned action theory and the planned behavior theory, intention is the most basic predictor of behavior (Sheeran, 2002). Studies in education have obtained results proving this effect (Avcı & Çakır, 2021; Karimzadeh et al., 2017; Tosuntaş et al., 2015). While intention on behavior is more evident in the first years, this effect weakens with experience (Kim et al., 2005). The UTAUT2 model has seven exogenous variables: PE, EE, SI, FC, HM, PV, and H. While UB is the endogenous variable in the model, BI is the mediating variable. While PE, EE, SI, HM, and PV indirectly affect usage behavior through BI, FC and H have indirect and direct effects. Gender, age, and experience are included as moderator variables in the model (Venkatesh et al., 2012).

PE is the expectation of the user's benefit from using a technological application (Venkatesh et al., 2012). In terms of digital instructional technologies, it expresses the teacher's perception of how beneficial these applications will be for their students when they use them in the classroom. In the studies conducted on teachers (Avcı & Çakır, 2021; Baydaş &Yılmaz, 2017; Tseng et al., 2019), it was concluded that the most effective variable on technology BI and behavior was PE. EE is the individual's perception of the ease of learning and using the relevant application. The less effort to be spent for use, the higher the usage behavior (Venkatesh et al., 2012; Venkatesh et al., 2003). SI is the individual's perception of being appreciated and supported by the people they value when using the relevant application (Venkatesh et al., 2003; Venkatesh et al., 2012). It can be said that teachers will be more willing to use digital teaching materials when they think that education will be approved by stakeholders such as students, colleagues, administrators, and parents (Baydaş & Yılmaz, 2017; Karimzadeh et al., 2017; Pynoo et al., 2011; Tseng et al., 2019). FC is the perception of whether there is enough support to use the corresponding application. It is the teacher's perception of who intends to use digital teaching materials in their classroom and whether they have sufficient information, equipment, and access to support for these applications (Venkatesh et al., 2012). Having sufficient knowledge and support is an important variable that affects teachers' use of technology in their classrooms (Spiteri & Rundgren 2020). HM expresses the happiness and enjoyment of using the relevant technological tool or application (Venkatesh et al., 2012). It is a concept that emphasises intrinsic motivation rather than extrinsic motivation in using technology. While HM is a variable that predicts the practitioners' intentions for using the applications for activities with an entertainment factor, it may be ineffective in applications that do not have a place for entertainment activities (Tamilmani, Rana, Prakasam & Dwivedi, 2019). PV is the belief that the amount paid for the technological tool is worth the benefit obtained. If the perceived benefit is higher than PV, it positively affects BI (Venkatesh et al., 2012). PV is more about end-users or people who have to

pay for that technological application/tool than institution employees. Although there is no cost to be paid by the teacher in digital teaching material applications, since it takes time to learn, produce, and apply the material, the teacher's price here is time. The fees for many applications and materials that are not covered by the state are covered by parents. In this case, it is assumed that the teacher will calculate the benefit-value relationship well, both to persuade the parents and meet expectations. Furthermore, since PV is for voluntary practitioners (Tamilmani, Rana, Dwivedi, Sahu, & Roderick, 2018), it shows that the concept is suitable for Digital teaching materials. Ain et al. (2016) used learning value instead of price value in their study. The researchers emphasised that students allocate time to the system according to the perceived benefits from using learning management systems. Experience and H reflect the opportunity to use a target technology and typically refer to the time elapsed since an individual first used the technology. H is defined as the tendency of people to perform behaviors automatically as a result of learning (Kim et al., 2005). Experience is a necessary but insufficient factor for H formation. Feedback from previous experiences influences various beliefs and, thus, future behavioral performance. In this context, H is a perceptual factor that reflects the results of previous experiences (Venkatesh et al., 2012).

Teachers' Acceptance of Digital Learning Resources

Studies explaining teachers' acceptance of digital learning resources within the framework of UTAUT and UTAUT2 models seem to have increased rapidly in recent years. Some research findings show that the UTAUT model effectively explains teachers' adaptation to digital learning materials. Tseng et al. (2019) investigated the variables affecting teachers' acceptance of the massive open online courses (MOOCs). It was concluded that PE, SI, FC, and PV predicted BI, and FC and BI predicted their behavior. Mtebe, Mbwilo & Kissaka (2016) investigated the variables that predict teachers' multimedia-enhanced content usage behavior within the framework of UTAUT2. As a result of the research, it was determined that EE, SI, FC, HM, and H predict BI. Huang (2018)'s study on the behavior of teachers and students using social media concluded that PE, EE, SI, FC, HM, and H significantly influenced social media use intention, and social media use intention significantly influenced social media UB. In their pre-service teachers' intention to use immersive virtual reality in education research, Bower, DeWitt, and Lai (2020) concluded that all variables in the model predict BI. Kim and Lee (2020) investigated the variables that predict teachers' ICT-based instruction usage behaviors in their classrooms according to the UTAUT model. According to their results, PE, EE, SI and education policy significantly affect teachers' behavioral intention and H and facilitating conditions positively affect the actual use. Mohammad-Salehi, Vaez-Dalili, and Heidari Tabrizi (2021) examined teachers' adaptation of Web 2.0 Technologies within the framework of UTAUT. According to their findings, PE and SI had positive and direct influences on BI, while EE had no effect. In contrast, FC and BI had positive and direct effects on usage. The research hypotheses were developed according to the UTAUT2 model to test the research purpose.

H1: PE is a significant predictor of BI for using digital learning resources.
H2: EE is a significant predictor of BI for using digital learning resources.
H3: SI is a significant predictor of BI for using digital learning resources.
H4: FC is a significant predictor of BI for using digital learning resources.
H5: HM is a significant predictor of BI for using digital learning resources.
H6: PV is a significant predictor of BI for using digital learning resources.
H7: H is a significant predictor of BI for using digital learning resources.
H8: BI is a significant predictor of UB for using digital learning resources.
H9: FC is a significant predictor of UB for using digital learning resources.
H10: H is a significant predictor of UB for using digital learning resources.

RESEARCH METHOD

Research Model

This research was designed according to the relational screening model, which is included in the quantitative research model, to determine the explanatory relationship between the variables. The relational screening model determines the direction and strength of the relationship between two or more variables (Creswell & Creswell, 2017). There are nine variables whose predictive relationship was determined in this study following the UTAUT2 model. SI, FC, HM, PE, EE, PV, and H are exogenous variables, UB is endogenous,

and BI is the mediator variable. Path analysis was used in the study to determine the predictive level of the exogenous variables and the mediator variable on the endogenous variable.

Participants

The research participants consisted of 355 teachers working at a primary school (23.9%), secondary school (48.8%), and high school (27.3%) levels in the Anatolian side of Istanbul. 68.3 per cent of the teachers are female, and 31.7 per cent are male. The teachers participating in the research have an average age of 38 (23-58) and an average of 13 years of professional experience (1-35). Teachers from all branches were included in the study.

Data Collection Tools

Personal information form and Venkatesh et al. (2012)'s UTAUT2 scale was used. Within the scope of personal information, teachers' gender, year of birth, level of work, and branch variables were measured. In the UTAUT2 scale, there are 31 items in a seven-point Likert type scale, ranging from strongly disagree to strongly agree, to measure nine variables. The sub-dimensions of the scale and number of items are PE (4 items), EE (4 items), SI (3 items), FC (4 items), HM (3 items), PV (3 items), H (4 items), BI (3 items), and UB (3 items). The form translated into Turkish by Avcı and Çakır (2020) for their research was adapted to digital learning resources in this study. According to the confirmatory factor analysis for the scale, it was concluded that the scale's construct validity was high, and it was similar to the original scale since the fit indices were within limits and the item load values and the reliability analysis results were appropriate. Model fit indices calculated for the scale are $X^2/df=2.750<3$, RMSEA=.070<.08, NFI=.926>90, RFI=.911>90, and CFI=.951>95. The internal reliability coefficients calculated with Cronbach's alpha for the sub-dimensions were between .84 and .96, AVE values were above .50, and CR values were above .60 (Table 1).

Data Collection

Data were obtained through the combined use of online and printed paper routes of measurement tools. 33 per cent of the data was collected online via Google forms, and 67 per cent was collected face-to-face using printed paper. The researchers ensured that the teachers who took the online survey did not resubmit the paper forms.

Data Analysis

In the data analysis, Confirmatory Factor Analysis (CFA) was used for the construct validity of the measurement tool, and the Structural Equation Model (SEM) was used to evaluate the relations between the variables in the assumed model. The extrinsic variables of the tested structural model were SI, FC, HM, PE, EE, PV, H, FC and H, and its endogenous variable is UB. BI was used as a mediating variable in the research. The IBM AMOS program was used for confirmatory factor analysis (CFA) and path analysis. For the model tested within the scope of path analysis, first of all, fit indices and other assumptions were considered. After determining that the fit indices and other assumptions were suitable for the analysis, the regression values were examined. In this study, Chi-square/Sd, RMSEA, GFI, AGFI, NFI, RFI, and CFI values were considered for model fit. For a good fit, Chi-square/Sd value should be below 3, RMSEA value below .05, GFI, NFI, RFI, and CFI values should be above .95, and the AGFI value should be above .90 (Hu & Bentler, 1999; Kline, 2011; Tabachnick & Fidell, 2007). Within the research scope, the IBM SPSS program was used to analyse the percentage and frequency distributions of the descriptive characteristics of the teachers participating in the research, the reliability analysis of the scale, correlation analyses between the sub scales, and the assumptions of the structural equation model.

FINDINGS

Measurement model

The variables that predicted the smartboard usage behaviors of the teachers were tested with path analysis within the framework of the UTAUT2 model. The tested structural model is given in Figure 1. As the first step of the path analysis, the measurement model's validity and reliability values and assumptions were calculated. Table 1 and Table 2 include factor loading values, Cronbach's Alpha coefficients, Average Variance

Extracted (AVE) and Composite Reliability (CR) values, correlation values, and mean values of the scale. The internal reliability of the measurement tool, Cronbach's alpha and CR values were tested. Internal reliability values determined by Cronbach's Alpha are between .84 and .96, and CR values are between .85 and .96. The fact that these values are above .70 indicates that the reliability values of the scales are high (Hair, Hult, Ringle & Sarstedt, 2017; Peterson & Kim, 2013). Factor loading values of the items were calculated for the indicator reliability of the scales. All of the factor load values of the scale items are above the limit value of .50, while the two items are between 50-70, and 29 items are above .70 (Hair, Black, Babin & Anderson, 2010). The convergent validity of the construct was assessed using AVE. AVE values of the scales are between .61 and .89. Since all AVE values are higher than the lower limit of .50 (Farrell, 2010), it supports the Convergent validity of the scales.

Table 1. *Factor Loading Values and Reliability Coefficients of the Scale*

Constructs Items		Factor Loadings	Cronbach α	AVE	CR
1.PE	Pe1	,956	.966	0,86	0,96
	Pe2	,960			
	Pe3	,848			
	Pe4	,946			
2. EE	Ee1	,901	.957	0,83	0,95
	Ee2	,915			
	Ee3	,956			
	Ee4	,879			
3. SI	Si1	,859	.942	0,79	0,92
	Si2	,870			
	Si3	,952			
4. FC	Fc1	,818	.923	0,73	0,91
	Fc 2	,915			
	Fc 3	,901			
	Fc 4	,779			
5. HM	Hm1	,978	.955	0,87	0,95
	Hm2	,967			
	Hm3	,870			
6. PV	Pv1	,727	.906	0,77	0,91
	Pv 2	,915			
	Pv3	,952			
7. H	H	,866	.865	0,61	0,86
	H2	,782			
	H3	,579			
	H4	,859			
8. BI	Bi1	,925	.962	0,89	0,96
	Bi 2	,946			
	Bi 3	,913			
9.UB	Ub1	,602	.842	0,66	0,85
	Ub 2	,939			
	Ub 3	,856			

Table 2: *Mean and Correlation Values of the Variables*

	Mean	Sd	1	2	3	4	5	6	7	8
1.PE	5,97	1,48								
2.EE	5,51	1,52	,755**							
3.SI	5,20	1,61	,690**	,701**						
4.FC	5,32	1,47	,695**	,861**	,671**					
5.HM	5,73	1,44	,826**	,820**	,697**	,827**				
6.PV	5,06	1,55	,671**	,667**	,594**	,685**	,717**			
7.H	4,61	1,51	,625**	,685**	,587**	,718**	,662**	,667**		
8.BI	5,45	1,54	,801**	,771**	,688**	,763**	,822**	,691**	,789**	
9.UB	4,79	1,49	,560**	,589**	,474**	,642**	,603**	,553**	,802**	,734**

**. Correlation is significant at the 0.01 level (2-tailed).

Before starting the path analysis, whether the variables included in the analysis met the assumptions were checked. In this context, it was first identified whether the data showed a normal distribution with skewness and kurtosis values. As a result of the analysis, since the skewness and kurtosis values of all variables were below 1, it was accepted that the data showed a normal distribution. The presence of extreme values in the data was also checked with the box-plot chart, and no extreme values were detected. There should be no multicollinearity between exogenous variables in the path analysis. The multicollinearity between the variables was checked with VIF and tolerance values. A VIF value less than 10 and a tolerance value greater than .01 indicate no multicollinearity (O'brien, 2007). Two multiple linear regression analyses were performed to calculate the VIF and tolerance values. While BI was the dependent variable in the first regression analysis, usage behavior was the dependent variable in the second regression analysis. In the first analysis, VIF values were between 2.331 and 5.501, and tolerance values were between .182 and .429. In the second analysis, VIF values were between 2.618 and 3.36, and tolerance values were between .298 and .382. These results showed that there was no multicollinearity between the exogenous variables of the study. There should be significant linear relationships between the variables in the path analysis. According to the correlation analysis results, there is a significant positive correlation between all variables at the level of .01.

Finally, fit index values were examined following assumption tests. According to the findings, the fit indices of the tested model have very high values. According to the values in Table 3, the fit indices of the tested model are good according to the chi-square/df (2.36) value, acceptable according to the RMSEA (.062) value, and the GFI (.993), AGFI (.935), NFI (.996), RFI (.974), CFI (. 998) values are well-matched (Hu & Bentler, 1999; Kline, 2005; Tabachnick & Fidell, 2007; Byrne, 2013). These results show that the assumed model is suitable for further analysis.

Table 3. *Fit Index Values of the Model with Path Analysis*

Fit measure	Model fit	Recommended value
Chi-square/df	2,36	<3
GFI	,993	>.95
AGFI	,935	>.90
NFI	,996	>.95
RFI	,974	>.95
CFI	,998	>.95
RMSEA	,062	<.08

Structural Model

According to the findings in Figure 1, BI directly, FC and H both directly and indirectly, SI, HM, PE, EE, PV, and FC indirectly predicted 67 per cent (R2=.67) of the variance in UB. SI, FC, HM, PE, EE, PV, H, FC, H together predict 81 per cent of the variance (R2=.81) in BI.

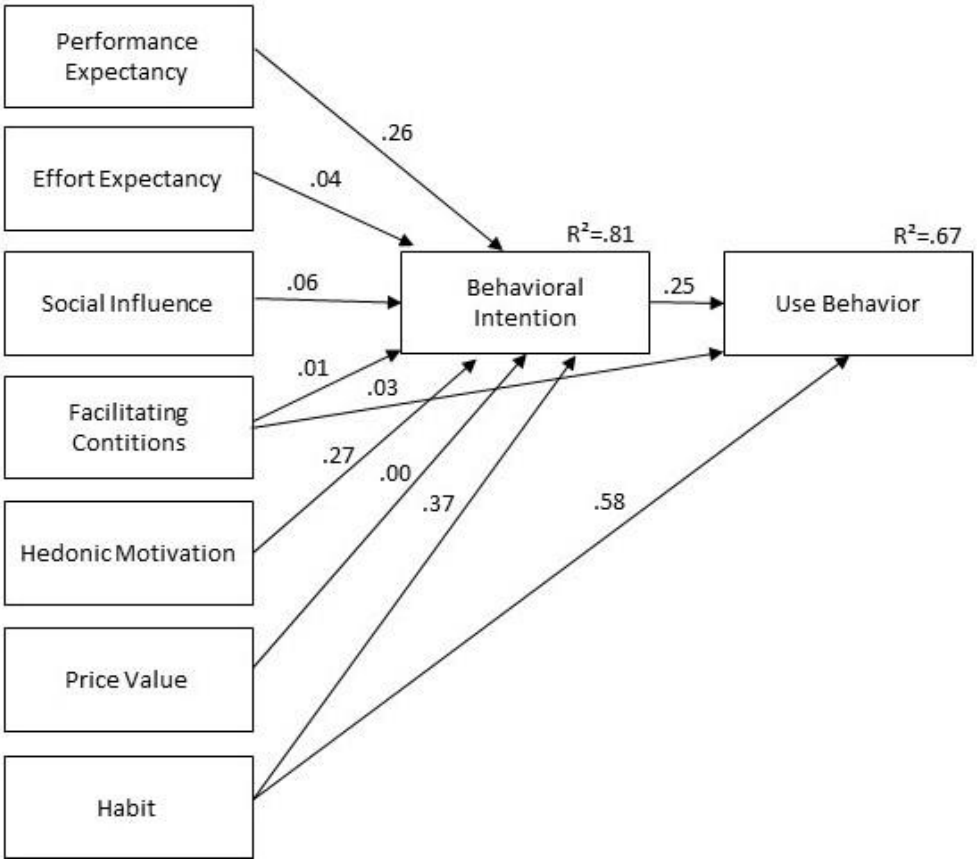

Figure 1. *Tested Structural Model*

Table 4. *Measurement Values of the Tested Structural Model*

Hypothesis number	Path			β	SE	t	p	Study Results
H1	PE	→	BI	,270	,047	5,771	,000	Supported
H2	EE	→	BI	,043	,053	,824	,410	Not Supported
H3	SI	→	BI	,060	,034	1,761	,078	Not Supported
H4	FC	→	BI	,011	,056	,202	,840	Not Supported
H5	HM	→	BI	,295	,058	5,055	,000	Supported
H6	PV	→	BI	,000	,036	,007	,994	Not Supported
H7	H	→	BI	,380	,037	10,320	,000	Supported
H8	BI	→	UB	,241	,054	4,475	,000	Supported
H9	FC	→	UB	,035	,050	,706	,480	Not Supported
H10	H	→	UB	,570	,051	11,152	,000	Supported

In the structural equation model analysis, the t value gives information about whether each variable is a significant predictor, and the path coefficient (β) gives information about the degree of the effect. As seen in Table 4, PE (t=5.771, p<.05), HM (t=5.055, p<.05), and H (t=10.320, p<.05) were significant predictors of BI, while EE (t =.824, p>.05), SI (t=1,761, p>.05), FC (t=.202, p>.05), and PV (t=.007, p>.05) are not significant predictors. While H (t=11.152, p<.05) and BI (t=4.475, p<.05) were significant predictors of UD, FC (t=.050, p>.05) was not. The order from largest to smallest in terms of the effects of exogenous variables for BI are H (β =.380), HM (β =.295), PE (β =.270), SI (β =.060), EE (β =.043), FC (β =.011), and PV (β = ,000). The rankings for use are as H (β =.570), BI (β =.241), and FC (β =.035). While the research findings support the hypotheses H1, H5, H7, H8, H10, they do not support the hypotheses H2, H3, H4, H6, H9.

Table 5. *Standardised Total, Direct, nd Indirect Effect Values for the Tested Structural Model*

		PE	EE	SI	FC	HM	PV	H	BI
Total Effects	BI	,258	,043	,062	,011	,275	,000	,372	---
	UB	,065	,011	,016	,038	,069	,000	,672	,250
Direct Effects	BI	,258	,043	,062	,011	,275	,000	,372	---
	UB	----	----	----	,035	----	,000	,579	,314
Indirect Effects	UB	,065	,011	,016	,003	,069	,000	,093	---

In the path analysis, besides the significance level, the impact factor was also considered. Impact factors show the effect of each value on the total factor. A contribution can be mentioned if the impact factor takes a value other than zero (Hair et al., 2017). FC and H are the two variables whose direct and indirect effects on usage were examined. The total effect of the FC variable on UB is .038, the direct effect is .035, and the indirect effect is .003. The total effect of the H variable on UB is .672, its direct effect is .579, and its indirect effect is .093. The total/indirect effects of PE, EE, SI, HM, and PV variables on UB, whose indirect effects were examined through BI, are .65, .011, .016, .69, and .000, respectively. The effects of PE, EE, SI, FC, HM, PV, and H on BI are .258, .043, .062, .011, .275, .000, and .372, respectively. H, HM, and PE have the strongest effects on BI. On the other hand, H and BI have the strongest effects on UB (Table 5).

DISCUSSION AND CONCLUSION

In this study, the factors that predict teachers' behaviors and intentions to use digital learning resources were examined through the UTAUT2 model. The UTAUT2 model explains 81 per cent of the variance in teachers' intention to use digital learning resources and 67 per cent of the variance in their usage behavior. These results can interpret that exogenous variables in the UTAUT2 model strongly affect teachers' BI and PI (Hair et al., 2017). This finding also shows that the UATUT2 model can explain teachers' acceptance of digital learning resources. When examined over individual variables, it is seen that the effects on the intention and behavior of using digital learning resources are at different levels. The compatibility of the results from the UATUT2 model confirms the model (Venkatesh et al., 2012). Studies in the field have also revealed that the UATUT2 model effectively explains teachers' behaviors using digital learning materials (Bower, et al., 2020; Mohammad-Salehi et al., 2021; Mtebe et al., 2016; Tseng et al., 2019).

According to the research findings, PE, HM, and H are significant predictors of teachers' intention to use digital learning materials, while BI and H are significant predictors of their behavior. It was determined that H was the variable with the strongest effect on both BI and UB in this study. H becomes more effective than BI, especially with increased user experience. In behaviors that have become habitual, the individual automatically performs the behavior without engaging any other cognitive processes (Kim, Malhotra & Narasimhan, 2005; Limayem & Hirt, 2003; Venkatesh et al., 2012). Karimzadeh et al. (2017) found that H has a stronger effect than BI in teachers with more professional experience. In this study, the effect of H on UB is stronger than BI. The fact that technology use becomes a habit leads to an increase in the frequency of that behavior (Venkatesh et al., 2012). In studies conducted on different digital learning resources, different results have been reached regarding the effect of H on BI and UB. In addition to studies revealing that H affects BI (Bower, et al., 2020; Huang, 2018; Mtebe et al., 2016) and BD (Kim & Lee, 2020), some studies show that it does not affect these variables (Amadin, Obienu & Osaseri, 2018; Mohammad-Salehi et al., 2021; Raman & Don, 2013; Tseng et al., 2019). HM ranks second after H in terms of a significant effect on BI. According to this result, it can be said that the entertainment factor of digital learning resources used for teachers is important. While HM is more effective in the first use of a technological application, this effect decreases when a habit is acquired. Although Venkatesh et al. (2012) stated that HM decreases as experience increases, it was concluded in this study that both are high. This result may be because digital learning materials prioritise students entertainment. Huang (2018), Bower et al. (2020), Raman & Don (2013), and Amadin et al. (2018) reached similar results with the findings of this study. In addition, Tseng et al. (2019), Mtebe et al. (2016), Kim & Lee (2020), Mohammad-Salehi et al. (2021), and Widjaja, Santoso, and Petrus (2019) found that it did not affect BI. This study determined that PE was a significant variable for teachers'

intention to use digital learning resources. According to this result, it can be said that when teachers believe that using digital learning resources in their classrooms is beneficial in terms of providing learning, they will be more inclined to use them. Venkatesh et al. (2012) identified that the most effective variable on technology use is PE, and it has a very high effect on BI. In this study, PE is in third place after H and HM in terms of its effect. In conducted studies (Amadin et al., 2018; Bower, et al., 2020; Huang, 2018; Khalid, 2021; Kim & Lee, 2020; Mohammad-Salehi et al., 2021; Padhi, 2018; Radovan & Kristl, 2017; Raman & Don, 2013; Tseng, et al., 2019; Widjaja et al., 2019) PE generally stands out as a significant predictor of BI. BI is the second variable with the highest effect on UB after H. While BI has a more pronounced effect in the first processes, it decreases with experience gained in the following years and leaves its place to a habit (Venkatesh et al., 2012). Over time, the bond between BI and UB weakens (Kim et al., 2005). The emergence of a similar situation in this study may be due to the teachers' experience with digital learning materials. BI stands out as the most important predictor of BD in studies (Bower, et al., 2020; Huang, 2018; Kim & Lee, 2020; Mohammad-Salehi et al., 2021; Radovan & Kristl, 2017; Raman & Don, 2013; Tseng, et al., 2019; Widjaja et al., 2019).

According to the research findings, EE, SI, and PV did not significantly affect teachers' intention to use digital learning materials. In contrast, FC did not significantly affect both BI and UB. EE is the individual's perception of the ease of learning and using the relevant application. The less effort to be spent for use, the higher the UB (Venkatesh et al., 2012; Venkatesh et al., 2003). EE not being a significant predictor of BI may be due to the availability of most digital learning resources, so the teacher does not need to spend a lot of effort on production. Results obtained by Khalid (2021), Mohammad-Salehi et al. (2021), Tseng et al. (2019), Widjaja et al. (2019), Padhi (2018), Radovan & Kristl (2017), Mtebe et al. (2016), Huang (2018), Bower, et al. (2020), and Kim and Lee (2020) are in a different direction to Raman and Don (2013). This study concluded that SI was not a significant predictor of the intention to use digital learning resources. It can be said that extrinsic motivation, the appreciation they receive for using them in their lessons, does not affect teachers' behaviors. Studies in the field (Amadin, et al., 2018; Bower, et al., 2020; Huang, 2018; Kim & Lee, 2020; Khalid, 2021; Mtebe, et al., 2016; Radovan & Kristl, 2017; Raman & Don, 2013; Tseng et al., 2019) have generally concluded that SI is a significant predictor of BI. There are also research results compatible with this study (Padhi, 2018). According to the findings obtained in this study, FC does not directly affect both BI and UB. According to these results, it can be said that teachers do not intend to use digital learning materials or do not need support for their use, even if they receive support for their use. If all conditions are equal, the results of this study are different, although those who have less support for using technological resources intend to use them less (Venkatesh et al., 2012). However, having sufficient knowledge and support is an important variable that affects teachers' use of technology in their classrooms. Different from the results of this research, Khalid (2021), Spiteri & Rundgren (2020), Tseng et al. (2019), Mtebe et al. (2016), Huang (2018), Bower et al. (2020), Raman & Don (2013), and Amadin et al. (2018) concluded that FC affects intention to use and usage behavior. In addition, there are studies compatible with the findings of this study (Padhi, 2018). Although the PV variable was added for voluntary practitioners within the framework of the UTAUT2 model (Tamilmani et al., 2018), this study added time spent and labor concepts next to price, as in Ain et al. (2016)'s research. Despite this change, it was observed that PV was not an effective variable on BI. The results obtained are consistent with the research conducted by Mtebe et al. (2016) and in a different direction from the research conducted by Tseng et al. (2019) and Bower et al. (2020).

Conclusion

The use of digital learning resources in the educational environment has increased more than ever because of the compulsory distance education caused by the Covid-19 pandemic. For meaningful learning, teachers need to attract the attention of generation Z students to the subject matter. Digital learning resources which students are not unfamiliar with should be a part of the learning-teaching process. Useful results for teacher educators and decision-makers in education have been revealed with this study that aims to determine teachers' intentions and behaviors to use digital learning materials. The research data were collected from teachers from different subject-matter and professional experience levels working in primary, secondary, and high schools. Within the framework of the UTAUT2 model, variables that predict teachers' intentions and behaviors to use digital learning resources were determined. According to the research findings, the most important predictors of teachers' intention to use digital learning resources are PE, HM,

and H. The most important predictors of use behavior of digital learning resources are H and BI. The high explanatory values indicate that UTAUT2 is an effective model that can explain teachers' intentions and behaviors of using digital learning resources.

Suggestions

The result of the study is useful for decision-makers in education, digital learning resource developers, and faculty members working in teacher education. Although it has been demonstrated that using digital learning resources is beneficial for teachers and students, the low frequency of use depends on the determination of appropriate intervention and incentive points. H, HM, and PE come to the fore in teachers' intention to use digital learning resources. The fact that habits are at the forefront, especially in teacher education, practical studies on the production and use of digital learning materials will help pre-service teachers start teaching with experience, albeit partially, and be willing to use these resources in their classrooms. Similarly, the Ministry of National Education may organize training to produce and use application-oriented materials for those who teach. A situation that particularly concerns learning resource manufacturers is that HM has gained popularity. Developers should pay attention to increase the attractiveness of the materials by targeting teachers and the students separately. This way, teachers can use digital learning materials with their intrinsic motivation without any external pressures. Teachers will use digital learning materials if they believe that these materials are useful for students and themselves. The best way to reap the benefits of these materials is to draw on the experience of previous practitioners. For these purposes, administrators should prepare environments where teachers who use digital learning resources in their classrooms can share their experiences with other teachers. For example, teachers can share their experiences through short videos with a sample of application on the EBA platform.

Experience, gender, and age variables included in the UTAUT2 model were not analysed in this study. These three variables can be included in the model in future studies, and their mediating effects on intention to use and usage behavior can be examined. In this study, no specific digital learning resources were discussed, and these resources were considered as a general category. The intention to use each different digital learning resource and the factors affecting the behavior of using that digital learning resource can be examined independently within the framework of the UATUT2 model.

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