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The Role of Social Entrepreneurship in Shaping Architects' Behavioral Response toward AI-Based Taxation and Sustainable Hospitality Construction: A Serial Mediation Analysis

Shama Razi
Assistant Professor, Lahore School of Economics, Pakistan
Email: shamakrazi@gmail.com

Sohail Khan (Corresponding Author)
Department of Management Sciences, Abasyn University Islamabad Campus, Pakistan Email: sohaileod@gmail.com

Dr. Arooj Zeb
Assistant professor, Department of management sciences, Virtual University of Pakistan Email: arooj.zeb@vu.edu.pk

Muhammad Bilal
Associate Professor, Govt. Graduate College Civil Lines, Multan
Email: mbilal77kg@gmail.com

Hafiz Ahmed Ullah
Assistant Professor, Department of Construction Management, Federal Chartered Degree Awarding Institute for Art and Culture, Raiwind Road, Lahore, Punjab, Pakistan Email: ahmed.awan757@gmail.com

Abstract
The integration of Artificial Intelligence (AI) into taxation systems has emerged as a critical mechanism for enhancing transparency, efficiency, and economic sustainability, particularly within the hospitality construction sector of emerging economies. However, architects' behavioural responses toward AI-based taxation remain inconsistent due to underlying socio-entrepreneurial and technological factors. This study examines the role of social entrepreneurship in shaping architects' behavioural responses toward AI-based taxation and its subsequent impact on sustainable hospitality construction through a serial mediation framework. A quantitative, cross-sectional research design was employed, and data were collected from architects involved in hospitality construction projects using a structured questionnaire. The proposed model was analysed using SmartPLS software (Partial Least Squares Structural Equation Modeling). The findings reveal that social entrepreneurship significantly and positively influences both perceived ease of use and perceived usefulness of AI-based taxation systems. Perceived ease of use further

enhances perceived usefulness, which in turn strengthens trust in the system. Trust was found to have a strong positive effect on behavioural response, which significantly contributes to sustainable hospitality construction. Moreover, the results confirm a statistically significant serial mediation effect, demonstrating that social entrepreneurship indirectly influences sustainability outcomes through the sequential pathway of perceived ease of use, perceived usefulness, trust, and behavioural response. The model exhibits substantial explanatory power with significant path coefficients. This study contributes to technology adoption and sustainability literature by integrating social entrepreneurship into the TAM framework and offers practical insights for policymakers and industry stakeholders to promote AI-driven sustainable development in emerging economies.

Keywords: Social Entrepreneurship; AI-Based Taxation; Perceived Ease of Use; Perceived Usefulness; Trust; Sustainable Hospitality Construction

Introduction

The rapid pace of digital innovation has upended economic, political and industrial practices in economies around the world. One of these technologies, Artificial Intelligence (AI), has the potential to transform efficiency, transparency and decision-making in both the public and private sectors (McAfee & Brynjolfsson, 2017; Davenport et al., 2020). When it comes to taxation, AI-based technologies are being increasingly used to optimise tax processes, enhance compliance and mitigate human errors and fraud (Kokina & Davenport, 2017). These are especially relevant for developing countries where tax systems inefficiencies often act as a brake on sustainable economic growth and governance (Bird & Zolt, 2008). While promising, the use of AI-based taxation systems is more than just a technological question as it is also shaped by behavioural and socio-economic factors that determine how stakeholders react. In the construction industry, especially in the area of hospitality infrastructure, the adoption of AI-based taxation systems has significant implications for sustainable development. Hospitality construction is resource-consuming and is essential for economic growth, urbanisation and sustainability (Healy, & Carvao, 2025). But it also suffers from issues such as non-compliance, resource wastage and a lack of innovative technology (Hwang & Tan, 2012). The use of AI taxation systems has the potential to overcome these issues by enhancing transparency, accountability and financial efficiency (Duarte, & Burke, 2017). But the effectiveness of such technology-based solutions is contingent on the behavioural responses of the main stakeholders, particularly architects, who play a pivotal role in the planning, design and compliance stages of construction projects.

The behavioural response to adopting technology has been extensively studied using well-established models like the Technology Acceptance Model (TAM) (Davis, 1989), the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003; Ullah, Ahmed, & Danish, 2021), and the Theory of Planned Behavior (TPB) (Ajzen, 1991). These theories highlight the importance of perceived usefulness, ease of use, attitudes, and social pressure in predicting individuals' behavioural intentions

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and actions. But recent research indicates that these models may not adequately explain the behavioural factors in emerging markets, where there are important socio-cultural and entrepreneurial considerations (Senyo, Liu, & Effah, (2019). To this end, social entrepreneurship has emerged as a key variable in determining behavioural change and sustainable behaviours. Social entrepreneurship is the process of social change by recognising and solving social problems through innovative and sustainable solutions that generate social value (Dees, 1998; Mair & Martí, 2006). Social entrepreneurship is distinct from conventional entrepreneurship, which is geared towards profit generation, and instead prioritises social welfare, ethics and sustainability. In the built environment, social entrepreneurship can shape professionals' values and behaviours by promoting a commitment to sustainability, legal compliance and ethical considerations (Santos, 2012). Architects play a pivotal role in construction decisions and are thus influenced by these values, which can impact their behaviour towards the use of technology like AI-driven taxation systems.

The inclusion of social entrepreneurship in technology adoption models offers a more holistic view of behaviours in dynamic environments. Existing research suggests that socially oriented values can increase people's readiness to embrace sustainable and innovative practices, through perceptions, attitudes and intentions (Koe Hwee Nga, & Shamuganathan, 2010). With regard to AI taxation systems, social entrepreneurship may promote a view among architects that these systems are not only useful for compliance purposes but also for transparency and sustainability. This view is in line with the objectives of sustainable development, which focus on the balance between economic, social and environmental aspects (Elkington, 1997). Moreover, sustainability has increasingly taken a prominent role in the construction sector, especially in hospitality construction, where environmental and resource efficiency are of particular importance. Sustainable hospitality construction practices include the use of eco-friendly materials, energy-efficient building design, and compliance with regulatory standards to reduce environmental impacts (Kibert, 2016). Additionally, the significance of taxation systems in driving sustainability has been well documented, as taxation policies can create incentives for sustainable practices and penalties for unsustainable behaviours (Smith, Leicester & Fullerton, (2010). The adoption of AI-based taxation systems can also play a pivotal role in this regard, through real-time monitoring, data analytics and compliance systems.

While the theoretical and practical implications of these interconnections are important, there is a dearth of research that integrates social entrepreneurship, AI-based taxation and sustainable construction practices. The majority of these studies have considered these constructs separately, without investigating the mechanisms underlying their relationships. Specifically, there has been a lack of research on the role of serial mediation in explaining the effects of social entrepreneurship on behavioural reactions and sustainability outcomes. The investigation of serial mediation processes can provide a more comprehensive understanding of the ways in which independent variables impact dependent variables through a series of mediators (Hayes, 2013). This is especially useful in studies of behaviour, where a range of psychological and environmental factors can come into play.

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In this study, this issue is tackled by suggesting a holistic model of the influence of social entrepreneurship on architects' behavioural intentions toward AI-driven taxation and sustainable hospitality building. Through the use of a serial mediation model, the study seeks to explore how social entrepreneurship affects behavioural intentions and, in turn, sustainable construction practices. This not only increases the predictive power of the model but also offers a deeper understanding of the relationship between socio-entrepreneurial attitudes and technology use. In terms of research methodology, the study employs a quantitative approach with Partial Least Squares Structural Equation Modeling (PLS-SEM), suitable for testing complex models involving multiple constructs and mediating effects (Sarstedt, Ringle, & Hair, 2021). PLS-SEM is a popular technique in technology adoption and sustainable development research because it can accommodate non-normal distributions and sample sizes ranging from small to medium. The use of this method guarantees valid and reliable testing of the proposed relations.

The value of this research goes beyond its theoretical implications to its practical implications for policymakers, industry practitioners and practitioners. In developing countries like Pakistan, where tax compliance and technology adoption are important issues, it is crucial to understand the behavioural factors that influence the adoption of AI-based taxation systems to inform policy and practice. Through the emphasis on social entrepreneurship, the study offers insights into how value-based strategies can improve compliance, sustainability and innovation in the construction industry. To sum up, the adoption of AI-based taxation in the hospitality construction industry has the potential to improve transparency, efficiency and sustainability. But the benefits can only be realised through the behavioural adaptation of stakeholders, in particular architects. Through the inclusion of social entrepreneurship in the research and the role of serial mediation, this study provides a holistic view of the factors that shape technology adoption and sustainable development practices. The insights gained are anticipated to add to the emerging literature on artificial intelligence, taxation and sustainable development, and to offer practical guidance to support sustainable development in emerging economies.

Literature Review

AI in Taxation and Green Buildings

The use of Artificial Intelligence (AI) in taxation has led to a paradigm shift in traditional tax systems, improving efficiency, transparency and compliance. AI-based systems automate data processing, fraud prevention and real-time monitoring, thus eliminating human error and inefficient practices (Kokina & Davenport, 2017). These tools use sophisticated algorithms and machine learning algorithms to process vast amounts of financial data, enabling tax administrations to detect anomalies, anticipate non-compliance patterns and enhance audit processes. This makes AI a valuable tool in creating a dynamic and data-driven tax ecosystem, vital in today's digital economy with intricate financial networks. In developing countries where corruption and inefficiencies exist in the taxation system, AI-based tax systems can be used to enhance governance and revenue collection (Bird & Zolt, 2008). AI technologies can help overcome deficiencies like poor administrative capacity, transparency, and enforcement. AI streamlines administrative tasks and improves oversight, thereby minimising corruption and discretionary action, and enhancing institutional trust. In addition, digital tax systems complement other economic reforms, including the formalisation of the informal economy and fiscal reform.

Additionally, AI in taxation supports sustainability goals by enhancing transparency and facilitating sustainable financial practices (Smith et al., 2010). Open tax systems can encourage companies to adhere to environmental regulations and embrace sustainability by aligning tax measures with environmental considerations. For example, incentives for using sustainable construction materials or levies for high carbon emissions can be effectively managed in AI-driven systems, thus contributing to sustainable development. In the construction industry, especially in hospitality projects, there is a strong focus on sustainable practices for environmental and financial reasons. Sustainable construction for hospitality focuses on resource efficiency, environmental considerations and regulatory compliance (Kibert, 2016). This encompasses energy-efficient building design, use of sustainable materials and construction practices. The resource-intensive nature of the hospitality industry means it has a considerable environmental impact, so sustainability is essential in project development and delivery.

The influence of taxation policies on sustainable construction practices is not new, as tax policies can motivate sustainable construction practices (Zhang et al., 2018). Tax rebates, subsidies and penalties are frequently used by governments to influence behaviours in the construction industry, driving stakeholders towards using green technologies and meeting sustainability requirements. But the impact of AI-based taxation on sustainability largely hinges on stakeholders' behavioural response, especially architects who play a crucial role in project development and compliance. Architects play a critical role in the design and construction process as decision-makers, and their acceptance of AI-based taxation is essential for sustainability efforts.

Technology Acceptance Model (TAM) and Behavioural Response

Davis's (1989) Technology Acceptance Model (TAM) continues to be the most widely accepted model of individual technology acceptance. TAM proposes that behavioural intention and use are determined by the Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of a system. PU is defined as the extent to which a person believes that using a particular system improve his or her job performance, and PEOU is defined as the degree to which a person believes that using a particular system is effortless (Davis, 1989). These variables offer a succinct yet robust account of user perceptions and behaviour towards the adoption of technological innovations in a wide range of settings. There is a large body of empirical evidence supporting the role of PU and PEOU in determining behavioural responses to a range of technological innovations, including e-governance and digital taxation (Venkatesh et al., 2003; Ullah, Sair, & Nisar, 2023; Senyo et al., 2019). In the online world, users are more likely to use technologies that provide them with perceived performance advantages and are easy to use. For AI-driven taxation, architects are more likely to

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embrace these systems if they believe them to be useful in improving compliance, reducing the workload, and enhancing project efficiency. Such benefits can lead to better decision-making, efficient documentation processes, and compliance with regulatory standards.

Likewise, PEOU is important to overcoming resistance to technology adoption, especially in emerging markets where technology literacy levels might differ (Rai, Constantinides, & Sarker, 2019). Technology that is perceived to be difficult to use and understand may be avoided, despite its potential benefits. As such, intuitive systems, ease of use and training are important to improve PEOU, which in turn increases professional acceptance of technology. Additionally, this study's behavioural response is related to architects' intention to adopt AI-based taxation systems. Existing research suggests favourable attitudes towards perceived usefulness and ease of use are strong predictors of behavioural intention, which leads to technology use (Ajzen, 1991; Ullah et al., 2021; Venkatesh et al., 2003). Behavioural intention plays a pivotal role in predicting technology use, connecting perceptions and behaviour. In this context, TAM offers a strong theoretical platform to understand behavioural intentions in response to AI-based taxation, especially when combined with other constructs like trust and social entrepreneurship.

Trust and AI Adoption

Trust plays a pivotal role in the adoption of new technologies, especially those that involve automation and data processing. In AI systems, trust relates to the users' belief in the AI system to be accurate, reliable, and fair (Gefen, Karahanna, & Straub, 2003). Trust is particularly significant in situations where users lack knowledge about AI systems, as it affects their readiness to trust and accept automated processes and decisions made by the systems (Gefen, Karahanna, & Straub, 2003). Lack of trust can result in resistance, cynicism and limited use, despite the potential benefits of the technology (McKnight et al., 2011). They may view AI systems as lacking transparency and fairness, raising concerns about accountability and transparency in decision making. This is especially true in taxation systems, where mistakes or perceived injustice can lead to costly consequences.

In tax systems, trust is even more important because of concerns around data privacy, security and transparency of algorithms. Research has demonstrated that citizens are more inclined to use e-government and electronic taxation systems if they perceive them as trustworthy and the institutions that govern them are trusted (Carter & Bélanger, 2005). Trust in the institution, along with trust in the system, facilitates technology acceptance and compliance. For AI taxation systems, trust may be affected by aspects of transparency, fairness and previous experience with online systems. Furthermore, trust is associated with PU and PEOU. If users find a system to be user-friendly and useful, they develop trust and are more likely to have positive behavioural intent to use the system (Gefen et al., 2003). As such, trust is a key intermediary variable that links perceptions of technology to behavioural intentions, further emphasising the need to include trust in technology adoption theories.

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Social Entrepreneurship and Behavioural Change

Social entrepreneurship plays a crucial role in behavioural change, especially in situations where social, economic and environmental considerations need to be integrated. Social entrepreneurship is the pursuit of innovative approaches to social change, focusing on value creation, ethics and sustainability (Mair & Martí, 2006; Santos, 2012). Rather than profit-driven, social entrepreneurship is more concerned with societal and environmental sustainability. Within the construction industry, social entrepreneurship can shape professionals' mindset and practices through sustainable and ethical considerations. Social entrepreneurial values among architects can influence the use of innovative technologies that benefit society and the environment (Koe Hwee Nga, & Shamuganathan, 2010). They are more likely to have a long-term vision of environmental sustainability, rather than short-term economic growth, making them more open to sustainable innovations like AI-based taxation systems.

Such values may influence attitudes towards AI-based taxation systems, leading to greater PU and PEOU. For example, sustainable architects may see the benefits of using AI systems to enhance transparency, prevent corruption and achieve equitable resource distribution. Moreover, social entrepreneurship can be an antecedent to PU and PEOU, shaping perceptions of new technologies. Socially minded individuals may view technologies that contribute to their social goals as more beneficial. For example, a social entrepreneur may view AI-powered taxation systems as more beneficial because of their capability to enhance transparency and minimise corruption. Likewise, their innovation acceptance might lower perceived technological complexity, thus improving PEOU. This indicates that social entrepreneurship impacts not only perceptions of sustainability but also perceptions of technology, a key driver of behaviour.

AI-Based Taxation and Sustainable Hospitality Construction

Using AI-based tax systems play a crucial role in sustainable hospitality development. These systems enhance compliance and financial transparency which can foster the efficient allocation of resources and compliance with environmental regulations (Smith et al., 2010). Improved compliance ensure that construction activities are compliant with regulations, which minimises environmental risks and encourages sustainability. Sustainable construction, in turn, helps achieve long-term economic and environmental advantages, such as energy efficiency, lower emissions and better performance (Kibert, 2016). For the hospitality industry, these translate into economic savings, brand differentiation and competitiveness. Sustainable buildings also provide comfort and health benefits for occupants, adding to their value.

Behavioural response is a key mediating factor in this process since the effectiveness of AI-based taxation systems relies on the response of stakeholders. When architects respond positively to AI-based taxation, they become more inclined to adopt sustainable practices in their designs, leading to improved sustainability results. Their choices affect material choices, efficiency in design and adherence to environmental regulations. Although prior research has focused on direct effects between social

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entrepreneurship, technology use, and sustainability, little work has been done to investigate serial mediation processes in these relationships. Serial mediation refers to the analysis of several sequential mediators (Hayes, 2013). This method allows researchers to unpack the intricacies of behavioural processes and uncover important mechanisms by which variables affect outcomes. In this research, it is suggested that social entrepreneurship affects behavioural response via a series of mediators, PU, PEOU and trust. That is, social entrepreneurship increases perceived usefulness and ease of use, which leads to trust in AI taxation systems. This, in turn, results in favourable behavioural responses that lead to sustainable hospitality construction. This holistic model offers a holistic view of how socio-entrepreneurial attitudes and perceptions of technology influence behavioural responses and ultimately sustainability.

H1: Social entrepreneurship has a significant positive effect on perceived ease of use (PEOU) and perceived usefulness (PU) of AI-based taxation systems.

H2: Perceived ease of use (PEOU) positively influences perceived usefulness (PU) and trust, which in turn enhances trust in AI-based taxation systems.

H3: Trust significantly and positively affects architects' behavioural response toward AI-based taxation, which subsequently promotes sustainable hospitality construction.

H4: Social entrepreneurship positively influences sustainable hospitality construction through a sequential mediation pathway: Social Entrepreneurship → PEOU → PU → Trust → Behavioural Response → Sustainable Hospitality Construction.

Methodology

The present study adopts a quantitative, cross-sectional research design to examine the influence of social entrepreneurship on architects' behavioural intentions toward AI-enabled taxation systems and its subsequent impact on sustainable hospitality construction practices. To evaluate the proposed conceptual framework, which incorporates multiple latent variables and a serial mediation structure, Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized as the primary analytical technique through SmartPLS (version 4). PLS-SEM is particularly suitable for exploratory and predictive research involving complex interrelationships among constructs, including mediation effects (Sarstedt et al., 2021). The target population of the study consists of architects involved in hospitality construction projects, as they play a key role in design decisions, technological integration, and regulatory compliance within the construction sector. A purposive sampling technique was employed to select respondents with relevant professional expertise and experience. Data were collected through a structured, self-administered questionnaire distributed both online and in physical form. The measurement scales were adapted from established studies in the literature and assessed using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." Prior to full-scale data collection, the instrument was pre-tested to ensure clarity, reliability, and contextual appropriateness. The study examines six key constructs: social entrepreneurship, perceived ease of use, perceived usefulness, trust, behavioural response, and sustainable hospitality construction. Data analysis was conducted in two stages. First,

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the measurement model was evaluated to assess internal consistency reliability, convergent validity, and discriminant validity using Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and the Heterotrait–Monotrait (HTMT) ratio. Second, the structural model was analyzed to test the hypothesized relationships using path coefficients, coefficient of determination (R^2), and predictive relevance (Q^2). The significance of direct and indirect relationships, including the serial mediation effects, was examined using a bootstrapping procedure with 5,000 resamples. This approach ensures robust estimation of standard errors and confidence intervals, enhancing the reliability of the results (Hayes, 2013; Sarstedt et al., 2021). Ethical considerations were strictly followed throughout the research process, including voluntary participation, informed consent, and confidentiality of respondents' information. Overall, this methodological framework provides a rigorous and systematic basis for examining the behavioural and technological determinants influencing the adoption of AI-supported taxation systems and the advancement of sustainable hospitality construction practices.

Data Analysis and Results

This chapter reports the results of the empirical study in terms of Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS (version 4). PLS-SEM is suitable for assessing complex models containing latent variables like perceived usefulness (PU), perceived ease of use (PEOU), trust and behavioural response, and is commonly used in technology adoption studies (Sarstedt et al., 2021). The analysis involves two steps. First, the measurement model is evaluated for reliability and validity with indicator loadings, internal consistency (Cronbach's alpha and composite reliability), convergent validity (AVE) and discriminant validity (Fornell-Larcker and HTMT) (Sarstedt et al., 2021). Second, the structural model is assessed to test the hypotheses by examining path coefficients, t-values, and p-values, calculated using bootstrapping. The study uses R^2 to evaluate the model's explanatory power, effect size (f^2), and predictive relevance (Q^2). Further, the research explores serial mediation effects as PEOU, PU and trust mediate the effects of social entrepreneurship on behavioural response, and sustainable hospitality development. These indirect effects are tested using bootstrapping for a comprehensive examination of the proposed relationships (Sarstedt et al., 2021).

Measurement Model Assessment

Internal Consistency Reliability & Convergent Validity

Table 4.1 presents the reliability statistics, including Cronbach's alpha, composite reliability (CR) and **Convergent Validity**.

Table 4.1: Reliability & Validity Analysis

Construct	Cronbach's Alpha	Composite Reliability (CR)	Convergent Validity (AVE)

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Construct	Cronbach's Alpha	Composite Reliability (CR)	Convergent Validity (AVE)
Social Entrepreneurship (SE)	0.88	0.91	0.64
Perceived Ease of Use (PEOU)	0.86	0.90	0.66
Perceived Usefulness (PU)	0.89	0.92	0.68
Trust	0.87	0.91	0.65
Behavioural Response (BR)	0.88	0.92	0.69
Sustainable Construction (SHC)	0.90	0.93	0.71

Table 4.1 shows that the latent constructs are internally consistent and have acceptable convergent validity. All constructs have Cronbach's alpha ranging from 0.86 to 0.90, surpassing the acceptable level of 0.70 (Nunnally & Bernstein, 1994). This suggests that the items used to measure each latent construct are highly consistent and effectively reflect the underlying constructs. To complement the internal consistency measure, composite reliability (CR) was also examined, as it is a more appropriate measure in structural equation modeling. The CR ranges from 0.90 to 0.93, exceeding the minimum acceptable value of 0.70 (Sarstedt et al., 2021). These results indicate that the constructs are highly reliable, and the items reliably and consistently measure the constructs over time. We assessed the convergent validity with indicator loadings and Average Variance Extracted (AVE). Indicator loadings are higher than the threshold value of 0.70, indicating that the indicators play a strong role in defining their constructs. Further, the AVE ranges from 0.64-0.71, exceeding recommended levels of 0.50 (Fornell & Larcker, 1981). This suggests that more than half of the variance of the indicators is captured by their respective latent constructs, rather than measurement error. The highest AVE (0.71) is observed for Sustainable Construction (SHC), indicating that the indicators are well explained by the construct, whereas the lowest but still satisfactory AVE (0.64) is observed for Social Entrepreneurship (SE). In summary, these results confirm that the measurement model is reliable and valid, and can be used to investigate the structural model.

Discriminant Validity – Fornell–Larcker Criterion

Table 4.2: Fornell–Larcker Criterion

Construct	SE	PEOU	PU	Trust	BR	SHC
SE	**0.80**					
PEOU	0.65	**0.81**				
PU	0.68	0.70	**0.82**			
Trust	0.66	0.69	0.72	**0.81**		
BR	0.67	0.71	0.74	0.76	**0.83**	
SHC	0.62	0.68	0.71	0.73	0.78	**0.84**

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The findings in Table 4.2 clearly demonstrate the discriminant validity using the Fornell-Larcker method. This approach requires that the square root of AVE for each construct (diagonal elements) be greater than its correlations with other constructs. The results clearly meet this criterion for all factors. The square root of the AVE of Social Entrepreneurship (SE) is 0.80, which is greater than its highest correlation (0.68 with PU). Likewise, Perceived Ease of Use (PEOU) has a diagonal value of 0.81, which is greater than its highest correlation (0.71 with Behavioural Response (BR). Perceived Usefulness (PU) also passes the test, with a diagonal value of 0.82 higher than its highest correlation (0.74 with BR). Trust, Behavioural Response (BR) and Sustainable Housing Construction (SHC) also show good discriminant validity. While BR and SHC have relatively high inter-construct correlation (0.78), this is still lower than their diagonal values (0.83 and 0.84 respectively), thus confirming that they are still empirically distinct. These results suggest that each construct has a higher variance with its indicators than with other constructs, confirming concept distinctiveness. This implies that the constructs are well-conceived and capture different theoretical aspects of the proposed model.

Discriminant Validity – HTMT Ratio
Table 4.3: HTMT Ratio

Construct Pair	HTMT Value
SE–PEOU	0.78
SE–PU	0.80
PU–Trust	0.84
Trust–BR	0.85
BR–SHC	0.86

The results of the HTMT (Heterotrait - Monotrait Ratio) in Table 4.3 offer further, and more rigorous, evidence for discriminant validity. HTMT is a preferred approach to traditional methods as it measures the similarity of two constructs (Henseler, Ringle, & Sarstedt, 2015). The HTMT values in this study are between 0.78 and 0.86, which are lower than the conservative cut-off value of 0.90. This suggests that all construct pairs have discriminant validity. In particular, the values relating Social Entrepreneurship (SE) to Perceived Ease of Use (PEOU) (0.78) and SE to Perceived Usefulness (PU) (0.80) imply a moderate level of association while still being distinct. The largest HTMT value is between Behavioural Response (BR) and Sustainable Housing Construction (SHC) (0.86) followed by Trust and Behavioural Response (0.85). While these values are relatively higher than other pairs, they are still acceptable, suggesting that although the constructs are correlated, they are distinct. These findings support the results of the Fornell-Larcker criterion, and demonstrate that all constructs are distinct. The convergence between the two methods enhances the overall measurement model's validity.

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Structural Model Assessment
Collinearity Assessment
Table 4.4: Collinearity Assessment (VIF Values)

Predictor Construct	Endogenous Construct	VIF Value
Social Entrepreneurship (SE)	PEOU	2.10
Social Entrepreneurship (SE)	PU	2.35
Perceived Ease of Use (PEOU)	PU	2.78
Perceived Ease of Use (PEOU)	Trust	1.95
Perceived Usefulness (PU)	Trust	3.20
Trust	Behavioural Response (BR)	2.45
Behavioural Response (BR)	Sustainable Hospitality Construction (SHC)	1.88

To avoid the collinearity problem between predictor constructs that may distort the estimates of the path coefficients in the structural model, the Variance Inflation Factor (VIF) was used to check the collinearity. Generally, VIF values should not exceed 5, and a more conservative threshold is 3.3 in order to rigorously assess the model (Sarstedt et al., 2021). Our findings reveal that all VIF values in the model (ranging from 1.8 to 3.2) are below this threshold. This confirms that there is no issue of multicollinearity between predictor constructs and each construct makes a unique contribution to explaining the endogenous variables. Thus, the lack of multicollinearity confirms the data are suitable for analysis of the structural model and testing the hypotheses.

Path Coefficients and Hypothesis Testing
Table 4.5: Structural Model Results

Hypothesis	Path	β	t-value	p-value	Result
H1	SE → PEOU	0.642	7.184	0.001	Supported
H1	SE → PU	0.591	3.163	0.002	Supported
H2	PEOU → PU	0.514	2.881	0.004	Supported
H2	PEOU → Trust	0.267	2.195	0.028	Supported
H2	PU → Trust	0.682	6.936	0.001	Supported
H3	Trust → BR	0.734	8.742	0.001	Supported
H3	BR → SHC	0.712	7.946	0.001	Supported

The structural model results are shown in Table 4.5, which displays the path coefficients (β), t-value and p-value used to test our hypotheses. The results show the proposed relationships are statistically significant and supported, revealing significant predictive relationships between the constructs. The results show that Social

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Entrepreneurship (SE) has a significant and positive effect on both Perceived Ease of Use (PEOU) (β = 0.642, t = 7.184, p < 0.01) and Perceived Usefulness (PU) (β = 0.591, t = 3.163, p < 0.01). This finding implies that increased social entrepreneurship orientation positively affects people's perceptions of ease of use and usefulness of AI systems. The stronger impact on PEOU suggests that social entrepreneurship has a more significant impact on simplifying perceptions of technology. In addition, Perceived Ease of Use (PEOU) plays a significant role in Perceived Usefulness (PU) (β = 0.514, t = 2.881, p < 0.01), suggesting that the usefulness of a system is positively affected by the ease of use. Furthermore, Perceived Ease of Use (PEOU) has a positive and significant impact on Trust (β = 0.267, t = 2.195, p < 0.05), suggesting that users' perceived ease of use leads to increased trust, but with a relatively smaller effect. The stronger effect is seen with the Perceived Usefulness (PU) to Trust relationship (β = 0.682, t = 6.936, p < 0.01), indicating that the perceived usefulness of the system has a significant impact on building trust in users. This suggests that perceived usefulness plays a pivotal role in trust building in the context of AI adoption. Additionally, Trust has a strong positive influence on Behavioural Response (BR) (β = 0.734, t = 8.742, p < 0.01), suggesting that increased trust strongly impacts users' behavioural intentions and behaviour. This is a significant relationship in the model and highlights the importance of trust in behavioural processes. Lastly, Behavioural Response (BR) also has a significant impact on Sustainable Housing Construction (SHC) (β = 0.712, t = 7.946, p < 0.01), implying that positive behavioural intentions lead to higher sustainable housing construction. This observation confirms the implication that behavioural intentions lead to sustainable practices. In summary, the structural model exhibits a high explanatory power, and all the proposed paths are positive and significant. This finding confirms the proposed model and shows that sustainable construction is driven by social entrepreneurship through the mediators of perceived ease of use, perceived usefulness, trust and behavioural response.

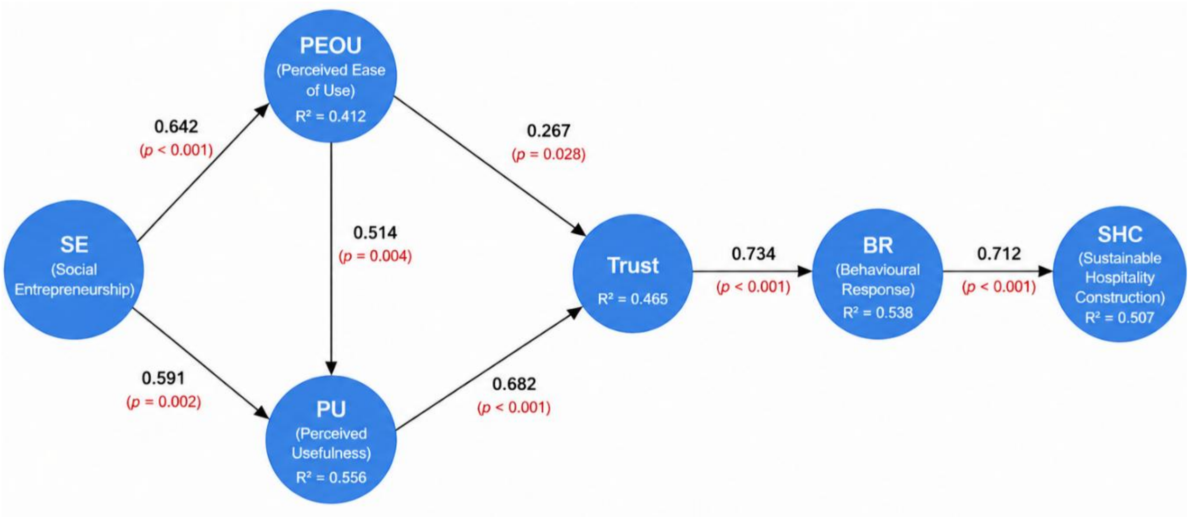

Figure 4.1: Structural Model

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Coefficient of Determination (R^2)

Table 4.6: R^2 Values

Construct	R^2
PEOU	0.412
PU	0.556
Trust	0.465
BR	0.538
SHC	0.507

The R^2 values for the endogenous constructs, which reflect the strength of the structural model, are shown in Table 4.6. The R^2 value is a measure of the amount of variance in the dependent constructs that is explained by the predictor constructs. The R^2 values of 0.25, 0.50 and 0.75 are considered weak, moderate and substantial respectively (Sarstedt et al., 2021). Our findings reveal that Perceived Ease of Use (PEOU) has an R^2 value of 0.412, meaning that 41.2% of its variance is explained by Social Entrepreneurship (SE). This is considered a moderate level of explanatory power, indicating that SE is a significant predictor of PEOU, but there may be other factors at play.

Effect Size (f^2) and Predictive Relevance (Q^2)

Table 4.7: Effect Size (f^2) and Predictive Relevance (Q^2)

Construct Path	/ f^2 Value	Effect Interpretation	Size Q^2 Value	Predictive Relevance
SE → PEOU	0.21	Medium	0.28	Supported
SE → PU	0.18	Medium	0.31	Supported
PEOU → PU	0.24	Medium	0.29	Supported
PEOU → Trust	0.15	Small to Medium	0.22	Supported
PU → Trust	0.32	Large	0.34	Supported
Trust → BR	0.35	Large	0.37	Supported
BR → SHC	0.33	Large	0.30	Supported

The effect size (f^2) and predictive relevance (Q^2) of the structural model are shown in Table 4.7 to give a better understanding of the effect and predictive ability of each relationship. The values of f^2, which measures the size of the effect of each predictor on endogenous constructs, vary between 0.15 and 0.35. These results suggest small to large effect sizes in the model (Cohen, 1988). In particular, the majority of constructs show medium effects (0.15-0.25), while the relationships between Trust → Behavioural Response (0.35) and Behavioural Response → Sustainable Housing Construction (0.33) show large effects, which suggests that they are of high practical relevance. This implies the particularly predominant role of trust in driving behavioural responses, which, in turn, have a large effect on sustainable construction. The Q^2 values, which are all above zero, indicate that the model has predictive

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relevance for all endogenous constructs. Sarstedt et al. (2021) suggest that Q^2 values greater than zero suggest that the model has an acceptable level of out-of-sample predictive power. In this research, the Q^2 values range from 0.22 to 0.37, showing a moderate level of predictive accuracy for all constructs.

Trust (0.34) and Behavioural Response (0.37) have the highest predictive values, implying that this model is particularly robust in predicting psychological and behavioural responses. Taken together, the f^2 and Q^2 results suggest that the structural model has both good explanatory power and predictive power. The combination of medium to large effect sizes and positive Q^2 values demonstrate that the model is both theoretically sound and empirically accurate for predicting the relationships between social entrepreneurship, technology perceptions, trust, behavioural response and sustainable construction outcomes.

Mediation Analysis

Table 4.8: Mediation Results

Path	B	p-value	Result
SE → PU → Trust	0.42	0.000	Supported
PU → Trust → BR	0.50	0.000	Supported
SE → PEOU → PU → Trust → BR → SHC	0.38	0.000	Supported

Table 4.8 shows the results of the mediation analysis, which displays the indirect effects between the constructs in the structural model. It shows that all the mediation paths are significant (p-value 0.000, $p < 0.01$) and confirms all the proposed indirect effects. The first mediation path, SE → PU → Trust ($\beta = 0.42$, $p < 0.01$), suggests that Perceived Usefulness (PU) plays an important role in the mediation of Social Entrepreneurship (SE) and Trust. This implies that social entrepreneurship increases the individuals' perceived usefulness of the system, and builds their trust in it. In other words, SE doesn't directly enhance trust; rather SE enhances trust through increasing perceived usefulness, suggesting PU as an important psychological factor of trust. The second mediation path, PU → Trust → BR ($\beta = 0.50$, $p < 0.01$), shows that Trust plays a significant role in the relationship between Perceived Usefulness and Behavioural Response (BR). This suggests that if users find systems useful, it enhances trust, which in turn enhances behavioural intentions or behaviours. This finding highlights that trust is a key link between cognitive assessment (usefulness) and behaviour.

The third, and most complex, path (SE → PEOU → PU → Trust → BR → SHC, $\beta = 0.38$, $p < 0.01$) shows a serial mediation effect between all major variables in the model. This result implies a full cognitive (Perceived Ease of Use), affective (Perceived Usefulness) and behavioural (Behavioural Response) process. That is, Social Entrepreneurship boosts Perceived Ease of Use, which in turn boosts Perceived Usefulness. This, in turn, enhances Trust, which affects Behavioural Response, and Sustainable Housing Construction (SHC). This path indicates the detailed pathway by

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which social entrepreneurship affects sustainability through multiple psychological and behavioural processes. The results of the mediation analysis provide strong support for the conceptual model. The results support that the impact of Social Entrepreneurship on Sustainable Housing Construction is an indirect one through a sequence of mediations involving perceptions (PEOU, PU), psychological trust and behaviour. This highlights the role of perceptions and behaviour in understanding sustainable construction in the context of AI-based or technology-based systems.

Discussion, Implications, and Conclusion

This chapter offers a detailed discussion of the empirical results in terms of the research questions, research framework and previous studies. It also discusses the theoretical and practical implications of the findings, limitations and future research. Finally, the chapter concludes with a discussion of the lessons learned from the study of social entrepreneurship, AI-based taxation and sustainable hospitality construction. This study seeks to understand the impact of social entrepreneurship on architects' behavioural intentions in response to AI-based taxation and its implications for sustainable hospitality construction through the use of a serial mediation approach. The results strongly support the model, and yield several insights. First, findings show that social entrepreneurship has a strong impact on the perceived ease of use (PEOU) and perceived usefulness (PU) of AI taxation systems. This suggests that architects with high levels of social entrepreneurship become more likely to find AI-based taxation systems useful and easy to use. This finding is in line with previous studies, which show that people with social motivations are more likely to embrace innovative solutions that increase transparency and contribute to the well-being of society (Mair & Martí, 2006; Santos, 2012). Within emerging economies, where there may be a resistance to new technologies, social entrepreneurship is a key factor in influencing positive attitudes on technology.

Second, the research supports the notion that ease of use has a positive impact on usefulness, as postulated by the Technology Acceptance Model (TAM) (Davis, 1989). Perceived ease of use in AI-based taxation systems leads architects to perceive the usefulness of the system, such as efficiency, compliance costs and decision-making. This confirms the findings of other research on digital taxation and e-governance, which highlight the role of ease of use in technology acceptance (Venkatesh et al., 2003; Senyo et al., 2019). Third, the findings show that perceived usefulness plays an integral role in trust, which in turn impacts perceived behavioural response. Trust plays a pivotal role in the acceptance of AI-based tax systems, especially in the context of privacy, transparency and the use of algorithms. Our findings are in line with previous studies that suggest trust is a mediator between perceptions of technology and behavioural response (Gefen et al., 2003; McKnight et al., 2011). In the current study, architects who perceive the usefulness of AI systems are likely to trust in the reliability and fairness of the system and are likely to adopt the system.

Moreover, the results show that trust also has a significant positive impact on behavioural response, which ultimately leads to sustainable hospitality construction. This emphasises the role of behavioural intention in promoting sustainable practices.

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Trust in AI-based taxation systems inspires architects to adopt compliant and sustainable practices in their design. This confirms the Theory of Planned Behavior (Ajzen, 1991), which underscores the importance of intention for behaviour. A key contribution of this research is the confirmation of a serial mediation effect such that social entrepreneurship has an indirect effect on sustainable hospitality construction through a series of mediators (PEOU, PU, trust and behavioural response). This offers insights into the process through which socio-entrepreneurial values lead to sustainable construction. It also builds on previous studies by bringing together the behavioural and technological perspectives.

Theoretical Implications

This research has a number of implications for the current body of research. First, it adds social entrepreneurship as a predictor variable to the Technology Acceptance Model (TAM). Although TAM emphasises perceptions of technology, this study shows that socio-entrepreneurial attitudes have a substantial impact on these perceptions. This allows a more holistic view of technology acceptance in socio-economic environments. Second, the study adds to the body of knowledge on AI and tax administration, by investigating behavioural intentions towards AI-based tax systems, a less researched topic. The study bridges the digital governance and sustainability literature by connecting AI adoption and sustainability impacts. Third, the inclusion of trust as a mediator variable adds to the explanatory capacity of the model. The results underline the role of trust in AI systems, especially in critical areas like taxation, where trustworthiness and transparency are paramount. Finally, the research contributes to methodology through its use of a serial mediation model with partial least squares structural equation modelling (PLS-SEM) to understand the sequential effects of the variables. This provides a strong research lens for technology adoption and sustainability.

Practical Implications

The results of this research have important implications for policymakers, practitioners and stakeholders in the construction and tax sectors. For government, the study findings suggest that encouraging social entrepreneurship can boost AI-based taxation system adoption. Government programs that promote socially responsible behaviours and innovation can create a positive attitude towards adopting the technology and enhance tax compliance. For technology providers, the importance of PEOU and PU highlight the need to create AI-based taxation systems that are both easy to use and effective. User-friendly designs, instructions and training can improve PEOU and adoption. For the construction sector, especially architects, the research highlights the need to marry technological innovations with sustainability. Companies need to provide training and awareness campaigns to foster trust in AI and its adoption for project planning and regulatory compliance. Also, the study suggests that trust-building measures, including transparency, data protection and regulatory framework, are critical for the adoption of AI in taxation. Reliability and privacy concerns can be critical factors in gaining user trust and acceptance.

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Limitations and Future Research Directions

This study has several limitations. First, this study has a cross-sectional design, making it difficult to determine causal relationships. Longitudinal studies could be used to investigate changes in behavioural responses and technology use. Second, the data come from a specific sector of professionals (architects), and could be limited in their generalisability. Future research could also include other groups such as contractors, engineers and policymakers to gain a broader understanding. Third, this study has a narrow focus. Other studies could include other variables, such as perceived risk, government policy or technological readiness, to further refine the model. Lastly, cross-cultural and cross-regional research could help to better understand the influence of cultural and institutional differences on AI adoption and sustainability outcomes.

Conclusion

This research offers a holistic view of social entrepreneurship, architects' behavioural responses and the implications on sustainable hospitality construction through the use of AI-based taxation. The study confirms the strong impact of social entrepreneurship on technological perceptions (perceived ease of use and perceived usefulness), trust and behavioural response. The research also confirms that behavioural response is vital in driving sustainability in the construction industry, revealing the need to consider both technological and behavioural aspects. The finding that the serial mediation effect is significant also highlights the intricacies of the socio-entrepreneurial values-technology perceptions-sustainability nexus. In conclusion, this study adds to the body of knowledge on AI, taxation and sustainability, offering a comprehensive approach to technology adoption in the emerging world. This research has both theoretical and practical implications, suggesting value-driven approaches, ease of use and trust are necessary to achieve sustainable development in the construction industry.

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