FACTORS AFFECTING E-INVOICE FRAUD: EVIDENCE FROM VIETNAM

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Abstract: This paper reflects the results of a survey of businesses in Vietnam to understand the factors affecting e-invoice fraud. Using survey data from Vietnamese enterprises and hypothesis testing grounded in fraud theories, this study examines key determinants of e-invoice fraud. In parallel, it reviews the current legal and institutional framework governing e-invoice management in Vietnam. Based on the empirical findings, the paper proposes policy recommendations in three areas: (i) strengthening the legal framework, (ii) enhancing information technology applications, and (iii) improving tax audit effectiveness.

Key words: E-invoice, Fraud, Prevention, Legal Framework, Tax Auditing.

1. Introduction

An invoice is an accounting document that records information about the sale of goods or provision of services, prepared by the seller and sent to the buyer. Invoices are closely related to the tax base for many types of taxes. Invoice fraud results in tax revenue losses and distorts the investment and business environment, affecting legitimate and law-abiding businesses.

E-invoices were first implemented in Vietnam in 2011. Since then, the application of e-invoice has gradually been expanded. Since July 1, 2022, almost enterprises and household businesses have been using e-invoices, with only a very small number of taxpayers in particularly disadvantaged socio-economic areas where the necessary technical infrastructure is not ready for e-invoice are still using printed invoices provided by the tax authorities. E-invoice fraud is a common phenomenon in many countries around the world, mostly associated with tax evasion. In Vietnam, e-invoice fraud has become quite serious in recent years. Researching the factors influencing e-invoice fraud is essential for improving the legislation on e-invoice management, enhancing tax administration effectiveness and efficiency, and creating a healthy and fair business environment for economic entities.

The structure of the paper is as follows: Following the Introduction in Section 1, Section 2 presents the theoretical framework; Section 3 describes the methodology used in this study; Section 4 provides an overview of the legal framework for invoice management in Vietnam; Section 5 gives a brief outlook of the Vietnam tax authority's invoice management; Section 6 describes our survey's results and discussion; and Section 7 offers policy recommendations.

2. Theoretical framework

The main concepts and theories that underpin the research are presented based on the Fraud Model Theory including: The Fraud Triangle Theory, the Fraud Diamond Theory Model and the Theory of Planned Behavior. They are specified as follows:

2.1. Fraud Triangle Theory

According to Cressey (1953), when proposing the Fraud Triangle Theory, fraudulent behavior occurs when three elements are present: Pressure, Opportunity, and Rationalization. Common sources of pressure include: (1) Financial problems (debt, medical bills, gambling losses); (2) Desire to meet performance targets or bonuses; (3) Lifestyle pressure ("keeping up appearances"); and (4) Job insecurity or fear of failure. Causes of opportunity include: (1) Weak internal controls; (2) Lack of supervision or oversight; (3) Poor segregation of duties; and (4) Access to assets or sensitive information. Common rationalizations are typically shown

through some statements like this: “I’m just borrowing the money”, “I deserve this”, “I’m underpaid”, “The company is rich - no one gets hurt”, “I’ll fix it later”.

2.2. Fraud Diamond Theory Model

Based on the Fraud Triangle Theory, Wolfe & Hermanson (2004) introduced the Fraud Diamond Theory Model, which adds a very important fourth factor: “Capability”. This is considered a condition leading to the outcome of behavior in organizations or individuals under pressure, opportunities, and justification. A fraudulent act by an individual or organization, from its formation to its completion, is a lengthy and time-consuming process. Therefore, to carry out a fraudulent act, the individual/organization must have certain capabilities such as certain knowledge and skills to complete it.

2.3. Theory of Planned Behavior

Ajzen (1991) introduced the Theory of Planned Behavior (TPB), an extension of Fishbein and Ajzen’s (1975) Theory of Reasoned Action (TRA), with the view that a person’s behavior is governed by the intention to perform that behavior. Behavioral intention is considered to be a person’s readiness to perform a specific behavior, and behavior is the actual, observable actions that are usually determined by behavioral intention. The intention to perform the act was determined by three main factors: (1) Attitude towards behavior; (2) Subjective standards; (3) Controlling perceived behavior.

3. Methodology

3.1. Research design

This paper adopts a comprehensive approach that combines different methods with the aim of identifying factors affecting e-invoice fraud in Vietnam. This study systematizes the entire process of establishing, amending and supplementing the legislation on e-invoice in Vietnam since 2011. Based on the analysis on the real status of the Vietnam tax authority on e-invoice mananement in combination of a survey on factors affecting e-invoice fraud, this study provides a holistic understanding on issues that need to be resolved to prevent e-invoice fraud and also provides a practical recommendations to modify and supplement the Vietnam tax legislation on e-invoice as well as to improve the Vietnam tax authority’s e-invoice management.

Qualitative analysis. Thematic analysis was used to evaluate the entire process of establishing and amending legal regulations on e-invoice management in Vietnam. Thematic analysis was also used to identify the inadequacy of legal basis for e-invoice management in

Vietnam. Direct observation was used in combination with comprehensive analysis methods to assess the current state of e-invoice management by Vietnamese tax authorities.

Survey. We have conducted a sociological survey into the influencing factors based on the application of theoretical models of fraudulent behavior.

The factors influencing e-invoice fraud selected include:

(i) Financial pressure (PR): Financial or non-financial motivations (such as debt, pressure for profit) that drive individuals to commit fraud to reduce their tax obligations.

(ii) Opportunity (OP): The existence of loopholes in internal controls, technology, or oversight systems that facilitate fraud.

(iii) Justification (RA): An individual's ability to justify their fraudulent behavior, for example, viewing fraud as “normal” or “necessary”.

(iv) Attitude (AT): An individual’s belief about the fraudulent nature of e-invoicing, for example, whether fraud will yield financial benefits.

(v) Social norms (SN): Pressures from society, peers, or the surrounding environment that encourage or discourage fraudulent behavior.

(vi) Perceived behavioral control (PBC): An individual’s perception of their ability to commit fraud, including knowledge, skills, and resources. PBC can also directly affect BH if the individual feels entitled to commit the act without intention.

(vii) Intention to commit fraud (IN)

(viii) Actual act (BH).

The research hypotheses are defined as follows:

H1: Financial pressure (PR) has a positive impact on Fraud Intention (IN).

H2: Opportunity to perform (OP) has a positive impact on Fraud Intention (IN).

H3: Justification (RA) has a positive impact on Fraud Intention (IN).

H4: Attitude (AT) has a positive impact on Fraud Intention (IN).

H5: Social norms (SN) have a positive impact on Fraud Intention (IN).

H6: Perceived behavioral control (PBC) has a positive impact on Fraud Intention (IN).

H7: Fraud Intention (IN) has a positive impact on Actual Behavior (BH) of e-invoice fraud.

3.2. Questionnaire

The research team developed a questionnaire to gather primary data from enterprises. The questions the questionnaire were designed as both quantitative and open-ended questions. The quantitative questions were used to compare all responses, avoiding ambiguous answers from respondents. The quantitative questions were evaluated by using a 5-point Likert scale. The open-ended questions were used to explore other perspectives of respondents on the research topic.

The questionnaire is divided into three parts. Part I - General information about the survey subjects: Registered capital, Type of business, Main business field, Business operating time, Number of employees, Location of the head office. Part II - Survey on factors affecting e-invoice fraud, include financial pressure, opportunity, justification, attitude, social norms, perceived behavioral control, fraudulent intention, actual behavior. Part III - Opinions.

3.3. Data collection and analysis

The survey was conducted from May to September 2025. To collect information on a large scale with a large number of research subjects in a short time, electronic questionnaires designed on Google Forms were sent to enterprises at the link https://forms.gle/EmBecRwffjkUGFi3A. This data collection method has the advantage of being fast and suitable for geographically dispersed survey groups.

After conducting the survey, 349 responses from enterprises were obtained. The survey responses were checked for logic and completeness. Invalid responses (those answering only one option, or leaving too many blanks) were removed, resulting in 326 valid responses for the research topic. This is a suitable sample size for research using factor analysis (Hair et al., 2006).

Statistical analysis of the research sample shows that out of 326 respondents, among which 131 enterprises (40.2%) with a size ranging from VND 3 billion to under VND 50 billion, and 117 enterprises (35.9%) with a size under VND 3 billion. The highest proportion of them are joint-stock companies (101 businesses, 31%). The most common operating time is between 3 years to 10 years (129 businesses, 39.6%), the most common number of employees is under 50, and the majority of respondents are located in centrally-governed cities (49.7%).

4. Overview of the legal basis for invoice management in Vietnam

The legal basis for the introduction of e-invoices in Vietnam began with Circular 32/2011/TT-BTC dated March 14, 2011, issued by the Minister of Finance, effective from May 1, 2011. This Circular was subsequently replaced by Decree 119/2018/NĐ-CP dated September 12, 2018, issued by the Government.

The most significant change related to perfecting the legal framework for managing e-invoices in general and preventing e-invoice fraud in particular was marked by the promulgation of the Law on Tax Administration No. 38/2019/QH14, passed by the National Assembly on March 13, 2019 which took effective from July 1, 2020 with a supplementation of a chapter named "Application of E-Invoices and Documents".

Based on the fundamental provisions of the Law on Tax Administration No. 38/2019/QH14, the Government issued Decree 123/2020/ND-CP dated October 19, 2020, effective from July 1, 2022, guiding details for the implementation of e-invoice. Accordingly, from July 1, 2022, the transition to applying e-invoices would be implemented for all businesses and economic organizations.

Along with amending and supplementing regulations on e-invoice management, Decree 125/2020/ND-CP dated October 19, 2020, on administrative penalties in the field of tax and invoices, was enacted replacing Decree 129/2013/ND-CP.

After over 2 years of official implementation, Decree 123/2020/ND-CP has revealed some shortcomings and difficulties. Therefore, the Government issued Decree 70/2025/ND-CP on March 20, 2025, effective from June 1, 2025, amending and supplementing some articles of Decree 123/2020/ND-CP.

The above analysis shows that the legal framework for managing e-invoices in general, and preventing e-invoice fraud in particular, has gradually been improved. This system is a unified whole with the highest legal document being the Law on Tax Administration and detailed regulations and guidelines for its implementation (Decrees and Circulars). Essentially, the legal regulations were issued promptly and were quite relevant to practical conditions. This is an important basis for implementing e-invoice management and carrying out activities to prevent e-invoice fraud.

Although the legal framework for managing e-invoices has gradually been revised to better suit practical conditions, some legal gaps still exist that need to be filled, including: (1)

No mandatory regulations on the installation of automatic monitoring equipment to manage the creation of invoices for the sale of goods and provision of services; (2) The obligations of taxpayers and the types of violations committed by taxpayers have not been covered by the legislation on e-invoice management; (3) The definition of an administrative violation related to e-invoices has not been made clear; (4) The maximum administrative penalty for invoice violations has not been clearly defined, leading to different interpretations; (5) The penalties for some types of violations are not commensurate with the nature, extent, and consequences of the acts of violation, with some cases being too severe and others too lenient.

5. Brief outlook of the Vietnam tax authority's invoice management

The functions of tax authorities in disseminating information, supporting taxpayers, and conducting tax inspections and audits have actively contributed to the prevention of e-invoice fraud through various vigorous activities focusing more on prevention, warning, and deterrence than punishment. Notably, this includes diverse tax dissemination methods using multiple media; the application of modern technology to support e-invoice management; the organization of activities encouraging customers to request invoices when purchasing goods and services through the "Lucky Customer" program; and the implementation of 100% e-invoice verification during on-site inspections at taxpayers' premises. Through these efforts, effective warnings have been issued, and fraudulent invoice activities have been detected and promptly handled, and violations related to e-invoices that fall under the category of criminal offenses have been referred to the police for criminal prosecution.

The tax authorities have applied a risk management approach to e-invoice management. Accordingly, taxpayers have been classified to determine the type of e-invoice to be used. This classification began on July 1, 2022, when Decree 123/2020/ND-CP came into effect. Under this classification, taxpayers with high tax risk use e-invoices with a tax authority code, while taxpayers with low-risk use e-invoices without a tax authority code. Decree 70/2025 and Circular 32/2025/TT-BTC further refine regulations on risk assessment criteria to provide a more accurate classification of high-risk and very-high-risk taxpayers, enabling appropriate management measures. The conditions and procedures for converting from e-invoices with tax authority codes to e-invoices without tax authority codes, and vice versa, when applying risk management were also clarified in these legal documents.

The tax authority has gradually strengthened and effectively applied modern technology to the prevention of e-invoice fraud. Accordingly, the activity has two basic

achievements: (1) Building and modifying an integrated e-invoice management system to ensure that almost all businesses switch to using e-invoices with and without codes from the tax authority, ensuring the system operates safely, meeting the requirements of taxpayers to use e-invoices and supporting tax auditing in detecting and preventing e-invoice fraud; (2) Building and improving specialized software for e-invoice risk warning using the K coefficient to request explanations and consider decisions on cases of discontinuing the use of e-invoices.

Despite achieving significant results, the tax authorities' management of e-invoices still has some limitations. The rate of inspections conducted at tax offices remains low; in some localities, the verification of invoice data during on-site inspections at taxpayers' premises is not fully implemented. No suitable solutions have been applied for applying the K coefficient for real-time and spatial connectivity with the e-invoice data system of businesses using e-invoices without tax authority codes. No system for automatically stopping the provision of e-invoices in specific cases to promptly prevent particularly serious e-invoice fraud have been applied. The integrated system for automatic data analysis connecting the centralized tax management system (TMS) with the e-invoice management system has not been built. A system for data aggregation and application of big data and AI for automatic risk assessment to support inspection and tax management activities has not been developed.

6. Survey's results and discussion

6.1. Model testing and data analysis

Reliability analysis of the scale using Cronbach's Alpha coefficient

The research team's Cronbach's Alpha factor analysis results showed that all scales achieved reliability with Cronbach's Alpha coefficients greater than 0.7, appropriate total variable correlation coefficients (≥ 0.3), and were eligible for exploratory factor analysis.

Exploratory Factor Analysis – EFA

IN is the dependent variable of PR, OP, RA, AT, SN, PBC. Therefore, IN would likely have a strong correlation with PR, OP, RA, AT, SN, PBC. That's why EFAs need to be run twice: The first time for the six independent variables PR, OP, RA, AT, SN, PBC, and a second time for the dependent variable IN.

BH is the dependent variable of IN. Therefore, BH would likely have a strong correlation with IN. That's why EFAs need to be run twice: The first time for the independent variable IN and a second time for the dependent variable BH.

Therefore, to perform Cronbach's Alpha analysis, EFAs need to be run three times as follows: (1) EFA for 6 independent variables: PR, OP, RA, AT, SN, PBC; (2) EFA for the variable IN; (3) EFA for variable BH.

According to the final rotated matrix results, we have the following redefined factors:

Group 1 includes factors AT1, AT2, AT3, AT4, RA1, RA2, RA4, RA5, RA6, SN2, SN3, SN4 (12 variables), renamed as: attitude, social norms and justification, denoted as ASN.

Group 2 on financial pressure factors includes PR1, PR2, PR3, PR4, PR6 (5 variables), denoted as PR.

Group 3 on perceived behavioral control factors includes PBC1, PBC2, PCB3, PCB4 (4 variables), denoted as PBC.

Group 4, concerning opportunities related to internal management and the company's invoice management process (internal monitoring mechanisms, cross-checking processes, early risk warning systems, errors in e-invoice management), includes RA3, OP3, OP4, OP6 (4 variables), denoted as MR.

Group 5, concerning opportunities related to the tax authority's invoice management system (system inspection gaps, low likelihood of fraud detection, technical loopholes in invoice management), includes OP1, OP2, OP5 (3 variables), denoted as SR.

Group 6, concerning fraud intention, includes IN1, IN2, IN3, IN4 (4 variables), denoted as IN.

Group 7, concerning financial pressure, includes BH1, BH2, BH3, BH4, BH5 (5 variables), denoted as BH.

Based on the variables in the model (ASN: attitudes, social norms, and justification; PR: financial pressure; PBC: perceived behavioral control; MR: internal management factors and corporate invoice management processes; SR: tax authority's invoice management system; IN: fraudulent intent; BH: actual behavior), the revised research hypotheses were determined as follows:

H1: Attitudes, social norms, and justifications (ASN) positively influence actual behavior (BH).

H2: Financial pressure (PR) positively influences actual behavior (BH).

H3: Perceived behavioral control (PBC) positively influences actual behavior (BH).

H4: Internal management factors and the company's invoice management process (MR) positively influence actual behavior (BH).

H5: The tax authority's invoice management system (SR) positively influences actual behavior (BH).

H6: Intention to commit fraud (IN) positively influences actual behavior (BH).

H7: Intention to commit fraud (IN) acts as a mediator in the relationship between Attitudes, social norms, and justifications (ASN) and actual behavior (BH).

H8: Fraudulent intention (IN) mediates the relationship between Financial Pressure (PR) and actual behavior (BH).

H9: Fraudulent intention (IN) mediates the relationship between Perceived Behavioral Control (PBC) and actual behavior (BH).

H10: Fraudulent intent (IN) mediates the relationship between internal management and the company's invoice management process (MR) and actual behavior (BH).

H11: Fraudulent intent (IN) mediates the relationship between the tax authority's invoice management system (SR) and actual behavior (BH).

Correlation analysis

Results of the correlation analysis between the research variables are shown in table 1 below:

Table 1: Results of the correlation analysis between the research variables

Correlations								
		ASN	PR	PBC	MR	SR	IN	BH
ASN	Pearson Correlation	1	.234**	.717**	.363**	.456**	.740**	.568**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	326	326	326	326	326	326	326
PR	Pearson Correlation	.234**	1	.122*	.418**	.326**	.123*	.198**
	Sig. (2-tailed)	.000		.027	.000	.000	.027	.000
	N	326	326	326	326	326	326	326
PBC	Pearson Correlation	.717**	.122*	1	.300**	.481**	.729**	.632**
	Sig. (2-tailed)	.000	.027		.000	.000	.000	.000
	N	326	326	326	326	326	326	326
MR	Pearson Correlation	.363**	.418**	.300**	1	.556**	.344**	.458**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	326	326	326	326	326	326	326
SR	Pearson Correlation	.456**	.326**	.481**	.556**	1	.380**	.434**

	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	326	326	326	326	326	326	326
IN	Pearson Correlation	.740**	.123*	.729**	.344**	.380**	1	.699**
	Sig. (2-tailed)	.000	.027	.000	.000	.000		.000
	N	326	326	326	326	326	326	326
BH	Pearson Correlation	.568**	.198**	.632**	.458**	.434**	.699**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	326	326	326	326	326	326	326
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

The results of the analysis from the research data in the Pearson correlation matrix table above show the relationships between the independent variables (ASN, PR, PBC, MR, SR), the mediating variable (IN), and the dependent variable (BH) with a sample size of N = 326. All p-values are < 0.01, indicating that the correlations are statistically significant at the 0.01 level (two-sided).

Through correlation analysis, the table shows that: (1) The strongest correlation: PBC with BH (r = 0.632) and IN with BH (r = 0.699), indicating the important role of PBC and IN in explaining the BH variable; (2) Weak correlation: PR has the lowest correlation coefficient with both IN (r = 0.123) and BH (r = 0.198), indicating the limited influence of PR; (3) Mediating role: IN has a strong correlation with both independent variables (especially ASN, PBC) and BH, which shows that IN plays a mediating role in the model.

Regression analysis

Multiple regression analysis was performed, and then, the multiple regression model was improved to predict BH (dependent variable) based on independent variables (ASN, PR, PBC, MR, SR) and mediating variable (IN). This was done through optimization steps such as removing statistically insignificant variables (ASN, PR, SR). The final results are shown in table 2 below.

Table 2: The suitability of the research model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.754[a]	.569	.565	.53817	.569	141.553	3	322	.000	1.814
a. Predictors: (Constant), IN, MR, PBC										
b. Dependent Variable: BH										

The above table shows that:

R = 0.754: The multivariate correlation coefficient, indicating that the overall relationship between the independent variables (PBC, MR, IN) and BH is 0.754 (strong positive correlation, close to 0.756 of the original model with all variables).

R Square = 0.569: The model explains 56.9% of the variation in BH, only slightly lower than 57.1% of the original model, showing that removing ASN, PR, and SR does not significantly affect the explanatory power.

Adjusted R Square = 0.565: After adjusting for the number of variables and sample size (N = 326), the model explains 56.5% of the variation, very close to 56.3% of the original model, confirming that the model is still effective.

Std. Error of the Estimate = 0.5317: The standard error decreased slightly compared to 0.53941 (original model), indicating improved model accuracy.

R Square Change = 0.569: The degree of improvement when adding variables (PBC, MR, IN).

F Change = 141.553, df1 = 3, df2 = 322, Sig. F Change < 0.001: The overall model is statistically very significant ($p < 0.001$), with F increasing significantly compared to 70.705 (original model), indicating that the simplified model operates more effectively.

Durbin-Watson = 1.814: The value is in the range of 1.5–2.5, with no serious autocorrelation.

ANOVA analysis results are shown in table 3 below.

Table 3: ANOVA analysis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	122.993	3	40.998	141.553	.000[b]
	Residual	93.260	322	.290		
	Total	216.252	325			

a. Dependent Variable: BH
b. Predictors: (Constant), IN, MR, PBC

The above table shows that:

Regression Sum of Squares = 122.993, df = 3, Mean Square = 40.998: Explained variance is slightly reduced compared to 123.435 (original model), but with fewer variables, the efficiency is still good.

Residual Sum of Squares = 93.260, df = 325, Mean Square = 0.290: Unexplained variance is comparable, but the distribution is better due to the reduced number of variables.

F = 141.553, Sig. < 0.001: The model is statistically very significant, with F increasing sharply compared to 70.705, indicating that the simplified model has better statistical efficiency.

The results of the multiple regression analysis are shown in the table 4 below.

Table 4: The results of the multiple regression analysis

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	.249	.194		1.286	.199		
	PBC	.243	.055	.236	4.410	.000	.466	2.145
	MR	.315	.053	.234	5.988	.000	.877	1.141
	IN	.386	.047	.446	8.200	.000	.452	2.213
a. Dependent Variable: BH								

The final revised regression model is expressed as follows:

BH = 0.249 + 0.243×PBC + 0.315×MR + 0.386×IN

Constant (0.249): The baseline value of BH when all independent and mediating variables are zero (not statistically significant, p = 0.199, but still included in the model).

Coefficient of PBC (0.243): Each unit increase of PBC (perceived behavior control) increases BH by 0.243 units, keeping other variables constant.

Coefficient of MR (0.315): Each unit increase of MR (internal management factor and business invoice management process) increases BH by 0.315 units.

Coefficient of IN (0.386): Each unit increase of IN (intention to commit fraud) will increase BH by 0.386 units, indicating that this is the most influential factor.

6.2. Discussion

H3: Perceived Behavior Control (PBC) has a positive influence on actual behavior (BH). Result: Beta = 0.236, $p < 0.001$ (in the optimal model).

Implication: Hypothesis H3 is supported. PBC has a positive and highly statistically significant influence ($p < 0.001$), indicating that when businesses perceive e-invoice fraud as easy to commit, easy to bypass tax authority inspections, or less legally risky if detected, fraudulent behavior (BH) increases. The Beta coefficient shows a moderate but stable impact.

H4: Internal management factors and the company's invoice management process (MR) have a positive influence on actual behavior (BH). Result: Beta = 0.234, $p < 0.001$ (in the optimal model).

Implication: Hypothesis H4 is supported. MR has a very positive and statistically significant influence ($p < 0.001$). This indicates that when businesses have opportunities related to internal management and invoice management processes (e.g., lack of a robust internal monitoring mechanism; lack of a clear e-invoice cross-checking process; lack of an early risk warning system to detect and address e-invoice errors; frequent errors in the management and use of e-invoices), fraudulent behavior (BH) increases, with an impact level equivalent to PBC.

H5: Hypothesis H5 (SR) is not clearly supported. This means that the assumption that the tax authority's invoice management system (SR) positively influences actual behavior (BH) is inappropriate.

H6: Intention to commit fraud (IN) has a positive influence on actual behavior (BH). Result: Beta = 0.446, $p < 0.001$ (in the optimal model).

Implication: Hypothesis H6 is strongly supported. Intention (IN) has a positive influence and is the most impactful factor (Beta = 0.446, $p < 0.001$), confirming that intention to cheat is a direct and important determinant of actual cheating behavior (BH).

H9: Intention to cheat (IN) mediates the relationship between perceived behavioral control (PBC) and actual behavior (BH). Results: Model without IN: PBC (Beta = 0.438, $p < 0.001$).

Model with IN: PBC (Beta = 0.236, $p < 0.001$), IN (Beta = 0.446, $p < 0.001$).

R^2 decreased from 0.490 (without IN) to 0.569 (with IN), indicating that IN enhances the explanation.

Implication: Hypothesis H9 is partially supported. The impact of PBC on BH decreased from 0.438 (without IN) to 0.236 (with IN), but remained statistically significant, indicating that IN is a partial mediator. This implies that some of the influence of PBC on BH is transmitted through IN, but there is still a direct pathway of impact.

H10: Fraud intent (IN) acts as a mediator in the relationship between internal management factors and the company's invoice management process (MR) and actual behavior (BH). Results: Model without IN: MR (Beta = 0.271, $p < 0.001$).

Model with IN: MR (Beta = 0.234, $p < 0.001$), IN (Beta = 0.446, $p < 0.001$). R^2 increased from 0.490 (without IN) to 0.569 (with IN).

Implication: Hypothesis H10 is partially supported. The effect of MR on BH decreases from 0.271 (without IN) to 0.234 (with IN), but remains significant, suggesting that IN is partially mediated. This indicates that some of the influence of MR on BH is transmitted via IN, with a direct pathway still existing.

In conclusion, ***the implications draw from the results of testing the hypothesis*** are as follows:

Strong support: Hypotheses H3, H4, and H6 are fully confirmed, with IN being the most influential factor, followed by PBC and MR. This is consistent with the Theory of Planned Behavior, where intention (IN) and behavioral control (PBC) are the primary factors influencing behavior (BH).

Partial support: H9 and H10 are partially confirmed as mediating, suggesting that IN is not a complete mediator but only transmits a portion of the influence from PBC and MR to BH. Direct pathways from PBC and MR remain significant, possibly due to other factors (e.g., financial pressure or social norms) also having a direct influence.

Limitations: The model only explains 56.9% of the variation in behavior, leaving 43.1% unexplained, possibly due to the omission of variables such as financial pressure (PR1-PR6) or social norms (SN1-SN5).

7. Recommendations

A combination of qualitative analysis and survey results on e-invoice fraud reveals a correlation between legal loopholes, weaknesses in the tax authority's e-invoice fraud control technology system, and businesses' intention to commit e-invoice fraud. Accordingly, the more the businesses believe that the tax authority's e-invoice verification system has many loopholes and the lower the tax authorities' ability to detect e-invoice fraud, the greater the intention of

businesses to commit electronic invoice fraud. Therefore, three solutions are suggested to improve the effectiveness of preventing electronic invoice fraud in Vietnam.

Firstly, the legal framework for managing e-invoices needs to be further amended and supplemented. The installation of automated monitoring equipment should be mandated as a requirement to monitor the invoicing of goods and services by businesses and individuals, especially in the retail sector. The regulations on administrative penalties for invoice violations need to be amended and supplemented to encompass all administrative obligations must be done by taxpayers and all types of violations committed by taxpayers. The penalties for certain types of violations need to be adjusted to be commensurate with the nature, severity, and consequences of the violation.

Secondly, regarding infrastructure and technology. Technological solutions for automatically connecting e-invoice data from e-invoice service providers with the tax authority's e-invoice verification system need to be studied and applied in e-invoice tax management. A technological solution to temporarily suspend the automatic issuance of e-invoices with tax authority codes in cases of particularly serious fraud needs to be implemented. It is necessary to study the data connectivity between the centralized tax management system and the e-invoice management system to support tax authority inspections, including inspections at the tax authority's headquarters and inspections at the taxpayer's premises. Software for tracing the transaction chain of invoices from businesses needs to be developed based on AI and block chain technology to detect invoice fraud in the form of a tax fraud ecosystem among businesses.

Thirdly, tax inspection procedures need to be reformed and modernized. A program for regular electronic monitoring combined with in-depth data analysis and on-site inspections at tax offices for cases with very high invoice risk and very high tax risk needs to be implemented. The verification and reconciliation of e-invoices should be carried out regularly using electronic means in conjunction with other operational procedures./.

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