

## CÁC YẾU TỐ TÁC ĐỘNG ĐẾN QUẢN TRỊ RỦI RO HOẠT ĐỘNG CỦA CÁC NGÂN HÀNG THƯƠNG MẠI VIỆT NAM TRÊN ĐỊA BÀN TỈNH ĐỒNG NAI

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### TỪ KHÓA

Hoạt động;  
Rủi ro;  
Thương mại;  
Ngân hàng.

### TÓM TẮT

Một yếu tố quan trọng là quản trị và giám sát rủi ro hoạt động; chúng là bảo vệ của ngân hàng để ngăn chặn vi phạm các nguyên tắc quản trị rủi ro ngân hàng. Nhóm tác giả đã tiến hành khảo sát với 350 cán bộ, nhân viên tại các ngân hàng thương mại Việt Nam trên địa bàn tỉnh Đồng Nai, thu về với 336 phiếu trả lời hợp lệ thông qua phương pháp lấy mẫu thuận tiện. Kết quả của nghiên cứu cho thấy rằng có năm yếu tố ảnh hưởng đến quản trị rủi ro hoạt động với mức ý nghĩa là 5%. Với hệ số R<sup>2</sup> điều chỉnh là 0,604, nghiên cứu cho thấy mô hình hồi quy tuyến tính bội đã được xây dựng phù hợp với tập dữ liệu. Cuối cùng, nhóm tác giả đưa ra năm ý tưởng về chính sách có thể cải thiện công tác quản trị rủi ro hoạt động với năm yếu tố được ưu tiên cao nhất đến thấp nhất: cấu trúc tổ chức quản trị rủi ro hoạt động có hệ số hồi quy chuẩn hóa là 0,468 và quan điểm lãnh đạo về quản trị rủi ro hoạt động có hệ số hồi quy chuẩn hóa là 0,159 thấp nhất.

## FACTORS AFFECTING OPERATIONAL RISK MANAGEMENT OF VIETNAM COMMERCIAL BANKS IN DONG NAI PROVINCE

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### ABSTRACT

Operational risk management and supervision are essential as a bank's reliable shield to prevent violations of banking risk management principles. Using the convenient sampling method, the authors surveyed 336 valid answer sheets, corresponding to 350 managers and staff working at Vietnam commercial banks in Dong Nai province. Research results show that there are 5 factors affecting operational risk management with a significance level of 5%, with an adjusted R<sup>2</sup> coefficient of 0.604, which means that the built multiple linear regression model. The fit for the data set is 60.4%, meaning the model explains 60.4% of the variation in operational risk management due to 5 impact factors. Finally, the authors propose five policy implications that contribute to improving operational risk management, corresponding to the five factors in order of priority: Operational risk management related to organizational structure the highest standardized regression coefficient of 0.468, and the leadership perspective on operational risk management with the lowest standardized regression coefficient of 0.159.

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## 1. Introduction

Vietnamese commercial banks are constantly conscious of the necessity of risk management systems and the link between risk management and profitability in order to secure the major goals in business operations. A bank with strong risk management capabilities is supposed to be in good health to endure bad business environment pressures. In the context of competition and integration, technology applied in banking is increasingly developed, and especially in the current financial crisis, the banking industry needs substantial reforms to strengthen operational risk management. The Basel Committee has included the issue of operational risk in the amendments to Basel II. Currently, many banks around the world have applied modern measures to manage operational risks, and used in Vietnamese commercial banks [1-4].

In addition, recent crises such as the collapse of Silicon Valley Bank and Signature in the US, sharp declines in interest margins at Chinese banks due to bad debt in the real estate industry, or the closure of the world's largest investment bank, Credit Suisse, once again clearly revealed the weaknesses in banking risk management. This fact necessitates the immediate development and implementation of a more effective risk management strategy. It is defined as identifying and assessing risk factors, monitoring risk levels, and selecting solutions based on an understanding of the need to improve operational risk management. Thus, the purpose of the research is to identify factors affecting operational risk management of Vietnamese commercial banks in Dong Nai province; and on that basis, the authors proposed policy implications that contribute to improving active risk management. The authors picked the issue in addition to managing credit operations to reduce and remove hazards in the credit giving process: "Factors affecting operational risk management of Vietnam commercial banks in Dong Nai province", which is necessary and meaningful to solving existing inadequacies in banking business practices. Based on the assessment of risk management activities of commercial banks and influencing factors, the article analyzed limitations in operational risk management and found the causes from which to propose policy implications practical and feasible to improve operational risk management activities of commercial banks.

## 2. Literature review and research model

### 2.1 Literature review

**Risk concept:** Risk is defined in many different ways. Risk is the uncertainties of the future. With this definition, risk is the uncertainty about future losses. According to the business dictionary, risk is the probability of encountering danger from any negative incident such as injury, loss, legal liability, or any negative occurrence due to the impact of factors that cause risk from inside or outside, which can be prevented and limited by prior planning [1-4].

**The concept of the operational risk:** Operational risk is an inherent risk of commercial banks. It can be said that operational risk is the most significant potential risk of commercial banks related to all parts of commercial banks, pervasive and interspersed with other types of risks, causing financial and non-financial losses. Therefore, operational risk management to make adjustments, minimize threats,

and maximize benefits is an inevitable step of modern banking management [1-4].

**The concept of operational risk management:** Operational risk management is the entire process of identifying, evaluating, controlling, monitoring, and reporting operational risks continuously to minimize losses arising during operations and ensure continuous business operations of the bank. Thus, operational risk management is how commercial banks manage activities to reduce operational risks and losses, ensuring business continuity [1-4].

The Basel Accords govern banking risk management in Jordanian commercial banks. According to the research findings, this study intends to clarify the risk management issue in Jordanian commercial banks in accordance with the Basel Agreement. **Theoretical structure:** The researcher studied risk management papers and found five elements influencing operational risk management including leadership perspective, organizational structure, management process, implementation of the process, and contingency business plan. This is the basis to help the management boards enhance operational risk management for banks, which becomes even more critical and urgent; it allows banks to operate their business safely and effectively [1-4].

### 2.2 Research model and hypothesis development

Based on the above studies, the authors synthesized the factors with the highest frequency in the studies, which are the five factors in the proposed research model as follows:

**Leadership perspective on operational risk management:** Leaders inspire followers to achieve goals. A leader is responsible for creating and transmitting trust, vision, and inspiration into the organization's activities towards the set goals. Leaders play an essential role in enhancing operational risk management because leaders shape the risk management culture [3-4]. A strong risk management culture has a strategic position that contributes to the effectiveness of operational risk management. Furthermore, risk management culture is also seen as a competitive advantage to help commercial banks overcome crises and other competitors. In addition, the board of directors also needs to review the operational risk management framework regularly (monthly/quarterly/yearly) to ensure that the operational risks that commercial banks face come from the causes anticipated by them [1-4].

*H1: Leadership perspectives on operational risk management have a positive (+) impact on operational risk management at Vietnam commercial banks in Dong Nai province.*

**Organizational structure of operational risk management:** Organizational structure is defined as how responsibilities and authority are assigned to the workforce. Research suggests organizational structure is how activities are divided, conducted, and coordinated. The organizational structure determines the work and functions of each position and reporting place in the organization. Enterprises need a clear organizational structure to coordinate enterprise activities and control members' performance [3-4]. The organizational structure clearly shown in the organizational chart with two main contents: work departments (tasks, working roles) and coordination and communication mechanisms between positions [1-3].

Establishing and operating an organizational structure is the division of responsibilities between individuals and organizations in the operational risk management process while ensuring that units properly perform their functions and tasks [1-3].

*H2: Organizational structure of operational risk management has a positive (+) impact on operational risk management at Vietnam commercial banks in Dong Nai province.*

**Operational risk management process:** Studies have identified that a good operational risk management process requires a specific division of authority and responsibility for each unit. Assigning unclear and overlapping tasks can cause operational risks to occur. Commercial banks need to identify positions with conflicts of interest [3-4]. From there, commercial banks must carefully minimize, monitor, and evaluate independently. Furthermore, operational risk management departments must operate independently from other departments, especially business departments [1-3].

*H3: Operational risk management process has a positive (+) impact on operational risk management at Vietnam commercial banks in Dong Nai province.*

**Implementing the operational risk management process:** Implementing the operational risk management process ensures that work is done in a specific order. The proposed operational risk management process includes four steps: identification, assessment, monitoring, and control/reduction. A consistently implemented process not only contributes to increasing the operational efficiency of employees but is also a control tool for management levels to control operational risks [5-6]. In essence, an exemplary implementation of the operational risk management process means performing well at each stage in the operational risk management process and the significance of the settings in proposing plans. This study built a scale to evaluate the operational risk management process's implementation based on the process's steps [1-3].

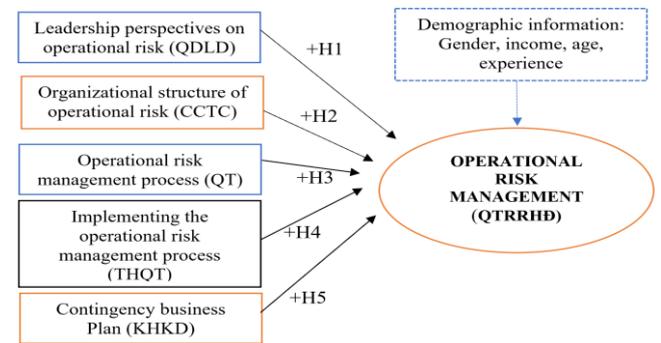
*H4: Implementing the operational risk management process has a positive (+) impact on operational risk management at Vietnam commercial banks in Dong Nai province.*

**Contingency business plan:** Studies highlight the necessity of establishing contingency business plans to limit losses and maintain continuous operations at commercial banks. For reasons beyond the control of the commercial bank, a severe event could result in the commercial bank being unable to carry out some or all of its business activities, especially concerning infrastructure, telecommunications, or information technology [3-4]. Therefore, this could lead to severe financial and non-financial losses for commercial banks and disruption of the financial system through payment systems. These capabilities require commercial banks to establish business contingency plans to maintain business continuity that consider the different types of situations the bank may encounter commensurate with its size and level of operational complexity [1-3].

*H5: Contingency business plan has a positive (+) impact on operational risk management at Vietnam commercial banks in Dong Nai province.*

The authors offer a study model that includes five factors: leadership perspectives on operational risk

management, organizational structure of operational risk management, operational risk management process, operational risk management process implementation, and contingency business strategy.



(Source: compiled by the authors)

**Figure 1.** Research model for factors affecting the operational risk management

### 3. Research methods

#### 3.1 Qualitative research

The study used the following main research methods to achieve the research objectives and content:

**Qualitative research method:** the authors researched the theoretical basis of operational risk, operational risk management, and operational risk management process from known domestic and foreign research on managing operational risks. In addition, the authors also researched and inherited research on operational risk management from globally recognized research documents. As a result, the working group developed an operational risk management framework to evaluate operational risk management. **Statistical and comparative methods:** The study used information from reports and statistics of Vietnamese commercial banks in Dong Nai province, allowing analysis, comparison, and comments and suggestions proposed appropriate recommendations. **Analysis and synthesis method:** To analyze, collected statistical data were calculated, described by absolute numbers, relative numbers, development trends over time, and valid tests for illustration [5-6].

#### 3.2 Quantitative research

**Survey method:** The survey was conducted to determine the achievements and limitations in risk management activities for bank officials and employees working at Vietnamese commercial banks in Dong Nai province. In addition, the authors used quantitative methods by collecting survey data and analyzing a multiple linear regression model with one dependent variable and many independent variables. The authors summarized, removed and analyzed descriptive statistics of survey questionnaires.

Finally, questionnaires and direct surveys were conducted with 350 managers and staff at Vietnamese commercial banks in Dong Nai province. Thus, the data processed was only 336 questionnaires, equivalent to 336 managers and staff members; the authors coded and cleaned data, tested Cronbach's Alpha reliability coefficient, EFA exploratory factor analysis, correlation analysis, multiple regression analysis, and T-test using SPSS 20.0 software [5-6].

4. Research results

After conducting the survey, the authors received 336 valid ballots out of 350 sent, and the usage rate reached 96.00% at Vietnamese commercial banks in Dong Nai province. Thus, there were only 336 questionnaires left for processing. The information from 336 valid ballots collected during the investigation was coded and entered into the SPSS 20.0 data processing program to conduct analysis for the research. The following are the results of some customer data. Demographic results: (1) The results showed that 148 respondents were male, accounting for 44.0% and 56.0%, respectively, and the remaining proportion was female. (2) The results showed that respondents with a monthly income of less than 10 million VND account for 4.8%, equivalent to 16 people. This rate is the lowest. Next, respondents with monthly income from 10 million VND to less than 15 million VND account for 22.0%, equivalent to 74 people. (3) The results show that the number of respondents aged 35 to under 45 accounts for the highest proportion of 51.2%, equivalent to 172 people, followed by the number of respondents aged 18 to under 25, accounting for the lowest proportion, 6.5% corresponds to 22 people, followed by the number of respondents aged 25 to under 35, accounting for the second highest percentage of 25.6%, with 86 people. Over 55 years old accounts for the lowest portion, 4.8%. (4) The results show that the number of respondents with working time less than 10 years accounts for 28.6%, equivalent to 96 people, followed by the number of respondents with working time from 10 years to less than 15 years, accounting for 43.8% corresponds to 147 people, which is the highest rate. Respondents with working time from 15 years to less than 20 years account for 18.5%, equivalent to 62 people. The lowest proportion is of those who has over 20 years of working.

**Table 1. Summary of Cronbach's Alpha results of factors**

No.	Variables	Initial variable number	Number of remaining variables	Cronbach's Alpha
1	QDLĐ	5	5	0.904
2	CCTC	4	4	0.919
3	QT	4	4	0.920
4	THQT	4	4	0.908
5	KHKD	4	4	0.910
6	QTRRHĐ	3	3	0.673
7	KMO and Bartlett's Test			0.788
8	Eigenvalues			2.171
9	Extraction Sums of Squared			78.988

(Source: the authors processed from SPSS 20.0)

Table 1 shows the KMO coefficient = 0.788, proving the applied factor analysis method is appropriate. At the same time, the Barlett Sig test significance level = 0.000 (< 0.05), so at 95% confidence level, the observed variables correlate. The result of a total extracted variance of 78.988% (satisfactory > 50%) explains 78.988% of the data variation. Therefore, the EFA results are appropriate. Varimax rotation shows that all observed variables have transmission coefficients greater than 0.5. The results showed that no variables were eliminated. The variables are extracted into 5 factor groups. The collected data is suitable for conducting exploratory factor analysis because the data

set satisfies the set condition, with the data set reaching a sufficient number of 336 observations.

**Table 2. Analysis of correlation matrix results**

Factors		QTRR	QDLĐ	CCTC	QT	THQT	KHKD
QTRRHĐ	Correlation	1	0.003	0.483**	0.340**	0.513**	0.391**
	Sig. (2-tailed)		0.952	0.000	0.000	0.000	0.000
QDLĐ	Correlation	0.003	1	0.038	0.013	0.219**	0.243**
	Sig. (2-tailed)	0.952		0.490	0.817	0.000	0.000
CCTC	Correlation	0.483**	0.038	1	0.102	0.100	0.043
	Sig. (2-tailed)	0.000	0.490		0.061	0.067	0.433
QT	Correlation	0.340**	0.013	0.102	1	0.141**	0.266**
	Sig. (2-tailed)	0.000	0.817	0.061		0.009	0.000
THQT	Correlation	0.513**	0.219**	0.100	0.141**	1	0.290**
	Sig. (2-tailed)	0.000	0.000	0.067	0.009		0.000
KHKD	Correlation	0.391**	0.243**	0.043	0.266**	0.290**	1
	Sig. (2-tailed)	0.000	0.000	0.433	0.000	0.000	
	N	336	336	336	336	336	336

(Source: the authors processed from SPSS 20.0)

Table 2 shows the results in a correlation coefficient matrix table indicating factors related to each other. Therefore, it can be tentatively concluded that these separate variables can be added to the model to explain the overall operational risk management assessment. However, the authors proceeded with the variable selection step for the model in the next section to determine whether the independent variables really can explain the dependent variable well or not. In addition to the correlation coefficient matrix, the authors also used the variance inflation factor (VIF) to determine whether there is multicollinearity. The authors continued to conduct the next step in analyzing the results of multiple linear regression in Table 3.

**Table 3. Analysis of multiple linear regression results**

Factors	Unstandardized Coefficients		Standardized Coefficients		Sig.	VIF
	B	Std. Error	Beta			
(C)	0.771	0.129			0.000	
QDLĐ	0.096	0.022	0.159		0.000	1.096
CCTC	0.287	0.021	0.468		0.000	1.027
QT	0.121	0.016	0.275		0.000	1.104
KHKD	0.200	0.018	0.398		0.000	1.139
THQT	0.095	0.016	0.221		0.000	1.209
Model	R	R Square (R <sup>2</sup> )	Adjusted R <sup>2</sup>	Std. error of Estimate	Durbin-Watson	
	0.781	0.610	0.604	0.330	1.854	

(Source: Authors processed from SPSS 20.0)

Table 3 uses qualitative and quantitative research methods. The study is based on the theoretical overview and research model developed for this study. This model data was tested with a sample of 350 questionnaires, yielding 336 valid questionnaires. With the results obtained, the research has positively contributed to management practice, specifically: (1) The scale used in this study is perfect. The research results show that the entire scale used in the study is reliable, has Cronbach's Alpha coefficient > 0.6, and can be used for other studies based on a 5%

significance level; the findings of the multiple linear regression analysis approach demonstrate that 5 factors influence operational risk management, and all of the hypotheses H1, H2, H3, H4, and H5 are accepted.

Besides, the regression model results show that the adjusted R<sup>2</sup> coefficient is 0.604, which means that the built multiple linear regression model fits the data set of 60.4%. Due to five influencing factors, the model has explained 60.4% of the variation in operational risk management at Vietnamese commercial banks in Dong Nai province. In addition, the authors conduct some tests, such as whether there is a difference in operational risk management according to customer demographic information when using banking services.

**Table 4.** T-test and Anova analysis

Test of Homogeneity of Variances about age				
	Levene Statistic	df1	df2	Sig.
QTRRHĐ	1.240	4	331	0.294
	Value		F	Sig.
	ANOVA about age		1.489	0.205
Test of Homogeneity of Variances about income				
	Levene Statistic	df1	df2	Sig.
QTRRHĐ	8.918	3	332	0.000
	Value		F	Sig.
	ANOVA about income		.922	.430
Test of Homogeneity of Variances about the experience				
	Levene Statistic	df1	df2	Sig.
QTRRHĐ	2.432	3	332	0.035
	Value		F	Sig.
	ANOVA about experience		5.542	0.001
T-test about gender				
	Levene's Test for Equality of Variances		T-test	
QTRRHĐ	F	Sig.	t	Sig.
	4.170	0.042	1.362	0.178

(Source: the authors processed from SPSS 20.0)

Table 4 shows that the 95% confidence level of the test of equality of equal variances has a value much less than 0.05, rejecting the hypothesis of equal variances and accepting the assumption of unequal variances. Conclusion: Different demographic information does not affect operational risk management when respondents evaluate Vietnam commercial banks in Dong Nai province. Thus, the content of the analysis of research results on factors affecting operational risk management with a significance level of 5% does not need to record other factors proposed policy in the model on demographic information.

## 5. Conclusions and management recommendations

### 5.1 Conclusions

Throughout the economy's evolution, operational risk management has received a great deal of attention. Many big institutions, such as the World Bank, have attempted to build strong and practical concepts of banking governance. Concerning the banking and financial sector, due to the crucial and specialized role of commercial banks in the overall stability and sustainability of the economy due to

the onset of the financial crisis, as well as other issues. Poor and failed operations of many commercial banks in recent times, operational risk management in commercial banks is becoming a top concern in many countries around the world, from developed countries with strong financial backgrounds to developing countries with fledgling banking and financial markets, including Vietnam.

With the results obtained, the research has positively contributed to management practice, specifically: (1) The scale used in this study is excellent. The research results show that the entire scale used in the study is reliable, has Cronbach's Alpha coefficient > 0.6, and can be used for other studies. (2) Based on a 5% significance threshold, the findings of the multiple linear regression analysis approach suggest that 5 factors influence operational risk management. H1, H2, H3, H4, and H5 are recognized hypotheses; this result is completely consistent with the results of the studies [1-2, 5-6]. The research findings reveal five impacting factors: leadership viewpoint on operational risk management, organizational structure, operational risk management process, anticipated business plan room, and execution of operational risk management process. To strengthen the operational risk management of Vietnamese commercial banks in Dong Nai province, policy implications must be implemented in the priority order listed below.

### 5.2 Managerial recommendations

(1) The organizational structure of operational risk management has the highest standardized regression coefficient of 0.468 among the five factors affecting operational risk management. The authors propose specific policy implications as follows. Banks continue to improve their commercial banking organizational structure by focusing on risk management. Building and perfecting the organizational structure model for operational risk management is an inevitable solution to enhance the operational risk management of commercial banks. The organizational structure of operational risk management needs to be synchronized and consistent with operational risk management, consistent with the overall organizational structure of commercial banks, and simultaneously meet standards according to international practices. It is necessary to improve the skills and quality of staff, especially staff specialized in operational risk management, through training and recruitment activities. Banks need to perfect the internal audit system to play the role of the third line of defense in operational risk management. The organizational structure must be streamlined to the maximum, focusing on one focal point based on establishing a functional risk management department. At the same time, functions between departments need to ensure independence and transparency. The staff has qualifications and skills appropriate to the assigned roles and tasks. Operational risk is a type of risk that is interwoven with other types of risk. Therefore, the focal point of operational risk management needs regular discussions with other risk management departments in commercial banks to develop measures to minimize losses and the frequency of operational risks, maintaining business continuity.

(2) Contingency business plans have the second-highest standardized regression coefficient of 0.398 among the five factors affecting operational risk management. The authors

propose specific policy implications as follows. Commercial banks need to develop and implement effective backup business plans. Banks need to plan to maintain business continuity in three cases: Loss of important documents and databases, IT system crashes, force majeure events such as war, fire, explosion, and natural disasters. The contingency business plan must be appropriate to the scale and business activities of the commercial bank. In addition, commercial banks need to make provisions for human resources, IT systems, and infrastructure to ensure help to maintain continuous and effective operations. Banks need to improve the quality of contingency business planning, which is one of the crucial factors determining the quality and effectiveness of risk management. Banks must aim to partially or entirely convert the digital banking model to support their business contingency plans.

(3) The operational risk management process has a standardized regression coefficient of 0.275, the third highest among the five factors affecting operational risk management. The authors propose specific policy implications as follows. Banks need to implement an effective risk management process and establish an internal credit information processing department responsible for synthesizing and storing information from branches of all banks. It is necessary to build/improve the process of organizing and implementing operational risk management according to the principle of effectiveness. The content of the operational risk management process is designed depending on the activities of commercial banks; however, it is necessary to ensure the steps of identification and assessment, control and reporting, and minimizing and maintaining business activities related to commercial bank customers. An effective risk management process requires smooth coordination between all departments of the commercial bank.

(4) The operational risk management process implementation has the fourth-highest standardized regression coefficient of 0.221 among the five factors affecting operational risk management. The authors propose specific policy implications as follows. Banks must provide clear regulations on implementation principles, measurement methods, procedures, and the functions and tasks of department positions in that implementation process. Implementing operational risk management tools must be periodically reviewed and continuously improved to suit commercial banks' risk appetite and business activities. Asking experts to train and guide the implementation of operational risk management tools is also one of the ways commercial banks can consider applying optimal operational risk management tools. Banks need to build infrastructure for using operational risk management tools. Infrastructure to deploy operational risk management tools includes an operational risk loss and database with specific information on loss history, assessment, control, and tracking of losses risk index. The declaration of loss data must be done synchronously throughout the system with detailed loss information, and units must be responsible in case of missing loss data collection and statement.

(5) The leadership perspective on operational risk management has the lowest standardized regression coefficient of 0.159 among the five factors affecting operational risk management. The authors propose specific

policy implications as follows. Banks must enhance senior management's perspective on operational risk and operational risk management. The board of directors' views are expressed in that commercial bank's operational risk management policy. Therefore, the first prerequisite solution is that all Vietnamese commercial banks must develop an operational risk management policy. They should deploy training programs for staff, especially the team of leaders and staff specialized in operational risk management. It is also vital to foster high-quality human resources with good ethics, solid risk management expertise, experience and working skills, and knowledge of information technology and foreign languages as critical resources for management work.

The results show that the model evaluates the impact of five factors on operational risk management at commercial banks. Research results show that five variables have a positive effect. However, the article still has some shortcomings and limitations, as follows. For the model to test the impact of factors on operational risk management, it only reached 60.4%, down to 39.6%. The remaining % is influenced by other factors. The authors only collected data from officials and employees in the bank. Therefore, the authors should narrow the survey subjects to the board of directors and risk management officers to test the impact of factors such as the role of controllers, participation, employee empowerment, and information disclosure activities on operational risk management.

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