

Integrating strategic management accounting with risk management in the digital transformation period to improving business performance at import-export companies

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Abstract

The study evaluates the ability to integrate Strategic Management Accounting (SMAu) and Enterprise Risk Management (ERM), which affects the business performance (PER) of import-export companies in Vietnam during the digital transformation period (DT). The author conducted a survey and collected 262 observation samples with 9 factors affecting the PER of Vietnamese import-export companies (IOCs). The study's objective is to identify the factors that positively affect SMAu and ERM, thereby integrating SMAu and ERM with the support of DT to enhance the PER of IOCs. The factors affecting SMAu and ERM include CEO capacity, enterprise size (SIZE), competitiveness (COM), and risk protection policy (RMP). The two intermediate factors, SMAu and ERM, positively affect the PER of IOCs. The moderating factor affecting the research model is digital transformation, which has a positive impact on SMAu, ERM, and PER. As a result, the author has successfully built a research model integrating SMAu with ERM in the context of digital transformation tools (DT) so that the company can improve its PER.

Keywords: Business performance, digital transformation, import-export company, risk management, strategic management accounting, Vietnam.

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1. Introduction

Export activities are often subject to several risks. These risks significantly affect the business performance of enterprises [1]. Enterprises encounter systematic risks [2] and unsystematic risks. Systemic risks include inflation changes and political risks [3], civil unrest, or economic sanctions in a particular country or region. Unsystematic risks of enterprises [4], such as

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competitiveness [5], changes in the level of customer trust in enterprises [6], and corporate social responsibility [7]. Therefore, helping import-export companies limit risks from the perspective of strategic management accounting in the digital transformation period to improve business performance is an issue that requires attention.

In 2003, the Vietnamese Accounting Law allowed the inclusion of an accounting system in financial and management accounting (MA). Vietnamese enterprises today mostly apply financial accounting but pay little attention to management accounting (MA), and little attention has been paid to forecasting potential risks that may occur in the future, such as changes in inflation, interest rates, and exchange rates in international payment activities [8]. Therefore, this study aimed to build a model for applying SMAu integrated with Enterprise Risk Management with the support of DT to create a modern management system that positively affects an enterprise's PER. This study aims to find a new theoretical approach in the SMAu field that integrates Enterprise Risk Management with DT. The integration of SMAu with ERM and DT creates significant value by providing a necessary management model for managers' decision-making processes.

The remainder of this paper is organized as follows: Section 2 describes the theoretical basis of this study; Section 3 presents the hypotheses and the research model; Section 4 presents the data and research methods; Section 5 presents the results; and Section 6 concludes the paper.

2. Theoretical Basis

2.1. Strategic Management Accounting (SMAu)

The rapid pace of technological change in today's digital transformation era has affected the role of SMAu in the globalization of the business world [9] and especially affects the PER of import-export companies. SMAu techniques change the role of management accounting and create value for businesses [10]. In addition, SMAu helps managers build, plan, implement, and evaluate an organization's strategy [11], propose business strategies, and learn about a company's business performance from a financial perspective [12]. Enterprises manage costs well [13] and evaluate the value of the enterprise compared with competitors. Some authors evaluate SMAu using a non-economic approach from the perspective of social benefits [14], employee satisfaction [15], and customer trust [16], and see SMAu as a modern analytical and forecasting tool that helps businesses increase business efficiency in non-financial activities.

2.2. Enterprise Risk Management (ERM)

Enterprise risk management (ERM) has been proposed as an effective tool for predicting risks and helping businesses identify and analyze imminent dangers to promptly take corrective measures COSO, 2017. ERM can be used for (1) decision making, (2) compliance with corporate governance rules, and (3) internal audits [17]. However, ERM can also be integrated with performance measurement systems to monitor strategic uncertainties. Some authors argue that SMAu can be performed in a company's balanced scorecard [18], linking risk-management activities with strategic performance measures [19].

2.3. Relationship between SMAu and Enterprise ERM

Studies have successfully evaluated the integration of SMAu with ERM to improve PER with the support of DT. The integration of SMAu with ERM will provide useful information for managers to make decisions and contribute to improved performance [20]. The results of data analysis during the information collection process show that SMAu with financial or non-financial ERM integration brings more benefits to enterprises [21] in terms of limiting risks and improving PER. Therefore, companies, especially import-export companies, can improve SMAu and ERM techniques in accounting practices to measure past performance and hedge future risks [22], especially import-export companies.

The relationship between SMAu and ERM obtained from previous studies is presented in Table 1.

Table 1.

Relationship	Content	Research methods	Source
SMAu – ERM – PER under DT regulation	Linking SMAu to the ERM framework helps businesses improve PER under the impact of IT in the digital age.	Mixed method, survey sample of 317 companies, CFA test, PLS SEM on SMART software	Sariwulan, et al. [20]
Integrating business strategy, SMAu, and ERM	Evaluate the impact of Business Strategy, Ownership on improvements in Management Accounting and Risk Management techniques.	Quantitative method, survey sample of 479 companies and Wilcoxon Test (Mean value test) on SPSS software	Cescon, et al. [23]
Integrating ERM with Strategic Planning to Improve PER	Business strategy, strategic management accounting and risk management impact on PER under the moderating variable DT	Quantitative method, survey sample 5,000, sample, PLS SEM test on Smart software	Kanu [24]
The Importance of Management Accounting Systems (MAS) and the Impact of ERM in the Company's Strategic Decision Making	Examine the impact of senior management team risk characteristics (risk propensity, risk perception, and risk acceptance) on the extent of strategic change, both directly and indirectly, through the design and use of management accounting systems (MAS).	Quantitative method, a survey of 250 employees, basic statistical analysis on SPSS software	Theriou and Aggelidis [25]

Summary of the relationship between SMAu and ERM.

2.4. Digital Transformation

This study provides a new perspective by highlighting how DT can help in the integration of SMAu and ERM to improve PER [20, 26]. Evaluating the outcome of the SMAu implementation process with ERM to PER under the regulation of DT [27] to improve financial performance [28]. Author Pupentsova used ERM tools for business assessment in the context of DT, helping in an unstable international business environment, business strategy recovery, cybersecurity, and ERM [29]. DT directly affects PER [30] in financial and economic analyses of the company. Currently, many companies use DT (ERP) tools, such as ERP, and practice SMAu to improve the PER.

3. Hypotheses and Research Model

3.1. Research Hypothesis

The objective of this study is to explore the factors that integrate SMAu with ERM with the support of DT to improve PER in import-export enterprises. After summarizing the results of previous research, the authors proposed several influencing factors as follows:

3.1.1. Accounting Staff Qualifications (ACT)

According to Cadez and Guilding [31], assessing staff qualifications considers the process and results achieved when integrating SMAu with the ERM. The accounting staff participated in performing tasks and proposing goals for the unit (ACT1). Advising the Board of Directors in proposing options for implementing SMAu and ERM techniques for the enterprise (ACT2). In addition, (ACT3) evaluates options for implementing SMAu and ERM techniques more effectively [9, 32]. Consulting the detailed development of SMAu and ERM processes with the selected option (ACT4). Participate in taking the necessary actions to change plans. (ACT5). The author Saeidi et al. [32] emphasizes the role of accounting staff in the ERM of the enterprise and consider the level of staff as the key point to help the process of using SMAu with the ERM of the enterprise more effectively.

Hypothesis 1 (H1): ACT has a positive effect on SMAu use. Hypothesis 2 (H2): ACT has a positive impact on ERM application.

3.1.2. Competence of the Board of Directors, Board of Management (CEO)

A company's CEO often has a high education (CEO1) [33]. Experience (CEO2), good leadership ability (CEO3) [34], and decision-making ability (CEO4). The CEO directly affects the application of SMAu to improve the PER. In addition, according to the research of Horvey and Odei-Mensah [35], the CEO of an enterprise has a positive impact on its ERM process.

Hypothesis 3 (H3): CEO has a positive effect on SMAu technique application Hypothesis 4 (H4): The CEO has a positive impact on the ERM application process.

3.1.3. Enterprise Size (SIZE)

Capital size (SIZE1), human resource size (SIZE2), necessary equipment size (SIZE3), and production size (SIZE4) [21]. Some authors agree that size has an impact on SMAu, and ERM on the PER of the enterprise [31]. The authors Turner et al. [36] believed that the size of an enterprise does not significantly affect its application.

Hypothesis 5 (H5): SIZE positively affects the application of SMAu techniques. Hypothesis 6 (H6): SIZE has a positive effect on ERM applications.

3.1.4. Competitiveness (COM)

Competitiveness is the ability of a business to gain an advantage over its competitors without being defeated by other businesses in the market [37]. (COM1) Price competitiveness and human resource competitiveness (COM2). Cadez and Guilding [31] interest rate competitiveness (COM3), exchange rate competitiveness (COM4), import tax competitiveness (COM5), product brand competitiveness (COM6), Cinquini and Tenucci [21], and assessment of the impact of competitive ability on enterprises' group of authors [37]. Research assessing the impact of ERM competitiveness

Hypothesis 7 (H7): COM positively affects the application of SMAu techniques

Hypothesis 8 (H8): COM positively affects the application of ERM.

3.1.5. Risk Management Environment (EERM)

The risk management environment includes policies and characteristics such as the working environment, implementation intention, and behavioral awareness of managers. (EERM1) Senior managers disseminate information and guide members in implementing and taking responsibility for ERM in enterprises [38]. ERM policies were applied to all levels of the unit (EERM2). If a company has a sub-department to avoid ERM, maintaining the enterprise's ERM process is faster and more effective [39]. (EERM3) Enterprises regularly issue ERM policy procedures. (EERM4) Enterprises assign personnel to each type of material risk [40].

Hypothesis 9 (H9): EERM has a positive impact on ERM implementation.

3.1.6. Enterprise Risk Management Policy (RMP)

Import-export business activities often involve inevitable risks [41]. A good risk management enterprise has a strict ERM system with principles for strategic planning and application throughout the enterprise [42]. According to Coco [43] ERM policy is implemented through specific interrelated components, such as risk management processes, which help enterprises

better identify risks [44] (RMP1), analyze and evaluate potential risks, consider the frequency of occurrence and impact of risk protection contracts [45] (RMP2), and regularly monitor government macroeconomic policies [46] (RMP3). Analyze the root causes, impacts, and interconnections of risks [47] (RMP4).

Hypothesis 10 (H10): RMP positively impacts the ERM implementation process

3.1.7. Digital transformation (DT)

Some studies have investigated the impact of digital transformation on the integration of SMAu with ERM on the PER of enterprises [20, 32]. A successful DT requires (DT1) software to support the use of ERM and SMAu tools; useful technology solutions for business management and operations such as ERP, AI, and BI [48]; digital transformation capacity of enterprises (DT2); and technology infrastructure (DT3).

Hypothesis 11 (H11): DT positively impacts the application of SMAu techniques

The relationship between DT impacts and the ERM of the unit [49, 50] assesses an enterprise's level of risk acceptance based on financial indicators. Currently, many enterprises are applying the ERM model using DT to improve enterprise efficiency [51], protect customer interests, and exchange information with customers quickly and securely [52]

Hypothesis 12 (H12): DT positively impacts the ERM application process

Digital transformation contributes to improving business performance [53], meeting customer needs, and improving performance [54] in terms of enterprises [55].

Hypothesis 13 (H13): DT directly affects an enterprise's PER.

3.1.8. Strategic management accounting (SMAu) impacts on PER of import-export enterprises

A research project assessed the impact of SMAu on PER [31, 36]. Using a balanced scorecard to measure performance is a tool for managing sales and monitoring outcomes [56] (SMAu1). Pricing strategies help increase market share and ensure a competitive advantage [34] (SMAu2). Determine cost targets and cost-saving methods, thereby promoting an increase in target profits. (SMAu3). Product life cycle cost accounting helps enterprises have a clear orientation and strategy for the product [57] (SMAu4).

Hypothesis 14 (H14): SMAu has a positive impact on PER

3.1.9. Enterprise Risk Management (ERM)

Impacts on PER of Import-Export Enterprises' risk management to help them achieve the specific business goals of hedging, limiting systematic, and unsystematic risks (COSO, 2017). Therefore, this study examines the positive impact of ERM on the PER of import-export enterprises supported by DT. The goal of ERM is to limit the risk of bankruptcy of import-export enterprises during business operations [58] (ERM1). Reduce errors in decision-making [59] (ERM2) and hedge risks to avoid market failure (ERM3) [4].

Hypothesis 15: ERM positively affects the PER of the enterprise

3.1.10. Enterprise Performance (PER)

This includes competitiveness [60], effectiveness, and efficiency. PER evaluates growth, profit, productivity, and profitability [61]. Non-financial indicators that evaluate enterprise PER include employee and customer satisfaction (PER1). Indicators that evaluate enterprise financial performance include: (PER2) growth in enterprise market share (PER3), growth, and profit margin [36]. (PER4) Stable net cash flows in international businesses. Enhancing corporate branding [31, 34] (PER5).

3.2. The research model

Based on the above analysis, a research model was proposed, as shown in Figure 1.



Author's proposed model.

4. Data and Research Methods

4.1. Data

Primary and secondary data were collected. Primary data were collected through a pre-designed questionnaire sent to the survey participants. The survey subjects were the Board of Directors, accounting department heads, and accounting staff of 58 import-export enterprises in Vietnam. The 58 surveyed enterprises included 43 import-export enterprises listed on the Ho Chi Minh City Stock Exchange (HOSE) and 15 import-export enterprises not listed on the exchange. Secondary data were collected from the financial statements of export enterprises. A total of 305 survey questionnaires were distributed, 262 (86%) of which were valid.

4.2. Research Method

This study uses a combination of qualitative and quantitative methods. Import-export enterprises were selected for this study because they have undergone profound changes that have had a significant impact on both the strategic planning, management accounting system, and risk management control. The collected data were processed using SMART PLS 4.1.0.0 and SPSS 22 software.

The questionnaire was evaluated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with 42 observed variables, seven factors as independent variables, and two mediating factors, SMAu and ERM, affecting the dependent variable PER.

4.3. Research Results

4.3.1. Research Descriptive Statistics

The characteristics of the research sample are shown in Table 2.

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Sample characte	eristics.
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Contents	Sample	Rate	Contents	Sample	Rate
1. Capital size	58	100%	3. Survey subjects	262	100%
Under 20 billion VND	2	3.45%	Director	20	7.63%
From 20 to 50 billion VND	23	39.66%	Chief accountant	23	8.77%
From 50 to 100 billion VND	5	8.62%	Accounting staff	219	83.59%
From 100 billion VND and up	28	48.27%			
2. Work experience	262	100%	4. Education	262	100%
Less than 10 years	58	22.13%	College Bachelor's	54	20.61%
From 10 to less than 15 years	92	35.11%	Bachelor's	179	68.32%
From 15 to less than 20 years	87	33.21%	Master's	26	9.92%
Over 20 years	25	9.55%	PhD	3	1.15%

Enterprises with a large capital scale have 28 companies, accounting for 48.27%, and the remaining 30 small and medium-sized enterprises, accounting for 51.73%.

Data collected from accounting staff accounts for 83.59%. The leadership team accounts for 16.41%, of which the Board of Directors is 7.63%, and the Chief Accountant is 8.77%. The number of valid ballots collected represents the ability to make decisions regarding the application of SMAu with ERM to the revenue of import-export enterprises.

Regarding educational level, the highest rate is among university graduates, accounting for 68.32%; employees working at a company with a doctoral degree have a low level of only 1.15%. The master's degree accounted for another high rate of 9.92%. The educational level of employees working in import-export enterprises is quite high, with many years of experience. They are the core workforce and have the ability to absorb changes in new management tools during the rapid development of information technology.

4.3.2. Testing The Scale in the Research Model

4.3.2.1. + Assessing The Reliability of the Scale

The results of the reliability assessment of the scale are shown in Table 3.

Factors	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Accounting staff qualifications (ATC)	0.838	0.855	0.901	0.753
Characteristics of the Board of Directors, Board of Management (CEO)	0.807	0.848	0.885	0.721
Enterprise size (SIZE)	0.848	0.873	0.907	0.765
Competitiveness (COM)	0.859	0.881	0.904	0.703
Risk management environment (EERM)	0.823	0.828	0.894	0.739
Risk protection policy (RMP)	0.816	0.844	0.89	0.729
Digital transformation tools (DL)	0.801	0.807	0.909	0.833
Using KTQTCL tools (SMAu)	0.871	0.881	0.920	0.794
Risk management (ERM)	0.791	0.792	0.905	0.827
Business performance (PER)	0.861	0.874	0.905	0.705

Table 3. Reliability and convergence analysis of factors.

Analysis of Cronbach's alpha index showed that the value ranged from 0.791 to 0.871, meeting the requirements for the scale's reliability. Testing the total correlation coefficient, the observed variables "ACT3 = 0.696", "EERM1 = 0.432", "RMP1 = 0.642", "DT3 = -0.082", "PER4 = -0.057" were eliminated because the total correlation coefficient < 0.700. Table 4 shows that the average variance extracted (AVE) value ranges from 0.703 to 0.833; thus, the scales of each variable in the MHNC achieve convergent values.

4.3.2.2. + Difference value test

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The results of the Correlation between the variables are shown in Tables 4 and 5.

Correlations b	etween variab	les								
	ACT	CEO	COM	DT	EERM	ERM	PER	RMP	SIZE	SMAu
ACT	0.868									
CEO	0.252	0.849								
COM	0.244	0.671	0.838							
DT	0.333	0.398	0.524	0.913						
EERM	0.320	0.647	0.799	0.514	0.859					
ERM	0.339	0.697	0.674	0.537	0.617	0.910				
PER	0.313	0.465	0.563	0.944	0.543	0.631	0.840			
RMP	0.167	0.238	0.137	0.139	0.101	0.281	0.152	0.854		
SIZE	0.275	0.698	0.743	0.535	0.744	0.696	0.592	0.178	0.875	
SMAu	0.278	0.585	0.521	0.597	0.504	0.810	0.677	0.262	0.576	0.891

The square root values of AVE ranged from 0.838 to 0.913 and were all higher than the correlation coefficients between the factor itself and other factors from the bootstrapping technique at the 95% confidence level.

Table 5.

Table 4.

	ACT	CEO	COM	DT	EERM	ERM	PER	RMP	SIZE	SMAu
ACT										
CEO	0.283									
COM	0.283	0.807								
DT	0.403	0.477	0.637							
EERM	0.382	0.792	0.849	0.631						
ERM	0.406	0.853	0.808	0.670	0.761					
PER	0.360	0.552	0.654	0.754	0.640	0.771				
RMP	0.202	0.272	0.153	0.170	0.117	0.341	0.181			
SIZE	0.312	0.823	0.860	0.640	0.881	0.835	0.688	0.203		
SMAu	0.314	0.674	0.582	0.708	0.582	0.843	0.785	0.302	0.648	

Using the heterotrait-monotrait ratio (HTMT), Garson [62] argued that the discriminant value between two latent variables is guaranteed when an HTMT index <1. According to Table 4,5, the research results are all <1; therefore, the discriminant value between the latent variables in the research model is good.

4.3.2.3. Collinearity of Observed Variables

The results of the multicollinearity test of the observed variables are shown in Table 6.

Observation variable VII		Observation variable	VIF	Observation variable	VIF
ACT1	2.340	DT1	1.804	PER5	2.701
ACT2	2.397	DT2	1.804	RMP2	1.660
ACT4	1.641	EERM2	1.697	RMP3	2.171
CEO1	1.652	EERM3	2.097	RMP4	1.841
CEO3	2.013	EERM4	1.909	SIZE1	2.06
CEO4	2.755	ERM1	1.759	SIZE2	1.924
COM1	2.837	ERM3	1.750	SIZE3	2.729
COM3	1.713	PER1	2.038	SMAu2	2.193
COM5	1.894	PER2	2.480	SMAu3	2.284
COM6	2.732	PER4	2.136	SMAu4	2.514

 Table 6.

 Summary of VIF magnification factors

The partial least squares structural equation modeling (PLS – SEM) algorithm analysis was used to determine the collinearity of the observed variables. The results show that six observed variables, "ACT5," "CEO2," "SIZE4," "COM2," "COM4," "ERM2," and "SMAu1" have VIF >5 [63] and should be removed from the research model.

4.3.3. Official Model

The author uses PLS - SEM Bootstrapping analysis, after the first test, the P Values of the hypotheses ACT -> SMAu = 0.550, ACT -> ERM = 0.054, COM -> SMAu = 0.807, EERM -> ERM = 0.611 all have a significance level (P value) > 0.05, proving that hypotheses H1, H2, H7, H9 are not statistically significant and should be eliminated from the model.

After eliminating Hypotheses H1, H2, H7, and H9, the official research model was as follows:

The results of testing the suitability of the official model are shown in Table 7.

Table 7.

Test by R2 and R2 adjusted.

	\mathbb{R}^2	R ² adjusted
ERM	0.630	0.622
SMAu	0.507	0.501
PER	0.914	0.913

From Table 7, we can see that $R^2_{(PER)} = 0.913 > 0.5$ proves the official research model is meaningful. The results in Table 7 show that the factors in the model can explain over 91.3%, meaning that the independent variables can explain over 50% of the meaning of the dependent variable to evaluate the combination of SMAu with ERM and PE of import-export enterprises.

After eliminating H1, H2, H7, and H9, the results of the hypothesis testing are presented in Table 8.

Table 8.

Results of coefficient testing					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
CEO -> ERM	0.323	0.325	0.063	5.104	0.000
CEO -> SMAu	0.337	0.338	0.058	5.829	0.000
COM -> ERM	0.186	0.187	0.078	2.375	0.018
DT -> ERM	0.179	0.180	0.055	3.247	0.001
DT -> PER	0.829	0.830	0.023	36.836	0.000
DT -> SMAu	0.393	0.393	0.053	7.442	0.000
ERM -> PER	0.113	0.112	0.040	2.807	0.005
RMP -> ERM	0.116	0.116	0.043	2.692	0.007
SIZE -> ERM	0.216	0.213	0.068	3.163	0.002
SIZE -> SMAu	0.130	0.130	0.062	2.105	0.035
SMAu -> PER	0.090	0.091	0.045	1.994	0.046

After eliminating Hypotheses H1, H2, H7, and H9, the final official research model included the following observed variables: CEO, SIZE, COM, RMP, SMAu, ERM, DT, and PER. The results of the correlations between the variables in the research model are shown in Figure 2.



Final research model.

The research results evaluated the success of the author's group's article when building a research model with factors that positively affect the integration of SMAu with ERM under the support of DT to the PER of the enterprise. This study includes 15 research hypotheses and is suitable for 11 hypotheses, eliminating four hypotheses, H1 (ACT \rightarrow SMAu), H2 (ACT \rightarrow ERM), H7 (COM \rightarrow SMAu), and H9 (EERM -> ERM), from the research model.

DT has a positive effect on the PER. It is strongest in MHNC, with hypothesis H13 (DT -> PER) evaluating the DT process that strongly impacts PER in Vietnamese import-export companies, characterized by a beta coefficient of 0.829. DT is a moderating variable affecting all three factors: SMAu, ERM, and PER. DT impacts PER the strongest impact on PER, and DT > SMAu = 0.393 positively affects the SMAu. This finding proves that the application of information to export companies during the DT period is necessary. Many import-export companies have successfully applied DT models to SMAu and risk management. The hypothesis DT -> ERM = 0.179 accepts H12, this result is consistent with the research Of Karshalova et al. [49]; Xu, et al. [50]; Wu and Wang [51] and Mazayo et al. [52]. The combination of advanced technologies, such as ERP, AI, and BI, helps increase the accuracy and timeliness of information on SMAu and ERM. In addition, DT helps to analyze forecast data and predict potential risks, thereby improving and enhancing the company's PER. This result is consistent with that of Hadid and Al-Sayed [48]; Saeidi et al. [32]; Sariwulan et al. [20]; Chouaibi et al. [54], and Han et al. [55].

The CEO factor has a positive impact on SMAu and ERM; hypothesis H3 "CEO -> SMAu = 0.337" and hypothesis H4 "CEO -> ERM = 0.323" are accepted, which is consistent with previous research. In the current period of DT, combined with strong competition from import-export companies, the board of directors and management of the company often change management plans to improve work efficiency and limit possible risks. These results are consistent with those of previous studies [33, 34].

Enterprise size has the third strongest and most positive impact on SMAu and ERM; thus, hypothesis H5 "SIZE -> SMAu = 0.130" and hypothesis H6 "SIZE -> ERM = 0.216" are accepted. The enterprise size affects the use of SMAu and ERM in terms of human resources and capital. The high proportion of employee capacity and experience characteristics, capital size helps enterprises meet the purchase of management models... and is consistent with the research results of Cinquini and Tenucci [21]; Cadez and Guilding [31], and Turner, et al. [36].

The fourth strongest competitive capacity factor evaluates the competitiveness of import-export companies when facing competitors in the market. Competitive businesses have the opportunity to increase market share, improve product and service quality, create value for customers, and attract capital from investors. The research results accept hypothesis H8 "COM -> ERM = 0.186" similar to the research results [31], but reject hypothesis H7 and are eliminated from the model, and the research results are not similar to previous studies of Cinquini and Tenucci [21].

The factor that directly impacts positively ERM is RMP and accepts hypothesis H10 "RMP -> ERM = 0.116", this result is consistent with the research of risks [44, 45] to effectively manage risks requires businesses to build risk protection policies for businesses, build algorithms to calculate specific numbers in the ERM process, and need to comply with the application process [47].

The integration of SMAu with ERM for the research results is appropriate because hypothesis H14 "SMAu -> PER = 0.090", proves that SMAu innovations applied to companies can bring benefits and minimize losses to the company [20] and the hypothesis H15 "ERM -> PER = 0.113" under the moderating effect of the DT factor with the hypothesis H13 "DT -> PER = 0.829" all aim to ensure that information technology plays the role of both a catalyst and a driving force for strategies

designed to accomplish organizational goals that are accepted but not consistent with the research results [31]. The influencing factors of our group of authors demonstrate that the research model is suitable and feasible for application in import-export enterprises in Vietnam [64].

5. Recommendations and Future Research Directions

5.1. Recommendations

This study evaluates the level of integration of SMAu with ERM, with the support of DT to PER, in import-export enterprises in Vietnam. The author built nine factors affecting PER, but in the end, seven factors remained; two factors were eliminated: "ACT - Qualification of accounting staff" and "EERM - Risk management environment." Based on the existing research results, we propose solutions with theoretical and managerial implications to improve the application of SMAu with ERM under the support of DL to enhance the PER of import-export enterprises in Vietnam, as follows:

- Regarding People: "Board of Directors, management board, accounting staff of import-export enterprises": The author emphasizes the role of people in the process of using SMAu tools in ERM to improve PER in the DT period. The results show that the qualifications, experience, and leadership skills of the management and administration team promote the recognition and application of new tools to improve the business efficiency of import-export enterprises. However, human resource management based on qualifications is insufficient; it is also necessary to arrange people with the right professional capacity to increase their work efficiency. Most staff at import-export companies have many years of experience and are older, so their current accounting knowledge has not been updated regularly and promptly. With the rapid development of DT, knowledge integration has become difficult. Therefore, to enhance the role of people in integrating SMAu with ERM with DT support, businesses should regularly send employees to attend short-term certificate courses and recruit more young staff members to meet their needs.
- Regarding competitiveness: Import-export companies in Vietnam, especially those specializing in exporting goods, require a long-term business strategy that minimizes the possible risks of damage and loss. Building reputable business brands in international markets. Regularly Changing Technology and Product Design. Export companies must consider the importance of assessing competitiveness. To enhance competitiveness in the digital age, it is necessary to have management software that is appropriate for technology. Using AI will help businesses to predict and manage risks faster and more promptly. Build specific risk levels so that businesses can make timely adjustments.
- To help select and apply SMAu tools effectively, managers need to raise awareness of the role and value of the tool, avoiding fear of change. Regularly updated information regarding modern management techniques is suitable for business conditions and international trade. For import-export companies, it is necessary to pay attention to customer service quality tools, company brand, implementation time, production costs, and design innovation, and to promote research on the product life cycle and manufacturing process. Import-export companies should innovate their international payment processes, such as applying blockchain technology to support faster and safer payment activities instead of using traditional letters of credit payment tools.
- Selecting and applying ERM tools: It is necessary to have a risk-management environment and a systematic riskmanagement process from top to bottom. Improve the work of promptly transmitting and disclosing information about possible risks to an enterprise's Board of Directors. The boards of directors and senior leaders of import-export companies regularly support and urge subordinates to practice ERM, ensuring that the enterprise's ERM process always runs smoothly and coherently.

5.2. Limitations And Proposed Research Direction

5.2.1. Implications for the Limitations of the Research Model

This study focuses on import-export companies in Vietnam, a unit with a higher risk index in business activities than domestic goods-trading enterprises. The author's article contributes to the theory and demonstrates the factors that have a positive or negative impact on the model, thereby building a suitable hypothesis. However, research on integrating SMAu with ERM and DT to improve PER for Vietnamese enterprises is still new. The research is only suitable for some hypotheses but is not sufficient to meet the management needs of enterprises.

5.2.2. Proposed Research Direction

Building more observation variables and research hypotheses. Expanding the scope of research for many types of enterprises. In addition to the factors mentioned in this article, the author hopes that the next research direction will include some key factors affecting the research model, such as the impact of the internal control department and government policies.

6. Conclusion

This study contributes basic theoretical theories on integrating SMAu with ERM under the support of DT to improve PER in Vietnamese import-export enterprises. This study tests the level of influence of independent variables on human (qualification of accounting staff, capacity of the Board of Directors, and Board of Management of the company) and organizational groups (enterprise size, competitiveness, risk management environment, and risk protection policy) on the integration of SMAu with ERM under the support of DT to improve the PER of import-export enterprises through the application of SPSS 22 and SMART 4.1.0.0, evaluated according to the PLS-SEM model. This new research direction has attracted the attention of several scientists. Currently, the research direction does not have many general theoretical

frameworks for this integration to guide practical application; therefore, it is necessary to have many empirical and typical studies to perfect the theoretical framework and orientation for application to many types of enterprises worldwide.

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