https://doi.org/ 10.7251/EMC2302362S
UDK: 336.761.5:007.52
Datum prijema rada: 10. novembar 2023.
Submission Date: November 10, 2023
Datum prihvatanja rada: 15. decembar 2023.
Acceptance Date: December 15, 2023
Časopis za ekonomiju i tržišne komunikacije
Economy and Market Communication Review
Godina/Vol. **XIII** • Br./No. **II**
str./pp. 362-378
ORIGINALNI NAUČNI RAD / ORIGINAL SCIENTIFIC PAPER

THE REASONS FOR HUMAN ERRORS IN BANKS AND EMPLOYEES' MINDSETS

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Abstract: *This study is devoted to operational risk management in banks. One of the factors are human errors. According to the different studies, banks face a lot of challenges in managing human errors and cultivating employee's mindset. The aim of the paper is to identify the reasons and the frequencies of human errors in banks, to understand employees' attitude towards mistakes and to discover the gaps in managing operational risk in banks. By collecting and analyzing the survey data from the finance sector's employees globally and empirical evidence, the research is aimed to provide potential operational risk management solutions for banks, making the subject relevant. The qualitative method utilized in this study is based on factors influencing operational risk management. The key results are that employees' attitude, knowledge, automation, fat finger error, process documentation, support from colleagues, and attentional issues have significant relationships with the reasons for human errors in banks and thus has the impact on operational risk management in banks. Also, the research provides deeper conclusions about the frecuencies of human errors, employees mindsets and management response towards the mistakes in banks.*

Keywords: *operational risk management, human errors, mindset*

JET classification: *G21*

INTRODUCTION

One of the main challenges facing the finance banking sector today is operational risk. Its management entails taking the appropriate steps to ensure quality transactions and the provision of top-notch customer service (Grody, A. D., Harmantzis, F. C. and Kaple, G. J., 2006). According to the definition, operational risk is "the risk of direct or indirect loss, coming from inadequate or failing internal processes, people, and systems, or from external events" (BCBS, 2001). Any loss caused by insufficient or failing internal systems, people, and procedures can be categorized as a direct event. Adegoke (Adegoke, 2020), Hale (Hale, 2011), Trusova et al. (Trusova, Hryvkivska,

Melnyk, Gerasymova, & Maksym, 2021), Chapelle (Chapelle, 2019) examined internal process risk management and recommends that there should be strong internal control system that can cater for any failure of internal control process. Examples of indirect events include floods, terrorist attacks, political regime or government changes and natural disasters (Delija, 2015); (Gadzo, S. G., Kportorgbi, H. K. & Gatsi, J. G., 2019). Internal losses typically affect back offices, with financial market activities first, retail next, and then the IT department. (Chapelle, 2019). This paper is devoted to direct events, mainly human errors, and employees' mindsets in banks. The aim of the article is to determine the causes and frequency of human error in banks, as well as the attitudes of employees towards errors and the shortcomings in operational risk management in banks. The main objective of this research work is to examine human errors and employees' mindsets in banks. The research questions of this paper are: What are the reasons for human errors in the banks? What are employees' mindsets and behavior towards human errors? What is the management attitude to the employees' mistakes? What are the gaps in operational risk management?

Research Hypotheses:

H1: Human errors are common occurrences in daily routines and the potential for errors is present in many aspects of the banking industry.

H2: There is a relationship between reasons for mistakes (such as finger errors, lack of knowledge, lack of documentation, lack of support from the colleagues, lack of attention, mindset, and accountability for employees 'mistakes) and proposed independent variables in the model, such as employee age, working experience and working environment.

The paper's structure consists of a brief introduction of the problem, literature review that provides relevant background information about the topic, as well as the most recent studies pertinent to the paper. Further the paper includes detailed information about the implementation details of the methods. Afterwards the data that was collected and the results of the statistical tests that were performed are described in the research results and discussion section. Finally, the paper provides conclusions that include the explanation of the hypotheses, the assessment and contribution of the research's findings, the overview of limitations and the recommendations for further studies.

LITERATURE REVIEW

Human errors are a common and significant source of operational risk in various industries. These errors can lead to financial losses, accidents, reduced productivity, and damage to an organization's reputation. Human error is defined differently by the researchers, though they all have a common feature. A course of action that has negative consequences or does not provide the anticipated result is called a human error (Kanki, 2018). A significant part of the label human error's history is covered in the preface to Woods et al.'s book "Behind Human Error." (Woods D., 2010). They also point out that human error is an attribution after the fact and when people fail, they learn from it and adapt their activities. Error in human behavior refers to actions that were not intended by the actor, did not follow the expectations of the rules or an external observer, or led the task or system beyond what was considered appropriate (Senders, 1991). When describing human errors and estimating their frequency, human error dependence is also an important issue. The primary methods used in the quanti-

fication of human error are: Technique used for human error rate prediction (THERP), that was developed by Swain in 1983; Success Likelihood Index Method (SLIM), that was proposed by Embrey et al. (1984) for nuclear industry; Human error assessment and reduction technique (HEART), that was created by Williams in 1986; Absolute probability judgment (Humphreys, 1995). Afterwards Kirwan (Kirwan, 1997) in his studies investigated these methods and claimed that HEART has "a reasonable level of accuracy" but is not better than the other techniques.

The designation of human error is made after the fact and is subject to bias in retrospective. A simplified chain of events frequently becomes the event model after the result is understood. Error orientation is a personality characteristic that specifically applies to how people respond to and think about errors at work (Rybowiak V., Garst H., Frese M., Batinic B., 1999). Lazarus and Folkman (Lazarus, R. S., & Folkman, S., 1984) suggested that it could be viewed as a coping method. For instance, one approach to dealing with mistakes would be to hide them rather than admitting them or by trying to maintain calm in a mistaken circumstance so that you can deal with it and learn from it. The relationship between how people react to mistakes and their level of work involvement has been the subject of research ((Matsuo, 2019); (Maden, 2015)). According to Matsuo (2019), learning goal orientation has a positive effect on workplace engagement. According to Bipp and Demerouti's (Bipp, T., & Demerouti, E., 2015)) research, learning goal orientation influence work engagement, workplace innovation and behavior of employees. Additionally, it was discovered that job crafting mediated the link between learning goal orientation and job crafting. Job crafting (Wrzesniewski, A., & Dutton, J. E., 2001) is the process of self-initiated transformation that employees undertake to align their work with their personal preferences, motives, and passions. For example, reducing lowering production numbers or focusing on other preferred tasks in general, improving the quality of interaction, or choosing to interact less with people that cause them psychological stress. Therefore, positive error orientation will also generate proactive job crafting behaviors, people are more likely to invest in job crafting when they perceive mistakes as opportunities to learn and grow. Operational risk is indeed closely related to an organization's culture, decision-making processes, and the alignment between planned and actual business outcomes (Chernobai, A., Ozdagli, A., Wang, J., 2021). The management role is also important. Studies (Muhtaseb, H., Eleyan, D., 2021)show that financial-statement analysis, product profitability analysis, and total quality management are most closely related to operational risk management in the banking sector, confirming the importance of monitoring and reporting findings to management. According to other authors (Erzurumlu, Y.O., Avcı, G., 2021) two elements: organized internal governance mechanisms, which entail structured controls and monitoring, and adequate reporting to senior-level management in banks are the most crucial for ensuring that the banks' processes and products are transparent for shareholders. Employees can learn useful information from supervisor comments to improve their work processes and work more independently as they gain task-specific competency (Zhou, 2003). However, by creating a culture that values learning and encourages individual initiative, leaders can use feedback to improve followers' growth in addition to their performance on tasks (Park, 2021). Regularly giving feedback to subordinates influences the structures that keep and regulate behavior. Behavior regulation is always connected to changing an approach of action when mistakes are discovered. The impact of workload on the frequency of operational

risk events in banks was examined by Xu et al., (Xu Y., Tan T.F.; Netessine, S., 2021). They discovered that when there is a high workload, multitasking causes employees to make more standard errors, and when there is a low workload, performance-seeking risks are more likely to be taken. They concluded that hiring flexible employees might significantly reduce operational risk incidents by 3.2% –10%. This can be accomplished by giving employees flexibility in their job duties, such as the ability to move business lines or branches within the same organization on a quarterly basis. According to other findings (Chernobai, A., Ozdagli, A., Wang, J., 2021), the activities of banks outside the typical banking industry significantly raised the frequency of operational risk incidents. The findings of their studies demonstrated that higher complexity raises operational risk across all business lines for banks, including their core banking business. Complexity is the enemy of safety. Making progress means learning how to manage the complexity that results from reaching greater capacity levels while faced with limited resources (Woods, D.D., Patterson, E.S., and Cook, R.I., 2006).

The main motivating factor behind this study's execution is the huge amount of research on operational risk management techniques, however, to the best of researcher's knowledge and extent of literature review, there haven't been latest studies that analyze human errors from banks employees' mindsets perspective. The study attempts to fill in the gaps in the literature by looking into operational risk management practices and analysis of human errors in banks and banks employees' mindsets towards the errors.

METHODS

This study utilized the survey approach, which entails posing questions to participants and compiling their replies (Gujarati, 2004). The survey research approach was chosen because it fully displays the opinions, experiences, facts, mindsets, and behaviors of the respondents. The QuestionPro program was used to produce the survey, and Amazon Mechanical Turk, a crowdsourcing marketplace that enables researchers to complete time-consuming projects by distributed employees online, facilitated the distribution of the questionnaire via LinkedIn. The IBM SPSS Statistics -22-win64 tool was used to analyze the data. The population of the study is made up of people who work in the financial sector worldwide, primary bank employees, as the study focuses on operational risk management in banks, mainly human errors and the main survey research question is to find the gaps in operational risk management. The survey method is employed since it is challenging to obtain published data because it may be deemed sensitive or hidden. Therefore, primary data were chosen for this study. It also provides high-quality original research that is free of bias and outside perspectives. We have not concentrated on the precise tasks or positions held by bank workers; as a result, the questionnaires were designed for all staff, regardless of work experience, seniority, or level of responsibility, based mostly on their experience. The sort of tool utilized to collect data for this study was a questionnaire. The survey's design was created to be user-friendly and straightforward to promote respondents' attentive participation. Twenty-two questions make up the survey: eighteen questions are designed based on coding numbers with possible detailed responses, which were built based on the literature review, personal observation, data review of the Operational Riskdata eXchange Association (ORX), and proposed model. Four questions are designed simply, and rate respondents' opinions based on their responses as to whether they strongly agree (yes) or strongly disagree (no). The collected data were measured using

descriptive and inferential statistical techniques in line with the proxies for the dependent and independent variables. The descriptive statistical tool indicates the characteristics of respondents. The inferential statistical tool displays the model's measurement outcomes. Afterwards, data was evaluated utilizing statistical approaches including frequencies and Analysis of Variance and the hypotheses were tested.

RESEARCH RESULTS AND DISCUSSION

Response Rate

The distribution of questionnaires and the number of completed questionnaires are summarized in Table 1 below. 583 (90.81%) of the 642 questionnaires that were distributed received a response. The retrieved questionnaire passed data screening, and each item was determined to be valuable. Thus, 583 completed and returned questionnaires or 90.81% of the total given questionnaires were used for the analysis. The response rate is deemed sufficient for statistical reliability (Yun G.W., Trumbo C.W. , 2000).

Table 1. Summary of Response Rate

Items	No of Copies	Percentage (%)
Copies of Questionnaire Distributed	642	100
Copies of Questionnaire Completed	583	90.81

Source: Author's calculation based on questionpro. The reasons of mistakes in the banks and employee's mindsets survey, 2023.

Missing Values and Normality Test

As missing values are one of the primary challenges in data processing, the gathered data was verified to identify them (Tabachnick, B.G., & Fidell, L.S., 2013). Quantitative variables include response IDs (cases) and Q1 through Q22, 22 questions total. According to Hair at al. (Hair, 2014), the data should be checked for missing values and researchers should utilize 10% as a tolerable threshold for missing data. According to descriptives univariate statistics (MVA test), missing data elements were insufficient in the data set to be considered. Tabe 2 illustrates case processing summary and there are no missing values in Q1- Q22, meaning that all questions were answered.

Table 2. Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Q1 - Q22	642	100.0%	0	0.0%	642	100.0%

Source: Author's calculation based on SPSS 22.0

The acquired data was screened and analyzed for normality to determine whether variables may be assumed to be regularly distributed. This is an essential decision since, unless sample sizes are very large, most parametric statistical tests assume that

variables are normally distributed (Wayne, 1990). Table 3 below provides the results of the normality test. K-S test showed that statistic takes value 0.239 (Q1). Significance value provided by SPSS (quoted under Sig. for Kolmogorov-Smirnov and Shapiro-Wilk test) is .000 (reported as $p < .001$) proved that these variables are statistically significantly different from a normal distribution, meaning that we reject the null hypothesis that data is normally distributed.

Table 3. Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Q1	.239	642	.000	.881	642	.000
Q2	.261	642	.000	.840	642	.000
Q3	.410	642	.000	.673	642	.000
Q4, 1	.370	642	.000	.632	642	.000
Q4, 2	.388	642	.000	.625	642	.000
Q4, 3	.389	642	.000	.624	642	.000
Q4, 4	.455	642	.000	.560	642	.000
Q5	.183	642	.000	.936	642	.000
Q6	.157	642	.000	.941	642	.000
Q7	.169	642	.000	.941	642	.000
Q8	.151	642	.000	.943	642	.000
Q9	.153	642	.000	.953	642	.000
Q10	.143	642	.000	.949	642	.000
Q11	.158	642	.000	.954	642	.000
Q12	.143	642	.000	.952	642	.000
Q13	.151	642	.000	.949	642	.000
Q14	.145	642	.000	.952	642	.000
Q15	.157	642	.000	.951	642	.000
Q16	.143	642	.000	.952	642	.000
Q17	.183	642	.000	.940	642	.000
Q18	.236	642	.000	.868	642	.000
Q19	.241	642	.000	.867	642	.000
Q20	.291	642	.000	.846	642	.000
Q21	.195	642	.000	.896	642	.000
Q22	.226	642	.000	.882	642	.000

Source: Author's calculation based on SPSS 22.0

Characteristics of Respondents

The characteristics of respondents are shown in this section. Statistics cover age distribution, geographic distribution, the distribution of experience in the finance sector, working environment, for example if employee is working in the office or has remote working conditions. Table 4 presents the results and shows that most of the respondents

that participated in this study are between the ages of 25-44, meaning that 41.6% of the sampled respondents are between the ages of 25-34 and 34.1 % of the sampled respondents are between the ages of 35-44. While 12.5 % of the total respondents are between ages of 18-24, respondents above 45 years representing 11.8 % of total respondents. Moreover, as indicated in Table 4, 285 respondents constituting 44.4% of the total responses have been working in finance sector within a period of six to ten years and 203 respondents constituting 31.6% of the total responses have been working in finance sector less than five years. On the other hand, 114 respondents, which constitute 17.8 % of the total response, have been working within a period of eleven to fifteen years and only 5.9% of total respondents have been working in the finance sector for more than fifteen years. Also, from the Table 4 it can be deduced that, 67.6 % of sampled respondents work in the office, 22.9 % work in hybrid conditions, meaning that employees are expected to attend the office at least one day per week while being permitted to work remotely and 8.6% perform their work remotely. Information about geographic characteristics of respondents are as follows: 90.8% are from the United States of America, 4.1 % from Europe (DE, FR, GB, IT, LV, NL), 3.6 % from India and 1.4 % from Canada.

Table 4. Descriptive Statistics of the Respondents

Characteristics		Frequency N = 642	Percent
Age	18-24	80	12.5
	25-34	267	41.6
	35-44	219	34.1
	45-54	60	9.3
	55-64	13	2.0
	Above 64	3	.5
Year of work experience in finance sector	0-5 years	203	31.6
	6-10 years	285	44.4
	11-15 years	114	17.8
	15-20 years	25	3.9
	21 years and above	13	2.0
Working environment	In the office	434	67.6
	Hybrid (office and remote)	147	22.9
	Remote (at home, etc.)	55	8.6
Country code	BR	1	.2
	CA	9	1.4
	DE	6	.9
	FR	3	.5
	GB	3	.5
	IN	23	3.6
	IT	2	.3
	LV	3	.5

NL	9	1.4
US	583	90.8

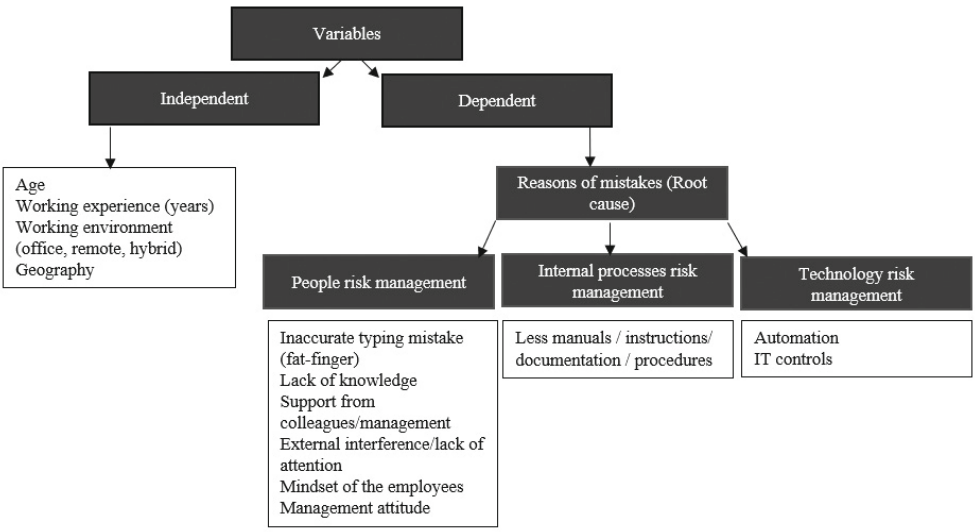
Source: Author's calculation based on SPSS 22.0

As the result, the above mentioned implies that, the data collected about age distribution, work experience distribution and working environment is suitable due to long and competent years of services of respondents and experience in different working conditions.

The variables for proposed model

The variables for the proposed model are shown in Figure 1. The independent variables (age, working experience, working environment, geography) were discussed in the previous section, the dependent variables were selected based on the literature review provided in section 1 ((Adegoke, 2020); (Hale, 2011); (Trusova, Hryvkivska, Melnyk, Gerasymova, & Maksym, 2021); (Chapelle, 2019); (Woods D., 2010); etc.). The survey includes all the variables considered in Figure 1, meaning that the model allows us to understand the main reasons for human errors in banks. The survey structure supports three main factors: people risk management, internal process risk management and technology risk management. To understand the main reasons of human errors, we extracted independent variables such as fat finger error, lack of knowledge, support from colleagues, lack of attention, mindset of employees, management attitude, lack of instructions/procedures, lack of automation and IT controls.

Figire 1. Model "The Reasons for Human Errors in Banks".



Source: Author's construction, The Reasons for Human Errors in Banks, and Employees' Mindsets. 2023.

Before going to the reasons of mistakes questionaries, respondents were asked to mark what is considered the "mistake" for them and select all the answers that apply (4 max). Possible answers: fat-finger error (typing mistake) (1), any deviation from the

process (2), wrong action, statement, or judgement (3), produces a result that is not correct or not intended (4). According to the definition of "mistake" all four answers are correct in the survey, meaning that in the best-case scenario respondents should select all answers, although respondents picked the most suitable for them. Table 5 proves that only 10.75 % of respondents understand the definition of mistakes to the full extent and selected all possible answers and more than a half of respondents, which is equivalent to 56.23%, have selected only one answer. At the same time 12 respondents representing 1.87% of all respondents do not know the definition of mistake or have not understood the question at all.

Table 5. Definition of mistakes, answers (n) selected

Answers selected (N)	Frequency N = 642	Percent
4	69	10.75
3	67	10.44
2	133	20.72
1	361	56.23
0	12	1.87

Source: Author's calculation based on SPSS 22.0

Table 6 provides detailed description of answers selected by respondents. N = 2568 means that 642 respondents were able to select 2568 answers, 4 responses maximum per respondent, however selected only 1104, that is less than a half. This outcome once more proves that the respondents do not comprehend what mistakes are. The results show that more than half of the respondents that participated in this study, *any deviation from the process* consider as a mistake (59%). However, 59.2% of respondents do not consider *wrong action, statement, or judgement* as the mistake (have not selected this answer). Moreover, 44.4% of respondents have chosen *fat-finger error* and 40.8% selected *wrong action, statement, or judgement.* An interesting finding was that only 27.7 % of respondents picked up *-produces a result that is not correct or not intended*, meaning that 72.3% do not consider this statement as a mistake. This supports Kanki (Kanki, 2018) and Woods (Woods D., 2010) in their studies and it implies that human error includes wider scope, than mistakes.

Table 6. Definition of mistakes, structure of responses

What is considered a mistake?	Selected		Not Selected	
N = 2568	Frequency	Percent	Frequency	Percent
fat-finger error (typing mistake)	285	44.4	357	55.6
any deviation from the process	379	59	263	41
wrong action, statement, or judgement	262	40.8	380	59.2
produces a result that is not correct or not intended	178	27.7	464	72.3
Total	1104		1464	

Source: Author's calculation based on SPSS 22.0

Based on the proposed variables outlined in the model "The Reasons for Human Errors in Banks," Table 7 provides characteristics of responses. The results show that most of the respondents (58%) make inaccurate typing mistakes, so called fat-finger errors, between 1-3 mistakes per week. 32.9 % of respondents claim that they find or correct their "fat-finger" errors themselves once per week, 29.9 % of respondents confirm that their mistakes are corrected by somebody else in the organization and 28.8 % of respondents find their colleagues' fat-finger errors also 1 per week. Respondents also have similar opinions about errors due to lack of knowledge. Most of the respondents which constitute 74.3 % of the total responses make 1-3 mistakes per week or at least 1 mistake per month, meaning that organizations should increase knowledge of personnel. 27.4 % claim that their mistakes due to lack of knowledge are corrected once per week and 23.5 % confirm that it happens once per month (50.9% total). Another finding is respondents argue that they lack documentation in their organizations. More than half of respondents (51.9%) complain that they make 1 mistake per week or month due to lack of procedures/documentation and they correct such colleagues' mistakes at least once per week. Respondents also assert that their errors result from their colleagues' lack of help and 1 to 3 mistakes are made by 48.3% of respondents each week. However, respondents state that they assist their coworkers: 25.9% of respondents help to correct mistakes weekly, 22.6% - from 2 to 3 times per week and 12.8% claim that they help daily. The results described above, support the findings of the studies (Adegoke, 2020); (Hale, 2011); (Trusova, Hryvkivska, Melnyk, Gerasymova, & Maksym, 2021); (Chapelle, 2019) that strong internal control system is crucial in any organization, as it helps safeguard against the failure of internal control processes.

Table 7. Reasons for human errors, structure of responses (percent, %)

Reasons of mistakes N = 642/Percent =100		**Daily**	**2 -3 per week**	**1 per week**	**1 per month**	**1 per quarter**	**1 per year**	**never**
Fat-finger error (inaccurate typing mistake)	employees' errors that are found/ corrected by themselves	6.5	25.1	32.9	22.4	6.1	3.7	1.1
	errors that are found/corrected by somebody else in the organization	7.6	20.6	29.9	26.5	6.5	3.6	2.8
	colleagues' errors that are found/ corrected by respondents	6.7	25.1	28.8	22.7	7.6	3.6	2.6
Mistakes due to lack of knowledge	employees' errors that are found/ corrected by themselves	7.8	23.2	26	25.1	6.5	5.1	3.4
	errors that are found/corrected by somebody else in the organization	6.5	20.2	27.4	23.5	10.4	5.3	3.3
	colleagues' errors that are found/ corrected by respondents	8.4	21.8	25.5	26.2	7.6	4.2	3
Mistakes due to lack of documentation	employees' errors that are found/ corrected by themselves	6.9	17.4	29	22.9	10.7	6.2	3.6
	errors that are found/corrected by somebody else in the organization	6.2	19.6	25.2	25.5	11.1	4.5	4.5
	colleagues' errors that are found/ corrected by respondents	5.6	18.7	28.8	26.2	9.5	4.7	3.3

Mistakes due to lack of support from the colleagues	employees' errors that are found/ corrected by themselves	6.9	23.8	24.5	23.4	10.6	4.5	3.1
	colleagues' errors that are found/ corrected by respondents	5.8	21.7	27.9	23.7	10	5	2.8
	respondents help their colleagues to correct the mistakes	12.8	22.6	25.9	21.7	7.2	5	1.6
Mistakes due to external interference/lack of attention (noise, etc.)		9	24.1	28.2	17.4	8.9	4.2	4.7

Source: Author's calculation based on SPSS 22.0

Regarding the mistakes due to lack of attention, 28.2 % of employees make such mistakes once per week, and 24.1 % are suffering 2-3 times per week. To minimize such mistakes, we suggest prioritizing tasks and focusing on the most important tasks first, and then allocating the attention accordingly. Employees with flexibility and multitasking skills can adapt quickly to the changing situation, prioritize and are able to manage their time effectively. This supports (Xu Y., Tan T.F.; Netessine, S., 2021) conclusions in the studies, that hiring flexible employees might significantly reduce operational risk incidents by 3.2% –10%.

Table 8 shows descriptive statistics of frequencies of mistakes. Statistics indicate that around 28 % of employees in the banks make human errors on average 1 per week (mean, median, mode), 24% of employees make one error each month and 22% of employees make 2 to 3 errors per week. This proves the first hypothesis H1, that human errors are common occurrences in daily routines as most of the bank employees make mistakes at least once per week. Low standard deviations and small variance coefficients indicate that data points are close to mean (Beyer, 2002). Some data is positively skewed with leptokurtic, and some data is negatively skewed with platykurtic (Navarro, 2022)

Table 8. Descriptive statistics of frequencies of mistakes

	Daily	2 -3 per week	1 per week	1 per month	1 per quarter	1 per year	never
Mean	7.43846	21.83846	27.69231	23.63077	8.66923	4.58462	3.06154
Standard Error	0.52349	0.67686	0.63966	0.68232	0.50464	0.20843	0.27281
Median	6.9	21.8	27.9	23.5	8.9	4.5	3.1
Mode	6.5	25.1	28.8	26.2	6.5	3.6	2.8
Standard Deviation	1.88748	2.44047	2.30632	2.46014	1.81952	0.75149	0.98365
Sample Variance	3.56256	5.95590	5.31910	6.05231	3.31064	0.56474	0.96756
Kurtosis	5.37363	-0.85340	0.69903	2.45732	-1.74422	0.28234	0.64039
Skewness	2.10893	-0.30083	0.70573	-1.22316	-0.08058	0.49818	-0.33181
Range	7.2	7.7	8.4	9.1	5	2.6	3.6
Minimum	5.6	17.4	24.5	17.4	6.1	3.6	1.1
Maximum	12.8	25.1	32.9	26.5	11.1	6.2	4.7

Source: Author's calculation based on SPSS 22.0

Employee mindset shapes the culture of the organization. A positive and optimistic mindset can improve the working environment and build trust in the organization (Woods D., 2010). The results presented in Table 9 show the mindsets of employees towards their mistakes and management attitude to it. It can be deduced that 37.1% of respondents feel sad when they find their mistakes, 30.2% of respondents remain neutral. However, when coworkers make a mistake, 37% of employees stay neutral. Moreover, in 35.8% of cases, management's response to employee errors is neutral. On the other hand, employees can feel management's reaction in 25.5% of situations – sad, 22.4% - happy and in 12.5% even angry reaction, but there is no evidence that management improves the situation. Another finding is that 15.9 % of employees feel angry when they find somebody's mistake and 3.3 % of employees become angry when they discover their own errors. This supports (Chernobai, A., Ozdagli, A., Wang, J., 2021) and (Erzurumlu, Y.O., Avcı, G., 2021); that operational risk is closely related to an organization's culture and proper internal governance mechanisms, which include structured controls, monitoring, and reporting to senior-level management, are crucial for ensuring transparency in banks. Encouraging employees to report their mistakes is a fundamental aspect of a healthy and productive organizational culture.

Table 9. Mindset of the employees, structure of responses (percent, %)

Feeling **N = 642/Percent =100**	**Neutral**	**Happy**	**Sad**	**Angry**
When employee finds his mistake	30.2	25.9	37.1	3.3
When employee finds somebody's mistake	37.7	17.8	25.1	15.9
Management attitude to the employees' mistakes	35.8	22.4	25.5	12.5

Source: Author's calculation based on SPSS 22.0

Creating an environment where employees are comfortable reporting their mistakes can ultimately lead to a more resilient and accountable organization, better equipped to manage risks, and improve performance. Who is accountable for mistakes or demonstrates responsibility when the error occurs? Table 10 provides evidence that 47% of respondents are accountable for their mistakes and feel their own fault. However, 19.9 % of employees feel that they need IT/system improvements in their organizations and 15.1% of employees criticize their documentation /manuals / instructions/. At the same time 11.8% of staff believe their management is responsible for their errors and only 2.3% of employees rebuke their colleagues. Another situation is when employees' coworkers make mistakes. Statistics show that in 31.9 % cases employees blame systems /IT/ automation, in 22.1% documentation, in 21.7% workers blame their colleagues and in 20.6% workers believe their management is to blame for their colleagues' errors.

Table 10. Accountability for mistake (percent, %)

Accountability for mistake N = 642 / Percent =100	Employee	Documentation /Manuals / Instructions	Systems /IT/ Automation	Management	employees' colleagues
employees' mistake	47	15.1	19.9	11.8	2.3
employees' colleagues' mistakes	-	22.1	31.9	20.6	21.7

Source*:* Author's calculation based on SPSS 22.0

Restatement and Test of Hypothesis Two

H2: There is a relationship between reasons for mistakes and proposed independent variables in the model, such as employee age, working experience and working environment.

To test the second H2 hypothesis of this research, we utilize a one-way ANOVA, or Analysis of Variance, to discover whether a link exists between one independent variable and three dependent variables, meaning to understand significant effect of factors described in the model. Age of respondents, working experience in the finance sector, and working environment are considered as independent variables, as stated in section 3.4. These variables have been examined, and the results are shown in Table 11. If Sig < 0,05, then this will result in significant effects (95% factor impacts the result, Sig < 0,01 -factor impacts the result 99%).

Table 11. One-way ANOVA

Dependent variables	Factors		
	Age. Sig.	Working experience. Sig.	Working environment. Sig.
Definition of mistakes - fat-finger error	.000	.000	.118
Definition of mistakes - any deviation from the process	.095	.266	.018
Definition of mistakes - wrong action, statement, or judgment	.005	.012	.000
Definition of mistakes - produces a result that is not correct or not intended	.819	.192	.049
Error rate, fat-finger employees' errors that are found/corrected by themselves	.002	.000	.000
Error rate, fat finger errors that are found/corrected by somebody else in the organization	.042	.000	.000
Error ration, fat finger colleagues' errors that are found/corrected by respondents	.005	.000	.000
Error rate due to lack of knowledge, employees' errors that are found/corrected by themselves	.028	.000	.000
Error rate due to lack of knowledge, errors that are found/corrected by somebody else in the organization	.006	.000	.000
Error rate due to lack of knowledge, colleagues' errors that are found/corrected by respondents	.056	.001	.000

Error rate due lack of documentation, employees' errors that are found/corrected by themselves	.433	.000	.000
Error rate due to lack of documentation, errors that are found/corrected by somebody else in the organization	.035	.000	.000
Error rate due to lack of documentation, colleagues' errors that are found/corrected by respondents	.253	.000	.000
error rate due to lack of support, employees' errors that are found/corrected by themselves	.035	.000	.000
Error rate due to lack of support, colleagues' errors that are found/corrected by respondents	.061	.000	.000
Error rate due to lack of support, respondents help their colleagues to correct the mistakes	.009	.000	.000
Error rate due to external interference/lack of attention (in the office noise, etc. at remote	.334	.001	.000
Mindset, when employee finds his mistake	.053	.006	.000
Mindset, when employee finds somebody's mistake	.018	.015	.000
Accountability for employees' mistakes	.031	.006	.000
Accountability for employees' colleagues' mistakes	.000	.000	.000
Mindset of employees regarding management attitude to the employees' mistakes	.113	.000	.000

Source*:* Author's calculation based on SPSS 22.0

The results show that all independent variables, age, working experience and working environment factors impact all the dependent variables with at least 95%. Meaning that working experience and working environment factors influence possible reasons of mistakes provided in the model significantly with 99%, however, age factor influences with at least 95%.

Therefore, we accept the second hypothesis H2, that there is a relationship between reasons for mistakes such as finger errors, lack of knowledge, lack of documentation, lack of support from the colleagues, lack of attention, mindset, and accountability for employees 'mistakes and proposed independent variables in the model, such as employee age, working experience and working environment.

CONCLUSIONS

To achieve the purpose of the study the authors conducted quantitative research by creating a survey, collecting data from 583 respondents from financial sector worldwide and testing two hypotheses to determine whether human errors are common occurrences in daily banking routines and if there is a relationship between reasons for

mistakes and proposed independent variables in the model, such as employee age, working experience and working environment.

Based on the discussion of findings earlier stated in the previous chapter it can be concluded that human errors and employees' attitude to their errors significantly influence operational risk management in the banks. Eight dependent variable (fat finger error, lack of knowledge, support from colleagues, lack of attention, mindset of employees, management attitude, lack of instructions/procedures, lack of automation and IT controls), and three independent variables (age, working experience, working environment) were used to measure the main reasons of employees mistakes in the banks, that support the main factors of operational risk management in banks: people risk management, internal process risk management and technology risk management. All variables were found significant. Two hypotheses were proved, and this implies that if banks focus on the reasons for human errors, then their operational risk management will be improved. Another finding of the study is that the employees' attitude and accountability for mistakes have direct relationships with the reasons for human errors in banks. When it comes to managing operational risk effectively, it's essential for management to focus not only on knowledge and documentation but also on the mindset and well-being of employees.

A notable limitation of our study pertains to the demographic composition of the survey respondents drawn from the Amazon Mechanical Turk platform. Individuals utilized the service during the research period predominantly comprise office workers from the United States of America. Therefore, future investigations stand to benefit from a more expansive and diverse participant pool from other geographies.

Another limitation of the present research pertains to the indirect losses of operational risk. Considering this limitation, that was described in the introduction section of the paper, it is imperative for future research to direct its attention toward the external events, such as terrorist attacks, political regime or government changes and natural disasters.

Delving into these limitations would enable a more holistic understanding of the complex interplay between direct and indirect events of operational risk. By considering and addressing these concerns, researchers can contribute to a more well-rounded and responsible approach to addressing issues of operational risk management.

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