

# Chapter 30

## The Operational Risk Assessments in Manufacturing Industry

**Melek Akgün**  
Sakarya University, Turkey

### ABSTRACT

*Today's companies are facing frequent fluctuation in their social, politics, economics and natural environments, which significantly increased complexity in management function. In such a high risk environment planning, coordinating and control of a company's functions is a very challenging duty for management teams. Regardless of the source this kind risks are dealt with by operational risk management process. The operational risk management has been applied mostly in financial institutions, particularly in the banks until near past. Nevertheless, the companies that are non-financial have to also use operational risk management techniques to continue properly their operations. The purpose of operational risk management can be defined as enhancing hazard identification in the operational environment in order to eliminate risks or reduce them to an acceptable level. In this chapter will be discussed the methods and techniques could be used for the operational risk assessment in manufacturing industry.*

### INTRODUCTION

Constantly in a quest to achieve basic performance targets such as flexibility, cost-efficiency and quality, manufacturing organizations are, in almost all processes, on the verge of facing risks that could negatively impact their performance. Regardless of their significance and necessity on the other hand, even today, there is a very limited range of studies that systematically analyses the nature of operational risks in terms of manufacturing industry. In reality however, manufacturing industry is, due to its inherent complexity as well as the current level of globalization, vulnerable in the face of listless types of divergent risks.

Identical to all other enterprises, all companies operating in manufacturing sector are also obliged to reach their objectives by taking appropriate measures and manage the risk process with optimum cost to the end of foreseeing the effect of all kinds of negative events and circumstances that might occur in their

DOI: 10.4018/978-1-5225-5481-3.ch030

attempt to realize their preset objectives. Because of the sizable variety of risk elements, all enterprises are required to effectively implement risk management to sustain their existence and grasp the significance of adopting a systematic management method for the sake of identifying, measuring and mitigating potential risks. Among some of the potential risks for companies are; global crises, administrative fluctuations in enterprises, staggering financial composition, economic and political chaos in the homeland. Such uncertainties that might pose risks for enterprises are likely to delay or hinder the enterprises to achieve their strategic, operational and financial targets. A list of potential financial risks covers interest rate, exchange rate, tax rate. As for the potential strategic risks are; management-organization structuring, strategic planning, corporate culture; amid the operational risks are; sales-marketing, purchase-supply, human resources and several relevant factors. Enterprises are required to visualize and assess all risk factors in a holistic framework and implement applicable risk management strategies.

Risk concept is delineated as the potential consequences and losses that might accrue due to threats that might sabotage reaching the preset objectives. Risks reveal themselves in various forms within all stages of an enterprise's life cycle. Manufacturing sector is one industry that is vulnerable for risks ranging from product design to receiving customer feedbacks. Despite such fragility against risks however, a good number of sectoral enterprises lack an effective system in risk identification and measurement in terms of specialized personnel, appropriate substructure and corporate culture; hence even slight changes that occur in and outside the enterprise may lead to tremendous alterations.

In present paper, operational risk assessment of the basics that form operational management process has been conducted with respect to manufacturing sector. This type of risk which has been till recent history dealt in terms of the applications in finance enterprises essentially was merely treated with respect to operational risks and potential management divergences witnessed in finance institutions and a case study hereby has been conducted to delineate risks and identify priorities upon a thorough analysis.

Case study refers to the systematic investigation of an exclusive circumstance and allows conducting a deeper analysis of a special case (a company, an individual etc.) which in effect assists in problem identification and developing applicable solution methods. Proposed model in this study is geared at defining, assessing and detecting prioritized risks that manufacturing enterprises face and the potential risks have been showcased via a case study.

## **RISK CONCEPT AND RISK TYPES**

Although there exists no generic definition recognized by all parties, risk still can reasonably termed as any potential threats and adversities that might emerge in future and hinder reaching the objectives or else any opportunities that might facilitate achieving the objectives. In Risk Management Standard, risk is defined as the probability of the materialization of any given event and combined result of its impact and risk management has been treated with respect to both negative and positive aspects.

Hopkin (2010) in his study combined risk definitions suggested by several organizations and included into this list his personal risk definition as an alternative option (Table 1).

Risk is the possibility of loss, damage, destruction or dissipation and harm; physical definition of risk entails daring a threat or facing a dangerous situation (Beaver & Parker, 1995). Risk indicates a threat of loss that might accrue in the values of assets. Risks that surface in companies are, regardless of their format, probabilities that might anytime trigger a capital fall which would in effect cause demand for money. In that aspect, failure to achieve the targeted profit-range could also reasonably be viewed

21 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/the-operational-risk-assessments-in-manufacturing-industry/202240](http://www.igi-global.com/chapter/the-operational-risk-assessments-in-manufacturing-industry/202240)

## Related Content

---

### Which Key Factors Will Be Effective in the Success of Festivals?: An Evaluation in the Context of Information and Communication Technology

Ali Dalgic and Kemal Birdir (2021). *Impact of ICTs on Event Management and Marketing* (pp. 1-17).

[www.irma-international.org/chapter/which-key-factors-will-be-effective-in-the-success-of-festivals/267499](http://www.irma-international.org/chapter/which-key-factors-will-be-effective-in-the-success-of-festivals/267499)

### Multi-Objective Artificial Bee Colony Algorithm for Multi-Echelon Supply Chain Optimization Problem: An Indian Case Study

Mayank Gupta, Anirban Kundu and Vipul Gupta (2017). *International Journal of Operations Research and Information Systems* (pp. 76-89).

[www.irma-international.org/article/multi-objective-artificial-bee-colony-algorithm-for-multi-echelon-supply-chain-optimization-problem/188373](http://www.irma-international.org/article/multi-objective-artificial-bee-colony-algorithm-for-multi-echelon-supply-chain-optimization-problem/188373)

### System Architectures for Sensor-Based Dynamic Remaining Shelf-life Prediction

Åse Jevinger and Paul Davidsson (2019). *International Journal of Operations Research and Information Systems* (pp. 21-38).

[www.irma-international.org/article/system-architectures-for-sensor-based-dynamic-remaining-shelf-life-prediction/236644](http://www.irma-international.org/article/system-architectures-for-sensor-based-dynamic-remaining-shelf-life-prediction/236644)

### Working Capital Management and Firms' Profitability in the Midst of an Economic Crisis

Dimitris Axiotis, Alina Hyz and Petros Kalantonis (2018). *International Journal of Applied Management Sciences and Engineering* (pp. 66-80).

[www.irma-international.org/article/working-capital-management-and-firms-profitability-in-the-midst-of-an-economic-crisis/207341](http://www.irma-international.org/article/working-capital-management-and-firms-profitability-in-the-midst-of-an-economic-crisis/207341)

### SMEs and Branding Strategies

Neeta Baporikar and Mukund Deshpande (2017). *International Journal of Applied Management Sciences and Engineering* (pp. 43-55).

[www.irma-international.org/article/smes-and-branding-strategies/177877](http://www.irma-international.org/article/smes-and-branding-strategies/177877)