Journal of Social, Management and Tourism Letter (ISSN: 2783-4239)

Volume 2024, 19 pages
Article ID: JSMTL-2412132112930
Research Article

Response of Tax Professionals to the Transformative Effects of Digital Technology Integration in Tax Administration in Nigeria

Kabir Abba Abdulkadir [a,*], Joseph Femi Adebisi [b], Sunday Mlanga [b]

[a] Doctoral Candidate, Department of Taxation, ANAN University, Kwall, Plateau State, Nigeria.
[b] Professor, College of Public Sector Accounting, ANAN University, Kwall, Plateau State, Nigeria.

* Corresponding Author: kabirabba@yahoo.com

Date Received: 09-11-2024; Date Revised: 29-11-2024; Date Accepted: 13-12-2024

Abstract

Tax authorities worldwide are experiencing radical transformations in their operations which largely driven by the integration of digital technologies. This shift has brought the crucial issue of technology adoption to the forefront of tax administration. Applying the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, this study examines the response of tax professionals to the ongoing digital technology integration initiatives at the Federal Inland Revenue Service (FIRS). Survey data, collected from a sample of 168 FIRS tax officials (Mean Age = 43.13, *SD* = 10.72), were analysed using JASP version 0.18 and SmartPLS version 3.3.9. The results revealed a significant relationship (β = 0.605, *t* = 6.489, *p* < 0.001) between performance expectancy and tax professionals' response to digital technology integration, indicating that perceived usefulness engenders positive response to digital technology integration. However, the relationship between effort expectancy and digital technology integration response was inconclusive (β = 0.132, *t* = 1.677, *p* = 0.094), suggesting that ease of use may not be a primary motivator. Surprisingly, the role of social influence (β = -0.039, *t* = 0.470, *p* = 0.638) and facilitating conditions (β = 0.023, *t* = 0.223, *p* = 0.824) in shaping digital technology integration response was not supported. These findings underscore the complex nature of digital technology integration in tax authorities and highlight the pivotal role of performance expectancy in driving digital adoption.

Keywords: Tax professionals, Digital Technology Integration, UTAUT, Federal Inland Revenue Service (FIRS), Nigeria.

Introduction

Digital technology integration is the process of adopting and integrating digital technologies (i.e., electronic tools, systems, and devices that use digital data) into various aspects of operations, services, or processes to enhance effectiveness and efficiency (Samoilenko, 2023). The proliferation of digital technology has resulted in unprecedented changes across industries and professions (Hoang and Nhi, 2023; Nguyen *et al.*, 2023). In the field of taxation, the traditional manual processes and voluminous paperwork are radically replaced by digital systems (Bratcev and Grishanova, 2021; Iddrisu, 2023). Indeed, tax authorities worldwide are embracing digital technology integration initiatives, harnessing cutting-edge technologies like artificial intelligence (Boukherouaa *et al.*, 2021), big data analytics (Wu, 2023), and blockchain (Hodžić and Owens, 2022) to streamline tax processes and enhance operational efficiency, thereby ushering in a new era of tax administration. The Federal Inland Revenue Service (FIRS), Nigeria's premier tax authority, is no exception (Asein and Akintoye, 2021; Okauru, 2012).

To achieve its goals of increasing government revenue and building a data- and customer-centric organisation on the back of a strengthened institutional framework (FIRS, 2021), the FIRS developed and deployed a series of digital technology integration projects. It started with the launching of the Taxpayer Identification Number (TIN) on 5th April 2011 (Tyokoso *et al.*, 2021), which has seen the ballooning of individual taxpayers from 10 million in 2015 to about 45 million in 2019 along with over 3 million corporates (Mohammed *et al.*, 2023). The TIN initiative was followed by the Integrated Tax Administration System (ITAS) project launched in 2013 with the goal of utilising technology to improve tax administration and streamline the tax compliance process. The system has generated impressive results and widespread acceptance (Efobi *et al.*, 2019; Maccarthy *et al.*, 2022). Also, the introduction of the Standard Integrated Government Tax Administration System (SIGTAS) in 2014 has further strengthened the digitisation of tax administration the country (Mohammed *et al.*, 2023). The latest digital technology integration initiative from FIRS is the launching of the TaxPro Max portal on 7 June 2021, proving tax service users and taxpayers with one-stop facility for registering, submitting returns, making tax payments, conducting assessments, and monitoring their tax responsibilities (Mohammed *et al.*, 2023). Overall, the FIRS offers its customers a range of e-services including e-Registration, e-Stamp Duty, e-Tax Payment, e-Receipt, e-Filing, e-Tax Clearance Certificate (e-TCC), e-VAT Filing and Collection System (FIRS, 2021, p. 9).

Driving the digital technology integration initiatives at FIRS are its core values which include professionalism, ownership/collective responsibility, integrity, and efficiency (FIRS, 2021). These values find expression in the behaviours of tax professionals (Okauru, 2009). Ultimately, it is people (especially the tax professionals) who make the magic happen (Bello *et al.*, 2019; Bentley, 2020; Mehboob and Reeves, 2022). However, tax professionals find themselves today at the crossroads of a digital transformation that promises to redefine their roles and responsibilities (Saruji *et al.*, 2023). Digital tools like electronic filing systems, tax software, data analytics, customer relationship management (CRM) systems, document management systems, online portals, blockchain technology, machine learning and AI, electronic funds transfer (EFT) systems, mobile apps, electronic document submission, digital signature software, geographic information systems (GIS), and customer self-service portals have become integral to their daily operations (Gaverdovsky, 2023; Tilabov, 2022). How tax professionals accept and successfully utilised these digital tax technologies is a critical factor in the successful implementation of digital technology initiatives. This study examines the responses of tax professionals to the increasing digitisation of the tax space.

However, while researchers have studied the dynamics of technology adoption in various industries and contexts (Brown *et al.*, 2014; Brown *et al.*, 2006; Sharma *et al.*, 2020; Wrzosek *et al.*, 2020), a gap remains to be bridged concerning how tax professionals, in particular, engage with the challenges of digital technology integration in their workplaces. Furthermore, although Davis (1989), Venkatesh and Davis (2000),Venkatesh *et al.* (2003), Venkatesh and Bala (2008), and Venkatesh *et al.* (2012) have laid the frameworks for studying technology adoption and acceptance, there is a significant dearth of empirical literature applying these frameworks to the context of tax professionals' response to digital technology integration. Therefore, the current study seeks to bridge this gap examining the intersection of technology and professional tax practices, with specific focus on the effects of perceived usefulness of digital tools, perceived ease of using these tools, impact of colleagues and peers on technology adoption, presence of necessary resources and support on the actual responses of tax professionals to digital technology integration.

Theoretical Framework and Hypotheses

Researchers use several theories/models in explaining technology adoption and use in various contexts (Khan and Qudrat-Ullah, 2021). These include the Technology Acceptance Model (TAM) (Davis, 1989) and its two extended versions: TAM2 (Venkatesh and Davis, 2000) and TAM 3 (Venkatesh and Bala, 2008); and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.*, 2003) and its extended version UTAUT2 (Venkatesh *et al.*, 2012). However, the UTAUT was used in this study because it affords a wholistic understanding of technology acceptance and use in various contexts by considering a broader range

of factors beyond the basic constructs of perceived ease of use and perceived usefulness. UTAUT2 was not considered because its novel constructs (hedonic motivation, price value, and habit) are more relevant in assessing adoption and use of consumer technologies such as smartphones (Hilal and Varela-Neira, 2022). Furthermore, the UTAUT's constructs (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions) can adequately explain the transformative effects of digitisation on the roles, processes, and interactions of tax professionals.

The first UTAUT construct is *performance expectancy* which refers to tax professionals' perception about the potential contributions of the digital technologies to their job outcomes (i.e., whether the technologies will enhance tax processes, accurate data handling, and improved decision-making (Hazen *et al.*, 2014)). The second construct is *effort expectancy* and refers to the ease with which the tax professionals believe about working with digital technologies, how user-friendly and intuitive they perceive the technologies to be in their work routines. The easier they believe working with the new digital tax platforms, the less strenuous the effort required in adapting them (Abdul Razak *et al.*, 2017). The third construct is *social influence* which captures the relational factors shaping how tax officers respond to the emergence of the digitisation experience. These include opinions and supports of colleagues, superiors, and peers, which can, severally and collectively, encourage or discourage officers' engagement with the digital technologies (Anderson, 2022).

Finally, *facilitating conditions* are defined by the perceptions of tax professionals about the adequacy of the resources, training, technical support, and compatibility with existing systems following the introduction of the digital platforms. It is a perceptual measure of how ready the tax authority is regarding the digital technology integration initiatives. Overall, the UTAUT model posits that the response of tax professionals to digital technology integration is a function of pragmatic considerations and social concerns. The model offers researchers a framework for examining the interplay of individual, social, and organisational factors influencing the response of tax professionals to the introduction of digital technologies.

Conceptual Framework and Hypotheses

Conceptual Framework

Consistent with the UTAUT (Venkatesh *et al.*, 2003), the variables investigated in this included in this study include performance expectancy, effort expectancy, social influence, and facilitating conditions as predictor variables. The outcome variable remains *use behaviour* (operationalised in this study as *Response of Tax Professionals to Digital Technology Integration*). However, the current study did only consider the direct effects of the predictor variables on the outcome variable, implied in most mediation models (Tofighi and Kelley, 2020), including Venkatesh *et al.*'s (2003) UTAUT. This study's model therefore left out the theorised mediator (i.e., behavioural intention). Furthermore, the theorised moderators of the UTAUT model (i.e., gender, age, experience, and voluntariness of use) were not accounted for in the current study. This is because gender is known to exert insignificant moderating influence professionals' individual level outcomes (Areji *et al.*, 2023; Marini, 2022), even among diverse categories of workers including Gen Z and millennials (Vijaya *et al.*, 2023). Also, Alduais and Al-Smadi (2022) confirmed that age is not a moderator between UTAUT's constructs and the relevant outcomes. Same goes for experience (Nikkhah *et al.*, 2022). As for voluntariness of use, Venkatesh *et al.* (2012) removed it from UTAUT2 to increase the model's variance explained. In view of the foregoing, the UTAUT tested in this study consist of the direct effects of the model's predictor constructs (i.e., performance expectancy, effort expectancy, social influence, and facilitating conditions) on use behaviours (i.e., tax professionals' response to digital technology integration).

Hypotheses

Performance Expectancy and Response to Digital Technology Integration

Based on the conceptual framework depicted in Figure 1, justifications for the underlying four hypotheses are presented. First, the UTAUT framework explains the theorised association between the perceived usefulness (performance expectancy) of the digital technology integration initiatives and the response of tax

professionals to it (Venkatesh *et al.*, 2003). According to UTAUT, tax professionals are more likely to adopt and effectively utilise digital technologies when they perceive that digital technology integration will enhance their job outcomes (El Adib and Nafzoui, 2023). This perception creates a motivation to embrace digital tools as valuable assets in achieving their professional objectives. Empirical studies across various domains (Hazen *et al.*, 2014; Sołtysik-Piorunkiewicz and Zdonek, 2021), including tax administration (Bin-Nashwan, 2022), consistently back this perspective. Research findings indicate that tax professionals who believe that digital technology integration leads to improvements in accuracy and efficiency are more inclined to integrate digital tools into their daily tasks (Chihande, 2022; Noor *et al.*, 2014).

However, some studies indicated that concerns about the learning curve or resistance to change may outweigh the perceived performance benefits, leading to hesitation or slower adoption of digital tools (Watanabe and Carvalho Jr, 2019). Moreover, the specific nature of digital technology integration initiatives and the unique roles and responsibilities of individual tax professionals could likely play negative roles in reversing the assumed association (Lai, 2011). Onwunyi *et al.* (2023) also reported that lack of technological expertise on the part of tax professionals impede the achievement of digital technology integration outcomes. In other words, while performance expectancy is generally seen as impactful, its influence could be dependent on the professionals' perceived benefits driveable. Therefore, and in view of the foregoing counterbalancing evidence, this study hypothesised as follows:

H_1: That performance expectancy is associated with the response of tax professionals to digital technology integration in Nigeria.

Effort Expectancy and Response to Digital Technology Integration

Empirical studies conducted across various industries have confirmed to varying degrees of significance the positive impact of effort expectancy on technology adoption (Abdul Razak *et al.*, 2017; Duong *et al.*, 2023; Fedorko *et al.*, 2021; Hung *et al.*, 2019; Sang *et al.*, 2023). If extended to taxation, the implication of these studies is that tax professionals are more likely to respond positively to digital technology integration initiatives when the digital tools are user-friendly and intuitive, and thus will willingly incorporate the tools into their daily routines. These empirical evidences also found support in the UTAUT which posits the relevance of effort expectancy in shaping adoption and use of digital technologies (Noor *et al.*, 2014; Taneja and Bharti, 2021; Venkatesh *et al.*, 2003). Situated in this study, the theory implies that a high effort expectancy on the part of tax professionals suggest that they believe the adoption of digital technology will not pose a significant learning curve (Rusman *et al.*, 2024).

However, it is noteworthy that despite its evident importance in technology adoption behaviours, the potency of effort expectancy may be contingent on the nature and complexity of digital technology integration initiatives can vary widely, and tax professionals may have different perceptions of effort based on the specific tools and systems introduced (Asein and Akintoye, 2021; Saruji *et al.*, 2023). Additionally, resistance to change or attachment to existing processes can lead to a reluctance to embrace even user-friendly digital tools, thereby making effort expectancy matter less (Ramirez-Correa *et al.*, 2023). It could also be possible that the benefits of technology adoption may poorly correlate with the effort required for their adoption, thereby leading to low adoption (Petersen, 2023). Therefore, while effort expectancy is a crucial consideration, the varying caveats for its potency and acceptance suggest that there is still need for clarifying the its relationship with the outcome envisaged. Accordingly, the researcher proposes as follows.

H_2: That effort expectancy is associated with the response of tax professionals to digital technology integration in Nigeria.

Social Influence and Response to Digital Technology Integration

The UTAUT recognises social influence as an important driver of technology adoption (Dwivedi *et al.*, 2020). The term social influence spans a wide spectrum of phenomena including interpersonal connections, adherence to social norms, engagement in social interactions, belonging to social groups, and the impact of

social distancing or isolation (Lim, 2022; Spears, 2021). Empirical evidence strongly supports the role of social influence in shaping technology adoption behaviour across various industries (Bhukya and Paul, 2023; Fedorko *et al.*, 2021), including taxation (Anderson, 2022). Tax professionals often work in collaborative environments where interpersonal relationships and peer dynamics shape important work outcomes. Positive peer and or leader endorsements and recommendations are known to significantly facilitating acceptance of digital technology integration programmes (Gangl *et al.*, 2015). Furthermore, when professionals observe their peers successfully adapting to digital technology integration initiatives, it can serve as a powerful motivator, fostering a sense of collective engagement and prompting a more favourable response to digital technology integration.

However, an experimental study has been shown that social influence could turn to social pressure, and these have negative consequences by lowering work quality, increasing turnover intention, and generating dysfunctional behaviours (Cheng *et al.*, 2016). Indeed, social influence could potentially create a façade of digital compliance among tax professionals which is altogether different from the reality deep under (Pohlmann and Starystach, 2023). In some cases, resistance to change can persist despite positive social influence, particularly if professionals have ingrained habits and fears about the impact of digital technology integration on their roles (Basyal and Seo, 2017; Elgohary and Abdelazyz, 2020). Additionally, the strength of social influence can vary among individuals, with some being more susceptible to external pressure and others making decisions based on their personal assessments of technology (Anderson, 2022). In view of these disparate findings in the empirical literature, the current study hypothesise as follows:

H_3: That social influence is associated with the response of tax professionals to digital technology integration in Nigeria.

Facilitating Conditions and Response to Digital Technology Integration

Regarding the fourth UTAUT construct, empirical evidence consistently demonstrates that employees are more predisposed to respond positively to change initiatives when provided with adequate resources, training, technical support (Yuan *et al.*, 2023). In other words, facilitating conditions act as enablers that ensure seamless transition from one work regime to a more modern one. To this end, the UTAUT explains technology adoption as a function of facilitating conditions (Bervell *et al.*, 2022; Yuan *et al.*, 2023), among others. Facilitating conditions represent the critical technical and organisational infrastructure supporting the adoption and use of digital technologies in tax administration (Asein and Akintoye, 2021; Etim *et al.*, 2020; Komolafe and Chukwuani, 2020).

However, it is worthwhile to note that while facilitating conditions are crucial, in some cases, the potential benefits of digitisation may motivate tax professionals even when facilitating conditions are suboptimal (Haaksema, 2014). Again, the extent to which facilitating conditions influence the response of tax professionals to digital technology integration on the prevailing undercurrent of resistance even in the presence of state-of-the-art facilitating conditions (Adu *et al.*, 2022). Therefore, while facilitating conditions play a vital role in technology adoption, their impact on tax professionals' responses to digital technology integration is subject to the complex interplay of multiple factors (Sundararaj, 2022), and they should be considered within the broader context of technology acceptance. In the light of this unsettled evidences, the study hypothesises as follows:

H_4: That facilitating conditions are associated with the response of tax professionals to digital technology integration in Nigeria.

Methodology

This study examined the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions on the response of tax professionals to digital technology integration at the FIRS. To gain a broad perspective of this association, the study employed a quantitative survey method (Stern *et al.*, 2014). This method was chosen because it facilitates systematic collection of data from widely dispersed

respondents, thereby enabling researchers to make statistically significant decisions about patterns, relationships, and trends in the research population. The survey instrument was distributed as a Google Form (Hasan and Hameed, 2022). The link was sent via WhatsApp, Telegram, and emails.

Respondents

A purposive sample of 168 tax professionals ($\bar{x}_{\text{Age}}$ = 43.13 ± 10.72) working with the FIRS was selected. Following Yang *et al.* (2011), respondents were drawn from various Government Business Tax Offices, Medium Tax Offices, and Small and Medium Tax Offices across the North West states of Nigeria and Abuja. The selection process prioritised respondents with extensive knowledge of FIRS's ongoing digitisation initiatives. Particular attention was given to their educational qualifications, reflecting a workforce that is diverse and highly educated. The inclusion of professionals with advanced degrees highlights FIRS's focus on building a capable team, well-equipped to tackle complex taxation challenges and advance Nigeria's fiscal objectives.

Measures

To establish the general form of the five UTAUT constructs investigated in the study, the seminal works in the field were consulted, including Venkatesh and Davis (2000), Venkatesh *et al.* (2003), Venkatesh and Bala (2008), Venkatesh *et al.* (2011), and Venkatesh and Zhang (2014). Based on these theoretical/empirical perspectives, four items each were adapted in measuring each of the five study constructs. Specifically, four items were adapted from Compeau and Higgins (1995), Davis (1989), and Rogers (2003) to measure performance expectancy. Similarly, four items were pooled from Davis (1989) and Moore and Benbasat (1991) and then synthesised as measures of effort expectancy. For the social influence construct, two subjective norm indicators from Ajzen (1991) and two social factor items from AlSaleh and Thakur (2019) were adapted as the construct's measure. Items for measuring facilitating conditions were adapted two each from Ajzen (1991) and McInerney *et al.* (2005). Finally, the study used four items adapted from Ajzen (1991) and three adapted from Hooda *et al.* (2022) in evaluating use behaviour (i.e., response of tax professionals to digital technology integration).

Consistent with the original UTAUT instrument (Venkatesh *et al.*, 2003), a 7-point Likert-type rating scale was used in rating the adapted items for all the constructs. The rating anchors ranged from 1 = Strongly disagree to 7 = Strongly agree. The 7-point rating scale offers several important psychometric advantages, including increased sensitivity (to capture subtle variations in responses), reduced response bias (proving more options for more accurate and specific responses), better discrimination (distinguishing between moderate opinions and extreme views), and enhanced precision and depth of data collected (Carifio and Perla, 2007; Schwarz and Oyserman, 2001; Weijters *et al.*, 2010).

The services of six experts were used in validating the study questionnaire to determine the suitability and relevance of the adapted items. Three of the experts were from the academia and three were tax professionals. The validation data collected from the experts were analysed using Lawshe's (1975) content validity ratio (CVR). The CVR scores ranged from +1.00 (highest) to -1.00 (lowest) (Ayre and Scally, 2014). The results revealed that the CVRs for all the five constructs (i.e., performance expectancy, effort expectancy, social influence, facilitating conditions, and use behaviour) ranged from 0.92 to 0.97, thereby exceeding the minimum threshold of CVR ≥ 0.80 as recommended by Schmitz and Storey (2020).

To assess the reliability of the study questionnaire, a pilot study involving 23 tax professionals was carried out. The sample size was determined using G-Power 3 calculations (Mayr *et al.*, 2007). The reliability analysis was based on Cronbach's internal consistency statistic (Cronbach, 1943; Gliem and Gliem, 2003). This statistic measures the extent to which each item within the test measures the same underlying construct. The researcher utilised the JASP version 0.18 in computing the Cronbach α statistics for the five study constructs. The results revealed that the Cronbach alpha indices for all the five constructs (i.e., performance expectancy [α = 0.96], effort expectancy [α = 0.86], social influence [α = 0.97], facilitating conditions [α = 0.83], and response of tax

professional to digital technology integration [α = 0.93]) exceeded the recommended minimum threshold of α ≥ 0.70 (Cronbach, 1990).

Data Analysis

The survey data garnered were analysed using JASP version 0.18 (for descriptive statistics) and SmartPLS version 3.3.9 (for model evaluation). Specifically, JASP was used in computing means and standard deviations of the survey data, while SmartPLS was utilised in assessing the hypothesised relationships among performance expectancy, effort expectancy, social influence, facilitating conditions, and tax professionals' response to digital technology integration.

Results

Descriptive Statistics

The descriptives reveal that tax professionals generally have positive expectations regarding the impact of digital tools on their job performance, as evidenced by high mean scores across performance expectancy items (6.19–6.50), particularly for the item PERF3, which highlights the ease of task completion through digital tools. However, the relatively high standard deviation (SD) values, such as PERF1's SD of 1.24, indicate varied perceptions about performance benefits, suggesting the need for targeted training to harmonise understanding. Similarly, effort expectancy results show that tax professionals largely perceive digital integration as requiring minimal mental effort (highest mean: EFFT4), but higher SDs, especially for EFFT1 (1.69), reflect significant differences in the ease of learning these technologies. This variability underscores the importance of user-friendly tool designs and tailored capacity-building initiatives.

Social influence plays a moderate role in adoption decisions, with peer recommendations (SOCI2) identified as the most motivating factor, alongside consensus on the importance of superior encouragement (low SD of 0.81). Although facilitating conditions are generally seen as supportive, differences in perceived resource availability (highest SD: FACC1 at 1.34) point to disparities in infrastructure and support. Additionally, while the outcome measures indicate broad acceptance of digital integration (mean scores: 4.71–4.90), higher variability for RTPD6 (SD = 0.68) reveals divergent levels of proactivity in experimenting with new tools. These findings highlight the need to address infrastructural gaps, promote peer and leadership advocacy, and foster a culture of innovation to optimise tax professionals' responses to digital technology integration.

Measurement Model Analysis

The measurement model assessed the validity and reliability of the latent variables and their respective indicators, ensuring that the chosen indicators effectively reflect the underlying constructs (Sijtsma and van der Ark, 2020). The analysis demonstrates robust psychometric properties across the constructs, as indicated by Cronbach's alpha (α) and composite reliability (CR) values (refer to Table 1). The constructs measured include performance expectancy, effort expectancy, social influence, facilitating conditions, and response of tax professionals to digital technology integration. Performance expectancy exhibits excellent reliability, with α = .959 and CR = .970, indicating strong internal consistency. Item loadings range from .902 to .968, surpassing the recommended threshold of .70, further supporting construct reliability (Ellis, 2021). Effort expectancy also demonstrates high reliability, with α = .868 and CR = .908. While all item loadings exceed .70 (except for EFFT1, which is marginally adequate at .708), the construct meets the reliability criteria for research use. Similarly, social influence achieves outstanding internal consistency, with α = .974 and CR = .980, and item loadings ranging from .935 to .978, signifying exceptional reliability. Facilitating conditions, however, shows relatively weaker reliability (α = .838, CR = .818), largely due to the lower loading of FACC4 (.485), which falls below the acceptable threshold, potentially affecting the construct's overall measurement quality. Response of tax professionals to digital technology integration demonstrates strong reliability, with α = .934 and CR = .946, supported by item loadings between .800 and .914, confirming the construct's robustness. Overall, the results provide substantial evidence for the reliability of the measurement scales, with

the exception of FACC4 in the facilitating conditions construct, which warrants further evaluation. These findings validate the reliability of the study's constructs for assessing tax professionals' responses to digital technology integration.

Table 1. Item and Construct Reliability Indices

Constructs	Items	Loadings	Alpha	CR
Performance Expectancy	PERF1	0.902	0.959	0.970
	PERF2	0.951		
	PERF3	0.955		
	PERF4	0.968		
Effort Expectancy	EFFT1	0.708	0.868	0.908
	EFFT2	0.839		
	EFFT3	0.904		
	EFFT4	0.911		
Social Influence	SOCI1	0.978	0.974	0.980
	SOCI2	0.960		
	SOCI3	0.935		
	SOCI4	0.970		
Facilitating Conditions	FACC1	0.796	0.838	0.818
	FACC2	0.735		
	FACC3	0.866		
	FACC4	0.485		
Response of Tax Professionals to Digital Technology Integration	RTPD1	0.809	0.934	0.946
	RTPD2	0.864		
	RTPD3	0.844		
	RTPD4	0.800		
	RTPD5	0.914		
	RTPD6	0.857		
	RTPD7	0.832		

To establish the distinctiveness of each of the five study constructs from all others in the study model, the Fornell and Larcker (1981) Criterion and the Heterotrait-Monotrait (HTMT) Ratio (Henseler *et al.*, 2015) were used. The convergent and discriminant validity of the constructs were assessed using Average Variance Extracted (AVE) and the Fornell-Larcker criterion (1981), respectively (Table 2). All constructs demonstrated satisfactory convergent validity, with AVEs exceeding the recommended threshold of 0.50. Notably, performance expectancy and social influence exhibited high AVE values of 0.892 and 0.923, respectively, while facilitating conditions showed the lowest AVE of 0.540. Discriminant validity was confirmed through the Fornell-Larcker criterion, as the square root of each construct's AVE was greater than its correlations with other constructs, indicating that each construct is distinct and valid. These findings provide strong evidence of both convergent and discriminant validity, ensuring the robustness of the measurement model for assessing tax professionals' responses to digital technology integration in tax administration.

Further discriminant validity of the constructs was assessed using the Heterotrait-Monotrait ratio (HTMT), with all values falling below the recommended threshold of 0.85 (Henseler *et al.*, 2015), indicating adequate discriminant validity (Table 3). Specifically, the HTMT value between effort expectancy and performance expectancy was 0.552, and between response to digitisation and performance expectancy (perf) it was 0.699, both well below the threshold. Additionally, social influence showed extremely low HTMT values with all other constructs, ranging from 0.033 to 0.088, further supporting the distinctiveness of social influence. These results confirm that the constructs are sufficiently distinct from one another, ensuring the robustness of the

measurement model used to examine tax professionals' responses to digital technology integration in tax administration.

Table 2. Convergent (AVE) and Discriminant (Fornell-Larcker Criterion) Validities

Constructs	AVE	Fornell-Larcker Criterion				
		EFFT	FACC	PERF	RTPD	SOCI
Effort Expectancy (EFFT)	0.713	**0.844**				
Facilitating Conditions (FACC)	0.540	0.072	**0.735**			
Performance Expectancy (PERF)	0.892	0.524	0.076	**0.944**		
Response to Digitisation (RTPD)	0.716	0.453	0.078	0.677	**0.846**	
Social Influence (SOCI)	0.923	-0.061	-0.007	-0.039	-0.071	**0.961**

Table 3. Heterotrait-Monotrait (HTMT) Ratio of Correlations

Constructs	EFFT	FACC	PERF	RTPD	SOCI
Effort Expectancy (EFFT)	—				
Facilitating Conditions (FACC)	0.126	—			
Performance Expectancy (PERF)	0.552	0.082	—		
Response to Digitisation (RTPD)	0.468	0.061	0.699	—	
Social Influence (SOCI)	0.061	0.088	0.033	0.065	—

Structural Model Analysis

The structural model evaluated the relationships between these constructs to gain insights into the model's capacity to predict and explain the relationships (Sarstedt *et al.*, 2020). However, addressing multicollinearity concerns is a prerequire in structural model analysis (Shrestha, 2020). In this study, multicollinearity was assessed using the variance inflation factor (VIF). Sarstedt *et al.* (2022) suggest a "no collinearity issues" threshold of VIF ≤ 3. As shown in Table 4, the VIF values for performance expectancy and effort expectancy are slightly above 1 while social influence and facilitating conditions exhibit VIF values very close to 1, collectively suggesting absence of problematic multicollinearity among the predictors when predicting the response of tax professionals to digital technology integration.

Table 4. Multicollinearity Diagnostics

Constructs	VIF
Performance Expectancy (PERF)	1.381
Effort Expectancy (EFFT)	1.383
Social Influence (SOCI)	1.004
Facilitating Conditions (FACC)	1.007
Response of Tax Professionals to Digitisation (RTPD)	—

The absence of multicollinearity cleared the way to testing the study hypothesis, which was performed at 95% level of confidence. As displayed in Table 5, the result for H_1 ($\beta = 0.605$, $t = 6.489$, $p < 0.001$: LCI = 0.442, UCI = 0.787) suggests a highly significant and positive relationship between performance expectancy and response of tax professionals to digital technology integration at the FIRS. The $\beta = 0.605$ indicates that for every one-unit increase in performance expectancy, there is an estimated 0.605-unit increase in the response of tax professionals to digital technology integration. The *t*-value of 6.489 highlights the statistical significance of this relationship, implying that it is unlikely to have occurred by chance. Further, the confidence interval bias corrected (CIBC) of 0.442 to 0.787 suggest that the true effect size falls within this range, further supporting performance expectancy as a significant driver of the response to digital technology integration among tax professionals. Indeed, the precise effect size ($f^2 = 0.503$) indicates a large effect (Funder and Ozer,

2019), that changes in performance expectancy have a big impact on tax professionals' responses to digital technology integration, thus signifying its practical significance in influencing their responses.

Table 5. Results of Hypotheses Tests

				CIBC				
Paths	**β**	**SD**	***t*-Stat.**	**Bias**	**2.50%**	**97.50%**	***p*-Values**	**Outcome**
PERF → RTPD	0.605	0.093	6.489	-0.005	0.442	0.787	0.000	Supported
EFFT → RTPD	0.132	0.079	1.677	-0.015	-0.009	0.292	0.094	Not Supported
SOCI → RTPD	-0.039	0.084	0.470	0.014	-0.165	0.155	0.638	Not Supported
FACC → RTPD	0.023	0.103	0.223	-0.010	-0.201	0.208	0.824	Not Supported

However, regarding the relationship between effort expectancy and tax professionals' response to digital technology integration (H_2), the results in Table 5 revealed a modest and non-significant association ($\beta = 0.132$, $t = 1.677$, $p = 0.094$: LCI = -0.009, UCI = 0.292). Although there is a positive trend suggesting that higher effort expectancy is linked to a more positive response, the $p = 0.094$ falls just short of the conventional 0.05 significance threshold. The corresponding effect size ($f^2 = 0.024$) with $p = 0.435$ is a small and statistically insignificant; this indicates that changes in effort expectancy not significantly influence tax professionals' responses to digital technology integration. In the case of social influence (H_3), the analysis indicated a negligible and non-significant relationship with the response to digital technology integration ($\beta = -0.039$, $t = 0.470$, $p = 0.638$: LCI = -0.165, UCI = 0.155). The non-significant $p = 0.638$ confirms that social influence does not exert a detectable impact on the response of tax professionals to digital technology integration. The relevant effect size ($f^2 = 0.003$) with $p = 0.865$ is very small and statistically insignificant. In other words, social influence has a negligible impact, if any, on the response of tax professionals to digital technology integration. Finally, the relationship between facilitating conditions and the response of tax professionals to digital technology integration (H_4) was found to be practically negligible and statistically non-significant ($\beta = 0.023$, $t = 0.223$, $p = 0.824$: LCI = -0.201, UCI = 0.208), suggesting that the perceived availability of resources and support does not necessarily influence the response to digital technology integration among the sampled tax professionals working with FIRS. Indeed, with effect size ($f^2 = 0.001$) and $p = 0.974$, this signifies a virtually non-existent effect, that facilitating conditions have virtually no impact and do not significantly influence the response of tax professionals to digital technology integration.

Predictive Power and Relevance

To evaluate predictive power, the study employed the R^2 statistic, which gauges the proportion of variance in the dependent variable (response of tax professionals to digital technology integration) explained by the model (Chicco *et al.*, 2021). The R^2 statistic yielded a value of 0.474, demonstrating that the study model explains 47.4% of the variance in tax professionals' response to digital technology integration ($\beta = 0.474$, $t = 4.269$, $p < 0.001$). This substantial R^2 value underscores the model's strong predictive power, emphasising its capacity to explain and forecast adoption of digital technologies in tax administration.

Table 6. Predictive Relevance Assessment

	SSO	**SSE**	**Q^2 = 1-(SSE/SSO)**
Performance Expectancy	672.000	672.000	
Effort Expectancy	672.000	672.000	
Social Influence	672.000	672.000	
Facilitating Conditions	672.000	672.000	
Response of Tax Professionals to Digitisation	1176.000	829.043	0.295

Furthermore, to assess predictive relevance of the study model, the Q^2 statistic was used, which measures how well the model predicts outcomes beyond the data used for model construction (Zeng *et al.*, 2021). The

result shown in Table 6 revealed a Q^2 value of 0.295, indicating that 29.5% of the variance in the response of tax professionals to digital technology integration can be predicted by the study model. Interpreted against Zeng *et al.*'s (2021) moderate-level score range (i.e., $0.15 \leq Q^2 < 0.35$), the Q^2 result suggests that the model possesses moderate predictive relevance, signifying its ability to forecast tax professionals' response to digital technology integration behaviours beyond the data employed in development of the study model.

Importance–Performance Map Analysis

While the criterion variable is always the overriding most important factor in a given study, the other variables (the predictor variable in this study) are not less important. This importance could further be understood when the variables are mapped against their respective importance in the study model and their individual performance therein. In this study, the importance and performance of the five study variables were analysed using Martilla and James's (1977) Importance–Performance Map Analysis (IPMA). The result, depicted in Figure 1, is consistent with the outcomes of the hypotheses tests reported earlier. Specifically, the map indicates that a 1-unit increase in performance expectancy (mapped in quadrant B: keep up the good work) increased response of tax professionals to digital technology integration by 60.5% at 90.15% level of performance. However, while effort expectancy, facilitating conditions, and social influence are performing above average (with performance scores of 79.93%, 60.29%, and 54.32% respectively), their respective contributions (13.2%, 2.3%, and –3.9%) to explaining or predicting variations in tax professionals' response to digital technology integration are severely limited. Nevertheless, these variables are essential in achieving the overall goals of the digital technology integration objectives, and hence should be given more attention to understand how to turn them around.

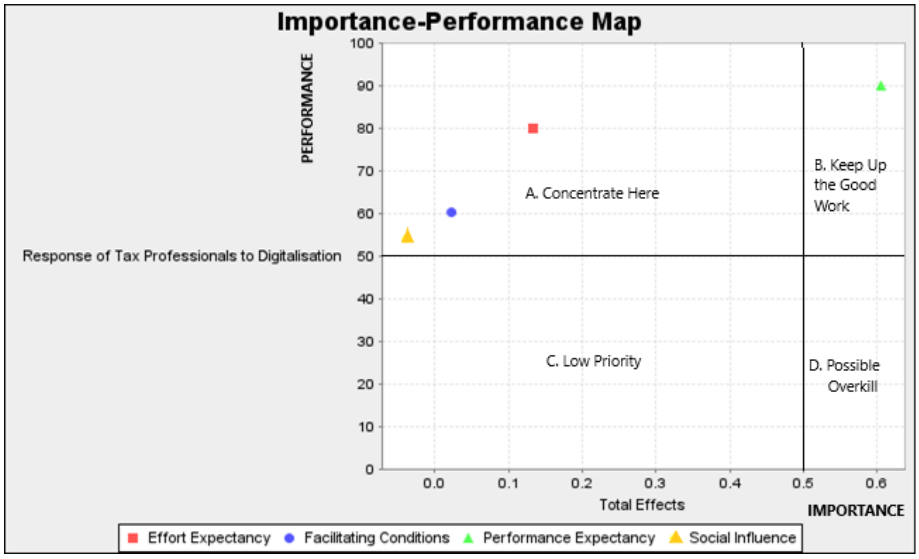

Figure 1. Construct Level IPMA

Discussions

The first hypothesis of the study (H_1) was supported, that performance expectancy, defined as tax professionals' perceived contributions of the digital tax technologies to their job outcomes, shapes their response to the digital technology integration initiatives ongoing at the FIRS. In practical terms, this implies that when tax professionals anticipate that digital technology integration will enhance their performance, they tend to respond more positively to the digital technology integration initiatives. This result implies that efforts to enhance tax professionals' perceptions of how digital technology integration positively impacts job performance can be instrumental in fostering a more favourable response to digital technology integration initiatives in the tax authority, ultimately contributing to their successful implementation (Salisu *et al*., 2016). This outcome is consistent with the underlying theoretical assumption of the UTAUT framework that the perceived usefulness of the digital technologies will condition the response of tax professionals to them

(Venkatesh *et al.*, 2003). Furthermore, several empirical studies in various contexts (Bin-Nashwan, 2022; El Adib and Nafzoui, 2023; Hazen *et al.*, 2014; Sołtysik-Piorunkiewicz and Zdonek, 2021) have upheld similar conclusions. Nevertheless, the FIRS should be proactive in keeping up the good work to safeguard against the negative side to the fast-changing nature of digital technologies (Lai, 2011).

Unlike H_1, the second hypothesis (H_2) on the influence of perceived ease of use of digital tax technologies on tax professionals' use behaviour was inconclusive. The beta coefficient ($\beta = 0.132$) indicates a positive but relatively modest relationship between effort expectancy and the study's criterion variable. In practical terms, this suggests that as tax professionals perceive that adopting digital technology requires less effort on their part, their responses to digital technology integration become slightly more positive. However, the effect size is relatively small and the statistical significance is borderline, implying that changes in effort expectancy have only a minor impact on their responses. Similar outcome has been reported by Isma *et al.* (2021) where difficulties encountered in using consumer technologies attenuated the expected use of same. The outcome of the current study, however, seems to contradict UTAUT's proposition on effort expectancy–use behaviour relationship (Venkatesh *et al.*, 2003) as well as the reports of several empirical studies (e.g., Abdul Razak *et al.*, 2017; Duong *et al.*, 2023; Fedorko *et al.*, 2021; Hung *et al.*, 2019; Sang *et al.*, 2023): that effort expectancy is positively associated with use behaviour. Perhaps, other factors not considered in this study could serve as interactions between effort expectancy and responses to digital technology integration. Thus, as suggested by the IPMA results, the FIRS management as well as researchers should give more attention (or concentrate more) on this relationship.

Regarding the third hypothesis (H_3) on the relationship between social influence and the response of tax professionals to digital technology integration at the FIRS, the outcome is even more surprising: that it is not significant. The beta coefficient ($\beta = 0.132$) indicates a negative relationship, the effect size is extremely small ($f^2 = 0.003$), and the p-value of 0.638 is not even close to meeting the conventional threshold ($p \leq 0.05$) for statistical significance. Also, the confidence interval (LCI = -0.165, UCI = 0.155) includes zero, highlighting considerable uncertainty about the true nature of this relationship. Therefore, based on this analysis, it appears that social influence does not play a significant role in shaping tax professionals' responses to digital technology integration within the tax authority. Though surprising, this result concurs with those of a few other empirics (e.g., Cheng *et al.*, 2016; Pohlmann and Starystach, 2023) that cited lowered quality and pseudo compliance as direct negative influence of social pressure. However, the outcome of the current study is decidedly contrarian to the generally reported positions in the literature: that social influence impacts technology use behaviours (Bhukya and Paul, 2023; Fedorko *et al.*, 2021). In view of this, the FIRS management and researchers may consider other factors such as champion programmes, peer learning networks, recognition and rewards, leadership buy-in, and mentorship as social strategies for encouraging tax professionals to embrace digital tools and practices.

Finally, the results of the fourth hypothesis test (H_4) was equally unsupported. It appears that facilitating conditions, as measured in this study, do not play any significant role in shaping tax professionals' responses to digital technology integration initiatives at the FIRS. Some extant studies (e.g., Adu *et al.*, 2022; Haaksema, 2014; Sundararaj, 2022) concur with this result arguing that factors such as technical support and resource availability may not be the primary drivers of digital adoption in organisation, citing resistance, intrinsic benefits and other multiple explanatory factors. However, some studies (e.g., Asein and Akintoye, 2021; Etim *et al.*, 2020; Komolafe and Chukwuani, 2020; Yuan *et al.*, 2023) that disagree with the current result argue that a supportive technological and organisational infrastructure is a critical enabler for successful digital transformation in tax administration. In view of this situation, there is the need a deeper understanding of the context and specific conditions beyond technical and institutional supports that influence digital technology integration outcomes.

Conclusions

This study explored the factors influencing tax professionals' responses to digital technology integration. The outcome is a mix ranging to the positive to the negative. The relationship between performance expectancy

and the response of tax professionals to digital technology integration was strongly supported, indicating that they respond positively in the face of the perceived benefits of adopting digital technologies. However, the relationship between effort expectancy and tax professionals' response was inconclusive, suggesting that perceived ease of use might not be a decisive factor in their use behaviour. Similarly, the roles of social influence and facilitating conditions were not supported as significant drivers of tax professionals' response to digital technology integration, implying that the influence of colleagues and the availability of resources may not be primary motivators. These findings underscore the complex and context-specific nature of digital technology integration in tax administration. This calls for a multifaceted approach to encouraging technology adoption while considering the complex interplay among these and other relevant factors.

References

Abdul Razak, F. Z. B., Abu Bakar, A. and Abdullah, W. S. W. (2017). How Perceived Effort Expectancy and Social Influence Affects the Continuance of Intention to Use E-Government. A Study of a Malaysian Government Service. *Electronic Government: An International Journal*, ***13***(1), 69-80. doi:10.1504/eg.2017.083943

Adu, K., Plata, L., Ratilla, M., Novak, P. and Zlamal, L. (2022). Extending the UTAUT Model to Understand the Barriers Towards SME Digitalization. *Serbian Journal of Management*, ***17***(2), 403-424. doi:10.5937/sjm17-37629

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, ***50***(2), 179-211. doi:10.1016/0749-5978(91)90020-t

Alduais, F. and Al-Smadi, M. O. (2022). Intention to Use E-Payments from the Perspective of the Unified Theory of Acceptance and Use of Technology (UTAUT): Evidence from Yemen. *Economies*, ***10***(10), 1-15. doi:10.3390/economies10100259

AlSaleh, D. and Thakur, R. (2019). Impact of Cognition, Affect, and Social Factors on Technology Adoption. *International Journal of Technology Marketing*, ***13***(2), 178-200. doi:10.1504/ijtmkt.2019.102266

Anderson, J. E. (2022). Attitudes and Responses to Corruption in Tax Systems: Peer Effects and Social Influences in Transition Countries. *Journal of Economic Studies*, ***49***(3), 472-488. doi:10.1108/jes-07-2020-0351

Areji, A. C., Ede, M. O., Agbo, C. O., Eze, H. O., Ogbodo, II, Eze, C. F., Nyakuwa, R., Chinweuba, N. H. and Agbigwe, I. B. (2023). Testing the Impact of Occupational Intervention on Professional Ethics and Values of Staff in University Medical Centers. *Medicine*, ***102***(26), 1-7. doi:10.1097/MD.0000000000034171

Asein, A. A. and Akintoye, I. R. (2021). Re-Defining Nigeria's Tax System Amidst Digitalisation of the Business Environment. *International Journal of Advanced Research (IJAR)*, ***9***(4), 778-787. doi:10.21474/IJAR01/12765

Ayre, C. and Scally, A. J. (2014). Critical Values for Lawshe's Content Validity Ratio. *Measurement and Evaluation in Counseling and Development*, ***47***(1), 79-86. doi:10.1177/0748175613513808

Basyal, D. K. and Seo, J.-W. (2017). Employees' Resistance to Change and Technology Acceptance in Nepal. *South Asian Studies*, ***32***(2), 351-365.

Bello, Z., Baddoo, N., Lilley, M. and Wernick, P. (2019). Towards a Capability Maturity Framework: Adopting the Universal Elements of Digital Capability Maturity as an Organisational Strategy. In *Proceedings of the 2019 British Academy of Management Conference*. Aston University, Birmingham, UK, 3rd to 5th September 2019. Retrieved from http://www.bam.ac.uk/

Bentley, D. (2020). Digital Tax Administration: Transforming the Workforce to Deliver. *eJournal of Tax Research*, ***18***(2), 353-381.

Bervell, B., Kumar, J. A., Arkorful, V., Agyapong, E. M. and Osman, S. (2022). Remodelling the Role of Facilitating Conditions for Google Classroom Acceptance- a Revision of UTAUT2. *Australasian Journal of Educational Technology*, ***38***(1), 115-135.

Bhukya, R. and Paul, J. (2023). Social Influence Research in Consumer Behavior: What We Learned and What We Need to Learn? – a Hybrid Systematic Literature Review. *Journal of Business Research, **162***, 1-21. doi:10.1016/j.jbusres.2023.113870

Bin-Nashwan, S. A. (2022). Toward Diffusion of E-Zakat Initiatives Amid the Covid-19 Crisis and Beyond. *foresight, **24***(2), 141-158. doi:10.1108/fs-08-2020-0082

Boukherouaa, E. B., Shabsigh, G., AlAjmi, K., Deodoro, J., Farias, A., Iskender, E. S., Mirestean, A. T. and Ravikumar, R. (2021). *Powering the Digital Economy: Opportunities and Risks of Artificial Intelligence in Finance.* Departmental Papers, Vol. 2021, Issue 024. Washington, DC: International Monetary Fund. doi:10.5089/9781589063952.087

Bratcev, V. I. and Grishanova, A. M. (2021). Digitalization Development as Factor Causing Changes in Taxation Administration. *Vestnik of the Plekhanov Russian University of Economics, **18***(1), 5-13. doi:10.21686/2413-2829-2021-1-5-13

Brown, S. A., Dennis, A. R. and Venkatesh, V. (2014). Predicting Collaboration Technology Use: Integrating Technology Adoption and Collaboration Research. *Journal of Management Information Systems, **27***(2), 9-54. doi:10.2753/mis0742-1222270201

Brown, S. A., Venkatesh, V. and Bala, H. (2006). Household Technology Use: Integrating Household Life Cycle and the Model of Adoption of Technology in Households. *The Information Society, **22***(4), 205-218. doi:10.1080/01972240600791333

Carifio, J. and Perla, R. J. (2007). Ten Common Misunderstandings, Misconceptions, Persistent Myths and Urban Legends About Likert Scales and Likert Response Formats and Their Antidotes. *Journal of Social Sciences, **3***(3), 106-116. doi:10.3844/jssp.2007.106.116

Cheng, K.-C., Chung, S.-H. and Ni, F.-Y. (2016). Social Pressures, Commitments and Tax Officials' Dysfunctional Behaviors: An Experimental Study. *NTU Management Review, **26***(2), 211-238. doi:10.6226/NTUMR.2016.JUN.R.08029

Chicco, D., Warrens, M. J. and Jurman, G. (2021). The Coefficient of Determination R-Squared Is More Informative Than SMAPE, MAE, MAPE, MSE and RMSE in Regression Analysis Evaluation. *PeerJ Computer Science, **7***, 1-24. doi:10.7717/peerj-cs.623

Chihande, M. K. (2022). *Post-Adoption Framework for Continued Use of Generalised Audit Software in Southern African Soes.* (PhD Thesis), University of South Africa, South Africa.

Compeau, D. R. and Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. *MIS Quarterly, **19***(2), 189-211. doi:10.2307/249688

Cronbach, L. J. (1943). On Estimates of Test Reliability. *Journal of Educational Psychology, **34***(8), 485-494. doi:10.1037/h0058608

Cronbach, L. J. (1990). *Essentials of Psychological Testing* (Fifth edition). New York, NY: HarperCollins Publishers, Inc.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly, **13***(3), 319-340. doi:10.2307/249008

Duong, C. D., Bui, D. T., Pham, H. T., Vu, A. T. and Nguyen, V. H. (2023). How Effort Expectancy and Performance Expectancy Interact to Trigger Higher Education Students' Uses of ChatGPT for Learning. *Interactive Technology and Smart Education, **00***(0), 1-25. doi:10.1108/itse-05-2023-0096

Dwivedi, Y. K., Rana, N. P., Tamilmani, K. and Raman, R. (2020). A Meta-Analysis Based Modified Unified Theory of Acceptance and Use of Technology (Meta-UTAUT): A Review of Emerging Literature. *Current Opinion in Psychology, **36***, 13-18. doi:10.1016/j.copsyc.2020.03.008

Efobi, U., Beecroft, I., Belmondo, T. and Katan, A. (2019). *Small Business Use of the Integrated Tax Administration System in Nigeria.* ICTD African Tax Administration Paper 8. Brighton, UK: Institute of Development Studies.

El Adib, M. and Nafzoui, M. A. (2023). Analysis of the Determinants of Digital Technology Adoption in Moroccan Audit Firms: Development of an Explanatory Conceptual Model. *International Journal of Accounting, Finance, Auditing, Management and Economics, **4***(4-1), 246-269. doi:10.5281/zenodo.8264705

Elgohary, E. and Abdelazyz, R. (2020). The Impact of Employees' Resistance to Change on Implementing E-Government Systems: An Empirical Study in Egypt. *The Electronic Journal of Information Systems in Developing Countries, **86***(6), 1-14. doi:10.1002/isd2.12139

Ellis, J. L. (2021). A Test Can Have Multiple Reliabilities. *Psychometrika, **86***(4), 869-876. doi:10.1007/s11336-021-09800-2

Etim, R. S., Jeremiah, M. S. and B. S. Dan, P. (2020). Tax Compliance and Digitalization of Nigerian Economy: The Empirical Review. *American International Journal of Social Science, **9***(2). doi:10.30845/aijss.v9n2p5

Fedorko, I., Bačik, R. and Gavurova, B. (2021). Effort Expectancy and Social Influence Factors as Main Determinants of Performance Expectancy Using Electronic Banking. *Banks and Bank Systems, **16***(2), 27-37. doi:10.21511/bbs.16(2).2021.03

FIRS. (2021). *Annual-Report, 2021*. Abuja, Nigeria: Federal Inland Revenue Service (FIRS). Retrieved from https://www.firs.gov.ng/wp-content/uploads/2022/06/FIRS-Annual-Report-2021.pdf

Fornell, C. and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, **18***(1), 39-50. doi:10.1177/002224378101800104

Funder, D. C. and Ozer, D. J. (2019). Evaluating Effect Size in Psychological Research: Sense and Nonsense. *Advances in Methods and Practices in Psychological Science, **2***(2), 156-168. doi:10.1177/25152459198472

Gangl, K., Hofmann, E. and Kirchler, E. (2015). Tax Authorities' Interaction with Taxpayers: A Conception of Compliance in Social Dilemmas by Power and Trust. *New Ideas in Psychology, **37***, 13-23. doi:10.1016/j.newideapsych.2014.12.001

Gaverdovsky, A. (2023). *Digital Tax Administration: Collection of Articles*. Nur-Sultan, Kazakhstan: Digital Tax Technologies.

Gliem, J. A. and Gliem, R. R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. In *Proceedings of the 2003 Midwest Research to Practice Conference in Adult, Continuing, and Community Education*, (pp. 82-88). Columbus, Ohio: Ohio State University. Retrieved from https://hdl.handle.net/1805/344

Haaksema, M. (2014). *Exploring Group-Level of Antecedents of Healthcare Proffesionals' Adoption Intentions Towards the Implementation of an Electronic Health Record.* (MSc Thesis), University of Groningen, Groningen, Nederland.

Hair, J. F., Hult, G. T. M., Ringle, C. M. and Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (Third edition). Thousand Oaks, CA: SAGE Publications, Inc.

Hasan, F. F. and Hameed, S. J. (2022). *The Perspective of Data Quality Rules in Google Forms*. Paper presented at the 2022 International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT). Ankara, Turkey, 20-22 October 2022.

Hazen, B. T., Kung, L., Cegielski, C. G. and Jones-Farmer, L. A. (2014). Performance Expectancy and Use of Enterprise Architecture: Training as an Intervention. *Journal of Enterprise Information Management, **27***(2), 180-196. doi:10.1108/jeim-08-2012-0042

Henseler, J., Ringle, C. M. and Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling. *Journal of the Academy of Marketing Science, **43***(1), 115-135. doi:10.1007/s11747-014-0403-8

Hilal, A. and Varela-Neira, C. (2022). Understanding Consumer Adoption of Mobile Banking: Extending the UTAUT2 Model with Proactive Personality. *Sustainability, **14***(22), 1-23. doi:10.3390/su142214708

Hoang, T. T. and Nhi, V. T. (2023). Assess the Effect of Factors on the Digital Transformation Decision of Businesses in Vietnam. *International Journal of Scientific Research and Management (IJSRM)*, ***11***(8), 5038-5038. doi:10.18535/ijsrm/v11i08.em03

Hodžić, S. and Owens, J. (2022). Policy Note: Blockchain Technology: Potential for Digital Tax Administration. *Intertax*, ***50***(11), 813-823. doi:10.54648/taxi2022087

Hooda, A., Gupta, P., Jeyaraj, A., Giannakis, M. and Dwivedi, Y. K. (2022). The Effects of Trust on Behavioral Intention and Use Behavior within E-Government Contexts. *International Journal of Information Management*, ***67***, 1-13. doi:10.1016/j.ijinfomgt.2022.102553

Hung, D. N., Tham, J., Azam, S. M. F. and Khatibi, A. A. (2019). An Empirical Analysis of Perceived Transaction Convenience, Performance Expectancy, Effort Expectancy and Behavior Intention to Mobile Payment of Cambodian Users. *International Journal of Marketing Studies*, ***11***(4), 77-90. doi:10.5539/ijms.v11n4p77

Iddrisu, L. J. (2023). The Effects of Digitalization on Tax Revenue Mobilization in Sub-Saharan Africa. *International Journal of Economics, Commerce and Management*, ***11***(2), 242-258.

Isma, R. A., Hudayah, S. and Indriastuti, H. (2021). The Influence of Perceived Usefulness, Perceived Ease of Use, and Perceived Risk on Purchase Interestand Use Behavior through Bukalapak Application in Samarinda. *International Journal of Economics, Business and Accounting Research*, ***5***(3), 1247-1258.

Khan, R. A. and Qudrat-Ullah, H. (2021). *Adoption of LMS in Higher Educational Institutions of the Middle East*. Cham, Switzerland: Springer Nature Switzerland AG.

Komolafe, D. and Chukwuani, O. (2020). The Impact of the Finance Act on Digital Taxation in Nigeria. *Mondaq*. Retrieved from https://www.mondaq.com/nigeria/tax-authorities/903148/the-impact-of-the-finance-act-on-digital-taxation-in-nigeria

Lai, C. F. (2011). *Extended UTAUT Model of Mobile Commerce: An Empirical Study of Negative User Acceptance Behaviours of Mobile Commerce in Hong Kong.* (DBA Thesis), Macquarie University, Sydney, Australia.

Lawshe, C. H. (1975). A Quantitative Approach to Content Validity. *Personnel Psychology*, ***28***(4), 563-575. doi:10.1111/j.1744-6570.1975.tb01393.x

Lim, W. M. (2022). Toward a Theory of Social Influence in the New Normal. *Activities, Adaptation & Aging*, ***46***(1), 1-8. doi:10.1080/01924788.2022.2031165

Maccarthy, M. I.-T., Brass, O. S. and Abolo, A. P. (2022). Electronic Tax System and Tax Revenue Efficiency in Nigeria 2008–2021. *Advanced Journal of Accounting, Management and Marketing Research*, ***9***(3), 82-103.

Marini, M. M. (2022). Does Gender Moderate the Influence of Emotions on Risk-Taking? The Meta-Analysis Reloaded. *Journal of Behavioral and Experimental Finance*, ***35***. doi:10.1016/j.jbef.2022.100700

Martilla, J. A. and James, J. C. (1977). Importance-Performance Analysis. *Journal of Marketing*, ***41***(1), 77-79. doi:10.1177/002224297704100112

Mayr, S., Erdfelder, E., Buchner, A. and Faul, F. (2007). A Short Tutorial of *Gpower*. *Tutorials in Quantitative Methods for Psychology*, ***3***(2), 51-59. doi:10.20982/tqmp.03.2.p051

McInerney, D. M., Dowson, M. and Yeung, A. S. (2005). Facilitating Conditions for School Motivation: Construct Validity and Applicability. *Educational and Psychological Measurement*, ***65***(6), 1046-1066. doi:10.1177/0013164405278561

Mehboob, D. and Reeves, L. (2022). The Pace of Change: Technology Calls for a New Kind of Tax Professional. *International Tax Review*, ***Summer***, 10-12.

Mohammed, S. D., Mas'ud, A., Karaye, Y. I., Sallau, M. M., Adam, A. D. and Sulaiman, B. A. (2023). An Evaluation of Tax Digitalization Efforts by Federal Inland Revenue Service and Their Impacts on Tax Collection 2002-2021. *Journal of Accounting and Taxation*, ***3***(2), 105-122.

Moore, G. C. and Benbasat, I. (1991). Development of an Instrument to Measure the Perceptions of Adopting an Information Technology Innovation. *Information Systems Research, **2***(3), 192-222. doi:10.1287/isre.2.3.192

Nguyen, V. A. T., Hoang, T. T., Mai, T. D., Lam, T. H. and Pham, H. N. (2023). The Factors Affecting Digital Transformation in Small and Medium Enterprises in Hanoi City. *Uncertain Supply Chain Management, **11***(4), 1705-1718. doi:10.5267/j.uscm.2023.6.019

Nikkhah, H. R., Sabherwal, R. and Sarabadani, J. (2022). Mobile Cloud Computing Apps and Information Disclosure: The Moderating Roles of Dispositional and Behaviour-Based Traits. *Behaviour & Information Technology, **41***(13), 2745-2761. doi:10.1080/0144929x.2021.1946591

Noor, N. F. M., Azmi, A. A. C. and Ramalingam, L. (2014). The Unified Theory of Acceptance and Use of Technology (UTAUT) and the Goods and Service Tax (Gst) Application System. *Research Journal of Applied Sciences, Engineering and Technology, **8***(17), 1911-1916. doi:10.19026/rjaset.8.1181

Okauru, I. O. (2009). *Professionalising the Tax Administration System: A Paradigm Shift*. Paper presented at the First National Roundtable Strategy on Internally Generated Revenue with the Theme "Surviving the Downturn: Refocusing on Internally Generated Revenue". International Conference Centre, Abuja, 17th November 2009.

Okauru, I. O. (Ed.) (2012). *Federal Inland Revenue Service and Taxation Reforms in Democratic Nigeria*. Ibadan, Nigeria: Safari Books Ltd.

Onwunyi, U. M., Okonkwo, A. E. and Obiefuna, L. C. (2023). E-Taxation and Resource Mobilization in Nigeria: A Study of Anambra Internal Revenue Service (Airs), 2014-2021. *Nnamdi Azikiwe Journal of Political Science, **8***(2), 1-18.

Petersen, F. (2023). Factors Affecting Students' Use of a Data-Free Instant Messenger for on-Line Peer Tutoring: A Large, Undergraduate Class at a Historically Disadvantaged University. *Perspective in Education, **41***(1), 18-37. doi:10.38140/pie.v41i1.6318

Pohlmann, M. and Starystach, S. (2023). Compliance, Integrity, and Prevention in the Corporate Sector: The Collective Mindsets of Compliance Officers in Germany. In M. Pohlmann, G. Dannecker, D. Dölling, D. Hermann, K. Höly, M. E. Trombini, *et al.* (Eds.), *Organizational Crime: Causes, Explanations and Prevention in a Comparative Perspective* (pp. 133-164). Wiesbaden, Germany: Springer Fachmedien Wiesbaden GmbH. doi:10.1007/978-3-658-38960-4_6.

Ramirez-Correa, P., Grandon, E. E., Ramirez-Santana, M., Arenas-Gaitan, J. and Rondan-Cataluna, F. J. (2023). Explaining the Consumption Technology Acceptance in the Elderly Post-Pandemic: Effort Expectancy Does Not Matter. *Behavioral Sciences, **13***(2), 1-16. doi:10.3390/bs13020087

Rogers, E. M. (2003). *Diffusion of Innovations* (Fifth edition). New York, NY: The Free Press.

Rusman, Setiasih, R. O., Nandi, Setiawardani, W. and Yusron, E. (2024). Applying the UTAUT Model to Understand Factors Affecting the Use of Learning Management System for Learning Pedagogical Education. *Pegem Journal of Education and Instruction, **14***(1), 231-238.

Salisu, B., Abbaspour, B. and Nodeh, F. M. (2016). Critical Success Factors and Tools for Working the Total Quality Management Revolutions in Management Practice: A Review. *Indian Journal of Science and Technology*, ***9***(46): 1-11. doi:10.17485/ijst/2016/v9i46/107137

Samoilenko, S. V. (2023). *Digitalization: Contexts, Roles, and Outcomes*. New York, NY: Routledge.

Sang, G., Wang, K., Li, S., Xi, J. and Yang, D. (2023). Effort Expectancy Mediate the Relationship between Instructors' Digital Competence and Their Work Engagement: Evidence from Universities in China. *Educational Technology Research and Development, **71***(1), 99-115. doi:10.1007/s11423-023-10205-4

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L. and Ringle, C. M. (2022). Progress in Partial Least Squares Structural Equation Modeling Use in Marketing Research in the Last Decade. *Psychology & Marketing*, ***39***(5), 1035-1064. doi:10.1002/mar.21640

Sarstedt, M., Ringle, C. M., Cheah, J.-H., Ting, H., Moisescu, O. I. and Radomir, L. (2020). Structural Model Robustness Checks in PLS-SEM. *Tourism Economics, **26***(4), 531-554. doi:10.1177/1354816618823921

Saruji, S. C., Abd Hamid, N., Shamsuddin, R. and Othman, R. D. (2023). Determining the Factors of Tax Agents' Readiness Towards the Digitalisation of Tax Administration. *Review of Economics and Finance, **21***, 32-42.

Schmitz, K. and Storey, V. C. (2020). Empirical Test Guidelines for Content Validity: Wash, Rinse, and Repeat until Clean. *Communications of the Association for Information Systems, **47***(1), 787-850. doi:10.17705/1cais.04736

Schwarz, N. and Oyserman, D. (2001). Asking Questions About Behavior: Cognition, Communication, and Questionnaire Construction. *American Journal of Evaluation, **22***(2), 127-160. doi:10.1177/109821400102200202

Sharma, S. K., Dwivedi, Y. K., Metri, B. and Rana, N. P. (Eds.). (2020). *Re-Imagining Diffusion and Adoption of Information Technology and Systems: A Continuing Conversation*. Cham, Switzerland: Springer.

Shrestha, N. (2020). Detecting Multicollinearity in Regression Analysis. *American Journal of Applied Mathematics and Statistics, **8***(2), 39-42. doi:10.12691/ajams-8-2-1

Sijtsma, K. and van der Ark, L. A. (2020). *Measurement Models for Psychological Attributes*. Boca Raton, FL: CRC Press.

Sołtysik-Piorunkiewicz, A. and Zdonek, I. (2021). How Society 5.0 and Industry 4.0 Ideas Shape the Open Data Performance Expectancy. *Sustainability, **13***(2), 1-24. doi:10.3390/su13020917

Spears, R. (2021). Social Influence and Group Identity. *Annual Review of Psychology, **72***, 367-390. doi:10.1146/annurev-psych-070620-111818

Stern, M. J., Bilgen, I. and Dillman, D. A. (2014). The State of Survey Methodology: Challenges, Dilemmas, and New Frontiers in the Era of the Tailored Design. *Field Methods, **26***(3), 284-301. doi:10.1177/1525822x13519561

Sundararaj, J. (2022). Opportunities and Challenges on the Adoption of Mobile Banking Services. *Journal of Positive School Psychology, **6***(8), 1951-1958.

Taneja, B. and Bharti, K. (2021). Mapping Unified Theory of Acceptance and Use of Technology (UTAUT) 2: A Taxonomical Study Using Bibliometric Visualisation. *foresight, **24***(2), 210-247. doi:10.1108/fs-08-2020-0079

Tilabov, N. (2022). Prospects for the Use of Digital Technologies in Securing Tax Revenues. In *Proceedings of the 6th International Conference on Future Networks & Distributed Systems*, (pp. 60-65). Tashkent, TAS, Uzbekistan, December 15, 2022. doi:10.1145/3584202.3584212.

Tofighi, D. and Kelley, K. (2020). Indirect Effects in Sequential Mediation Models: Evaluating Methods for Hypothesis Testing and Confidence Interval Formation. *Multivariate Behavioral Research, **55***(2), 188-210. doi:10.1080/00273171.2019.1618545

Tyokoso, G. M., Onho, S. I. and Musa, B. B. (2021). Tax Identification Number (Tin) and Tax Revenue Performance in Nigeria. *Accounting & Taxation Review, **5***(2), 53-61.

Venkatesh, V. and Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences, **39***(2), 273-315. doi:10.1111/j.1540-5915.2008.00192.x

Venkatesh, V. and Davis, F. D. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science, **46***(2), 186-204. doi:10.1287/mnsc.46.2.186.11926

Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, **27***(3), 425-478. doi:10.2307/30036540

Venkatesh, V., Thong, J. Y. L., Chan, F. K. Y., Hu, P. J.-H. and Brown, S. A. (2011). Extending the Two-Stage Information Systems Continuance Model: Incorporating UTAUT Predictors and the Role of Context. *Information Systems Journal, **21***(6), 527-555. doi:10.1111/j.1365-2575.2011.00373.x

Venkatesh, V., Thong, J. Y. L. and Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly, **36***(1). doi:10.2307/41410412

Venkatesh, V. and Zhang, X. (2014). Unified Theory of Acceptance and Use of Technology: U.S. Vs. China. *Journal of Global Information Technology Management, **13***(1), 5-27. doi:10.1080/1097198x.2010.10856507

Vijaya, M. T., Yamuna, S. M. and Chitra, B. (2023). Gen Z Versus Millennials, Purchase Intentions: A Comparative Study Based on Social Media Marketing Strategies in India. *Applied Marketing Analytics: The Peer-Reviewed Journal*, ***9***(1), 84-100.

Watanabe, C. Y. V. and Carvalho Jr, C. A. T. (2019). Bot Use Dimensions for Business Performance: Use Perspectives and Acceptance. *International Journal of Advanced Engineering Research and Science*, ***6***(4), 236-244. doi:10.22161/ijaers.6.4.26

Weijters, B., Cabooter, E. and Schillewaert, N. (2010). The Effect of Rating Scale Format on Response Styles: The Number of Response Categories and Response Category Labels. *International Journal of Research in Marketing*, ***27***(3), 236-247. doi:10.1016/j.ijresmar.2010.02.004

Wrzosek, N., Zimmermann, A. and Balwicki, L. (2020). Doctors' Perceptions of E-Prescribing Upon Its Mandatory Adoption in Poland, Using the Unified Theory of Acceptance and Use of Technology Method. *Healthcare (Basel)*, ***8***(4). doi:10.3390/healthcare8040563

Wu, S. (2023). Application of Big Data Technology in Regional Economic Tax Regulation in the Era of Digital Economy. In F. Balli (Ed.), *Internet Finance and Digital Economy: Advances in Digital Economy and Data Analysis Technology* (pp. 917-930): World Scientific Publishing. doi:10.1142/9789811267505_0069.

Yang, Y., Ge, E. and Barns, R. (2011). Towards Effective and Efficient Identification of Potential Tax Agent Compliance Risk: A Stratified Random Sampling Approach. *eJournal of Tax Research*, ***9***(1), 116-137.

Yuan, Z., Liu, J., Deng, X., Ding, T. and Wijaya, T. T. (2023). Facilitating Conditions as the Biggest Factor Influencing Elementary School Teachers' Usage Behavior of Dynamic Mathematics Software in China. *Mathematics*, ***11***(6), 1-18. doi:10.3390/math11061536

Zeng, N., Liu, Y., Gong, P., Hertogh, M. and König, M. (2021). Do Right PLS and Do PLS Right: A Critical Review of the Application of PLS-SEM in Construction Management Research. *Frontiers of Engineering Management*, ***8***(3), 356-369. doi:10.1007/s42524-021-0153-5