

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

CHAPTERS

	PAGE
Chapter 1: Orientation	1-1
Chapter 2: Conventional risk management in the banking industry	2-16
Chapter 3: Holistic risk management in the banking industry	3-74
Chapter 4: Quantitative research method	4-118
Chapter 5: Quantitative data analysis	5-144
Chapter 6: Qualitative research method and analysis	6-203
Chapter 7: Conclusions and recommendations	7-215
Annexures	231
References	265

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

INDEX

	PAGE
<u>CHAPTER 1:</u>	
<u>ORIENTATION</u>	
INDEX	1-1
SYNOPSIS	1-2
1.1 BACKGROUND	1-3
1.2 STATEMENT OF THE PROBLEM	1-6
1.3 OBJECTIVES OF THE STUDY	1-7
1.4 IMPORTANCE OF THE STUDY	1-7
1.5 DEMARCATION OF THE STUDY	1-8
1.6 RESEARCH METHODOLOGY	1-8
1.7 LIMITATIONS OF THE STUDY	1-12
1.8 STRUCTURE OF THE STUDY	1-14
1.9 CONCLUSION	1-15

CHAPTER 2:

CONVENTIONAL RISK MANAGEMENT IN THE BANKING INDUSTRY

INDEX	2-16
SYNOPSIS	2-17
2.1 INTRODUCTION	2-18
2.2 THE EVOLUTION OF RISK MANAGEMENT	2-18
2.3 UNCERTAINTY AND RISK	2-19
2.4 THE NATURE OF RISK	2-22
2.5 CATEGORIES OF RISK	2-23

2.6	RISK MANAGEMENT APPROACHES IN THE BANKING INDUSTRY	2-38
2.7	THE ROLE OF RISK MANAGEMENT IN THE BANKING INDUSTRY	2-41
2.8	RISK MANAGEMENT PROCESSES IN THE BANKING INDUSTRY	2-52
2.9	CORPORATE GOVERNANCE AND RISK MANAGEMENT	2-61
2.10	RISK MANAGEMENT CULTURE IN THE BANKING INDUSTRY	2-68
2.11	CONCLUSION	2-73

CHAPTER 3:

HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

INDEX		3-74
SYNOPSIS		3-76
3.1	INTRODUCTION	3-77
3.2	BACKGROUND OF HOLISTIC RISK MANAGEMENT	3-77
3.3	THE EVOLUTION OF HOLISTIC RISK MANAGEMENT	3-79
3.4	SUCCESS FACTORS FOR THE IMPLEMENTATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY	3-83
3.5	TOWARDS A HOLISTIC RISK MANAGEMENT FRAMEWORK	3-103
3.6	CONCLUSION	3-117

CHAPTER 4:

QUANTITATIVE RESEARCH METHOD

INDEX		4-118
SYNOPSIS		4-119
4.1	INTRODUCTION	4-120
4.2	SURVEY DESIGN	4-120
4.3	ETHICAL CONSIDERATION	4-125
4.4	DEMARCATON OF THE STUDY	4-126

4.5	POPULATION AND SAMPLING	4-127
4.6	DATA COLLECTION	4-134
4.7	THE PROCEDURE FOR ANALYSIS	4-136
4.8	CONCLUSION	4-142

CHAPTER 5:
QUANTITATIVE DATA ANALYSIS

INDEX		5-144
SYNOPSIS		5-146
5.1	INTRODUCTION	5-147
5.2	DESCRIPTIVE DATA OF THE SURVEY	5-147
5.3	PRELIMINARY DATA ANALYSIS	5-148
5.4	THE VALIDITY AND RELIABILITY OF THE MEASURES USED IN THE STUDY	5-155
5.5	THE SEARCH FOR THE RELATIONSHIP	5-157
5.6	THE NATURE AND EXTENT OF THE DIFFERENCES BETWEEN THE DEPENDENT VARIABLES	5-172
5.7	SUMMARY OF RELATIONSHIPS	5-181
5.8	SOPHISTICATED STATISTICAL ANALYSIS OF THE DATA	5-183
5.9	PRELIMINARY DATA ANALYSIS	5-183
5.10	THE VALIDITY AND RELIABILITY OF THE MEASURES USED	5-188
5.11	THE RELATIONSHIPS BETWEEN THE DIFFERENT VARIABLES	5-188
5.12	ESTIMATING NON-RESPONSE BIAS FROM THE SPEED OF RESPONSE	5-197
5.13	SUMMARY OF RESULTS	5-198
5.14	CONCLUSION	5-202

CHAPTER 6:

QUALITATIVE RESEARCH METHOD AND ANALYSIS

INDEX	6-203
SYNOPSIS	6-204
6.1 INTRODUCTION	6-205
6.2 QUALITATIVE RESEARCH COMPONENT	6-205
6.3 INSIGHTS GAINED FROM INTERVIEWS	6-207
6.4 SUMMARY OF FINDINGS FROM THE QUALITATIVE RESEARCH	6-210
6.5 GAPS BETWEEN QUANTITATIVE AND QUALITATIVE RESULTS	6-213
6.6 CONCLUSIONS	6-213

CHAPTER 7

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING

INDUSTRY:

CONCLUSIONS AND RECOMMENDATIONS

INDEX	7-215
SYNOPSIS	7-216
7.1 INTRODUCTION	7-217
7.2 ACHIEVEMENT OF STATED OBJECTIVES AND IMPLICATIONS FOR THE STUDY	7-217
7.3 MAIN CONCLUSIONS	7-225
7.4 RECOMMENDATIONS	7-226
7.5 SHORTCOMINGS OF THE STUDY	7-227
7.6 FURTHER RESEARCH PROPOSALS	7-228
7.7 CONTRIBUTION OF THIS STUDY	7-229
7.8 CLOSURE	7-229
ANNEXURES	231
REFERENCES	265

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

EXHIBITS

CHAPTER 1:

Exhibit 1 : 1 The research framework 1-10

CHAPTER 2:

Exhibit 2 : 1 Uncertainty drives risk 2-21

Exhibit 2 : 2 Best case and worst case relationship 2-21

Exhibit 2 : 3 Top-down and bottom-up approach 2-40

Exhibit 2 : 4 The risk assessment process 2-53

Exhibit 2 : 5 Likelihood of an adverse event 2-54

Exhibit 2 : 6 Impact of a loss 2-55

Exhibit 2 : 7 The managed bank versus the governed bank 2-67

CHAPTER 3:

Exhibit 3 : 1 The evolution of holistic risk management 3-79

Exhibit 3 : 2 The Jigsaw holistic risk management framework 3-84

Exhibit 3 : 3 Holistic risk spectrum framework 3-89

Exhibit 3 : 4 Holistic risk spectrum "B" 3-90

Exhibit 3 : 5	Strategic and operational holistic risk management framework	3-98
Exhibit 3 : 6	The role of holistic risk management	3-99
Exhibit 3 : 7	Proposed holistic risk management framework / Cycle	3-104
Exhibit 3 : 8	A proposed simplified framework for HRM in the South African banking industry	3-105
Exhibit 3 : 9	Holistic risk systems architecture	3-114

CHAPTER 4:

Exhibit 4 : 1	The content and format of the questionnaire used in the survey	4-124
Exhibit 4 : 2	The stratified sample of bank representatives	4-133
Exhibit 4 : 3	The data collection procedure	4-135
Exhibit 4 : 4	The returns of questionnaires in the survey	4-137
Exhibit 4 : 5	The response for the different categories of section c of the questionnaire	4-141

CHAPTER 5:

Exhibit 5 : 1	Guidelines to the choice of central tendency technique considering the shape of the distribution	5-150
Exhibit 5 :2	A summary of the descriptive statistics for the various categories included in HRM	5-151
Exhibit 5 :3	Cronbach's alpha to test the internal reliability for section B of the questionnaire	5-156
Exhibit 5:4	A summary of the variables contained in sections B and	

	C of the questionnaire	5-158
Exhibit 5:5	An overview of multivariate techniques to use considering the nature of the variables	5-160
Exhibit 5:6	The procedure used to establish relationships	5-162
Exhibit 5:7	The results of the tests to establish relationships between the type of bank and the application of HRM	5-163
Exhibit 5:8	The results of the tests to establish relationships between banks using a different number of departments to initiate HRM and the application of HRM	5-164
Exhibit 5:9	The results of the tests to establish relationships between the size of the bank (based on the number of employees) and the application of HRM	5-166
Exhibit 5:10	The results of the tests to establish relationships between the size of the bank (based on turnover) and the application of HRM	5-167
Exhibit 5:11	The results of the tests to establish relationships between listed and unlisted banks and the application of HRM	5-168
Exhibit 5:12	The results of the tests to establish relationship between top banks and other banks and the application of HRM	5-169
Exhibit 5:13	The results of the test to establish relationships between the respondents' position in the bank and the application of HRM	5-170
Exhibit 5:14	A summary of the results in establishing	

relationships between the banks as distinguished by means of independent variables and the application of HRM	5-171
Exhibit 5:15 The mean values of category 1: Analysis of the current position regarding the application of HRM	5-173
Exhibit 5.16 The mean values of the category 2: The formulation of HRM strategy	5-175
Exhibit 5:17 The mean values of category 3: The establishment of a plan for HRM	5-176
Exhibit 5:18 The mean values of category 4: The implementation of HRM strategy	5-177
Exhibit 5:19 the mean values of category 5: The review of results	5-178
Exhibit 5:20 The mean values of category 6: Evaluation and plan modification	5-179
Exhibit 5:21 The results of the tests to establish relationships between non-respondents and respondents	5-181
Exhibit 5:22 Summary of the results of the multivariate analysis to establish relationships between variables	5-182
Exhibit 5:23 Summary of the descriptive statistics for the twenty three elements included in section A of the survey questionnaire	5-184
Exhibit 5:23 Summary of the descriptive statistics for the twenty three elements included in section A of the survey questionnaire	5-185
Exhibit 5:24 Cronbach's alpha of internal reliability for section A of the questionnaire	5-188
Exhibit 5:25 A rotated factor matrix of the twenty three bank	

culture variables	5-190
Exhibit 5:26 Results of the factor analysis of the bank culture variables	5-191
Exhibit 5:27 The correlation coefficients of the predetermined factors of the culture of the bank and the management of risk	5-193
Exhibit 5:28 The correlation coefficients of the established factors in the culture of the bank and the application of HRM	5-195
Exhibit 5:29 The results obtained to establish relationships between respondents and non-respondents	5-198
Exhibit 5:30 A summary of the results obtained in determining relationships between the independent variables and the culture of the bank	5-199
<u>CHAPTER 6:</u>	
Exhibit 6 :1 Measurement of content generated from interviews	6-210

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

ANNEXURES

A: The questionnaire	231
B: Descriptive statistics of the results obtained	236
C: List of banks licensed to operate in South Africa	242
D: A copy of the covering letter	246
E: A copy of the follow up letter used in the second mailing	248
F: A copy of the follow up letter	250
G: Frequency table indicating the position of the respondents	252
H: A summary of the aspects contained in section "A" of the questionnaire	254
I: A summary of the aspects contained in section "B" of the questionnaire	256
J: A summary of the aspects contained in section "C" of the questionnaire	258
K: Interview schedule / discussion guide	260

THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

ACRONYMS

ACB	Automated Clearing Bureau
BIS	Bank of International Settlements
G30	Global Derivatives Study Developed by 30 developed countries
HRM	Holistic Risk Management
RWG	Risk Working Group



THE APPLICATION OF HOLISTIC RISK MANAGEMENT IN THE BANKING INDUSTRY

DEFINITIONS OF CONCEPTS

BANK FOR INTERNATIONAL SETTLEMENTS

An international institution based in Basel, Switzerland serving as a bank for central banks, playing an important role in providing central banks with a broad range of financial services for managing their external reserves. The BIS acts as host for the Basel Committee on Banking Supervision.

DERIVATIVE

A financial instrument whose value is determined or derived from the values of an underlying, or primitive, instrument. Derivatives can be traded on organized exchanges or privately negotiated over-the-counter. Swaps, forwards, futures, and options are all examples of derivatives.

HOLISTIC RISK MANAGEMENT

The process by which an organisation takes a holistic approach to managing its risks, measuring both all types of risks and exposures to these risks throughout the entire organization.

STRATEGY

The plan or patterns that integrates risk goals, risk policies, risk activities and risk actions of a bank into a cohesive whole. In this study strategy includes both the

content of strategy and the processes by which strategic actions are decided on, and implemented.

AUTOCORRELATION

A relationship in time series data in which elements in a sample set are correlated, positively or negatively, to previous elements in the sample set. If a financial time series has autocorrelation, then the past behaviour may be able to predict the future.

BANKRUPTCY FUTURES

A futures contract based on the value of the CME Quarterly Bankruptcy Index. The Index is composed of business and personal bankruptcy rates but is heavily weighted toward personal bankruptcy.

BASEL ACCORD



An agreement among the world's leading bank regulators reached in 1988 (currently under review) to achieve international convergence in the measurement of the adequacy of banks' capital and to establish minimum capital standards. Named after the Basel Committee, which sponsored it.

BASEL COMMITTEE ON BANKING SUPERVISION

An agreement among the world's leading bank regulators reached in 1988 (currently under review) to achieve international convergence in the measurement of the adequacy of banks' capital and to establish minimum capital standards. Named after the Basel Committee, which sponsored it.

BASIS

The price differential between a financial position held and the benchmark instrument used to hedge or price that position. The basis may reflect different time periods, product forms, qualities or locations.

