

## Chapter 47

# Cases Illustrating Risks and Crisis Management

**Simona Mihai Yiannaki**  
European University, Cyprus

### ABSTRACT

*Undoubtedly, the nature of the relationships between business and risk factors in one country or another does not fit exactly into a “model” nor does it have a pure placebo effect. Yet, models’ simplicity may appeal to managers and regulators in understanding important business risks and crisis related phenomena. Backed by this idea, this research underpins a comparative study on SMEs handling risk and crisis management according to a new tailored model of a balance scorecard. This new model of a risk and crisis management aims at improving both SMEs management adaptation and performance across all of crisis’ stages, something not attempted so far in the literature. The application of such a ‘balanced-scorecard’ comes from the author’s experience as a banker financing various SMEs industries, as a bank consultant on risk management as well as primarily from the results of a survey performed on a sample of 48 Romanian and Cypriot SMEs, equal-proportionally selected from the area of trading, manufacturing, and services. The results of this case study show, coincidentally or not, that there is a significant improvement of the financial performance of the SMEs that employed this model compared to those that did not. The monitoring period: 11/2009-06/2010 was employed as a representative one for the latest global financial crisis which affected the entire European Union region, as well.*

### INTRODUCTION

The last few years brought severe waves of globalisation and several financial and economic crises, where even large, strong, formerly sound corporations did not cope with. In particular, it

seems like in the past 20 years there have been several so-called “once-in-a-lifetime events,” such as the floods of Hurricane Katrina or any of the financial crisis, including 1987, 1998, 2000, or 2008, and “no one saw that coming.” (Hubbard, 2009) Now it seems the moment to realize the need to protect the most ‘numerous’ of the firms

DOI: 10.4018/978-1-4666-1945-6.ch047

## **Cases Illustrating Risks and Crisis Management**

population: the small and medium size enterprises (SMEs). However, the contribution of SMEs varies considerably across countries. In most economies, the share of enterprises with less than 20 persons engaged is more than 70%, ranging between 67% in Ireland and above 95% in Greece. SMEs also account for a smaller share of the total number of employees, ranging between around 11% in the United States and the Czech Republic and more than 35% in Greece (OECD, 2010).

Since SMEs are much more exposed and fragile during and after financial than any other type of companies, whilst they are firmly identified by the EU as the core engine for European economic recovery, growth and innovation, this chapter looks at a double loop feedback and SME stakeholders' benefit in implementing innovative risk management methods and techniques under a broad Business Socially Responsible strategy.

Subsequently it provides key elements of crisis management resolution not only in times of economic and financial distress but also in times of "black swan" events (Taleb, 2007), such as sudden drops of the National Stock Exchange Index, strong foreign exchange devaluations, sudden and acute raise in unemployment or any other temporary or chronic externality.

Although risk measurement can only be generated by historic data, it has been found that experienced estimators could, using PERT or other well-known models, create usable estimates, which gave usable and effective predictions, with computed standard deviations. One can measure and model risk whatever the risk, static and dynamic, however none can have a crystal ball, as one always have to deal with various levels of uncertainty. This uncertainty is sometimes called error. Any model has also at least 3 inner-errors: model error, parameter error and random error. The task is to minimize them accordingly, but never be able to eliminate them completely. Moreover, the problem of risk management arises further, when the firm doesn't consider any of these.

Others (for example Hubbard, 2010) consider that there are imaginary obstacles that must be overcome, as there are practical measurement solutions that can be applied to any uncertain decision. Hence, one can quantify any uncertainty and then compute the value of reducing that uncertainty by measurement. However one can see during the recent sub-prime crisis that even some of the best quantitative finance modelers at top rating agencies were not able to measure risks of structured products with complicated pay-off's.

Does the picture look though simpler or more effective for the SMEs or not? Except for paying attention at the error and uncertainty part, shouldn't one also look at what is inside the model, before starting measuring?

In pursuing risk measurement, one can learn about the revolutionary thinkers including John von Neumann (inventor of game theory), Harry Markowitz (grandfather of portfolio theory), and the late Fischer Black (Black Scholes option formula), or also find enlightening stories about Fibonacci numbers, chaos theory, the bell curve, regression to the mean, and more (Bernstein, 1996). Yet, despite all the intelligence, computer power, and sophisticated techniques, Bernstein presents us with the growing body of evidence discovered by researchers including the late Amos Tversky's cognitive biases and others who "reveals repeated patterns of irrationality, inconsistency, and incompetence in the ways human beings arrive at decisions and choices when faced with uncertainty." (Bernstein, 1996: pp.271).

In the attempt to model risk, the study employed conditions that can provide indicators of identifiable categories (the five pillars of our proposed model). Once one identifies the patterns indicating the category of risk associated, then one can try to predict when a categorized event might occur. Upon such predictability background, one can attempt to minimize the effects and maximize any recovery efforts. In quantum mechanics, the Heisenberg uncertainty principle states by precise inequalities that certain pairs of physi-

18 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/cases-illustrating-risks-crisis-management/69318](http://www.igi-global.com/chapter/cases-illustrating-risks-crisis-management/69318)

## Related Content

---

### Application of Three Meta-Heuristic Algorithms for Maximizing the Net Present Value of a Resource-Constrained Project Scheduling Problem with Respect to Delay Penalties

Masoud Rabbani, Azadeh Arjmand, Mohammad Mahdi Saffarand Moeen Sammak Jalali (2016).

*International Journal of Applied Industrial Engineering* (pp. 1-15).

[www.irma-international.org/article/application-of-three-meta-heuristic-algorithms-for-maximizing-the-net-present-value-of-a-resource-constrained-project-scheduling-problem-with-respect-to-delay-penalties/159082](http://www.irma-international.org/article/application-of-three-meta-heuristic-algorithms-for-maximizing-the-net-present-value-of-a-resource-constrained-project-scheduling-problem-with-respect-to-delay-penalties/159082)

### An Empirical Study on Adoption of ERP on IT and Non-IT Companies in Odisha

Monalisha Patel (2018). *International Journal of Applied Industrial Engineering* (pp. 58-67).

[www.irma-international.org/article/an-empirical-study-on-adoption-of-erp-on-it-and-non-it-companies-in-odisha/209381](http://www.irma-international.org/article/an-empirical-study-on-adoption-of-erp-on-it-and-non-it-companies-in-odisha/209381)

### Petri Net Model Based Design and Control of Robotic Manufacturing Cells

Gen'ichi Yasuda (2013). *Industrial Engineering: Concepts, Methodologies, Tools, and Applications* (pp. 393-408).

[www.irma-international.org/chapter/petri-net-model-based-design/69294](http://www.irma-international.org/chapter/petri-net-model-based-design/69294)

### Application of Wireless Sensor Networks in Industrial Settings

P C. Jain (2012). *Handbook of Research on Industrial Informatics and Manufacturing Intelligence: Innovations and Solutions* (pp. 315-332).

[www.irma-international.org/chapter/application-wireless-sensor-networks-industrial/64727](http://www.irma-international.org/chapter/application-wireless-sensor-networks-industrial/64727)

### Planarity

Hossein Hojabriand Elnaz Miandoabchi (2013). *Graph Theory for Operations Research and Management: Applications in Industrial Engineering* (pp. 70-80).

[www.irma-international.org/chapter/planarity/73151](http://www.irma-international.org/chapter/planarity/73151)