OPTIMISING E-LEARNING: EMBRACING WEBEX IN MALAYSIAN UNIVERSITIES FOR SMARTER CAMPUS LEARNING

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ABSTRACT

The recent pandemic has forced Malaysian universities to implement technological e-learning platforms to replace the physical classroom, encouraging a growing spur of online learning users. Webex by Cisco's market share is decreasing as compared to Google Meet, Zoom and Microsoft Teams. This implies a low acceptance rate of Webex due to limited personalization options, delays in responses, not user friendly and high pricing. This quantitative study explores the acceptance of Webex Classroom among campus students in public universities in Malaysia. Value-based Adoption Model (VAM) is adopted in predicting the model with perceived value and perceived fear as the mediator and the main factors of perceived technicality, perceived usefulness, enjoyment, and trust. Data is collected from 101 participants and analysed using partial least square-structural equation modelling (PLS-SEM). Seven out of eight hypotheses are supported. This study's outcome suggests that, when designing a new online learning platform, enjoyment should be prioritized together with usefulness and trust, while technical issues must be resolved to avoid fear among students. The practical significance of this study lies in the ability to assist educational authorities in comprehending the roles of each factor for future planning.

Keywords: Smart Campus, Smart Learning, Webex, Online Learning, VAM

INTRODUCTION

United Nations has urged members to act on the Sustainable Development Goals to accomplish a stronger and sustainable future for everyone. These goals are composed of 17 sustainable development goals and of which the fourth goal is Quality Education. Innovations and ever-evolving technology present new opportunities for quality education. By leveraging the Internet-of-Things (IoT), cloud computing, big data, artificial intelligence and emerging ICT technologies, universities can improve students' learning experiences. A Smart Campus is a digitally transformed campus that integrates technology within the university environment to ensure seamless communication and interaction between students and stakeholders within the facility's infrastructure (Malatji, 2017; Polin et al., 2023).

In Malaysia, universities and colleges are beginning to recognize the importance and significance of incorporating smart technologies to create a more conducive and sustainable learning environment. Smart Learning uses technology to interact between lecturers and campus students, enhancing the learning experience. Compared to conventional teaching and learning on campus, platforms for online classrooms like Google Meet, Webex, and Microsoft Teams are used to conduct classes, allowing students to attend classes from anywhere.

However, the successful adoption and utilization of such technology heavily depend on effective leadership. Transformational leadership, in particular, plays a crucial role in driving technological change, setting a vision, allocating resources, and providing necessary training to ensure seamless integration (Machado & Brandao, 2019). The role of leadership in leveraging Webex can be pivotal in enhancing both administrative efficiency and academic outcomes, bringing about a positive change in the way we educate (Pawar & Dhumal, 2024). Webex's capabilities have proven invaluable, particularly during the COVID-19 pandemic, where it facilitated uninterrupted learning and efficient administrative operations. Webex's ability to support remote learning, real-time communication, and collaborative projects has made it an essential tool in educational institutions worldwide.

Online learning provides new learning experiences for campus students. A study on e-learning using various Microsoft Teams platforms in India has proven to be highly effective, where perceived usefulness is highly evident (Pal & Vanijja, 2020). However, some students may not benefit from e-learning (Yamin, 2020). Online learning removes the physical social interaction of students, which is the foundation of creating emotional bonding with others. Physical social interaction is crucial for mental health development (Bloomberg et al., 1994). Some students prefer physical classes as they experience frustration and exhaustion during online classes that require higher concentration. These contribute to mental exhaustion and further impact to students' learning experience (Duraku & Hoxha, 2020a; Hendriksen et al., 2021). Some students may find e-learning through Webex is not interesting, thus reducing the effectiveness of the Webex classroom. This is also supported from the academians' perspective (Shambour & Abu-Hashem, 2021). Therefore, students must have self-motivation and self-discipline to concentrate in Webex classroom.

At the same time, perceived fear is also the main concern in the education industry. Students may feel fearful, lonely and helpless when their progress in study starts to deteriorate which indicates that e-learning quality may not be consistent for every student (Duraku & Hoxha, 2020b). Students' and lecturers' satisfaction is important for the acceptance of the Webex platform for online learning. Given these challenges, educational institution leadership must proactively leverage Webex to enhance administrative and academic outcomes. Effective leadership may address challenges such as student engagement, mental health, and technology integration by setting clear visions, providing necessary resources and training, and fostering supportive environments for both students and faculty. Webex has a market share of 1.7% in year 2020 and 3.1% in year 2021. In year 2022, there is a drop of 0.9% to 2.1% (Brandl, 2022). These changes have ignited the researchers' interest in investigating the perceived fear and the perceived value of campus students' acceptance of Webex classrooms. The acceptance of the Webex Classroom platform by campus students is underlined by VAM.

The results of this research will improve Smart Campus' online education programme. Understanding the smart learning ideals can help the education sector advance toward incorporating technological platforms. It will also draw attention to any new issues where students who are struggling with Smart Learning may need resources and support. Additionally, research on the perceived fear and perceived value as mediating factors is scarce. This research aims to close the gap by giving educators better teaching tools through the use of VAM in the education industry. The research objective is to comprehend students' perceptions of Webex Classroom's technicality, usefulness, enjoyment, and trustworthiness in the setting of Malaysia's higher educational institution by using perceived value and fear as mediators. Furthermore, from the higher education standpoint, this study broadens our understanding on the Value-Based Acceptance paradigm. This article also covers the literature review, method, findings, discussion, implications, limitations and recommendations for future investigation.

LITERATURE REVIEW

In the context of higher education institutions, it is essential for leaders to create a supportive environment that allows for the effective use of technology in the learning process. This encompasses not only the physical hardware but also a robust management system that enables students to engage in online lessons, tutorials, and forums (Tan, 2010). Educational leaders stress the importance of prioritizing student learning in decision-making related to educational technology policies in universities. Furthermore, educators should be empowered and encouraged to explore and experiment with the integration of technologies into their instructional methods (Tan, 2010).

In a comprehensive analysis by Cheah, Zhong, and DeWitt (2024), the evolution of technology leadership is outlined in three distinct eras. The first era (1990s–2005) marked a shift in educational technology leadership from traditional and prevalent principals' technology roles to a more expansive view that integrated educators as technology leaders. The subsequent era, spanning from 2006 to 2016, emphasized teacher-driven technology leadership, with the goal of fostering educators' technological competencies. The current era, from 2017 onward, prioritizes International Society for Technology in Education standards for educators (ISTE-E standards) for educators by redirecting research efforts towards learner-driven teacher technology leadership, highlighting educators' use of technology to empower learners to steer their own learning.

Leaders who can foresee challenges and adapt to change quickly are more likely to drive the adoption of online learning tools like Webex. Based on the past literature, the majority of scholars have proven transformational leadership who exhibit the characteristics of visionary, innovative thinking, leading by example, and charisma and can anticipate the need to incorporate technology into the learner-centred platform (Machado & Brandao, 2019). Utilizing both leadership styles and the technology acceptance model can offer universities valuable insights to optimize their Webex adoption strategies, ultimately leading to an enhanced educational experience for their students (Northouse, 2022).

Technology Acceptance
Technology acceptance describes a person's initial optimistic choice to utilise a new technology (Dillon, 2001). Technology acceptance is a key factor in contributing to new technology's advancement and proliferation (Bano & Zowghi, 2015). It indicates user participation in the growth of technology systems. By identifying the factors influencing technology acceptance, user's feedback and concerns about new technology can be effectively addressed. Similarly, practitioners in the Information Communication Technology industry hope that data will improve the systems they have developed to meet the new users' needs. For years, researchers have attempted to grasp the relationship between users and technology acceptance, leading to many different theories and models that describe technology acceptance's concept (Lai, 2017).

Smart Learning Perception
Smart Learning is the adoption of a technology platform as a tool to organise real-time online classes, providing students the opportunity to learn without the limitation of distance (Mutizwa et al., 2023). With smart learning,

students will be able to attend lectures remotely using either mobile device or laptop. During the recent pandemic, students' perception of e-learning indicates that e-learning programs implemented have been quite well accepted by students, although commitment and self-discipline are required (Demuyakor, 2020; Muthuprasad et al., 2021).

Many universities have adopted various technological tools as part of smart learning initiatives, especially after the recent pandemic. Students' behaviour and learning style have gradually changed with the increased use of technology (Okaz, 2015; Thahir et al., 2023). Diversification in the teaching curriculum for e-learning brings greater learning satisfaction among students (Choi et al., 2020), while fear and technology acceptance are concerns for many researchers.

The online learning quality raises concerns from the existing society and educational community (Dziuban et al., 2015: Lestari et al., 2021). When resolving these issues, the key element influencing the satisfaction context is frequently students' perceptions of their learning experience and engagement. Generally, losing focus and missing in action is a common challenge in first-time e-learning. It is not surprise that participants tend to prefer interactions that require writing over verbal feedback (Petrides, 2002).

Class participation and online assessment have a positive relationship with e-learning effectiveness (Saifullah et al., 2022). Convenience and flexibility were also evaluated and shows to have positive impact on e-learning effectiveness. The research also discussed the online classes' challenges and found a negative association with infrastructure readiness and e-learning effectiveness.

A study of 1,045 Indonesian students was undertaken to evaluate their views on the usage of online learning at the recent pandemic (Yamin, 2020). From the survey, 40.3% of students are happy transitioning to e-learning, which offered flexibility and financial efficiency. However, the remaining 53.7% of the students were dissatisfied mainly due to frustration caused by poor network and connectivity. This negatively affects their studying and learning experience.

Smart Learning Platforms

The constantly evolving technologies today has greatly transformed the traditional classroom environment, providing opportunities for innovative teaching strategies and learning experiences. Virtual reality classes, web-based learning resources, digitally interactive whiteboard, and flexible curriculum are all part of the innovation adopted in the education industry. Educational institutions have adapted their technology platforms to provide remote learning where lecturers and students join live virtual classroom that encouraged real-time interactions.

A study found that Moodle is an effective platform implemented in dental schools, and student's views on Moodle use are positive (Botelho et al., 2020). Pal and Vanijja (2020) conducted a study with university students in India to assess Microsoft Teams' perceived usefulness as an e-learning platform. According to the survey, Microsoft Teams is a very effective e-learning tool and perceived usefulness is evident.

Another study that focuses on the benefits of Zoom platform shows that it mediates the transition from physical to online learning without causing much stress to students (Tuncer & Karatas, 2021). A research on Google Meet adoption found that students generally accept new technologies as long as it is simple to use and improve the educational process (Al-Maroof et al., 2020). In China, users' experiences on learning via online platform also indicated that platform availability and perceived usability greatly influence user satisfaction (Chen et al., 2020).

Online Learning Platforms– Webex

Malaysian universities use a variety of popular online learning platforms. These platforms are Google Meet, Zoom, Webex, Skype and Microsoft Teams. Each of these online learning platforms shares some common feature. However, these platforms can be differentiated with its own uniqueness. Research by Brandl (2022) that analysed online searches in 118 countries, Zoom has the highest popularity with market share pf 47.2%, followed by Google Meet

with 31.4%, Microsoft Teams 10.9%, Skype 6.0% and Webex 2.1%.

Cisco Webex is a webinar platform that supports both video and audio communications. From an educational perspective, Webex provides a platform that conveniently share lecture slides while teaching, exchange conversation via chatroom and further enhance learning experience with educational tools such as digital whiteboard. The system can accommodate up to 100 users concurrently without causing a technical lag, which is a crucial feature for online classroom (Brusilovsky & Peylo, 2003). Webex is available via web browsers or mobile phones that requires reliable Internet access. Teachers can record every lesson through Webex, which benefits students' learning experience.

Regarding technology acceptance, many studies focused on technology attributes as predictors, especially perceived usefulness, perceived ease of use and perceived technicality. Some studies focused on organisational and environmental factors. According to Saadé & Bahli (2005), with different approaches taken in previous studies, majority discovered a strong correlation between perceived usefulness and perceived ease of use with technology acceptance. This study identifies Perceived Usefulness, Perceived Technicality, Enjoyment, and Trust as the determinants of Webex Classroom acceptance and perceived value and perceived fear as the mediating variable.

UNDERLYING THEORY AND HYPOTHESIS DEVELOPMENT

Kim et al. (2007) argued that the Technology Acceptance Model (TAM) recommended by Davis et al. (1992) is constrained in the definition of new technology acceptance and further asserted that users of new technology should also be recognised by consumers. Hence, Kim et al. (2007) proposed the use of VAM to explain better and examine new technology acceptance. This study aims to use VAM in assessing the efficiency and effectiveness of technology acceptance in relation to the advantages of new technology adoption. Integrating VAM as a technology leadership theory involves examining how leaders can use the principles of the theory to guide the adoption and implementation of new technologies within their institutions. By focusing on perceived value from the perspective of both benefits and costs, leaders can effectively influence technology acceptance and ensure successful integration (Hendrikz & Engelbrecht, 2019). It will also highlight the complete evaluation of the perceived value of the new technology – Webex Classroom. For this study, we have customized the VAM framework to better suit the specific context of online platforms used in Malaysian public universities during the pandemic. We made these adjustments to account for several contextual differences. In particular, we added perceived fear which was not explicitly considered in the original VAM. The inclusion of perceived fear captures the psychological tension to adopt the Webex Classroom, which is relevant in a crisis-driven adoption scenario.

Positive Effect of Perceived Usefulness on Perceived Value
Perceived usefulness and perceived ease of use are perceptions commonly used to explain a system (Davis, 1989). The point to which a person views the procedure as easy and straightforward to follow is defined as perceived ease of use. The greater the perception of a system's ease of use, the greater the perceived usefulness (Morris & Dillon, 1996). When a new technology is simple to use, users will be inclined to favour using that system, especially users who are interested in technology. It is further claimed that perceived usefulness measures the extent to which a person perceives that utilising new technology will enhance their job (Davis, 1989). Earlier research uncovered that perceived usefulness is a main predictor of users' attitudes towards accepting new technology (Langford & Reeves, 1998). Moreover, there is empirical evidence that shows that perceived usefulness has a strong effect on an individual's usage of new technology in education (Aldraiweesh & Alturki, 2023; Mailizar et al., 2021). Hence, the following hypothesis is suggested:

H1: Perceived usefulness positively influences perceived value of Webex Classroom.

Positive Effect of Enjoyment on Perceived Value

Enjoyment is the extent whereby the experience of utilising the technology or product itself is perceived as pleasurable, excluding any expected performance consequences. Thus, enjoyment represents an intrinsic benefit (Roostika, 2012). It is an emotional response felt when using a new technology (Petrick, 2002) that has a direct impact on the intention to utilise it. Another study concluded that enjoyment positively influences both the inclination to utilise internet services and the acceptance of websites (Thompson, 1999). Therefore, it is important to ensure that users enjoy using technology since this will help them form a personal perspective of the technology and eventually develop a sense of appreciation for it. This also affects how often technology is used. According to Lew et al. (2019) and Liao et al. (2022) perceived enjoyment has a significant positive impact on perceived value. Hence, the following hypothesis is put forward:

H2: Perceived enjoyment positively influences perceived value of Webex Classroom.

Positive Effect of Trust on Perceived Value

Trust, is a type of belief that manifest in users if new technology is beneficial. It is an important factor in predicting user behaviour when adopting new technology and is identified by various researchers as a key hindrance to technology adoption. Technology today often involves sharing personal information and agreeing to privacy terms and conditions prior using the applications. This is often a major obstacle for users to adopt a new technology as privacy concerns are highly evident (Giuffrida & Hall, 2023). There are mixed findings on the influence of perceived trust in adopting new technology. According to Salloum et al. (2019), innovativeness and trust have no major influence on the acceptability of online learning platform. In contrast, Liu et al., (2005) and Tarhini et al. (2021) affirmed that trust had a strong impact on behavioural intention on e-learning adoption study. This is also supported by another study where perceived value is strongly influenced by trust (Gogoi, 2021). From the above discussions, we hypothesize that:

H3: Perceived trust positively influences perceived value of Webex Classroom.

Negative Effect of Perceived Technicality on Perceived Value

Perceived technicality in conceptualised as a nonmonetary sacrifice based on Chu and Lu (2007). In this study, perceived technicality is defined as the extent to which a student believes that using Webex classroom would suffer from physical, mental and learning effort (Kim et al., 2007). As such, greater technicality of the Webex classroom will increase students' temporal, physical, and psychological loss, and thus negatively contribute to perceived value. Previous research also found that perceived technicality has a significant influence on perceived value (Kim et al., 2007). Therefore, the hypothesis is put forward as below.

H4: Perceived technicality negatively influences the perceived value of Webex Classroom

Positive Effect of Perceived Technicality on Perceived Fear

Perceived technicality is one of the factors affecting users' perception of using new technology. The reliability, connectivity and efficiency of the system contribute to the technicality perceived by an individual. If the platform's quality is stable and does not often cause system glitch when using the application, it will provide a pleasant user experience. Besides, application loading and response times are also factors contributing to the technicality of the technology. Users would employ a technology if the effort required is minimal (Davis, 1989). Webex Classroom requires some technical knowledge and a specific hardware device prior to using it. Users also need a stable internet connection to ensure a smooth experience. Previous research confirms that technicality or complexity has a detrimental impact on user perceptions (Chhikara et al., 2022). Hence, the following hypothesis is suggested:

H5: Perceived technicality positively influences perceived fear of Webex Classroom.

Negative Effect of Perceived Fear on Perceived Value

The impact of fear on students' perception of value during the pandemic has been recognized as a significant external factor (Al-Maroof et al., 2020). This fear takes on various forms, including feelings of threat, anxiety, and uncertainty (Velicia-Martin et al., 2021). Consequently, the prevalence of fear among students has had a profound effect on the learning system, prompting a transition from traditional physical classes to virtual ones through the implementation of online platforms (Akour et al., 2021). This transition has altered the method of content delivery and the student-teacher interactions, as well as the overall learning experience, which may affect the value of the teaching. Therefore, the hypothesis is proposed as below.

H6: Perceived fear negatively influences the perceived value of Webex Classroom

Positive Effect of Perceived Value on the Acceptance of Webex Classroom

Customers' decisions are influenced by perceived value and help them achieve their objectives by motivating them to favour a particular product (Woodruff, 1997). Similarly, the value users perceive when using new technology greatly influences the user's behaviour when using it. To predict user's behavioural intention when using new technology, understanding the user's attitude is an important key (Ajzen, 2001). Research on digital music services concluded that when a technology or product has a higher perceived value, the higher the usage intention (Turel et al., 2010). Indeed, consumers tend to show favourable attitudes and intentions to use a brand when perceived value is higher.

In another study, the changes in a consumer's decision on a product are measured by purchase intention (Wu et al., 2011). It is evaluated based on the product value and the maximum achievable benefit. Perceived value is reflected by comparing what is received and given. The attitudes and emotions manifested from product benefits affect the intention to adopt new technology (Liao et al., 2022). This is in line with prior studies (Faqih, 2016; Saif et al., 2022; Xie et al., 2021). Hence, if the benefits of Webex classrooms outweigh the disadvantages, the perceived value is more noticeable. So, the following hypothesis is developed:

H7: Perceived value positively influences the acceptance of the Webex Classroom platform by university students.

Negative Effect of Perceived Fear on the Acceptance of Webex Classroom

Fear refers to feelings which manifest in the form of threat, anxiety, uncertainty, and risk (Shenoy et al., 2020). It is interpreted differently by every user, depending on how they evaluate the message (Nicholson et al., 2019). Perceived fear in VAM is an external factor influencing student's perception of using new technology. By introducing new technology and new learning experiences instead of traditional physical classes, students may resist change out of fear. Indeed, changing common practices that fall in students' comfort zones creates fear. This is supported by previous studies that established perceived fear's direct negative effect on adoption intention (Budhathoki et al., 2024; Maican et al., 2019). The perceived fear factor is related to perceived value that measures Webex classroom acceptance. Hence, the following hypothesis is suggested:

H8: Perceived fear negatively influences the acceptance of Webex Classroom.

CONCEPTUAL FRAMEWORK

Based on discussion above, six hypotheses are developed for university students' acceptance of Webex Classroom. For this study, the independent variables include perceived usefulness, perceived technicality, enjoyment and trust. Perceived fear and perceived value are the mediators in this study, while acceptance of Webex classroom platform by campus student is the dependent variable. The conceptual framework is established using the value-based model as the fundamental theory as shown in Figure 1.
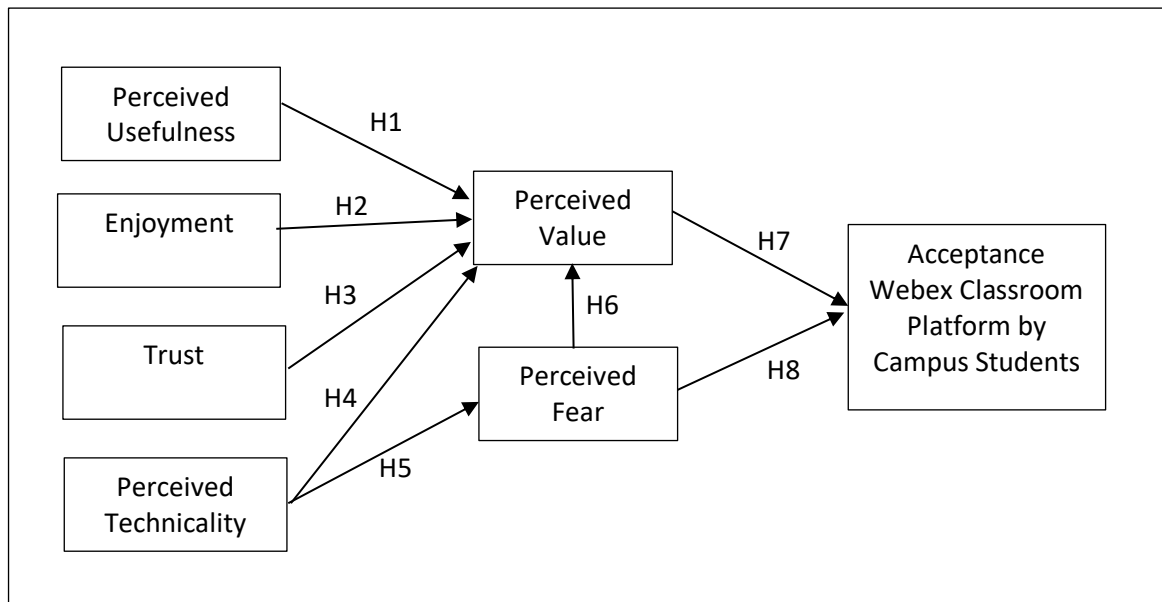
Figure 1. Research framework and the hypotheses

METHODOLOGY

This research employs a quantitative methodological approach, concentrating on a substantial number of samples as the primary data to examine the behavior of VAM. A self-administered questionnaire was used to collect data from the target population who are students currently studying at Malaysian public universities. This study relies on self-administered survey and uses purposive sampling, targeting to those with at least 3 months of Webex Classroom attendance. Other criteria include their knowledge of the Webex Classroom and their activeness in using Webex Classroom for learning, which makes them a target population to participate in this research. The sampling frame only includes public universities that are currently using the Webex platform as the classroom at that point in time. Hence, that narrows down to mainly Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM) and Universiti Kebangsaan Malaysia (UKM). Respondents from the target population were chosen if they met the criteria, such as accessibility to respondents and their time availability (Etikan et al., 2016). The questionnaires were distributed equally among the students at the 3 universities at the same time, and the data collected was based on response rate.

There are 26 questions in three sections of the questionnaire. Table 1 lists the research questions. All questions are assessed according to Likert scale, from Strongly Disagree (1) to Strongly Agree (5). The survey was created on Google form and sent out through WhatsApp, Facebook and email to students, which took 10 minutes to complete. The total number of participants was 101, exceeding the minimal sample size of 98 calculated using G*Power software. For this study, the power and effect size were respectively set as '0.80' and '0.15', including '6' predictors in the G*Power software.

Table 1
Research Questions

Variables	Research Questions	Sources
Webex Acceptance	WA1: Using Webex is recommended for daily classes WA2: Using Webex for daily classes develops my abilities to learn	(Al-Maroof et al., 2021), (Faisal et al,. 2021)
Perceived Technicality	PT1: Using Webex is technically easy for daily classes PT2: Using Webex allows me to attend daily classes with no technicality issues PT3: The use of Webex for classes everyday is time-consuming and complicated PT4: The use of Webex for classes everyday causes auditory and display issues	(Mandari, 2022), (Al-Maroof et al., 2021), (Roostika, 2012)
Perceived Fear	PF1: The use of Webex for classes everyday is technically difficult hence increases my fear PF2: Using Webex for daily classes has technical issues hence increases my fear PF3: Using Webex for daily classes reduce communication with lecturers and classmates hence increases my fear PF4: Using Webex for daily classes rely on stable network hence increases my fear	(Al-Maroof et al., 2020)
Trust	T1: I trust Webex to deliver information I need accurately T2: I trust Webex is safe to use for daily classes T3: I trust Webex with its privacy policy T4: I trust Webex because it is a secure platform	(Rai & Selnes, 2019), (Pavlou, 2003), (Hsu & Lin, 2016)
Enjoyment	E1: Using Webex for daily classes is fun E2: Using Webex for daily classes is pleasurable E3: Using Webex for daily classes provides enjoyment E4: Using Webex for daily classes brings excitement for me	(Ong et al., 2008), (Pavlou, 2003), (Gao & Bai, 2014)
Perceived Usefulness	PU1: Using Webex allows me to achieve my assignments efficiently PU2: Using Webex is effective for group discussions PU3: Using Webex allows me to receive and understand new information easily PU4: Using Webex is useful for online learning	(Hsu & Lin, 2016), (Davis, 1989)

| Perceived Value | PV1: Using Webex for daily classes is worthwhile considering the time I need to spend
PV2: Using Webex enhances the quality of my learning experience
PV3: Using Webex for daily classes is a valuable idea.
PV4: Using Webex allows me to conduct my presentation effectively | (Roostika, 2012), (Vy et al., 2022), (Petrick, 2002), (Liao et al., 2022) |

FINDINGS

The data collected does not have any missing data as Google form ensures respondents select an answer to every question in the questionnaire. Data is downloaded in Microsoft Excel format and SmartPLS V4.0 is used to run partial least squares-structural equation modelling (PLS-SEM).

Table 2 depicts the respondents' demographic information. The ratio of female and male students is 47.52% and 52.48%. In terms of the respondents' age, 17.82% are from 18-25 years old, 41.59% are from 26-35 years old and 40.59% are above 36 years of age. All respondents are highly educated, with 26.73% holding a bachelor, 70.30% having a master and 2.97% having a doctorate. 43.57% of respondents are from USM, 34.65% of respondents are from UPM and the remaining of 21.78% of respondents are from UKM.

Table 2
Respondents' demographic characteristic

Criteria	Factor	Frequency	Percentage
Gender	Female	48	47.52%
	Male	53	52.48%
Age (Years)	18-25	18	17.82%
	26-35	42	41.59%
	above 36	41	40.59%
Education Qualification	Bachelor	27	26.73%
	Master	71	70.30%
	Doctoral	3	2.97%
University	USM	44	43.57%
	UKM	22	21.78%
	UPM	35	34.65%

Measurement Model
Convergent Validity
Convergent validity indicates that the same underlying construct represented by a set of indicators can be illustrated through their one-dimensionality (Henseler et al., 2009). It is assessed via average variance extracted (Fornell & Larcker, 1981) which calculates the total variance obtained by a construct from its variables due to measurement error. The average variance extracted is usually more than 0.50. Based on Table 3, Cronbach's Alpha values range from 0.715 to 0.852 while Composite Reliability (CR) values range from 0.731 to 0.899. These values are greater than the generic cutoff value of 0.70 (Ringle et al., 2022), indicating acceptable construct reliability. The average variance from the data collected ranges from 0.525 to 0.767, which is above the threshold value of 0.50, revealing that the variation in the items of this study can be explained by the constructs proposed. The factor loading of most items is also greater than 0.70. There are a few items which have a factor loading of lower than 0.40 and were eliminated

from the model: PT1, T1 and E4. Hence, convergent validity for the study is effectively obtained for all constructs.

Table 3
Constructs, Items, Factor Loading, Cronbach's Alpha, Composite Reliability, Average Variance Extracted and Square Root of Average Variance Extracted of the study

Constructs	Items	Factor Loading	Cronbach's Alpha	CR	AVE
Webex Acceptance (WA)	WA1	0.846	0.715	0.748	0.525
	WA2	0.840			
Perceived Technicality (PT)	PT2	0.811	0.831	0.899	0.765
	PT3	0.848			
	PT4	0.865			
Perceived Fear (PF)	PF1	0.798	0.718	0.731	0.637
	PF2	0.754			
	PF3	0.705			
	PF4	0.709			
Trust (T)	T2	0.825	0.754	0.814	0.614
	T3	0.839			
	T4	0.848			
Enjoyment (E)	E1	0.799	0.726	0.778	0.683
	E2	0.749			
	E3	0.733			
Perceived Usefulness (PU)	PU1	0.751	0.833	0.895	0.769
	PU2	0.894			
	PU3	0.860			
	PU4	0.869			
Perceived Value (PV)	PV1	0.715	0.852	0.879	0.767
	PV2	0.836			
	PV3	0.831			
	PV4	0.869			
Items Removed	PT1, T1, E4	<0.400			

Discriminant Validity

Table 4 shows the Fornell-Larcker scale of the data where the correlation between the constructs of the model is indeed smaller than the square root of the average variance extracted in Table 3. The Heterotrait-Monotrait ratio of this study is less than the suggested cutoff point of 0.90 (Ringle et al., 2022) as depicted in Table 5, demonstrating the establishment of discriminant validity between the model's constructs.

Table 4
Fornell-Larcker scale

	WA	PT	PF	T	E	PU	PV
WA	0.903						
PT	0.232	0.847					
PF	0.455	0.420	0.698				
T	0.539	0.333	0.813	0.712			
E	0.297	0.438	0.455	0.280	0.801		
PU	0.538	0.578	0.302	0.339	0.354	0.791	
PV	0.573	0.313	0.421	0.359	0.441	0.421	0.769

Table 5

Heterotrait-Monotrait ratio (HTMT)

	WA	PT	PF	T	E	PU	PV
WA							
PT	0.244						
PF	0.467	0.512					
T	0.538	0.671	0.606				
E	0.371	0.411	0.459	0.603			
PU	0.261	0.398	0.344	0.510	0.471		
PV	0.378	0.378	0.312	0.542	0.442	0.399	

Structural Model

Model Fit

SmartPLS is used to conduct the model fit measures. According to Henseler et al. (2016), a value less than 0.10 is regarded as a good fit. Table 6 shows an SRMR of 0.037, suggesting the model for the study is a good fit. From Table 6, the difference between the saturated model and estimated model for d_ULS and d_G is 0.564 and 0.029, which are relatively small, hence, suggesting a good fit.

The NFI is being regarded as an incremental fit measure. According to Lohmöller (2013), NFI values of 0.9 and above are usually acceptable fits. The NFI value of this model for the study, as displayed in Table 6, is computed as 0.840, which is slightly less than the recommended value. However, the NFI value is not an absolute measure in assessing the model fit; hence, the model is still acceptable since the other assessment parameters are valid.

Based on Table 6, the RMS_theta computed is 0.077, which is a very small value, close to 0. Therefore, the model proposed is considered a good model fit and the proposed hypotheses can be further evaluated.

Table 6

Model Fit Parameters

	Complete Model	
	Saturated Model	Estimated Model
SRMR	0.037	0.034
d_ULS	0.764	1.328
d_G	0.517	0.546
Chi-Square	474.747	473.379
NFI	0.840	0.838
RMS_Theta	0.077	

Results of Hypothesis Testing

The proposed hypothesis of this study is evaluated by computing its R^2 values for every construct: Webex acceptance, perceived technicality, perceived fear, trust, enjoyment, perceived usefulness, and perceived value. The R^2 values are found to be above 0.67 as shown in Table 7, indicating that the predictive power of these constructs is relatively high (Chin, 1998). Furthermore, the beta values, *t*-values and *p*-values for the suggested hypothesis are also generated for evaluation purposes using PLS-SEM method. Based on the findings in Table 8, all the hypotheses from H1 to H8 are empirically supported, except H4.

Table 7
R² values of the Constructs of the model of this study

Constructs	R² values	Results
Webex Acceptance	0.699	High
Perceived Technicality	0.756	High
Perceived Fear	0.743	High
Trust	0.703	High
Enjoyment	0.714	High
Perceived Usefulness	0.739	High
Perceived Value	0.721	High

Table 8
Beta values, t-values and p-values of the hypothesis (significant at **$p \leq 0.01$, *$p < 0.05$)

Hypothesis	Relationship	Path	t-value	p-value	Direction	Decision
H1	PU → PV	0.537	2.346	0.022	Positive	Supported**
H2	E → PV	0.783	15.858	0.001	Positive	Supported**
H3	T → PV	0.458	19.577	0.000	Positive	Supported**
H4	PT → PV	0.110	0.734	0.231	Negative	Not supported
H5	PT → PF	0.659	13.527	0.002	Positive	Supported**
H6	PF → PV	-0.302	1.784	0.037	Negative	Supported*
H7	PV → WA	0.494	16.239	0.002	Positive	Supported**
H8	PF → WA	-0.378	18.330	0.000	Negative	Supported**

From Table 8, the first hypothesis is the relationship between perceived usefulness and perceived value. The path coefficient is 0.537, and the t-value is 2.346. This shows that perceived usefulness has a significant positive impact on the perceived value of Webex acceptance. Therefore, H1 is supported. The second hypothesis portrays the relationship between enjoyment and perceived value. The path coefficient is 0.783, and the t-value is 15.858. This implies that enjoyment positively impacts the perceived value of Webex acceptance. Thus, H2 is supported.

The third hypothesis discussed the relationship between trust and perceived value. The path coefficient is 0.458 and *t*-value is 2.346, suggesting that trust has a significant positive impact on the perceived value of Webex acceptance. Hereby, H3 is supported. The forth hypothesis reveals the relationship between perceived technicality and perceived value. The path coefficient is 0.110 and *t*-value is 0.734. The findings were found that perceived technicality has no direct effect on the acceptance of Webex Classroom. Thus, H4 is not supported.

The fifth hypothesis is the relationship between perceived technicality and perceived fear. The path coefficient is 0.659 and *t*-value is 13.527, indicating that perceived technicality is positively influence on the perceived fear of Webex acceptance. Thus, H5 is supported. The sixth hypothesis is the relationship between perceived fear and perceived value. The path coefficient is -0.302, and the t-value is 11.784, revealing that perceived fear negatively impacts perceived value. Hence, H6 is supported.

The seventh hypothesis is the relationship between perceived value and Webex acceptance. The path coefficient is

0.494 and *t*-value is 16.239, indicating that perceived value influences Webex acceptance significantly. Hence, H7 is supported. The eighth hypothesis of the study is the relationship between perceived fear and Webex acceptance. The path coefficient of -0.378 and *t*-value of 18.330. This signifies that perceived fear has a negative impact on Webex acceptance. H8 is, therefore, supported.

DISCUSSION

The goal of this research is to comprehend students' perspectives on the acceptance of using Webex Classroom for educational purposes. This study reevaluates the VAM created by Kim et al. (2007) by conceptualising perceived value and perceived fear as formative higher-order constructs. Enjoyment, trust and perceived usefulness are found to be dimensions of perceived value, consistent with previous findings. From this study, 81.19% of respondents accepted Webex Classroom as a learning tool and recommended it as a learning tool for daily classes. Perceived usefulness and perceived enjoyment significantly influenced university students' adoption of 3G services (Ong et al., 2008). When perceived usefulness and perceived ease of use allow students to spend more time using online resources, it creates greater student engagement and eventually leads to student satisfaction (Lee et al., 2005). Hence, perceived usefulness can affect the intention of users to utilise computer technology (Davis et al., 1992).

Perceived usefulness is another critical factor in influencing the perceived value of this study. Perceived usefulness has a significantly greater correlation with user's behaviour in using information technology as compared to other constructs (Davis, 1989). Campus students tend to be more inclined to use new educational technology tools provided they can address their learning needs, increase learning effectiveness, reduce unproductive time, and make learning easier. The outcome of this study signifies that students who find technology useful and beneficial are more likely to accept Webex Classroom. Respondents claimed that Webex Classroom allows them to complete their assignments efficiently as past lectures can be downloaded and reviewed again at their convenience and is a useful platform for group discussions.

Trust is an aspect that should be emphasized when adopting new technology. The plan to utilise e-commerce platforms is threatened by a lack of trust in technology (Pavlou, 2003). The result of this study identified trust as an important determinant of students' acceptance of Webex Classroom. The trust element in technology becomes crucial in this era, as privacy is often invaded by social applications. User privacy awareness among users is increasingly popular, demonstrating the importance of trust in accepting new technology. Technology that offers a safety feature, such as Webex's end-to-end encryption, is more likely to gain students' trust. From the study, 34.64% of students trust Webex Classroom with its privacy policy.

Although perceived technicality has significant negative effects on the perceived value of IoT adoption and mobile internet adoption based on previous scholars (Mandari, 2022; Roostika, 2012), this study's result reveals that perceived technicality has no effect on perceived value. One of the possible reasons may be the complexity of the Webex platform, which reduces the degree of perceived ease of use. The respondents who express unfavourable sentiments with e-learning are due to negative emotions they encountered while using Webex Classroom. Students who experience technical difficulties using the Webex application appear to develop a fear towards accepting an online education tool. Technical difficulties may be due to the reliability, ease of use, respond time and technical error or failure faced while adapting to new technology. These technical difficulties unable to provide an optimal user experience, resulting in students' negative perspectives.

According to Venkatesh et al. (2003), anxiety is part of perceived fear that negatively affects the users' willingness to use technology. Even when e-learning is required as a method of learning during the pandemic, prior studies by Hu et al. (2022), Abdous (2019) and Inan et al. (2022) reveal that anxiety can lead to e-learning adoption failure. There is consistency with the outcomes of this study where perceived fear negatively affects the student acceptance of Webex Classroom. Perceived fear is usually developed from technical issues and unpleasant user experiences with new technology. Lack of network infrastructure is a concern because without a stable network, Webex's reliability

is impacted. Students may face difficulty communicating or presenting a project via Webex, adding to users' fear of using Webex. However, in anxiety conditions, this can be overcome with a good attitude towards computers as it influences the intentions to use e-learning (Sugandini et al., 2022).

For some, learning via Webex Classroom felt fast-paced, which led to insufficient time to learn and review classes. It limits the interest of students during classes and students are mainly watching a screen where slides are usually being shared. Interactions are lesser as lecturers are no longer able to view the physical reactions of students in class. Webex Classroom activities are also limited to video submissions, as opposed to physical classrooms where there is more variety of activities. The students' lack of sense of accomplishment and excitement eventually demotivated them.

The outcome of this research indicates that perceived value positively influences students' acceptance of Webex Classroom. This study demonstrates how crucial perceived value is when adopting new technology. This aligns with a previous study on consumers' intention to use e-learning (Liao et al., 2022). Moreover, Kim et al. (2007) identify that maximizing value increases mobile internet adoption. This strongly proves that the value obtained from using new e-learning tools is critical in determining successful technology adoption. The perceived value of e-learning tools can be increased by offering rich learning features and enjoyable learning experiences.

Theoretical Implications

This study established the significance of perceived value in influencing Webex classroom acceptability, which can assist researchers in future studies to take into consideration the function of perceived value in the implementation of new technologies among students. Besides, this research also demonstrated how perceived fear negatively affects students' acceptance of Webex classrooms. Perceived fear in this study is mainly due to the issue of reliability and technical understanding in using the Webex application. Further study on perceived fear in the implementation of new technology can be conducted for future works to enhance the process of adoption of new technology.

Practical Implications

This study examined the effect of perceived value and perceived fear on the acceptance of Webex Classroom in the education sector using VAM. It contributes to the effectiveness of using an online learning platform for delivering lectures, creating in-class group activities among students, and establishing relationships among lecturers and students who have never met in person. This research is crucial to ensuring effective technology adoption in the education industry, bringing the education sector closer to implementing Smart Campus.

The outcome of this study's conceptual model implies that enjoyment should be valued as the main aspect while ensuring usefulness and trust are factored into while developing new technology for education. Perceived value is significantly increased when implementing an e-learning platform that is fun, technically easy, stable, and useful for daily classes. Technical issues need to be efficiently addressed to avoid fear among students, as fear is the main concern. Technology companies can invest in improving students' skills using new e-learning platforms to reduce the perceived fear among students. When embracing new technology as a learning platform to aid the process improvement of learning and teaching, student and lecturer satisfaction is important.

The design of new technology is important in facilitating its adoption. Layouts are advisable to be user-friendly and attractive so that users do not need to spend too much effort understanding how to use the application. An interactive e-learning tool will further enhance the enjoyment of daily use. Besides, it must also be effective in providing the necessary information to users, as excessive information can lead to information anxiety and increase users' fear. To enhance students' learning experience, rich features of e-learning tools that encourage learning and interactions should be introduced. Additionally, high security and privacy protection must be in place to ensure that users trust the technology and feel safe using it more frequently.

In addition, the government should strive to ensure the necessary infrastructure for the development of smart

schools. Hardware devices required for educational use can be packaged separately for commercial use, making them more affordable for students to access education via technology.

Furthermore, the study's results provide valuable insights for educational leaders to make informed decisions about technology adoption and training. Leaders should prioritise technologies that are perceived as helpful, easy to use, and enjoyable. This can be achieved through comprehensive needs assessments and pilot testing to ensure the selected platforms meet their institutions' specific needs. In alignment with this, educational leaders should align their strategies with recent frameworks that address the intersection of leadership, technology, and student engagement. Adopting these concepts allows leaders to design comprehensive plans that improve administrative and academic outcomes. By focusing on these implications, educational leaders may effectively navigate the complexities of technology integration, ensuring their institutions' successful adoption and use of Webex as a platform for education.

CONCLUSION

The global educational industry faces the challenge of technology integration in the education system to achieve smart learning experiences. In recent years, the pandemic has escalated the integration, forcing many institutions to prematurely implement new e-learning tools. It is undeniable that e-learning tools are sustainable learning system. Currently, in the post-pandemic situation, the e-learning tools' effectiveness is questionable. This study investigated campus students' acceptance of Webex Classroom and the findings are able to facilitate successful implementation of new online learning tools. The outcome from this study have also provided a better insight into how Smart Learning via Webex Classroom positively impacts on campus students.

The limitations in the study is due to relatively small sample size. This might limit the distribution of results. Furthermore, although Webex is widely used in the education sector globally, the selected sample is limited to 3 public universities in West Malaysia. Future studies should include a larger sample of public universities and East Malaysian students. Additionally, the study can be improved by including lecturers and other industries, for example banking and health. It is also recommended to replicate this study on other online classroom platforms (Google Meet, Zoom and Microsoft Teams). A comparison study on different online classroom platforms can be considered to further expand our understanding on the long-term quality and sustainability of online classroom learning.

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