



Investigating How People and Culture Risk Perception Influences Risk Management in the South African Banking Sector

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ABSTRACT

The purpose of this study is to investigate how bank workers' perceptions and understandings of culture and people risk in the South African banking sector influenced operational and overall risk management during the COVID-19 epidemic. To do this, a questionnaire survey was created and distributed to staff at the main five South African banks: ABSA, FNB, Nedbank, Capitec Bank, and Standard Bank; 391 questions were analysed. The analysis methods used included basic statistical, correlation, and factor analysis. The findings revealed that during the pandemic, understanding cultural risk and people risk had a good effect on operational risk and general risk management in the banking sector. This suggests that since people risk and culture risk are better perceived and understood, risk management in banks during COVID-19 has improved overall. This research adds to the body of knowledge on risk by demonstrating how risk management is influenced by how both risk factors are seen and by emphasising the need to foster an organizational culture that produces "good people." As a result, operational risk is decreased and bank risk management procedures are enhanced. One suggestion is that, in order to minimise unanticipated operational risk management quirks, banks' employers should cultivate favorable organizational cultures.

Keywords: Culture Risk, People Risk, Risk Perception, Operational Risk Management

JEL Classifications: G1, G21, G41

1. INTRODUCTION

It has not been recognised that people risk and culture risk are the two biggest hazards that could have a detrimental effect on the banking industry and lead to financial instability. Because they are a component of any bank's entire operational risk management strategy, these two interrelated risk types constitute a threat to banks. People may inadvertently or purposely make grave mistakes as a result of a hazardous culture, which could have a detrimental effect on banks (Evans, 2019). For instance, rogue traders and other scandalous behaviour may flourish in a bank setting due to a poor organisational culture that prioritizes sales over employee welfare. These types of behaviour have already been documented in banks throughout the world, with the most malevolent example being Nick Leeson of Barings Bank. In light of this, this paper

contends that these risks are one of the key hazards in the banking sector, particularly since the COVID-19 pandemic in 2021. Due to lockdowns and restricted movement, it is possible that the dynamics of organisational culture changed dramatically as a result of workers working remotely, as well as changes in the day-to-day business operations in the banking industry (Cherrington, 2021).

This emphasises the significance of having effective and adequate risk controls to ensure that people risk and culture risk are less harmful to the bank's operations, and that excellent organisational governance is formed by a healthy culture to reduce people risk (Schmitt, 2019: 3). This will promote more sound and proactive management of general operational risk, as well as positive and robust risk management practices in banks. Although banks have faced people and culture risks as part of operational risk, creating

the correct risk management environment can help manage these sorts of risks (Carretta et al., 2017).

People risk is defined as the risk posed by employees' actions and behaviors, such as discrimination, a lack of succession planning, poor planning, unethical behaviour, unintentional employee errors, and non-compliance with regulatory and legal requirements (The Institute of Operational Risk, 2015). It is difficult to avoid people risk; nevertheless, banks' proactive strategies and responses can help manage them (Dunivan, 2019). Culture risk relates to a bank's strategy, rules, processes, and practices that have not been adequately accepted and executed throughout the organisation (Coluccia et al., 2017).

The problem that this research study seeks to solve is to analyse and evaluate how people and culture risk in the South African banking sector may influence risk management and perceptions. As a result, this study tries to determine whether bank workers' grasp of these two concepts affects the bank's entire risk management strategy.

The primary goal of this research is to examine the impact of people and culture risk on the risk management framework in the South African banking sector. It intends to highlight the importance of a healthy corporate culture in the banking sector, as well as the opportunities and problems that banks confront in mitigating people and culture risks. An identifiable empirical goal is to discover how bankers' perceptions of people and culture risk influenced risk management during the COVID-19 epidemic.

2. LITERATURE REVIEW

Toma et al. (2012) emphasised that risk management is an important instrument for safeguarding organisational processes and can add and create value in an organisation. Soin and Collier (2013) define risk as the uncertainty about the outcome of an event or action, whereas risk management is the practice of controlling risk. Risk management ensures smooth operations and a favourable financial position, which attracts investors and clients and improves the organisation's public impression (Young, 2014; Aldasoro and Park, 2018).

Soin and Collier (2013) state that the relationship between risk and risk management has gotten little attention in the past. Organizations have subsequently implemented proactive Enterprise Risk Management (ERM) strategies and reaction plans to minimize risk by detecting, assessing, and effectively monitoring risks in order to achieve their strategic goals (Vasvári, 2015).

2.1. Defining Risk

Ivascu and Cioca (2015) define risk as the uncertainty of an incident that can jeopardize a company's ability to achieve its strategic goals. According to Praxton Research Group Limited (2018), risk is made up of three components: a future prospective event, likelihood (likely), and potential severity (effect). According to Duong (2013), uncertainty is a more expansive term than risk.

Operational risk refers to the potential losses that may occur from a bank's operations. Operational risk sources include people, procedures, as well as internal and external factors. Market risk, on the other hand, is defined as positive (profit) or financial changes caused by negative market movements. Operational risk includes losses from inefficient operations, employee misconduct, occupational health and safety hazards, cyber risks, and black swan events. (Mare, 2019; Hughes and Marzouk, 2021; Kozlov, 2022).

2.2. People and Culture Risk as a Component of Operational Risk

It is usually prudent for banks to be one step ahead in controlling operational risk, particularly people risk (McConnell, 2013). According to AON Risk Solution (2018), employees face a variety of choices and conditions during the workday, and how they conduct themselves and act might create or introduce new risks to banks. AON Risk Solution (2018) stated that there are two reasons for people risk: the mix of the workforce and the employee conduct. These two sources of human risk cannot be eradicated, but can be controlled with sufficient controls in place. Culture risk is an unrealised type of operational risk, as it usually originates from internal employee misconduct and dissatisfaction, lack of ethics and morals, and standard operating procedures. However, it affects the employees' ethics, behaviour, norms, and morals. Bostanci (2013) stated that paying more attention to culture risk assures success and improves the effectiveness of a bank's risk management plan.

2.3. The Relationship between People Risk and Culture Risk

The goal of a successful organisation is to have a culture created by shared values, beliefs, and the right people in the right position supported by the organisation's governance and strategy (Silva & Moreira, 2016). Culture is an organisation's most crucial component and strategy that employees articulate from top to bottom level (Zamini et al., 2011). Culture can lead to risk if not understood and managed adequately and continuously, as it is not a one-time or tick-box exercise (IFC, 2015). Culture risk contributes to people risk, and vice versa, due to their positive correlation. According to the Society for Human Resource Management (2022), three things happen when a bank has a strong culture and the ability to manage culture risk:

- Employees respond effectively to any situation that arises;
- Employees believe and trust that their responses are appropriate to address the situation, and
- Employees understand that there is value and reward in demonstrating the organisation's core culture.

A weak culture leads to resignations, lowers productivity, and inhibits the business from attracting or retaining talent (Wood and Lewis, 2018). However, a healthy culture helps employees, enhances an organisation's reputation, and aids in the resolution of strategic and operational issues (Lubis & Hamun, 2020). When top-level management and lower-level employees share similar beliefs and values, it is possible to conclude that the organisation's culture and people are inextricably linked. Sarhana et al. (2020) emphasised that weak culture has been shown to have a significant impact on individuals, how employees regard their organisation, and their adherence to ideals.

3. METHODOLOGY AND DATA

To achieve the empirical objectives, a positivist paradigm was selected as the most appropriate research paradigm. This paradigm allows one to identify and describe the relationship between variables to obtain a scientific or statistical understanding of the phenomena.

3.1. Sampling Procedure

For this study, a quantitative research design was chosen using a questionnaire survey. The survey approach used statistical software along with a questionnaire to explore the existence of a specific issue and the current status quo (Williams, 2007; Scotland, 2012). Slevitch (2011) claims that the positivist research paradigm entails data gathering from a specific population and is where quantitative research methodologies originate. According to Guba and Lincoln (1994), it offers true information about the worldview based on what is measured, seen, and documented.

Participants had to be 18 years or older, with a minimum educational level of a matric certificate or grade 12, and be presently engaged in the banking industry with at least six months of experience and knowledge of risk management. To collect information from banking industry participants, nonprobability purposive and snowball sampling approaches were used in this study.

3.2. Questionnaire Design

According to Tan (2018), a questionnaire consists of a set of questions or items designed to elicit information from participants by posing inquiries about the research subject. To draw participants and provide important data needed for the research project, the questionnaire design should present a good picture (Ferreira, 2018). The questionnaire for this research study was created by combining questions from previous studies taken from risk management systems (Newby, 2016; National Treasury of South Africa, 2022). It can be seen in the Annexure I.

For this research study, the questionnaire format chosen was a closed-ended question (i.e., the quantitative method), which used the structured question format and required participants to rate their responses according to the questions and scale provided by the researcher. The questionnaire format entailed different types of scales that can be used for structured questions. Quinlan et al. (2015) mentioned four types of rating scales, however, in this study, two scales were used in the questionnaire to gauge the responses. The first was a nominal scale which is a type of scale that can be used to spot variables without providing any quantitative measures. This scale cannot be measured, ranked, or

organised in any order. Examples include gender, marital status, religion, race, and country of birth. The second was an ordinal scale that can be ranked or compared based on its importance, such as strongly agree to strongly disagree.

Additionally, a 6-point Likert scale was used in the questionnaire for this research investigation. According to Rattray & Jones (2007) and Joshi et al. (2015), a Likert scale is an ordinal scale that helps participants select alternatives that better reflect their opinions. Likert scales are also useful for categorising participant responses based on relevance and for conducting analysis of those responses (Boyle et al., 2015; Joshi et al., 2015).

Table 1 below indicates the layout of the questionnaire used to collect information.

As seen in Table 1 above, the self-structured questions in Section B were drawn from the theoretical analysis presented above, which focused on operational risk and risk management in the banking industry. In addition, there are five risk management and five operational risk management questions in this area (BCBS, 2001; Boyle et al., 2015; Newby, 2016). Using a six-point Likert scale, the following response choices were available: (1) Strongly disagree, (2) disagree, (3) slightly disagree, (4) slightly agree, (5) agree, and (6) strongly agree.

Section C consisted of self-structured questions based on the theoretical analysis focused on understanding cultural risk in the banking sector. This section of the questionnaire consisted of 15 questions that focused on understanding culture risk in the banking sector (Newby, 2016; National Treasury of South Africa, 2020). Of the 15 questions, 10 were on culture risk and 5 were related to the COVID-19 pandemic to allow analysis of whether the COVID-19 pandemic influenced culture risk in the banking sector.

Section D also included self-structured questions based on the theoretical analysis of the perception and understanding of people risk in the banking sector, detailed in Chapter 3 of the research study. This section consisted of 15 questions that focused on people risk in the banking sector (Landy, 2016; Evans, 2019). Of the 15 questions, 10 were related to people risk and 5 were related to the COVID-19 pandemic to allow analysis of whether the COVID-19 pandemic influenced people risk in the banking sector.

3.3. Statistical Methods

A correlation coefficient was adopted for this research study to analyse the questionnaire data. Correlation is a statistical method

Table 1: Questionnaire layout

Section	Description	Sources	Objective	Question type and measurements
B	Operational risk and risk management (B1 – B10)	BCBS (2001), Boyle et al. (2015), Newby (2016)	To test the understanding of participants' perception of operational risk management	Closed-ended questions; 6-point Likert scale. (1) Strongly disagree, (2) disagree, (3) slightly disagree, (4) slightly agree, (5) agree, (6) strongly agree
C	Culture risk (C1 – C15)	Newby (2016); National Treasury of South Africa (2020)	To determine the perception of culture risk in the banking sector	
D	People risk (D1 – D15)	Derived from theory, Landy (2016), Evans (2019)	To determine the perception of people risk in the banking sector	

Source: Author compilation

used to analyse how two or more quantitative variables are related (Wetzels & Wagenmakers, 2012). Sometimes denoted by r with $-1 \leq r \leq 1$, the measure analyses a relationship between two factors and identifies whether there is a positive or negative correlation (Lind et al., 2006).

However, various measures can be used for the correlation, including the well-known Pearson's correlation and Spearman's rank-order correlation (Maree, 2012). Pearson's correlation is used to determine whether there is a linear correlation between two variables and works with raw data values (Zhang, 2008). Spearman's rank correlation is also known as the nonparametric version of Pearson's correlation and is based on ranking order (Takeuchi, 2010). This research study has applied Pearson's correlation to determine the linear relationship between two or more variables.

A reliability study on the data will also be conducted as per Flick (2011) and Heale and Twycross (2015). Cronbach's alpha, a reliability measurement technique, is employed for this (Maree and Pietersen, 2007). According to Joppe (2000), Welman et al. (2005), and Quinlan (2011), reliability is the analysis of generating consistent, reliable, and accurate findings in the same setting concerning reflecting the population of the research study.

Another statistical method applied to this study was the Factor Analysis (FA) method. To make the information or data simpler and easier to deal with, FA is a statistical strategy that condenses a large number of variables into a smaller number (Brown & Moore, 2012; Hair et al., 2013). Confirmatory factor analysis (CFA), which focuses on any variable that corresponds to a particular factor by using current theory, and exploratory factor analysis (EFA), which includes variables that have a link with any factor, are the two components of factor analysis (Brown & Moore, 2012). To test if the FA method is appropriate for this questionnaire and study, and to assess the adequacy of the sample, Kaiser-Meyer-Olkin (KMO) was used, and Bartlett's sphericity test was used to make sure the matrix differed from the identity matrix and was not random (Samuels, 2017). According to Field (2009), the KMO test should have a range of 0.5 to 1 to determine the proper sample adequacy for EFA. Malhotra et al. (2012), Watkins (2018), and Kaiser (1994) all state that KMO values for FA range from extremely bad (0-0.49), insufficient (0.5-0.59), moderate (0.6-0.69), good (0.7-0.79), better (0.8-0.89), and best (>0.9).

Structural Equation Modelling (SEM), also known as a multivariate statistical analysis, was also adopted for this research study to assist in achieving the primary objectives. SEM is a statistical modeling tool used to explain the theory of phenomena and establish theoretical relationships between two or more independent variables (Hair et al., 2008; Ullman & Bentler, 2012). SEM includes the participation of different statistical tools or techniques (such as EFA) and allows for the determination of relationships between variables (dependent and independent) that can be measured or observed and variables that cannot be measured or observed (Hox & Bechger, 1998; Hoyle, 2012). According to Urdan (2011), SEM helps to evaluate the set of dependent relationships simultaneously and to identify how variables can assess and test the fitness of the observed data.

For this research study, the SEM model was used to analyse the structural relationships between variables and latent values (unobserved). Furthermore, it is essential to note that when employing the SEM technique, the relationship between two or more variables will be free of errors based on the model's ability to remove all the mistakes or errors (Hardy & Bryman, 2004). According to Bowen and Guo (2011) and Malhotra et al. (2012).

4. RESULTS AND DISCUSSION

After the pre-testing was finished, the final questionnaire was given to the intended audience in April 2022. It took up to 15 minutes to complete the questionnaire, which was given to a sample of 400 people. 391 out of 400 participants or 97% of the respondents completed the questionnaire. As a reminder, data was gathered from the sample drawn from the top five commercial banks in South Africa using nonprobability purposive sampling and the snowball sampling technique.

4.1. Statistical and Correlation Analysis

The study conducted preliminary statistical analysis on the questionnaire using mostly descriptive analysis such as mean, variance, and standard deviation. Table 2 below shows how the questionnaire was structured for this study.

It can be observed in Table 2 that the Likert scale is mostly positive, indicating that the participants strongly agreed with the posed risk management statements. This is a common factor in all three sections of the questionnaire. We also observed that the mean or average for the sections was around five, while the standard deviation was near zero in most cases. The analysis is therefore that most of the participants agreed and understood some of the risk management principles in the context of the South African banking sector.

Table 3 below demonstrates the correlation to determine the relationship between people risk, culture risk, and risk management during the COVID-19 pandemic.

Table 3 shows a correlation coefficient of 0.434 between operational risk management and culture risk during the COVID-19 pandemic. It suggests that there was a medium positive linear association between operational risk management and culture risk during the COVID-19 pandemic, with $r = 0.434$ falling between $r = 0.30$ to 0.49 in the general guidelines. This implies that operational risk and culture risk were inextricably linked and positively influenced one another. The correlation coefficient between operational risk management and people risk during the COVID-19 pandemic was found to be 0.338. This association suggests that there was a moderately positive linear link between operational risk management and people risk during the COVID-19 pandemic.

For overall risk management, the relationship between the dependent variable, risk management, and culture risk during the COVID-19 pandemic was given at $r = 0.307$. This shows that the correlation between these was a medium positive linear relationship. This implies that general risk management had a

Table 2: Questionnaire statistics

Item	Strongly disagree (%)	Disagree (%)	Slightly disagree (%)	Slightly agree (%)	Agree (%)	Strongly agree (%)	Mean	Standard deviation
Descriptive statistics for Section B: Operational risk and risk management								
B1	5 (1.3)	3 (0.8)	25 (6.4)	42 (11)	113 (29)	203 (52)	5.21	1.06
B2	44 (11)	26 (6.6)	26 (6.6)	80 (20)	101 (26)	114 (29)	4.30	1.64
B3	3 (0.8)	2 (0.5)	3 (0.8)	49 (13)	130 (33)	204 (52)	5.34	0.86
B4	8 (2.0)	3 (0.8)	11 (2.8)	65 (17)	126 (32)	178 (46)	5.13	1.06
B5	5 (1.3)	7 (1.8)	6 (1.5)	55 (14)	125 (32)	193 (49)	5.22	1.01
B6	0 (0)	1 (0.3)	1 (0.3)	17 (4.3)	172 (44)	200 (51)	5.46	0.62
B7	1 (0.3)	2 (0.5)	5 (1.3)	23 (5.9)	173 (44)	187 (48)	5.37	0.74
B8	0 (0)	4 (1.0)	4 (1.0)	21 (5.4)	177 (45)	185 (47)	5.37	0.72
B9	3 (0.8)	7 (1.8)	10 (2.6)	62 (16)	174 (45)	135 (35)	5.05	0.94
B10	5 (1.3)	2 (0.5)	7 (1.8)	31 (7.9)	168 (43)	178 (46)	5.27	0.89
Descriptive statistics of Section C – Culture risk								
C1	0 (0)	3 (0.8)	1 (0.3)	19 (4.9)	201 (51)	167 (43)	5.35	0.66
C2	1 (0.3)	0 (0)	2 (0.5)	18 (4.6)	185 (47)	185 (47)	5.41	0.65
C3	1 (0.3)	3 (0.8)	4 (1.0)	24 (6.1)	206 (53)	153 (39)	5.28	0.73
C4	1 (0.3)	3 (0.8)	5 (1.3)	33 (8.4)	204 (52)	145 (37)	5.23	0.75
C5	0 (0)	0 (0)	2 (0.5)	14 (3.6)	140 (36)	235 (60)	5.55	0.59
C6	1 (0.3)	3 (0.8)	5 (1.3)	36 (9.2)	194 (50)	152 (39)	5.24	0.77
C7	0 (0)	0 (0)	0 (0)	7 (1.8)	129 (33)	255 (65)	5.63	0.52
C8	1 (0.3)	6 (1.5)	4 (1.0)	66 (17)	174 (45)	140 (36)	5.11	0.86
C9	2 (0.5)	7 (1.8)	2 (0.5)	38 (9.7)	197 (50)	145 (37)	5.19	0.84
C10	2 (0.5)	2 (0.5)	3 (0.8)	29 (7.4)	181 (46)	174 (45)	5.32	0.76
C11	2 (0.5)	6 (1.5)	17 (4.3)	60 (15)	157 (40)	149 (38)	5.07	0.96
C12	2 (0.5)	18 (4.6)	26 (6.6)	74 (19)	162 (41)	109 (28)	4.80	1.09
C13	3 (0.8)	14 (3.6)	30 (7.7)	59 (15)	181 (46)	104 (27)	4.82	1.07
C14	1 (0.3)	2 (0.5)	9 (2.3)	41 (10)	205 (52)	133 (34)	5.16	0.77
C15	3 (0.8)	6 (1.5)	14 (3.6)	62 (16)	182 (47)	124 (32)	5.01	0.94
Descriptive statistics of Section D – People risk								
D1	1 (0.3)	0 (0)	0 (0)	13 (3.3)	175 (45)	202 (52)	5.47	0.61
D2	5 (1.3)	3 (0.8)	6 (1.5)	38 (9.7)	182 (47)	157 (40)	5.20	0.89
D3	0 (0)	4 (1.0)	3 (0.8)	27 (6.9)	179 (46)	178 (46)	5.34	0.73
D4	1 (0.3)	5 (1.3)	6 (1.5)	32 (8.2)	187 (48)	160 (41)	5.25	0.81
D5	0 (0)	0 (0)	4 (1.0)	19 (4.9)	182 (47)	186 (48)	5.41	0.63
D6	1 (0.3)	3 (0.8)	8 (2.0)	12 (3.1)	189 (48)	178 (46)	5.35	0.75
D7	1 (0.3)	0 (0)	1 (0.3)	12 (3.1)	177 (45)	200 (51)	5.47	0.61
D8	1 (0.3)	2 (0.5)	3 (0.8)	18 (4.6)	193 (49)	174 (45)	5.36	0.69
D9	1 (0.3)	0 (0)	5 (1.3)	26 (6.6)	222 (57)	137 (35)	5.25	0.67
D10	0 (0)	0 (0)	2 (0.5)	17 (4.3)	194 (50)	178 (46)	5.40	0.60
D12	0 (0)	1 (0.3)	10 (2.6)	31 (7.9)	193 (49)	156 (40)	5.26	0.73
D12	1 (0.3)	5 (1.3)	18 (4.6)	43 (11)	212 (54)	112 (29)	5.04	0.86
D14	1 (0.3)	6 (1.5)	6 (1.5)	38 (9.7)	208 (53)	132 (34)	5.15	0.81
D15	1 (0.3)	1 (0.3)	5 (1.3)	42 (11)	210 (54)	132 (34)	5.19	0.73

Source: Author calculations

Table 3: Correlations

Items	Correlation coefficient	Culture risk during COVID-19	People risk during COVID-19	Operational risk management
Operational risk management	Pearson's correlation	0.434**	0.338**	1
	Sig. (2-tailed)	<0.000	<0.000	<0.000
	N	391	391	391
Risk management perception	Pearson's correlation	0.307**	0.271**	0.466**
	Sig. (2-tailed)	<0.000	<0.000	<0.000
	N	391	391	391

Source: Author calculations. NB, **Correlation is significant at a 0.01 level (2-tailed), *Correlation is significant at a 0.05 level (2-tailed)

positive relationship with culture risk during the increases in the COVID-19 pandemic. Risk management and people risk during the COVID-19 pandemic correlation was reported at $r = 0.271$, where $P < 0.000$. The correlation between these two variables is shown to be between $r = 0.10$ and 0.29 in the general guidelines, which is stated as a weak or small relationship. This implies that there was

a weak linear positive relationship between risk management and people risk during the COVID-19 pandemic. On the other hand, the correlation between risk management and operational risk management was $r = 0.466$. Indicating a medium positive linear relationship between these two variables, as the correlation was within $r = 0.30$ to 0.49 , called a medium relationship.

4.2. Factor Analysis

The EFA was conducted in Section B of the questionnaire to understand the general perception of culture risk in the banking sector. Table 4 below shows the KMO and Bartlett's test of sphericity for Section C of the questionnaire:

The minimal conditions for proper sampling have been reached for risk management, as indicated by Bartlett's test of sphericity at $P < 0.05$ (0.825) (Kaiser, 1994). With a KMO rating of 0.824, the sample is suitable for exploratory factor analysis.

Regarding culture risk, in Table 4 above, the results for Bartlett's sphericity test are 0.839, which is higher than the minimum required value of $P < 0.05$ to achieve adequate sampling. The KMO for Section C implies that the index is in the 'best' category (0.8-0.89), which means that the data are perfectly adequate for conducting FA. The KMO index of 0.837 for Section D, mentioned above, is in the category of 0.8-0.89 range, which means that it is the "best" category that represents the data as perfect enough to perform EFA.

To validate internal consistency, which aligns with the reliability of scale measurement in Sections B, C, and D of the questionnaire, the Cronbach alpha coefficient was calculated for the factors. The results for the three sections are given in Table 5 below.

In Table 5 below, both risk management and operational risk management have attained "good reliability," as shown by Cronbach's alpha values of 0.660 and 0.681, respectively. This demonstrates that the components of Section B are greater than the minimum needed to gauge dependability. As a result, it can be

Table 4: KMO and Bartlett's test of sphericity tests

KMO and Bartlett's test	Section B: Risk management	Section C: Culture risk	Section D: people risk
Kaiser-Meyer-Olkin measure	0.824	0.839	0.837
Bartlett's test of sphericity			
App. Chi-Sqr	746.394	1565.914	1525.586
df	45	105	105
Sig.	<0.001	<0.001	<0.001

Source: Author's calculations

Table 5: Reliability analysis

Construct/Factor	Number of items	Cronbach's alpha
Section B: Operational risk and risk management		
Operational Risk Management (1)	5	0.681
Risk management perception (2)	5	0.660
Section C: Culture risk		
Causes of culture risk (1)	6	0.717
Culture risk during the COVID-19 pandemic (2)	4	0.777
Organisational culture (3)	2	0.540
Culture risk awareness (4)	3	0.536
Section D: People risk		
Causes of people risk (1)	6	0.715
People risk during the COVID-19 pandemic (2)	6	0.779
Perception of people risk (3)	3	0.605

Source: Author Calculations

said that answers in Section B regarding Risk Management have a strong level of internal consistency, which indicates dependability.

The same table below demonstrates Cronbach's alpha for factors in Section C, where the causes of culture risk are 0.717, which shows that the results have 'very good reliability'. Culture risk during the COVID-19 pandemic obtained a Cronbach's alpha of 0.777. This means that both the causes of culture risk and culture risk during the COVID-19 pandemic show "very good reliability." Both Organisational culture and Culture risk awareness achieved Cronbach's alphas of 0.540 and 0.536, respectively, meaning that the results display 'poor reliability' and cannot be relied upon.

Finally, in the same table below, Cronbach's alpha is given for three factors in Section D which are concerned with people risk. Causes of people risk, and people risk during the COVID-19 pandemic have both achieved Cronbach's alphas of 0.715 and 0.779, respectively. These two factors fall within the "very good reliability" scale. On the other hand, the Perception of people risk attained a Cronbach's alpha of 0.605, which represents 'good reliability'. In conclusion, this means that the responses of People Risk from the questionnaire achieved very good internal consistency to measure reliability.

From the results above, the pattern matrix for all three sections of the questionnaire is then presented. But first, it is the matrix for Section B given; and the rest of the questionnaire sections will follow below.

Table 6 presents two factors extracted for EFA from the pattern matrix in Section B: Risk management. These two factors accounted for 45.735% of the variance for each factor demonstrated for EFA (Mooi et al.).

- Factor 1, named Operational risk management, consists of five items relating to overall risk management in the banking sector. These items are grouped based on similarities. These items comprise 33.147% of the variance with an eigenvalue of 3.315.
- Factor 2, named Risk management perception, consists of five items related to the overall understanding of risk management

Table 6: Pattern matrix for Section B: Operational risk and risk management

Item	Factors	
	Operational risk management (1)	Risk management perception (2)
B3	0.690	
B4	0.631	
B1	0.556	
B2	0.552	
B9	0.535	
B8		0.631
B5		0.630
B6		0.564
B7		0.352
B10		0.336
Eigenvalue	3.315	1.259
% of variance	33.147	12.588
Cumulative %	33.147	45.735

Source: Author calculations

Table 7: Pattern matrix for Section C: Culture risk

Item	Factors			
	Causes of culture risk (1)	Culture risk during the COVID-19 pandemic (2)	Organisational culture (3)	Culture risk awareness (4)
C15	0.533			
C10	0.506			
C8	0.501			
C4	0.477			
C1	0.445			
C9	0.329			
C13		-0.883		
C12		-0.875		
C11		-0.399		
C14		-0.299		
C3			0.720	
C2			0.453	
C5				0.685
C7				0.540
C6				0.346
Eigenvalues	4.477	1.787	1.158	1.061
% of variance	29.884	11.911	7.718	7.070
Cumulative %	29.884	41.755	49.473	56.544

Source: Author calculations

in the banking sector. These factors hold 45.735% of the variance with 1.259 eigenvalues.

The eigenvalues are positive, implying that these factors are positively significant and are important factors. Therefore, the interpretation is that the factors in both the two components of Section B play an important role in the SA banking sector and participants agreed with these statements. The variance for risk management is lower than the variance for operational risk management, implying that participants did not vary much when it came to answering that part.

The study also shows the pattern matrix for factors in Section C: Culture risk, which will also give us the eigenvalues for analysis. These are shown in Table 7 above.

From Table 7 above, all four factors accounted for a total variance of 56.544% for the EFA of culture risk in the banking sector.

- Factor 1, named Causes of Culture Risk, comprises six factors related to the origin or causes of culture risk in the banking sector. These six factors accounted for 29.884% of the total variance and 4.477 of the eigenvalues.
- Factor 2 consists of three factors related to the perception of Culture risk during the COVID-19 pandemic in the banking sector. These three factors account for 11.911% of the total variance and 1.787 of the eigenvalues.
- Factor 3 has only two factors related to the Organisational culture in the banking sector. These factors are grouped according to their similarities in the responses of the participants. These factors have 7.718% of total variance with 1.158 eigenvalues.
- Factor 4, named Culture risk awareness, has three factors from culture risk in the banking sector based on understanding culture risk awareness. These factors account for 7.070% of the total variances and hold 1.061 of the eigenvalues.

Table 8. Pattern matrix for Section D: People risk

Items	Factors		
	Causes of people risk (1)	People risk during the COVID-19 pandemic (2)	Perception of people risk (3)
D7	0.741		
D6	0.604		
D5	0.393		
D10	0.359		
D2	0.322		
D8	0.314		
D13		-0.733	
D15		-0.622	
D14		-0.628	
D11		-0.623	
D12		-0.565	
D9		-0.293	
D3			-0.803
D4			-0.665
D1			-0.245
Eigenvalue	4.497	1.811	1.153
% of variance	29.983	12.073	7.960
Cumulative %	29.983	42.057	49.747

Source: Author's own calculations

The table also shows the percentages of variance and eigenvalues for each of these four factors. Factor 1 has more items than Factor 2, Factor 3, and Factor 4. Most items in Factor 4 are greater than 0.5, labeled satisfactory for measuring reliability.

Finally, the pattern matrix for section D of the questionnaire is given below in Table 8.

Table 8 above presents the pattern matrix for Section D on people risk, highlighting that all three factors are significant when looking at the positive eigenvalues. These three factors account for 49.747% of the EFA in the people risk section. The following section consists of three people risk factors:

- Factor 1, labelled Causes of people risk, entails six factors arising from contributing factors of people risk in the banking sector. These factors have a total variance of 29.983% and eigenvalues of 4.497.
- Factor 2, named People risk during the COVID-19 pandemic, consists of six factors related to the influence of the COVID-19 pandemic on people risk in the banking sector. These are the results of how the COVID-19 pandemic has impacted the old ways of living, working, and doing business around the globe. These factors constitute 12.073% of the total variance, with an eigenvalue of 1.811.
- Factor 3, categorised as the Perception of people risk, contains three factors related to the perception of people's risk in the banking sector. These three factors consist of 7.960% of the total variances and 1.153 of the eigenvalues.

All three factors in this section have a positive eigenvalue, which contributes to a greater and more critical positive direction.

4.3. SEM Analysis

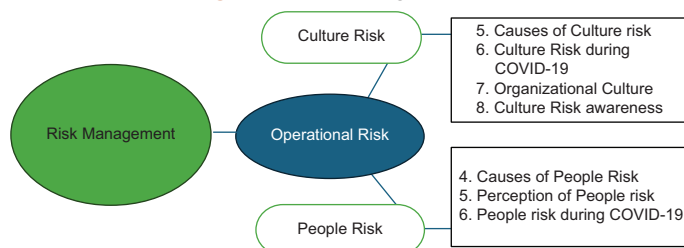
The structural equation model (SEM) was adopted to achieve the final empirical objective of analysing the influence of the understanding of people risk, and culture risk on operational risk management in the banking sector. In theory, SEM is used to construct a model to identify theoretical constructs and assess the relationship between two or more variables. The structural model of SEM can be demonstrated after the validity measurement model has been evaluated and considered adequate. However, before it is done, the theoretical linkage between culture risk, people risk and how they are linked to operational risk management and risk management perception is presented in Figure 1 below.

The second section of SEM focuses on assessing the validity of the structural model. This subsection aims to seek the validity of the assessment of the structural model and the theoretical relationships between numerous variables (Kline). To evaluate the goodness-of-fit indices for the structural model, the following guides were used:

- The CFI model has produced an index of 0.856 for this research study, which is a good fit for the model.
- The Tucker-Lewis Index (TLI) also produced an index of 0.828, which is also deemed a good model fit, as it is closer to 0.9.
- For CMIN/DF (Chi-square test statistics divided by the degrees of freedom), a value of 2.166 (277.252/128) shows a good fit.
- For this research study, RMSEA obtained a value of 0.057, with a 95% confidence interval with a lower value of 0.047 and an upper value of 0.066. This indicates that a good model fit.

However, the CFI and TLI values are below the value of 0.9, which is a good model fit, whereas the CMIN/DF and RMSEA indicate a good model fit. It can be concluded that the specified structural model is satisfactory for data fits. Moreover, there is enough evidence of construct validity for the structural model to be considered valid. Table 9 demonstrates the latent variable model.

Figure 1: Risk management link



Source: Author interpretation

Table 9: Validity SEM Model

Construct	Coefficient	P-value
Risk management		
Operational risk management	0.747	<0.001
Risk Management perception	0.637	<0.001
Culture risk		
Causes of culture risk	0.832	<0.001
Culture risk during the COVID-19 pandemic	0.622	<0.001
Organisational culture	0.423	<0.001
Culture risk awareness	0.529	<0.001
People risk		
Causes of people risk	0.736	<0.001
People risk during COVID-19 pandemic	0.665	<0.001
Perception of people risk	0.650	<0.001

Source: Author's own calculations

Table 9 above shows the latent variables of SEM. The risk management factor has operational risk management and risk management perception as factors, which obtained coefficients of 0.742 and 0.628, respectively. The coefficients of both factors contributed significantly to the influence of the perception of risk management at the level of $P < 0.001$ level.

Regarding culture risk, the following factors, namely, the causes of culture risk with a coefficient of 0.832, culture risk during the COVID-19 pandemic with a coefficient of 0.622, organisational culture with a coefficient of 0.423, and culture risk awareness with a coefficient of 0.529, proved to be significant in influencing the perception of risk management at the level of $P < 0.001$ level.

Moreover, for people risk, the following factors, namely, causes of people risk with a coefficient of 0.736, people risk during the COVID-19 pandemic (0.665), and perception of people risk with a coefficient of 0.650, also contributed significantly towards influencing risk management perception at the $P < 0.001$. This means that factors that measure people risk were statistically significant at $P < 0.001$. However, the relationship between people risk and risk management perception as a dependent variable was insignificant based on the regression path.

5. CONCLUSION AND POLICY RECOMMENDATIONS

In the financial industry, risk is the most important factor contributing to financial stability. As a result, it is up to scholars to find and reveal additional mechanisms that could lead to losses in the form of unknown dangers. The purpose of this study was

to determine whether or not individuals and cultural risk are interconnected, and if so, how. To conduct this analysis, this study was constructed and consisted of a self-structured questionnaire established from a risk management background in the banking sector.

From a South African viewpoint, the findings suggest that understanding people risk and cultural risk improves operational risk management in the South African banking system. This study adds to the literature by describing the theoretical foundation for people risk and culture risk in risk management in the banking industry. Using basic statistical analysis, factor modelling, and the SEM approach, we were able to demonstrate a favourable relationship between an understanding of people risk, cultural risk, and a bank's overall risk management strategy in South Africa. This study gives the banking industry a better understanding of the aspects that influence overall risk management, particularly during COVID-19. These elements were identified as people risk and culture risk, therefore this study gives realistic understudied causes that may contribute to operational hazards that were previously not given much attention.

One recommendation is that South African banks must build and sustain a positive and healthy organisational culture through human resource interventions, according to the relevant policy suggestion. This will reduce people risk and errors as employees become more self-aware of their activities, as well as operational risk. This improves the bank's general risk management strategies.

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ANNEXURE I

1. QUESTIONNAIRE

A. RISK MANAGEMENT						
To test the understanding of participants perception risk management						
#	How strongly do you agree or disagree with the following statements?	Strongly disagree	Disagree	Slightly Disagree	Slightly Agree	Agree Strongly agree
1	Operational risk is the prospect of loss resulting from inadequate or failed procedures, systems or policies.					
2	Operational risk is any risk except financial and market risk.					
3	All identified operational risks should be documented in the risk register.					
4	Risks are monitored by a risk manager*.					
5	I am a risk champion* at my own capacity.					
6	Inadequacies of operational risk assessment can make or break the bank's operations.					
7	I believe culture is one of the best solutions in managing risk.					
8	I consider all forms of risks when making business decisions.					
9	I believe operational risk occurs as a result of people's lack of good risk management.					
10	I believe that everyone should act as a risk manager.					

*A risk champion is someone appointed to assist the risk owner with matters related to risk.

*A risk manager is someone appointed to identify, assess, analyse and monitor the risks that company is exposed to.

*A risk owner is a someone (head of department of function) who is ultimately accountable for ensuring the risk is managed appropriately.

B. CULTURE RISK						
To determine the perception of culture risk in banking sector.						
#	How strongly do you agree or disagree with the following statements?	Strongly disagree	Disagree	Slightly Disagree	Slightly Agree	Agree Strongly agree
1	Culture risk is a risk resulting from a bank's operational struggle because of differences in language, customs, values, behaviour norms, and customer preferences.					
2	Creating the right environment is essentially about creating the right culture.					
3	I believe that culture risk is a dynamic set of behaviours and attitudes toward risks.					
4	I believe culture risk is due to the misalignment between company values and the employees.					
5	Training and awareness of culture risk are important to the culture of the bank.					
6	Integrated culture guarantees that employees will operate within the boundaries of acceptable risk.					
7	Communication is key in improving risk culture.					
8	More operational risk failures are causing more culture risk since the Covid-19 pandemic					
9	I believe that culture develops the ability of the banks and employees to identify risks.					
10	Employees' unethical behaviour may cause culture risk.					
11	Culture risk has increased during Covid-19 pandemic.					
12	It is more difficult to maintain culture since the Covid-19 pandemic.					
13	I believe it is challenging to develop a mature and proactive culture risk during Covid-19 pandemic.					
14	I believe that good culture risk is needed to face Covid-19 pandemic.					

C. PEOPLE RISK						
To determine the perception of people risk in banking sector						
#	How strongly do you agree or disagree with the following statements?	Strongly disagree	Disagree	Slightly Disagree	Slightly Agree	Agree Strongly agree
1	People risk refers to risk as a result of employee error, key employees leaving the bank, fraud, mistreatment of employees, lack of expertise or competence, lack of compliance with existing procedures and policies.					
2	I believe people risk is having the wrong people in the right positions.					
3	Failing to understand company brand may cause people risk.					
4	People risk is having a weak tone at the top that sets little precedent.					
5	Bad employees can become the source of tremendous financial, operational and public relations stress.					
6	I believe that companies may avoid people risk by means of recruiting, retaining and developing current employees.					
7	Good people risk management is a win-win activity.					
8	Absenteeism, work ethics, key man dependency, other internal issues are regarded as people risk.					
9	I believe that people risk may cause culture risk.					
10	It is more difficult to maintain people risk since the Covid-19 pandemic.					
11	Planning ahead with financial provisions and succession plans is a way of mitigating people risk.					
12	People risk in the banking sector have increased since the covid-19 pandemic.					