

## Chapter 33

# A New Maturity Model for Project Risk Management in the Automotive Industry

**Jose Irizar**

*University of Gloucestershire, UK*

**Martin George Wynn**

*University of Gloucestershire, UK*

### **ABSTRACT**

*The purpose of this article is to present a new maturity model for the assessment and ongoing management of project risk management capability in the automotive industry. The research design is based on a multi-project case study analysis in a major German automotive company. The approach is qualitative and inductive, using 12 in-depth interviews with major stakeholders in the project management function in the company to provide data for the construction of the initial maturity model. This model is then verified and refined via an on-line survey and three follow-up interviews. The findings provide material for the construction of a new maturity model that can be used for the assessment of project risk management capability and as a tool for on-going monitoring and improvement. The model is structured around four dimensions of risk management – identification, assessment, allocation and appetite – and has four maturity stages – rudimentary, intermediate, standardised and corporate. The model is based on a detailed analysis of in-depth interview material in a specific industry sector. It can be used as a basis for similar research in other industries. The model adds to existing risk management maturity models and is unique in being specific to the automotive industry. It can be used by risk and project managers, and can also be adapted to other industry sectors.*

DOI: 10.4018/978-1-7998-1760-4.ch033

## **1. INTRODUCTION**

The management of risk is an integral part of the project management process and project failure remains an area of considerable concern in contemporary project management literature (McClure, 2007). Comprehensive risk management increases the probability of project success, and recent empirical studies show a significant positive relationship between project risk management and project outcomes (Jen, 2009). Risk management has become a significant element of some of the most widely deployed industry standard methodologies, yet there is no universally agreed method for managing risk; and, in part because of this, there have been some attempts to suggest more flexible and creative approaches to risk management (Bollinger, 2010).

Project risk management is a fundamental discipline in most industry sectors and can be defined as the process that dynamically minimizes risk levels by identifying and ranking potential risk events, developing a response plan, and actively monitoring risk during project execution (Zwikael & Ahn, 2011). It has implications for the effectiveness of the project management process itself, and for the management and communication of knowledge that is an inherent part of that process. Several organizations have developed industry specific formal policies and supportive analytical tools. Application of integrated risk management methods can support early risk identification and assessment, thereby improving project outcomes and avoiding delays and cost overruns (Zayed, Amer, & Pan, 2008).

Practitioners and researchers agree on the potential of risk management concepts and methods to improve the likelihood of project success in practice (Bannerman, 2008; Aloini, Dulmin, & Mininno, 2012; Martínez Lamas, Quintas Ferrín, & Pardo Froján, 2012). This research focuses on the development of a new maturity model for the assessment, monitoring and management of project risk capability in the automotive industry, specifically in a European context. The maturity concept first appeared in business and management literature in the 1980s and has become a mainstream concept for assessing organizational capability, and is thus appropriate for the study of risk management in a corporate setting. The following section explores relevant literature in this field, followed by a detailed explanation of the research methodology employed, and how the initial model was developed. It also then discusses how data from the in-depth interviews was analyzed, and how the initial maturity model was verified. Section 4 applies the model to one in-company project as an illustration of how the model can be used, in a manner that can be built upon by other researchers and practitioners. The final section draws together key themes covered in the article and assesses the contribution to research and practice.

## **2. LITERATURE REVIEW**

### **2.1. The Key Dimensions of Risk**

Risk identification is often viewed as the starting point for risk management in projects and is considered to be the most influential risk management activity for project outcomes (de Bakker, Boonstra, & Wortmann, 2012). It is recognized by many project managers as one of the key areas in need of improvement in complex projects (Harvett, 2013). The risk identification process was therefore seen as a key element of the maturity model. Holzmann (2012) views risk management as comprising five main activities, encompassing risk identification, risk assessment, risk allocation, and risk control. Other authors (Bannerman, 2008; Harwood, Ward, & Chapman, 2009) see risk appetite or treatment as an

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/a-new-maturity-model-for-project-risk-management-in-the-automotive-industry/245474](http://www.igi-global.com/chapter/a-new-maturity-model-for-project-risk-management-in-the-automotive-industry/245474)

## Related Content

---

### Open Innovation Three-Dimensional Model: A Framework for Mapping External Partnerships Applied to SMEs in the FMCG Industry

Fabio Barboza Cabral (2025). *International Journal of SME Research and Innovation* (pp. 1-17).

[www.irma-international.org/article/open-innovation-three-dimensional-model/398629](http://www.irma-international.org/article/open-innovation-three-dimensional-model/398629)

### Proposed CSR Regulatory Sandbox: Mitigating Greenwashing in Corporate Sustainability Reporting for SMEs in Europe

Renata Thiébaudand Marc Selgas-Cors (2026). *International Journal of SME Research and Innovation* (pp. 1-11).

[www.irma-international.org/article/proposed-csr-regulatory-sandbox/398953](http://www.irma-international.org/article/proposed-csr-regulatory-sandbox/398953)

### Elevating SME Success: A Comprehensive Exploration of Source Credibility in Shaping Consumer Attitudes Toward TikTok Advertisements

Bernadine Adel Sitorus, Sylvia Nabila Azwa Ambadand Cynthia Robert Dawayan (2024). *Entrepreneurial Strategies for the Internationalization and Digitalization of SMEs* (pp. 89-109).

[www.irma-international.org/chapter/elevating-sme-success/351485](http://www.irma-international.org/chapter/elevating-sme-success/351485)

### Open Innovation Three-Dimensional Model: A Framework for Mapping External Partnerships Applied to SMEs in the FMCG Industry

Fabio Barboza Cabral (2025). *International Journal of SME Research and Innovation* (pp. 1-17).

[www.irma-international.org/article/open-innovation-three-dimensional-model/398629](http://www.irma-international.org/article/open-innovation-three-dimensional-model/398629)

### Introduction

Stephen Burgess, Carmine Carmine Sellittoand Stan Karanasios (2009). *Effective Web Presence Solutions for Small Businesses: Strategies for Successful Implementation* (pp. 1-26).

[www.irma-international.org/chapter/introduction/9239](http://www.irma-international.org/chapter/introduction/9239)