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EVALUATING FACE AND CONTENT VALIDITY OF DIGITAL LITERACY, TECHNOLOGY ACCEPTANCE, AND BEHAVIOURAL INTENTION QUESTIONNAIRE FOR TVET

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ABSTRACT

The COVID-19 pandemic has had far-reaching repercussions on education systems, career pathways, and employment opportunities, with significant implications for individuals, communities, and national economies. In this context, graduate employability has emerged as a critical concern. Malaysia's distinctive socio-economic landscape provides a compelling setting for examining the challenges and opportunities faced by graduates seeking stable and meaningful employment in the post-pandemic period. This study adopts a thematic analysis approach to explore the employability experiences of recent Malaysian graduates. Insights are derived from a focused review of relevant literature and survey data capturing graduates' employment dynamics during and after the COVID-19 pandemic. Furthermore, the study empirically validates the key employability themes conceptualized through survey responses to enhance the robustness of the findings. The results indicate that Malaysian graduates face substantial employability challenges in the post-COVID-19 labour market, driven by changing employment structures and evolving skill requirements. The findings highlight the critical role of innovative career exploration, adaptability, and graduates' self-awareness of labour market trends in improving employability outcomes. The study underscores the need for context-specific employability strategies tailored to Malaysia's socio-economic conditions. These findings offer valuable implications for policymakers, higher education institutions, and graduates in designing targeted interventions to enhance employability in an increasingly dynamic post-pandemic labour market.

Keywords: *digital literacy, technology acceptance, behavioral intention, DILTAB-TVET*

1.0 INTRODUCTION

The advancement of Industry 4.0 compels Technical and Vocational Education and Training (TVET) institutions to align educational outcomes with new industrial demands, emphasising digital literacy and technology adoption among graduates (Ghosh & Ravichandran, 2024; Lee, 2024; Hashim, 2024). According to Berniak-Woźn, Plebańska and Wójcik-Jurkiewicz (2023), Peiró and Martínez-Tur (2022), Hughes and Davis (2024), digital competence is now a critical factor for employability, with organisations expecting new hires to integrate digital tools seamlessly. However, there is a notable lack of standardised instruments specifically designed to assess these crucial attributes Digital Literacy Skills (DLS) (Xie, 2008 & Reddy, Chaudhary & Hussein, 2023) Digital Technology Acceptance (DTA) (Lazar, Panisoara & Panisoara, 2020, Turner, Kitchenham, Brereton, Charters & Budgen, 2010) and Behavioral Intention (BI) (Almusawi & Durugbo, 2024) among TVET students with unique practical, skills-based learning orientations. Existing studies often focus on general higher education, overlooking the specific context of TVET.

The DLS, DTA, and BI Questionnaire for TVET (DILTAB-TVET) was developed to address this gap. To ensure relevance to the TVET context, the instrument's development specifically considered the practical, skills-based learning orientations of TVET students by adapting items from existing validated questionnaires and incorporating feedback from TVET experts throughout the validation phases. This instrument aims to provide a comprehensive assessment by integrating three key theoretical frameworks: the Digital Competence Framework (DigComp) by Carretero, Vuorikari, and Punie (2017), the Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Venkatesh et al. (2003), and the Theory of Planned Behavior (TPB) formulated by Icek Ajzen (1985). The DigComp framework addresses key digital competencies, UTAUT provides insights into technology acceptance factors, and TPB helps understand influences on intentions to use technology. The primary objective of this study was to develop the DILTAB-TVET and rigorously establish its content and face validity to ensure its relevance, clarity, and comprehensiveness for the TVET context. A validated tool like DILTAB-TVET is vital for identifying competency gaps, informing curriculum development, and guiding interventions to improve digital readiness in TVET.

2.0 LITERATURE REVIEW

The development of the DILTAB-TVET instrument is grounded in established theoretical frameworks essential for understanding and measuring digital competencies in the TVET sector. The DLS, a cornerstone of the instrument, is conceptualised using the European Digital Competence Framework for Citizens (DigComp 2.1). This framework outlines five key areas namely information and data literacy (IDL) to evaluate online information, Communication and Collaboration (CC) to interact via digital technologies, Digital Content Creation (DCC) by developing digital content, Safety (S) by protecting devices, data, and identity, and Problem Solving (PS) by identifying and solving technical problems. Adopting this framework ensures a holistic assessment of digital skills relevant to contemporary demands.

DTA among students is understood through Venkatesh et al.'s (2003) UTAUT. UTAUT synthesises various models to explain user intentions to use information systems and subsequent usage behaviour. Its core constructs include Performance Expectancy (PE), which is related to perceived usefulness, Effort Expectancy (EE) to express the perceived ease of use, Social Influence (SI) to explain the influence of essential others, and Facilitating Conditions (FC), which relate to availability of support and resources. These constructs are critical in predicting how TVET students might adopt and use new technologies in their learning.

The third domain, BI, is addressed via Ajzen's (1985, 1991) TPB. The TPB posits that BI is influenced by Attitude toward Behaviour (ATB), Subjective Norms (SN) to search for perceived social pressure, and Perceived Behavioural Control (PBC) to justify the perceived ease or difficulty of performing the behaviour.

The items for DILTAB-TVET were adapted from existing validated questionnaires by Suparman (2023), Silva and Morales (2022), and Abbad (2021), ensuring a foundation of previously tested concepts while tailoring them specifically for the TVET environment. The DILTAB-TVET addresses this by not only incorporating frameworks like DigComp, relevant for practical skill

assessment, but also by adapting items from studies that, while perhaps not exclusively TVET-focused, provide a validated foundation for assessing digital literacy, acceptance, and behavioral intention. These were then meticulously contextualized for the TVET environment through expert review and student feedback, ensuring the language, scenarios, and technological examples resonate with vocational trainees' experiences. This approach addresses the identified gap where general assessment tools may not fully capture the nuances of digital competency within vocational training contexts.

3.0 METHODOLOGY

A cross-sectional study design was implemented, involving a two-phase process for the instrument's development and validation.

3.1 Phase I: Instrument Development (DILTAB-TVET Version 1.0)

The initial DILTAB-TVET (Version 1.0) was conceptualised through an extensive literature review and focus group discussions with TVET experts. Items were identified, adapted, and modified from existing validated questionnaires by Suparman (2022), Silva and Morales (2022), and Abbad (2021) to align with the DigComp, UTAUT, and TPB frameworks which resulted in an initial pool of 56 items across 13 constructs within three domains of DLS (20 items), BI (16 items), and DTA (20 items).

3.2 Phase II: Evaluation and Quantitative Assessment

This phase focused on assessing item performance through expert judgment and quantification.

3.3 Content Validity Assessment

3.3.1 Panel of Experts

A panel of five experts was judgmentally sampled. The panel comprised one expert in questionnaire design, one statistician, one digital literacy expert, one TVET expert, and one language specialist. This expert diversity ensured comprehensive evaluation. Experts were selected based on predefined criteria: a) a minimum of 5 years of experience in their respective fields (questionnaire design, statistics, digital literacy, TVET curriculum/pedagogy, or applied linguistics); b) publications or significant project involvement in their area of expertise; and c) familiarity with competency assessment in educational settings. The rationale for this diverse panel was to ensure a multifaceted evaluation: the questionnaire design expert for structural integrity, the statistician for methodological soundness of validation metrics, the digital literacy expert for content relevance of DLS items, the TVET expert for contextual appropriateness and practical relevance to vocational training, and the language specialist for clarity, comprehensibility, and linguistic precision of the items.

3.3.2 Process

Experts evaluated DILTAB-TVET Version 1.0 for relevance, clarity, simplicity, and ambiguity using a four-point rating scale (1=not relevant, 2=needs significant revision, 3=requires minor revision, 4=highly relevant). Evaluations occurred between September and November 2024.

3.3.3 Metrics

Item-Level CVI (I-CVI), Scale-Level CVI (S-CVI/UA for universal agreement and S-CVI/Ave for average agreement), and Content Validity Ratio (CVR) were calculated. An I-CVI ≥ 0.78 (for five experts), S-CVI/Ave ≥ 0.80, and CVR ≥ 0.78 (ideally 0.99 for five experts) were considered acceptable. Lawshe's (1975) CVR formula was used. Items were revised based on expert feedback, leading to DILTAB-TVET Version 2.0.

3.4 Face Validity Assessment

DILTAB-TVET Version 2.0 was evaluated by ten TVET students from Politeknik Kota Bharu, purposively sampled. The group included 60% female students, aged 18-23 years, comprising diverse ethnicities (50% Malay, 30% Chinese, 20% Indian), all enrolled in diploma programs. This assessment took place in November 2024.

3.4.1 Process

Students assessed each item for clarity and understandability using a four-point Likert scale (1=Not clear, 4=Very clear).

3.4.2 Metrics

Item-Level Face Validity Index (I-FVI) and Scale-Level Face Validity Index (S-FVI/Ave) were calculated. A minimum threshold of 0.83 was established for satisfactory face validity. Minor revisions based on student feedback led to the final DILTAB-TVET Version 3.0. As for the statistical analysis, the Microsoft Excel was used for all CVI, CVR, and FVI computations.

4.0 RESULTS

In terms of the content validity quantitative analysis, the expert panel evaluations supported the DILTAB-TVET instrument's content validity.

4.1 Overall Scores

All 56 items in Version 1.0 surpassed the I-CVI threshold of 0.78, with every item achieving an I-CVI of 1.00, indicating unanimous expert agreement on relevance. The overall S-CVI/UA and S-CVI/Ave were 1.00, well above the 0.80 minimum.

4.2 Behavioural Intention Domain

All retained items had an I-CVI and CVR of 1.00. The S-CVI/UA and S-CVI/Ave were 0.75. Notably, the 'Intention to Use' (ITU) construct (4 items) was removed by experts due to conceptual overlap with the broader BI domain, as it represented an outcome of ATB, SN, and PBC, thus, causing redundancy which is by reducing the items in this domain from 16 to 12.

4.3 Digital Literacy Skills Domain

All retained items achieved an I-CVI of 1.00. The S-CVI/UA was 0.72, and the S-CVI/Ave was 0.864. The CVR for most retained items was 1.00. Based on expert feedback, the construct 'Digital Content Creation' (DCC) was renamed 'Knowledge of Digital Technology' (KDT) to broaden its scope. Some items were revised or split for clarity (e.g., CC4 was divided into two items focusing on communication with peers and instructors, respectively; S1 had examples added; S4 was split to address recognising scams and avoiding threats separately). The item count in this domain increased from 20 to 23 after revisions.

4.4 Digital Technology Acceptance Domain

This domain achieved perfect scores, with I-CVI, S-CVI/UA, S-CVI/Ave, and CVR all at 1.00 for all items. Experts suggested revisions for clarity and to reduce redundancy in some items under PE, EE, SI, and FC (e.g., PE2 and PE4 were revised to reduce overlap; EE3 was split; SI4 and SI5 were refined to avoid duplication; FC1, FC2, FC3, FC4 had wording refined or examples added). The item count in this domain increased from 20 to 21 after revisions.

4.5 Expert Panel Feedback

Across panels, feedback emphasised item relevance and clarity. Suggestions included renaming constructs for better alignment (e.g., DCC to KDT), ensuring brevity, maintaining uniform phrasing, careful attention to negatively worded items, and adding examples for better contextual understanding. Panel 5, for instance, provided specific wording improvements, such as replacing the word "proficient" with "competent" and ensuring grammatical precision in several items. The rigorous CVR analysis, where all 56 initial items received a score of 1.0, confirmed their essentiality. Despite this, revisions were made based on qualitative expert feedback to enhance overall content validity, resulting in DILTAB-TVET Version 2.0 with 56 refined items (12 for BI, 23 for DLS, 21 for DTA).

4.6 Face Validity Analysis

Ten (10) TVET students evaluated DILTAB-TVET Version 2.0. The Item Face Validity Index (I-FVI) for all 56 items met or exceeded the 0.83 benchmark, confirming clarity and contextual relevance. No items required removal. Five items (ATB3, KDT3, SI5, FC1, and FC2) were slightly refined for enhanced clarity based on verbal feedback from the students. Each domain's Scale Face Validity Index (S-FVI/Ave) exceeded the 0.9 minimum threshold, reinforcing overall instrument validity. These findings led to the final DILTAB-TVET Version 3.0, comprising 56 validated items across 13 sub-domains (BI: 12 items; DLS: 23 items; DTA: 21 items), deemed suitable for data collection.

5.0 DISCUSSION

The development of DILTAB-TVET signifies a crucial step in creating tailored assessment tools for the TVET sector. The integration of DigComp, UTAUT, and TPB provided a comprehensive theoretical underpinning, ensuring the instrument captures the multifaceted nature of digital competency and technology adoption relevant to TVET students' unique educational needs. The rigorous two-phase validation process, involving expert panels and target student representatives, affirmed the instrument's content and face validity.

Expert feedback was instrumental in refining items, ensuring clarity, relevance, and reducing redundancy. For instance, removing the 'Intention to Use' construct streamlined the BI domain by eliminating conceptual overlap. Similarly, renaming Digital Content Creation to Knowledge of Digital Technology broadened the scope appropriately. The iterative nature of this process, where minor wording changes or additions of examples were made based on specific panellist suggestions (e.g., Panel 5's grammatical refinements), was critical in enhancing the final instrument's quality. The high validity scores (I-CVI, S-CVI, CVR, I-FVI, S-FVI) across all domains indicate that DILTAB-TVET Version 3.0 is well-aligned with its objectives and is perceived as clear and relevant by its intended users. The finalised DILTAB TVET version 3.0 can be referred to in Tables 1, 2 and 3.

Table 1: The domain, subdomain, and number of items of DILTAB-TVET Version 3.0

Domains	Sub Domain	No of items	Total items
Behavioural Intention	Attitude towards Behaviour	4	12
	Subjective Norms	4	
	Perceived Behavioural Control	4	
Digital Literacy Skills	Information and Data Literacy	4	23
	Communication and Collaboration	5	
	Knowledge of Digital Technology	5	
	Safety	5	
	Problem Solving	4	
Digital Technology Acceptance	Performance Expectancy	5	21
	Effort Expectancy	6	
	Social Influence	5	
	Facilitating Conditions	5	
	Total No	12	56

Table 2: The Summary Items or All Domains in DILTAB-TVET (Version 3.0) following the Face Validity Analysis

Domains	No of Items	No. of Items Revised Before Final Retention	No. of Items Deleted	No. of Items Added	No. of Items Retained
Behavioral Intention	12	0	0	0	12
Digital Literacy Skills	23	1	0	0	23
Digital Technology Acceptance	21	4	0	0	21
Total	56	5	0	0	56

Table 3: Summary of Retained, Revised, and Deleted Items for the DLS, DTA and BI domain of DILTAB-TVET (Version 3.0)

Domains	Item	Revised Item
Behavioral Intention	ATB1	I believe using digital technologies will enhance my learning experience.
	ATB2	I am motivated to improve my digital skills.
	ATB3	I think digital tools make studying more interesting
	ATB4	I feel positive about incorporating digital tools into my education.
	SN1	My peers think that I should use digital technologies in my studies.
	SN2	My instructors encourage the use of digital technologies in learning.
	SN3	Social pressure does not affect my use of digital tools for academic purposes
	SN4	The expectations of others motivate me to use digital technologies.
	PBC1	I feel confident in my ability to use digital technologies effectively.
	PBC2	I am capable of learning new digital tools on my own.
	PBC3	I can overcome any difficulties in using digital technologies.
	PBC4	I have access to the digital tools I need for my studies
Digital Literacy Skills	IDL1	I am skilled at searching for information online.
	IDL2	I can use online learning platforms (e.g., Moodle-CIDOS).
	IDL3	I can create digital content.
	IDL4	I can manage digital content.
	CC1	I can use social media platforms for educational purposes.
	CC2	I can collaborate with others using online tools.
	CC3	I can participate in online discussions and forums.
	CC4	I use digital tools to communicate effectively with peers.
	CC5	I use digital tools to communicate effectively with instructors.
	KDT1	I can effectively use word processing software (e.g., MS Word).
	KDT2	I am proficient in using spreadsheets (e.g., MS Excel).
	KDT3	I can create presentations using presentation software (e.g., MS PowerPoint).
	KDT4	I can deliver presentations using presentation software (e.g., MS PowerPoint).
	KDT5	I can use cloud storage services (e.g., Google Drive, Dropbox).
	S1	I understand basic cybersecurity principles (e.g., creating strong passwords).
	S2	I am aware of how to use digital technologies safely.
	S3	I can keep my personal information confidential in the digital space.
	S4	I can recognise online scams.

	S5	I can avoid online threats.
	PB1	I can troubleshoot basic computer problems.
	PB2	I can learn new software and applications independently.
	PB3	I can adapt to new digital tools and technologies.
	PB4	I can assess the effectiveness of digital tools for different tasks.
Digital Technology Acceptance	PE1	I find digital technologies useful for my studies.
	PE2	Digital technologies help me to improve my skills (eg, communication skill, Collaboration Skills)
	PE3	Digital technologies enhance my ability to complete tasks efficiently.
	PE4	Digital technologies help me achieve better grades.
	PE5	Digital technologies increase my productivity in studying.
	EE1	I find digital technologies easy to use.
	EE2	Learning to use digital tools is easy for me.
	EE3	My interaction with digital technologies is clear.
	EE4	My interaction with digital technologies is understandable.
	EE5	I am skilled at using digital technologies.
	EE6	It is easy for me to get digital technologies to do what I want them to do.
	SI1	People who are important to me think that I should use digital technologies.
	SI2	Instructors expect me to use digital technologies.
	SI3	My peers encourage me to use digital technologies.
	SI4	My educational institution supports me in the use of digital technologies.
	SI5	I use digital technologies due to the influence of my family members.
	FC1	I have the resources necessary to use digital technologies (e.g., access to a laptop, a stable internet connection).
	FC2	I possess the necessary knowledge to use digital technologies.
	FC3	Digital technologies are compatible with my current learning approach.
	FC4	I receive adequate support when I have difficulties in using digital technologies.
	FC5	Digital technologies are available to me when I need them.

The study's strengths include the robust methodological approach, comprehensive theoretical integration, and engagement of diverse experts and actual TVET students to ensure both theoretical soundness and practical applicability. However, limitations exist, such as the relatively small student sample for face validity (n=10) and the geographical specificity of the expert panels and student samples, which may affect broader generalizability. The current validation focuses on content and face validity, thus, further psychometric testing is crucial.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study successfully develops and establishes the content and face validity of the DILTAB-TVET questionnaire, a 56-item instrument is designed to assess digital literacy, technology acceptance, and behavioural intention among TVET students. The iterative refinement process, informed by expert evaluations and student feedback, has resulted in a comprehensive, clear, and contextually relevant tool.

The relevance for the TVET context is ensured through the integration of foundational theories (DigComp, UTAUT, TPB) tailored to TVET needs, item adaptation from validated sources with specific TVET contextualization, and a rigorous two-phase validation involving both TVET experts and students. Clarity is achieved via iterative revisions based on expert feedback on linguistic precision and student feedback on understandability. Comprehensiveness is supported by its multidimensional structure, assessing key DLS, DTA factors, and BI critical for TVET student success. DILTAB-TVET

Version 3.0 offers a valuable resource for educators and policymakers to identify skill gaps, inform curriculum design, and ultimately enhance the digital readiness of TVET graduates for the Industry 4.0 workforce.

5.2 Recommendations

For future research and application, several recommendations are proposed further to enhance the utility and robustness of the DILTAB-TVET instrument. It is recommended that comprehensive psychometric testing be conducted, including detailed reliability analysis, such as calculating Cronbach's Alpha for internal consistency, and thorough construct validity assessments, potentially employing both exploratory and confirmatory factor analysis. To confirm the instrument's broader applicability and establish normative data, it is recommended that the DILTAB-TVET be administered to larger and more diverse samples of TVET students, encompassing various institutions and geographical regions. Additionally, researchers should explore the potential of using DILTAB-TVET as a diagnostic tool, which could effectively tailor digital literacy training programs specifically for the needs identified within TVET institutions. Finally, it would be beneficial to investigate the correlations between scores obtained from the DILTAB-TVET instrument and tangible outcomes, such as actual student academic performance or subsequent employability rates, to provide further evidence of its predictive value.

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REFERENCES

Abbad, M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies*, 26(6), 7205-7224. https://doi.org/10.1007/s10639-021-10573-5

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), Action control: From cognition to behavior (11-39). Springer-Verlag.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (1991). Prediction of leisure participation from behavioral, normative, and control beliefs: An application of the theory of planned behavior. *Leisure Sciences*, 13(3), 185-204. https://doi.org/10.1080/01490409109513137

Ajzen, I. (2020). The theory of planned behaviour: Frequently asked questions. *Human Behaviour and Emerging Technologies*, 2(4), 314-324. https://doi.org/10.1002/hbe2.195

Almusawi, H. A., & Durugbo, C. M. (2024). Linking task-technology fit, innovativeness, and teacher readiness using structural equation modelling. *Education and Information Technologies*, 29(12), 14899-14928. https://doi.org/10.1007/s10639-024-12787-9

Berniak-Woźny, J., Plebańska, M., & Wójcik-Jurkiewicz, M. (2023). University students' perception of employability and workability skills for the workplace in the digital era. *Scientific Journal of Bielsko-Biala School of Finance and Law*, 27(4), 39-45. https://doi.org/10.19192/wsfip.sj4.2023.5

Carretero, S., Vuorikari, R., & Punie, Y. (2017). DigComp 2.1: The digital competence framework for citizens with eight proficiency levels and examples of use. *Publications Office of the European Union*. https://doi.org/10.2760/38842

Ferrari, A., & Punie, Y. (2013). DIGCOMP: A framework for developing and understanding digital competence in Europe. *Publications Office of the European Union*. https://doi.org/10.2788/52966

Ghosh, L., & Ravichandran, R. (2024). Emerging technologies in vocational education and training. *Journal of Digital Learning and Education*, 4(1), 41-49.

Hashim, S. (2024). Beyond the classroom: Linking TVET educators' knowledge and skills for Industry 4.0 readiness. *Online Journal for TVET Practitioners*, 9(1), 24-36.

Hughes, H. P., & Davis, M. C. (2024). Preparing a graduate talent pipeline for the hybrid workplace: Rethinking digital upskilling and employability. *Academy of Management Learning & Education*, 23(4), 578-599. https://doi.org/10.5465/amle.2022.0169

Lazar, I. M., Panisoara, G., & Panisoara, I. O. (2020). Digital technology adoption scale in the blended learning context in higher education: Development, validation and testing of a specific tool. *PLoS ONE*, 15(7), e0235957. https://doi.org/10.1371/journal.pone.0235957

Lee, M. L. G. (2024). Readiness of technical and vocational education institutions and their industry partners for Fourth Industrial Revolution: Towards theory development. *International Journal of Research and Innovation in Social Science*, 8(3s), 5701-5723.

Peiró, J. M., & Martínez-Tur, V. (2022). 'Digitalized' competences. A crucial challenge beyond digital competences. *Revista de Psicología del Trabajo y de las Organizaciones*, 38(3), 189-199. https://doi.org/10.5093/jwop2022a17

Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, 9(4), e14929. https://doi.org/10.1016/j.heliyon.2023.e14929

Silva-Quiroz, J., & Morales-Morgado, E. M. (2022). Assessing digital competence and its relationship with the socioeconomic level of Chilean university students. *International Journal of Educational Technology in Higher Education,* 19, Article 46. https://doi.org/10.1186/s41239-022-00346-6

Suparman, I. (2022). Factors determining the behavioral intention to use online learning for English language learning among polytechnic students [Doctoral dissertation, USM Malaysia].

Turner, M., Kitchenham, B., Brereton, P., Charters, S., & Budgen, D. (2010). Does the technology acceptance model predict actual use? A systematic literature review. *Information and Software Technology*, 52(5), 463-479. https://doi.org/10.1016/j.infsof.2009.11.007

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. https://doi.org/10.2307/30036540

Xie, H. I. (2008). Users' evaluation of digital libraries (DLs): Their uses, their criteria, and their assessment. *Information Processing & Management*, 44(3), 1346-1373. https://doi.org/10.1016/j.ipm.2007.10.009