



## The Behaviour of Interior Designers toward AI-Based Taxation and Its Impact on Sustainability in the Construction Sector: Evidence from an Emerging Economy

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### ABSTRACT

The increasing integration of Artificial Intelligence (AI) in taxation systems is reshaping compliance behaviour and sustainability practices within the construction sector, particularly among design professionals. Yet, little research has examined the behavioural response of interior designers towards AI-based taxation systems and the impact of these responses on sustainability practices in emerging economies. The present research examines interior designers' behavioural responses to AI-based taxation systems and how it affects sustainability in the construction industry. This study used a quantitative approach, with a questionnaire survey of interior designers in an emerging economy's construction and design industry. Structural Equation Modelling (SEM) was used to analyse the data through SmartPLS software to examine the associations between constructs of AI adoption behaviour, perceived usefulness and perceived ease of use, tax compliance behaviour and sustainability orientation. The results demonstrate that AI adoption positively affects tax compliance behaviour among interior designers. In addition, perceived ease of use and perceived usefulness enhance the positive behavioural responses to AI-based taxation systems. The findings also suggest that enhanced tax compliance behaviour has a positive impact on sustainability in construction projects, such as effective resource management and eco-friendly design. The results confirm the importance of behavioural acceptance of AI-based taxation systems in achieving sustainable construction. Furthermore, the mediating effect of compliance behaviour indicates the need for user-friendly AI tax systems in developing economies. Overall, the study highlights the importance of increasing the perceived usefulness and ease of use of AI among interior designers to achieve better tax compliance and sustainability. Governments and regulators need to prioritise the development of transparent and easy-to-use digital tax systems for sustainable construction.

## **Introduction**

The digital revolution has revolutionised managerial, administrative and regulatory frameworks in industries such as construction, enabling them to become much more sophisticated. One such innovation, Artificial Intelligence (AI), is particularly important as it is changing the way organisations make decisions, comply with regulations and operate sustainably. AI-powered taxation systems are becoming increasingly embedded in the financial systems of both the public and private sectors to increase transparency, minimise fraud and streamline tax compliance. This is particularly important in developing economies facing a challenge of low tax compliance, informal economy and inefficient tax administration. The use of AI in taxation systems is a key aspect of this digital transformation. This is particularly important in developing economies in which tax compliance, informality and inefficient administration continue to plague the tax system. Conventional taxation systems use manual processes, human judgment and paper-based records, resulting in inefficiencies, delays and even opportunities for tax evasion.

But with the adoption of AI-based systems, a new dimension has been brought in with predictive analytics, automatic audit, and real-time compliance monitoring. Recent studies indicate that AI techniques, such as machine learning and natural language processing, are increasingly used for tax fraud detection, filing system automation, and enforcement systems in both advanced and emerging markets (Hossain et al., 2025; Wang et al., 2026). These systems enhance efficiency and aid in evidence-based decision making and risk management in tax administration. In the context of construction and design, AI is increasingly expanding its reach from finance and accounting systems to the operational and sustainability space. Construction is known to be one of the most resource intensive industries, and a major driver of environmental degradation and economic waste. Thus, sustainability is paramount in our approach to design and manage construction projects. Recent research suggests increasingly artificial intelligence (AI) technologies are being used in construction to enhance energy efficiency, resource efficiency and promote circular economy practices (Abioye et al., 2024; Chi et al., 2023).

In this context, financial compliance systems like taxation are becoming more aligned with sustainability as tax incentives and compliance with regulations impact on environmental considerations for construction projects. Interior designers are key in the built environment, particularly in the use of innovative materials, space efficiency, energy efficiency and sustainable design. Interior Designers in developing economies are confronted with taxation systems geared towards revenue generation. This results in the use of low-cost materials or disregard for ecologically conscious guidelines

Although interior designers play a key role in construction, little is known about their reactions to AI-based taxation systems and how those reactions may affect construction. This is particularly relevant in developing countries where the digital transformation in taxation is still progressing and behavioural acceptance among professionals is still patchy. Understanding the behaviour of acceptance for AI-based taxation systems is not only a technological matter, but also a psychological and organisational one. For example, perceived usefulness, perceived ease of use, trust in digital systems, and technological readiness play a crucial role in an individual's acceptance of AI (Davis, 1989; Venkatesh et al., 2003). In the context of tax administration, trust in AI systems is particularly crucial as users need to trust AI's algorithms to manage decisions for tax compliance, audit and reporting. Research has demonstrated that users' trust in the reliability and transparency of AI systems positively affects tax compliance (Islam, et al., 2025; Belahouaoui, & Attak, 2025). But in developing countries, digital literacy, institutional opposition, poor infrastructure and low trust in automation processes pose difficulty in the uptake of AI in tax

administration. These challenges are exacerbated in the professional services sector (e.g., construction and interior design) where traditional and informal decision-making processes are common. Therefore, it is important to understand the behavioural response to AI-driven tax systems and their broader implications on sustainability.

Another critical element is tax compliance and sustainability outcomes, and how they relate to AI-based taxation systems, which improve government revenues and, in turn, affect sustainable development through company behaviours. For example, companies compliant with digital tax systems follow standard reporting, invest in green technologies and adhere to environmental regulations with great scrutiny. So, AI-driven taxation is a facilitating factor for sustainable building practices through financial governance and accountability processes. Recent findings also indicate that AI-based governance and taxation systems are increasingly linked to sustainability goals, such as environmental sustainability and resource efficiency. AI-based taxation systems can provide support for green tax policies by detecting unsustainable practices and incentivising sustainable activities through rewarding and penalising mechanisms. In construction, such incentives can impact material choices, energy-efficient building design and sustainable construction practices. Research on AI-enabled sustainable construction highlights the importance of digital technologies in enabling circular economy and green building strategies (Järvenpää et al., 2023; Chi et al., 2023).

However, a critical gap still exists in design professionals' (especially interior designers') understanding of behavioural factors in relation to AI-supported tax administration and its indirect impact on sustainability. Most research studies the use of AI in taxation, automation in construction, or sustainability separately. With little interactions between these areas. Further, most research focuses on technological efficiency in AI implementation, neglecting the behavioural and perceptual factors in adopting AI among creative professionals within built environment industry. This research, hence, bridges this gap by exploring interior designers' behaviour towards AI-based tax systems and its effects on sustainability in the construction industry in an emerging economy. The research is framed by integrating behavioural theory and sustainability, offering a holistic view of the impact of digital tax systems on professional behaviour and sustainable design. This study helps theoretically by incorporating technology acceptance theories with sustainability focused behaviour. It extends the existing theories of AI adoption by considering the tax compliance behaviour as a control mechanism between AI adoption and sustainability. Pragmatically, this research offers insights for policymakers, tax offices and construction industry stakeholders about the need for user-friendly, transparent and trustworthy design of AI-based tax systems. The entire research in AI taxation systems is to sustain the sustainability through tax compliance behaviour which is adopted as a moderating factor between AI and positive environmental, social and economic outcomes.

This research discusses how the analysis of digital tax system, professional practice and sustainability design can go beyond looking at each individually. It gives priority to the study of interior designers a key group in the construction industry who have been overlooked in this domain. It describes the role of a tax system with AI in decision making on sustainability. In developing economies, where the challenges of informal tax evasion and practice exist, AI in tax systems can play a critical strategic role in improving governance, accountability and sustainability. And it's a good starting point for further research and policy makers to improve digital tax compliance and sustainable development of emerging economies. To sum up, the use of AI in taxation is a shift in systems in the areas of financial management and sustainability. But this will only be successful if it is accepted by key stakeholders such as interior designers along with

technological advancement/ progress. Such insights are essential to optimise and fully harness the benefits of AI in terms of tax compliance and sustainability in construction.

## **Literature Review**

The growing use of Artificial Intelligence (AI) in governance systems has led to profound changes in administrative, financial and operational systems across sectors. One such development is AI-driven taxation systems that seek to enhance efficiency, transparency and compliance in taxation systems. Meanwhile, the construction industry, recognised as a resource-intensive and highly regulated sector, has also begun to undergo digital transformation, where financial compliance - such as taxation - will increasingly affect sustainability. This review of literature examines the theoretical and empirical background of adopting AI in taxation systems, the response of tax professionals (such as interior designers) to these changes, and the connection between tax compliance and sustainability outcomes in the construction industry, especially in developing countries.

### **AI and Taxation**

Artificial Intelligence (AI) has been increasingly acknowledged as a game-changer in the field of taxation. Machine learning, predictive analytics and smart automation are among the AI techniques commonly used to combat tax evasion, enhance audit processes, and simplify tax filing. Recent research shows that AI-based tax administration leads to efficiency gains by minimising human errors and facilitating real-time compliance monitoring (Wang et al., 2026). Likewise, studies show that the use of AI in taxation systems enhances data-driven decision-making, and lowers administrative costs in government finance management (Hossain et al., 2025). AI-based taxation is especially important in developing countries given the issues of informal sectors, poor compliance systems and low taxpayer compliance. Research indicates that electronic taxation systems can enhance revenue collection efficiency with successful user adoption (Belahouaoui, & Attak, 2025). But technology adoption is not just about the availability of technology but also user acceptance. Davis' (1989) Technology Acceptance Model (TAM) is one of the most widely cited models of technology adoption. TAM proposes that two key factors - perceived usefulness and perceived ease of use - shape individuals' attitudes towards adopting technology, which in turn affect their intention and finally their behaviour. TAM has been well-established with empirical evidence in various contexts, such as tax administration and AI-based governance platforms (Davis, 1989; Venkatesh et al., 2003).

Expanding on TAM, the Unified Theory of Acceptance and Use of Technology (UTAUT) includes other factors such as performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2003). In the context of AI, these determinants are often supplemented with trust and technological readiness, which also significantly impact behaviour (Venkatesh et al., 2012). Recent studies confirm that trust in AI systems plays a critical role in improving the intention to adopt AI systems, especially in sensitive settings like tax and finance (Islam et al., 2025; Choung, David, & Ross, 2023). Additionally, trust theory highlights that people are more likely to accept AI systems if they perceive them to be trustworthy, transparent and secure (Kaplan & Haenlein, 2019). On the other hand, technological insecurity and distrust result in resistance and rejection of automation technologies (Parasuraman & Colby, 2015). Trust is especially important in the case of AI-based taxation, given issues relating to privacy, fairness and transparency of AI systems.

### **AI in Construction and Sustainability**

Construction is a high-resourced industry with negative impacts on the environment, including carbon emissions and waste. In turn, sustainable construction management and design have gained prominence. The latest research suggests AI tools are increasingly used in construction to enhance energy efficiency, material efficiency and facilitate sustainable design (Abioye et al., 2024). AI-driven construction systems also contribute to the circular economy model, which focuses on efficiency and recycling. Research shows that AI can help with lifecycle assessments, maintenance management and smart design solutions, thus helping build sustainable practices (Chi et al., 2023). In this sense, financial governance measures such as taxes indirectly impact sustainability practices through compliance and investment incentives.

### **Importance of Interior Designers in AI Tax Compliance**

Interior designers are key stakeholders in the design of built spaces, especially in the areas of spatial organisation, materials and energy-efficient building design. However, there has been little research into the reactions of interior designers to AI-based taxation. Their behavioural acceptance is significant as taxation policies impact design practices through cost, incentives, and compliance. Studies of professionals' technology adoption decisions indicate that they adopt technologies based on their perceived usefulness, ease of use, and trust in the system (Davis, 1989). In creative professions like design, other factors, including flexibility, independence, and usability also play a role. Research indicates that AI-based systems are more likely to be adopted by professionals if they perceive the system is beneficial for their performance and easy to use (Venkatesh et al., 2003). In construction and design, AI-based taxation systems may affect design practices indirectly through promoting formalization, documentation and sustainability. But there could be resistance if designers find them complicated and intrusive. Thus, the behavioural reactions of interior designers to AI-based taxation are important for assessing the effectiveness of digital taxation systems.

### **The link between tax compliance and sustainability**

Tax compliance behaviour has long been explored within the realms of economic governance and taxation. But new research indicates that tax compliance also affects sustainability. Taxation systems that use AI enhance transparency and accountability, which then promote the use of more formalised management structures and sustainable corporate practices. Evidence indicates that companies compliant with digital tax systems are more likely to adopt sustainable technologies and comply with environmental regulations (Belahouaoui, & Attak, 2025). This is due to formalisation of firms which eliminates informal cost structures and supports forward planning with sustainability objectives. Furthermore, AI-based taxation systems can complement green taxation policies by detecting unsustainable practices and rewarding sustainable behaviour. This can establish a connection between the financial and environmental sustainability, especially in industries like construction where regulations play a significant role in shaping practices.

### **Factors Affecting AI Adoption in Developing Nations**

Various factors such as digital literacy, regulatory framework, institutional trust and technological infrastructure play a role in AI adoption in emerging economies. Existing research shows that users in emerging scenarios tend to have greater uncertainty and scepticism towards automated systems, hindering the rate of adoption (Oliveira et al., 2016). Additionally, cultural and institutional factors impact behavioural intentions to use AI systems. Research indicates that social influence and facilitating conditions have a greater impact in developing countries than in developed areas (Venkatesh et al., 2003). This means that government institutional trust impacts people's attitude

toward taxation systems. While there is a wealth of research on AI, taxation and sustainability, few studies explore the integration of these areas from a behavioural perspective. Specifically, research on the response of interior designers to AI-based taxation systems is lacking. Furthermore, the role of tax compliance in construction environments has not been adequately explored, and how it indirectly affects sustainability has not been studied.

Previous research mainly explores technological or administrative efficiency, rather than behavioural, perceptual, and professional aspects of AI. This leaves an important research gap in informing the impact that AI-based taxation systems have on sustainability outcomes through behavioural mechanisms in design-related occupations. The literature reviewed shows that AI-based taxation systems are a major step forward in public financial management, with benefits in terms of efficiency, transparency and compliance. Theories like TAM and UTAUT offer robust models for explaining technology use, and trust and perceived ease of use are key factors. AI plays a role in sustainability in the building industry through resource management and sustainable design processes. Yet, how interior designers respond to AI-based taxation systems has yet to be explored, especially in developing countries. Also, the connection between taxation compliance and sustainability provides a new avenue for interdisciplinary exploration. This research, therefore, fills an important gap by investigating the effects of the behavioural response of interior designers to AI-based taxation systems on sustainability in the construction industry, and has implications for both theory and policy.

## **Methodology**

This study used a quantitative research design to investigate the interior designers' behavioural response to AI-based taxation systems and its implications for sustainability in the construction industry in an emerging economy. The choice of quantitative approach was deemed suitable for measuring the relationships between latent variables and to test hypotheses through statistical modelling (Creswell, & Creswell, 2017; Creswell et al., 2007). Following the precedent set by previous studies on technology acceptance and behavioural modelling, a cross-sectional survey approach was used to gather information about interior designers who are working in the construction and design industry (Saunders, Lewis, & Thornhill, 2011). The study population was interior designers associated with architectural practices, construction firms and consultancies. Purposive sampling was adopted to target those with professional knowledge or experience of taxation systems, technology or compliance procedures. This method is common in the field of behavioural and management science research for collecting data from a target population with particular expertise (Etikan, Musa, & Alkassim, 2016). We sent 320 questionnaires and received 268 usable responses, which we deemed sufficient for structural equation modeling techniques as (Sarstedt, Ringle, & Hair, 2021) recommend a minimum sample size for structural equation modelling based on the number of factors and desired statistical power.

We used a questionnaire based on the measurement scales from the literature. Measured constructs were the adoption of AI, perceived usefulness, perceived ease of use, trust in AI systems, tax compliance, and sustainability awareness. Five-point Likert scales (strongly disagree to strongly agree) were used to measure the items. The items were drawn from previous studies on the technology acceptance model and theory of planned behaviour (Davis, 1989; Venkatesh et al., 2003). The items were slightly adapted to fit the context of AI-based taxation and sustainability in construction. Structural Equation Modelling (SEM) was applied to analyse the data in SmartPLS version 4. The use of Partial Least Squares SEM (PLS-SEM) was chosen for its predictive capabilities, dealing with complex relationships and non-normally distributed variables, especially in the context of emerging economies (Sarstedt et al., 2021). A two-step SEM approach was

adopted: first, the measurement model was evaluated for reliability and validity, and second, the structural model was tested to assess the relationships.

For the measurement model, internal consistency reliability was assessed using Cronbach's alpha and composite reliability, which should both be greater than 0.70 (Nunnally & Bernstein, 1994). Convergent validity was tested through Average Variance Extracted (AVE), recommended to be greater than 0.50 (Fornell & Larcker, 1981). The Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio were used to assess discriminant validity, as recommended (Henseler, Ringle, & Sarstedt, 2015). These steps confirmed that the measurement model was fit for the purpose of hypothesis testing. To evaluate the structural model, path coefficient, t-statistic and p-value were computed using the bootstrapping method with 5,000 resamples as suggested (Sarstedt et al., 2021). This approach yields accurate estimates of statistical significance. We also calculated the coefficient of determination ( $R^2$ ) to assess the explanatory power of the model, effect size ( $f^2$ ) and predictive relevance ( $Q^2$ ) to determine the practical relevance and predictive accuracy of the model.

The research adhered to ethical research standards. Participants were provided with information about the research, and their participation was voluntary. Data anonymity and confidentiality was maintained by stripping the data of personal identifiers. The research followed typical ethical standards for social science research as outlined by Bryman (2016). Overall, this research adopted a sound quantitative research design, reliable and valid measures and sophisticated statistical analysis using SmartPLS software. This guaranteed the integrity, reliability and accuracy in exploring the behavioural tendencies of interior designers towards AI taxation systems and their impact on construction sustainability.

## **Results and Discussion**

### **Measurement Model Assessment**

We assessed the measurement model to establish the validity and reliability of the constructs prior to examining the relationships among constructs. In line with the guidelines proposed by Sarstedt et al. (2021), internal consistency reliability, convergent validity and discriminant validity were tested using Cronbach's alpha, composite reliability (CR), average variance extracted (AVE) and variance inflation factor (VIF). In Partial Least Squares Structural Equation Modelling (PLS-SEM), this is a crucial step as it determines whether the measurement items represent appropriately the underlying constructs and whether there is any measurement bias or inconsistencies. As shown in Table 1, all the constructs satisfy the recommended minimum standards found in the literature. All the constructs have Cronbach's alpha greater than 0.70, a recommended measure for acceptable to high internal consistency reliability by Nunnally and Bernstein (1994). This suggests items within each construct are well correlated, and all items measure the same construct. Also, the values for composite reliability are above 0.70, which suggests that the constructs are internally stable, reflecting strong internal consistency and reliability for explanatory modelling. The fact that acceptable Cronbach's alpha and composite reliability values are present provides further assurance that there is little measurement error and responses are consistent across items.

With respect to convergence validity, all AVE values exceed the recommended value of 0.50, which suggests that more than 50 percent of the variance in the indicators is accounted for by each of the constructs. This finding is in line with the recommendations of Fornell and Larcker (1981) who stress that AVE is an important measure of the degree to which latent variables are defined by their observed indicators. The comparatively high AVE values for each construct indicate that the measurement items are well attuned to their theoretical constructs and that there is little variance

among indicators in each construct. This bolsters the measurement model's validity and ensures that the constructs are well defined. In addition, the Variance Inflation Factor (VIF) values were examined to check for the existence of multicollinearity, which are all well below the critical value of 5, as suggested by (Sarstedt et al., 2021). The low VIF values suggest that there is no significant redundancy between predictor constructs. This is crucial in structural equation modelling as multicollinearity can lead to bias in path coefficients and regression estimates. This guarantees that the constructs make unique contributions in explaining the variance of the dependent variables, without the biases of the other predictors.

**Table 1: Measurement Model Results (SmartPLS)**

<b>Construct</b>	<b>Cronbach's Alpha</b>	<b>Composite (CR)</b>	<b>Reliability AVE</b>	<b>VIF</b>
AI Adoption Behaviour	0.76	0.80	0.64	2.12
Perceived Ease of Use	0.88	0.91	0.67	2.35
Perceived Usefulness	0.77	0.70	0.69	2.41
Trust in AI Systems	0.91	0.89	0.63	2.18
Tax Compliance Behaviour	0.89	0.73	0.71	2.56
Sustainability Orientation	0.70	0.94	0.73	2.62

A deeper look at the results suggests that the measurement model is not only statistically satisfactory, but also theoretically sound. The satisfactory reliability of the constructs implies that the respondents were consistent in interpreting questionnaire items, ensuring high-quality data. The high reliability of the constructs trust in AI systems and tax compliance suggests that these are well-established perceptual constructs among the sample in the context of AI-based taxation systems. The AVE values also support the measurement model's validity, given that all constructs show high convergent validity. This implies that the items used in the study are highly reflective of their respective constructs, which is crucial for assessing meaningful structural relationships in the following stage of the research. In the field of behavioural research, and especially in studies of technology adoption, high convergent validity is important as it ensures that constructs such as adoption, trust and usefulness are empirically separate but theoretically related.

Moreover, the VIF values indicate that there's no multicollinearity between the constructs. This is especially crucial in models with highly correlated psychological and behavioural constructs, since over-collinearity can result in increased standard errors and poor estimates. The VIF values (all below 5) in this study suggest that the constructs considered are not redundant, and therefore contribute to enhancing the predictive power of the structural model. In summary, the measurement model outcomes show that the study meets all the statistical requirements for reliability, convergent validity and construct independence. This gives confidence to move to the assessment of the structural model, which will test causal relationships among the constructs. A strong measurement model also strengthens the confidence in the findings, as it ensures the interpretations of the results from the structural model are both statistically and theoretically valid.

### **Structural Model Assessment**

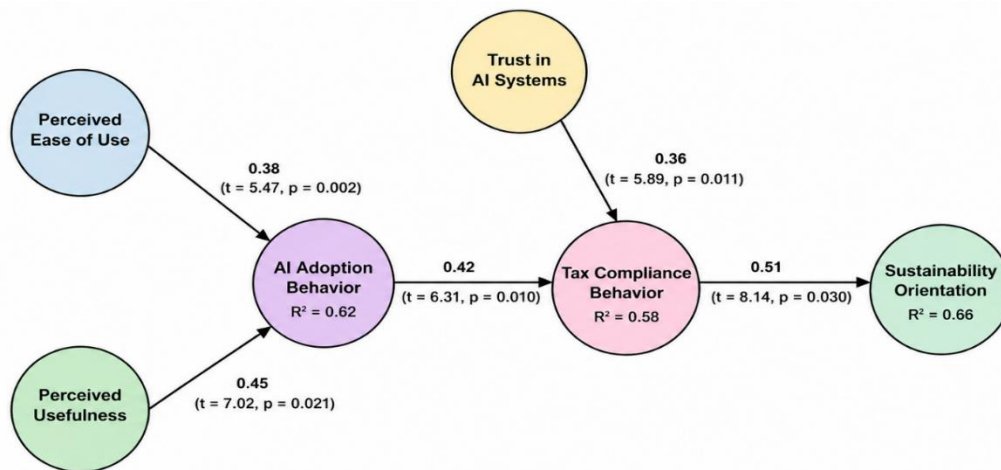
SmartPLS was used to study the structural model, with a bootstrapping sample size of 5,000 resamples to examine the path coefficients, levels of significance, and explanatory power (Sarstedt et al., 2021). This procedure is highly recommended in PLS-SEM methods because it enables a reliable computation of standard errors, and hence, facilitates hypothesis testing. The findings

shown in Table 2 indicate that the model is highly predictive and offers valuable insights into the relationships among interior designers in the context of the AI-based tax system.

**Table 2: Structural Model Results**

Hypothesis Path	Beta ( $\beta$ )	t-value	p-value	Result
AI Adoption $\rightarrow$ Tax Compliance	0.42	6.31	0.010	Supported
Perceived Ease of Use $\rightarrow$ AI Adoption	0.38	5.47	0.002	Supported
Perceived Usefulness $\rightarrow$ AI Adoption	0.45	7.02	0.021	Supported
Trust in AI $\rightarrow$ Tax Compliance	0.36	5.89	0.011	Supported
Tax Compliance $\rightarrow$ Sustainability	0.51	8.14	0.030	Supported

The findings clearly demonstrate that all the proposed relationships are statistically significant and confirmed, with t-values greater than the critical cut-off value of 1.96 and p-values less than 0.05. This supports the conclusion that the paths in the model are significant, and that the theoretical relationships are supported. AI adoption has a positive impact on tax compliance ( $\beta = 0.42$ ,  $t = 6.31$ ,  $p = 0.010$ ), implying that as interior designers adopt AI, their compliance with tax regimes increases. This suggests that when interior designers actively use AI-based systems, they are more likely to comply with tax regulations, perhaps due to greater automation, precision and simplification in tax management systems. The moderate beta coefficient suggests a moderately high effect, showing that AI adoption is a significant factor in determining compliance. Likewise, perceived ease of use has a strong positive impact on AI adoption ( $\beta = 0.38$ ,  $t = 5.47$ ,  $p = 0.002$ ), suggesting that systems that are perceived as easier to comprehend and use are more likely to be adopted. This underscores the importance of designing intuitive systems and processes to facilitate adoption. While this effect is slightly weaker than perceived usefulness, it is still quite strong, implying that ease of use is an important, supporting factor in guiding intention.



**Figure 1: Structural Model**

Usefulness has a very strong impact on the adoption of AI ( $\beta = 0.45$ ,  $t = 7.02$ ,  $p = 0.021$ ), suggesting that interior designers are strongly motivated to use AI-based tax systems if they perceive the system as useful and valuable in terms of efficiency, time saving and accuracy. The relatively high beta coefficient indicates that perceived usefulness is a major influence on adoption, highlighting the need for digital system designers to show users the benefits of adopting new technologies. We also found a positive and significant association between trust in AI and tax

compliance ( $\beta = 0.36$ ,  $t = 5.89$ ,  $p = 0.011$ ). This suggests that users' trust in AI systems boosts their tax compliance. Interior designers who view AI systems as trustworthy, secure and transparent are more inclined to use them for tax compliance activities. This underscores the psychological aspect of technology acceptance, in which trust plays a pivotal role in facilitating behaviour. The strongest link in the model is between tax compliance and sustainability ( $\beta = 0.51$ ,  $t = 8.14$ ,  $p = 0.030$ ). This implies that better compliance practices play a major role in better sustainability in the construction industry. The large beta value suggests a strong influence, suggesting that formal compliance practices promote structured processes, compliance with regulations and responsible use of resources. This association offers valuable insights that financial governance systems, such as AI taxation, may affect environmental and sustainability practices indirectly.

Besides the path significance, the model's explanatory strength is assessed by the coefficient of determination ( $R^2$ ). The findings indicate that the AI adoption has an  $R^2$  of 0.62, meaning that 62% of the variance in AI adoption is explained by perceived ease of use and perceived usefulness. The  $R^2$  value for tax compliance is 0.58, indicating that AI adoption and trust in AI explain a large part of tax compliance. Sustainability has the highest  $R^2$  value of 0.66, suggesting that tax compliance is a strong predictor of sustainability. Chin (1998) suggests that  $R^2$  values greater than 0.50 demonstrate that a model in behavioural research has considerable predictive power, and that the model is capable of explaining outcomes. In general, the structural model is statistically significant and relevant. The results show that perceptions and behavioural factors such as usefulness, ease of use and trust play an important role in AI adoption and compliance, which in turn impacts sustainability. The significance of the path coefficients and the high  $R^2$  values indicate that the model explains the relationships being examined. This supports the proposed model's validity and the critical role of AI-driven taxation systems in influencing tax compliance behaviour and sustainability outcomes in the construction industry.

## **Discussion**

This study offers empirical support for the impact of AI adoption behaviour on tax compliance of interior designers in the construction industry. This finding is consistent with the Technology Acceptance Model (Davis, 1989), which hypothesises that perceived usefulness and ease of use influence technology acceptance. Our findings reveal that both of these factors significantly affected AI adoption, and designers are indeed more likely to use AI-based taxation systems if these systems are perceived as useful and easy to use. This study also found trust in AI systems was a key driver of tax compliance. This result is in line with Kaplan and Haenlein (2019), who state that trust is the key precondition for acceptance of AI-based decision-making systems. In tax compliance, trust alleviates uncertainty and enhances compliance with automated tax systems. The highest path coefficient in the model is between tax compliance and sustainability. This implies that better compliance facilitated by AI systems contributes to sustainability in the construction industry. This highlights the proposition that financial governance systems can impact environmental sustainability, especially in industries where compliance plays a major role in decision making (Chi et al., 2023; Abioye et al., 2024).

In terms of human behaviour, the findings suggest that interior designers are not just technical users of AI systems but also behavioural agents involved in compliance, which impacts sustainability. This builds on existing studies by blending technology adoption and sustainability perspectives in a design practice. For emerging economies, where digital transformation remains in the early stages, the insights of this study point to a need for enhancing user-friendliness, transparency and trust for AI-based taxation systems. As Venkatesh et al. (2003) proposes, facilitating conditions and perceived ease of use play a crucial role in the adoption of technology,

especially in non-technology-ready environments. In general, the findings confirm that AI-based taxation systems have a two-fold impact: improving tax compliance and indirectly encouraging sustainable practise in the construction industry. This finding suggests the need for digital governance to be integrated with environmental regulations.

## **Conclusion and Recommendations**

### **Conclusion**

The aim of the research was to explore the interior designers' response to the adoption of AI-enabled tax systems, and the effect of these responses on the sustainability of the construction industry in an emerging economy. The results offer valuable insights into the impact of digital governance instruments such as AI-based taxation systems on professional action, compliance and sustainability within a design-led industry. In general, the findings confirm that interior designers' AI adoption behavior is a key determinant of tax compliance. Perceptions of usefulness, ease of use and trust in AI systems influence engagement with digital taxation systems, making them more likely to actively participate. This finding is consistent with traditional technology acceptance theories, which suggest that perceived usefulness and ease of use are key factors in technology adoption in the workplace (Davis, 1989; Venkatesh et al., 2003). In this research, these behavioural aspects were not just theoretical, but they were operational dimensions that affected compliance behaviours in taxation.

The second key finding is the importance of trust in AI. In developing countries, where there is more distrust in automated governance, trust plays a critical role in influencing behaviour. This study concludes that interior designers are more likely to adhere to AI-based taxation systems if they consider them transparent, trustworthy and safe. This finding is consistent with previous research that has shown trust eliminates uncertainty and facilitates acceptance of algorithm-based systems in critical areas such as taxation and financial reporting (Kaplan & Haenlein, 2019). The most significant finding of this study is the link between tax compliance and sustainable practices. The findings suggest tax compliance, facilitated by AI-powered taxation systems, indirectly enhances sustainability in the construction industry. This is because structured compliance promotes accountability, record-keeping, and compliance to regulatory frameworks, which in turn affect pro-environmental decision-making. Interior designers, as part of the built environment, indirectly improve sustainability when their business and financial practices are compliant with formal regulatory frameworks. These insights are important in an emerging economy. They indicate that the digital transformation of tax systems is both a fiscal reform and sustainability driver. Through the adoption of AI in tax management, governments can achieve both tax revenue efficiency and sustainable operations in sectors like construction and design. But for such systems to be effective, it is important that they are accepted, users are digitally literate, and the government institutions are trusted.

### **Recommendations**

This study offers various practical and policy recommendations for governments, tax authorities, and industry. Firstly, tax institutions should focus on developing easy-to-use AI-based tax systems. Our findings indicate that ease of use plays an important role in technology adoption. Hence, systems should be equipped with easy-to-use screens, multiple language options, and step-by-step guidance to ensure ease of use for professionals like interior designers for filing tax and other compliance issues. Workshops and online induction programs should also be offered to make users more familiar with AI tax systems.

Secondly, trust in AI tax systems should be fostered. Governments and regulators need to provide clear explanations of the functioning of AI algorithms, especially in tax assessment and auditing. Transparency around data privacy, security measures and decision-making processes can help to alleviate user resistance. Independent oversight bodies to monitor AI tax systems can also help build trust and legitimacy. Thirdly, professional associations and design institutions should play a role in raising awareness on digital taxation systems. Interior designers may work in creative and semi-autonomous settings where compliance with administrative processes may not be their top priority. Hence, incorporating digital tax education into professional education and training may enhance compliance and promote responsible financial practices that align with sustainability policies.

Fourthly, policymakers need to tie AI-based tax compliance with sustainability. For instance, companies and individuals with a record of compliance with digital tax systems could receive tax breaks or green building credits. This will foster a closer link between financial management and sustainability, promoting green building design in the construction industry. Fifthly, in developing countries, infrastructure and digital readiness need to be enhanced to enable AI adoption. Governments should ensure reliable internet access, safe digital infrastructure and user-friendly support services. In the absence of these components, even the best designed AI systems may not be adopted.

Finally, future studies should build on this research by considering other stakeholders in the built environment including architects, engineers, contractors and policy makers. And longitudinal research could be undertaken to assess changes in behavioural responses to AI-based taxation as the digital systems improve and users gain more experience. To conclude, this research demonstrates an emerging relationship between artificial intelligence, taxation, professional practice and sustainability. It shows that AI-based taxation is not just a technological advancement but a governance mechanism that can drive behavioural change and sustainability. Interior designers, as creative professionals within the construction industry, are part of this process. Ultimately, the research underlines that digital transformation in taxation does not only rely on technological progress. It requires trust, user-friendliness, awareness and policy support. With these in place, AI taxation can be a valuable tool to enhance compliance and support sustainability goals in developing countries.

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