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1 Introduction

*It does not matter to predict the future,
but to be prepared for.¹
Perikles (490 bc. – 429 bc.)*

1.1 Motivation and Relevance

Risk management systems (RMS) notably gained the attention of enterprises in recent years. In particular, economic downturns and insolvencies at the end of the 90's were determining factors.² Lacks of transparency and control have been identified as main reasons. The legislator reacted by intensification of existing legal regulations, e.g. implementing the Corporate Sector Supervision and Transparency Act (KonTraG) in Germany.³

Currently RMS evolved thoroughly to a significant part of corporate management activities and represents a crucial key success factor. Erben and Romeike (2002) argue that in the long term merely enterprises, which efficiently control their risks and chances, will be successful and will increase their enterprise value.⁴ Against this background, the basic idea behind a RMS needs to be introduced briefly in accordance to Hinterhuber (1998):

Gambling at a casino implicates either success or failure. The gambler puts him at risk. Corporate activities base upon the same fundamentals. Certainly those activities should be applied in a way that in each possible occasion a fixed minimum success level – for example an increase in enterprise value in the long term - is reached. On this account, the potential outcome of corporate activities may not exceed a certain amount of risk to prevent the enterprise from a downfall. Enterprise risks and developments on the financial markets have shown that a faithful handling of risk is not yet a standard at all. Numerous managers even show an immense risk appetite.⁵

The issue of risk management is about ongoing timeliness, however a thorough and careful handling may represent a task of a responsible manager anyway.⁶ Successful enterprises therefore already implemented RMS or similar control

¹ Cf. Wengert & Schittenhelm (2013), p. V

² Cf. Arena et al. (2013), p. 51

³ Cf. DAI & KPMG (2000), p. 1

⁴ Cf. Erben & Romeike (2002), p. 2

⁵ Cf. Hinterhuber (1998), p. 12

⁶ Cf. Kloman (2001), p. 65

systems in the past years.⁷ Table 1 illustrates the results of a survey of BDI and PwC (2011) that i.a. points out the huge importance of RMS for enterprises but also the undisputable need for improvement in this area.⁸

Quantity	Statement
81%	(Very) High importance of risk management for operating results
90%	Risk management characterized through risk identification and risk assessment
28%	Satisfactory risk management
> 1/3	Modification of RMS since last economic downturn
-	Risk evaluation takes place inconsistent and heterogeneous

Table 1: Recent Developments in Risk Management
 Source: Own illustration, according to BDI & PwC (2011), p. 8

The results implicate that Risk Management is about particular importance for enterprises. The last economic downturn leads to a process of rethinking the RMS. In spite of the huge acceptance of RMS, solely 28% of the consulted enterprises are satisfied with their RMS in the current design.

In the further course of this thesis the 'Risk Identification' and 'Risk Assessment' ('Risk Analysis', 'Risk Evaluation' and 'Risk Treatment') as well as 'Risk Communication & Monitoring' stages will be identified through a literature review as essential sub processes of an efficient RMS. Hence, these sub processes build the rudiment for the scientific theoretical framework that will be assembled in chapter 3.

1.2 Research Objectives

The objective of this paper is to analyze the theoretical basics of RMS and to transfer this theoretical knowledge to a real life problem. Furthermore implications for a risk management framework will be provided. In the course of the practical part of this thesis the entire RMS at Hannover Airport (HAJ) - sincere thanks for the constructive collaboration and support at this point - is described elaborately. In this context enterprise specific problems and solutions are carved out. On the other hand general recommendations are derived. The analysis focuses on a case-analysis of RMS at an International Airport. Financial

⁷ Cf. *ibid.*, p. 65

⁸ Cf. BDI & PwC (2011), p. 8

enterprises with their special characteristics are not part of the analysis. Non-financial enterprises are faced with the challenge of a less developed corporate risk management in comparison to a bank or insurer. A generalization therefore should be treated with caution. The results provide further implications for applying RMS in practice though. A focus needs also to be centered at strategic and operational risks, which are hardly to specify. The risk evaluation, especially risk quantification will therefore also be part of the analysis. Altogether, the thesis can be seen as a proposal for designing a RMS including the risk reporting that is necessary to meet external requirements.

The target group of this thesis is about a wide variety. On the one hand the results are destined to clarify the nature and practical application of RMS to risk managers as well as the chief executive officers (CEO) of enterprises that need to implement or modify a RMS. On the other hand the thesis raises a claim to meet the scientific requirements and to be suited for academic research and further studies.

Each analysis requires the screening of information in the area of research. To work on the objectives and associated problem fields of this thesis a research question serves as a guidance of orientation and specifies the corresponding knowledge gap. A research question acts on the assumption of existing knowledge and the answer to this question facilitates the expansion of knowledge.⁹ In addition, a research question asks for interrelations between conditions and effects.¹⁰

For the thesis at hand the research question is formulated as:

Research Question: How is a Risk Management System constructed theoretically and how can it be applied in practice?

1.3 Overview

Summarily, the thesis is structured into 6 chapters, which are illustrated in figure 1. Based on the fundamentals of risk management, this thesis gives attention to

⁹ Cf. Gläser & Laudel (2010), p. 61

¹⁰ Cf. *ibid.*, p. 61

the status quo in RMS research. Subsequently implications for the RMS of an International Airport are prepared through a HAJ-case study.

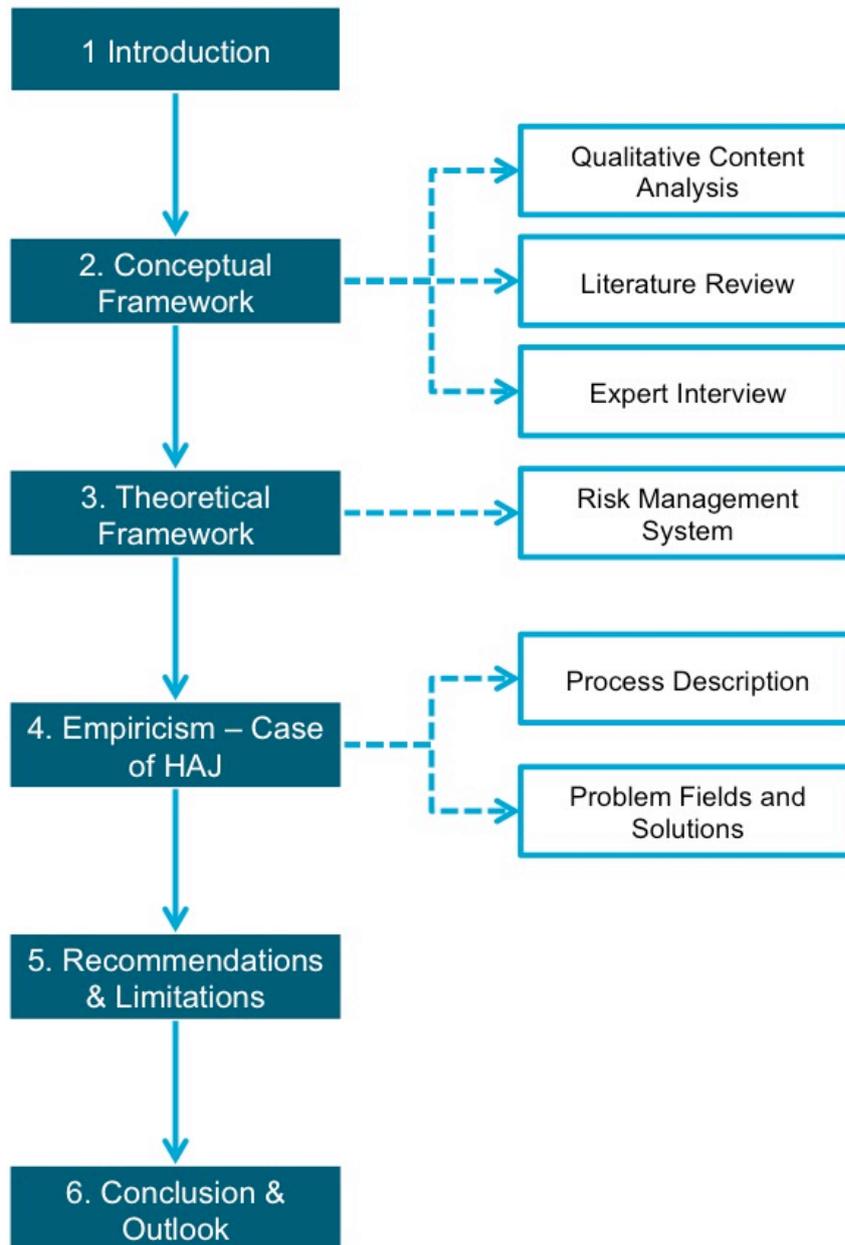


Figure 1: Overview
Source: Own illustration

Chapter 1 consists of a short introduction into the topic including motivation and relevance for this study. Recent developments clarify the research gap that needs to be closed at the end of this study. Moreover, several research objectives are defined. They particularize the research question that is also deduced in chapter 1. The chapter ends with an overview.

The conceptual framework of this thesis is designed in **chapter 2**. At first, an overview over methods for qualitative content analysis is provided. Furthermore, it is distinguished briefly between qualitative and quantitative content analysis. At second, a literature review as a method to analyze relevant books or research articles is introduced. At third, the basics of conducting an expert interview are presented. Substantial topics are i.a. developing an interview guideline with regard to the research gap and question as well as interview preparation and post processing.

Chapter 3 covers the theoretical framework concerning RMS, which embodies a definition for the idea of risk at the beginning. Adjacently compliance, corporate governance initiatives, legal regulations and risk management standards are illustrated. To avoid impreciseness the focus merely lies on national regulations and conditions. Farther a risk management process that is principally predicated on ISO 31000 is presented and described in each individual phase. With regard to increasing electronic information systems, the computer-aided risk management becomes subject in the following. An interim conclusion completes chapter 3 by summarizing the previous topics and illustrating a research framework that depicts the connection between theory and its practical approach and besides structures the upcoming parts. To obtain these results the literature review as well as few elementary sections of the conducted expert interviews are put to account.

Chapter 4 offers a practical embodiment of a RMS as a counterpart of chapter 3 that points out the theoretical fundamentals. The structure of chapter 3 is thereby adopted. Internal sources of HAJ and the expert interview results facility an analysis of the entire RMS including the individual risk management process. The core element of this thesis comes into account at the end of chapter 4. A synopsis and illustration with problem fields concerning RMS at HAJ, the status quo as well as proposals for possible solutions including dates of implementation will be given.

Chapter 5 provides general and HAJ-specific recommendations for the future. Due to lack of time and information sources a detailed limitation becomes inevitable.

This thesis ends up with the concluding **chapter 6** that also provides an outlook on further research.

2 Conceptual Framework

2.1 Qualitative Content Analysis

Qualitative content analysis describes the systematic interpretation of texts.¹¹ Subject of a content analysis is communication that is expressed by symbols, pictures or notes.¹² Content analysis wants to analyze communication as a fixed construct by using systematic and theory based instruments, which enable to draw conclusions on determined aspects of communication.¹³ Otherwise, content analysis does not allow open interpretations and unstructured proceedings.¹⁴

Prior to describing the process of qualitative content analysis a differentiation between qualitative and quantitative content analysis needs to be undertaken.

Quantitative methods test hypotheses that are developed from existing theoretical research material by using specific numerical measures.¹⁵ Qualitative methods, on the other hand, collect empirical materials through case studies, interviews or observational texts to generate theoretical statements.¹⁶

While quantitative methods require large numbers of cases to approve or disprove a specific hypothesis, already one single case study may facilitate adequate results for a qualitative approach.¹⁷

Moreover, quantitative approaches are based on deductive fundamentals. Deductive con-techniques achieve redundant knowledge and ensure therefore the

¹¹ Cf. Projektgruppe >>Textinterpretation und Unterrichtspraxis<< (1974), p. 139

¹² Cf. Mayring (2010), p. 12

¹³ Cf. ibid, p. 13

¹⁴ Cf. ibid., p. 12

¹⁵ Cf. Schömburg (2011), p. 61

¹⁶ Cf. ibid, p. 61

¹⁷ Cf. Mayring (2010), p. 23

6 Conclusion and Further Outlook

The aim and objective of the study was to analyze the theoretical basics of RMS and to transfer the theoretical knowledge to a real life problem. In order to answer the research question, the corresponding conceptual framework was established in chapter 2. Mainly the methods literature review and expert interview, which are elements of qualitative content analysis, were introduced. Subsequently, the theoretical framework was built up around the generic risk management process ISO 31000 in chapter 3. In this regard, the definition of a risk strategy, assessment and treatment of risks as well as the communication and monitoring of risks were identified as essential steps of the risk management process. In addition, the implementation of risk management software was discussed at the end of this chapter. Chapter 4 consisted of the practical application of the theoretical knowledge. In that regard, the risk management process at HAJ was described in detail according to the corporate risk management handbook and further internal company data. By the assistance of existing literature, conducted expert interviews and a scrutinized review, essential problem areas around the existing RMS were identified and potential for enhancement including scheduled implementation dates was highlighted. Certain measures have already been adopted; others still need to be implemented within the next quarters. Chapter 5 provided specific recommendations for HAJ as well as management recommendations in general. Limitations of the study were also covered in that chapter.

Risk management as a field of research and as a management function in non-financial enterprises is still at a relatively early stage in its development. According to a survey of BDI & PwC (2011), an unchanged risk situation can be expected in the near future.³²⁷ This situation allows a further development of risk management basics, i.a. risk quantification methods or risk management software that facilitates the establishment of a comprehensive database, which will be necessary for a more extensive risk assessment.³²⁸ Additionally risk management will be increasingly regarded as an integrated and overall manage-

³²⁷ Cf. BDI & PwC (2011), p. 12

³²⁸ See Appendix 4

ment process, which will also cover potential opportunities.³²⁹ The majority of interview partners additionally see great potential in supporting the risk awareness and the corporate risk management culture.³³⁰ These developments imply a longer-term evaluation of the corporate development and a stronger consideration of strategic risks. In the years ahead, common risk industry standards and best-practices will probably emerge whereby cross-company comparisons may become possible.³³¹

In the end, the future cannot be predicted. However, an effective RMS represents a contemporary management function that ensures an appropriate preparation for possible and hazardous events.

³²⁹ Cf. RiskNET (2013), p. 27; See Appendix 4 also

³³⁰ Cf. PwC (2012), p. 11; See Appendix 4 also

³³¹ Cf. Hofstetter (2002), p. 979; See Appendix 4 also