

Risk-oriented Supply Chain Quality Management

Nina Kandler-Schmitt,¹

¹ *Andrássy Universität Budapest, Hungary*

The liberalisation and opening of markets in recent years has led to increased internationalisation and contributed to the development of global value-added networks in many business sectors. For example, the automotive industry has experienced, together with economic crisis and political changes in the markets, dynamic structural changes, as shown by, among others, the following points:

- Automobile manufacturers and their suppliers, together with their value-added networks and businesses, are acting, due to market globalisation, in an increasingly international manner.
- New challenges, risks and opportunities arise from new or altered conditions, such as, for example, new legal requirements, barriers to free trade, import duties.
- Markets change from sellers' markets to buyers' markets.
- Increased customer orientation and offers from new service business areas (Web-linking, mobility concepts, car-sharing etc)
- Shortening of product life and development cycles.
- Use of new technologies and materials (For example, ceramics, glass fibre, motor technology).
- Integration of IT technology and Web-connectivity into production technologies (Industrie 4.0), communication within the supply networks and products.
- Increase in customer-specific vehicle building with more possible variations.
- Consolidation of providers and markets.
- Product realisation of vehicles resulting from an ever increasing proportion of bought-in, external resources in the form of products and services (Fragmentation of value-adding).
- Acquisition of external resources through global supply networks in order to use the various markets' relative price advantages and economies of scale

The structural change leads to coadaptation in internal departments of businesses, specifically, among others, in quality management. Ensuring that bought-in resources meet the quality requirements for products, parts and services, is an important factor for the success of the

Herausforderungen und Megatrends Challenges and megatrends

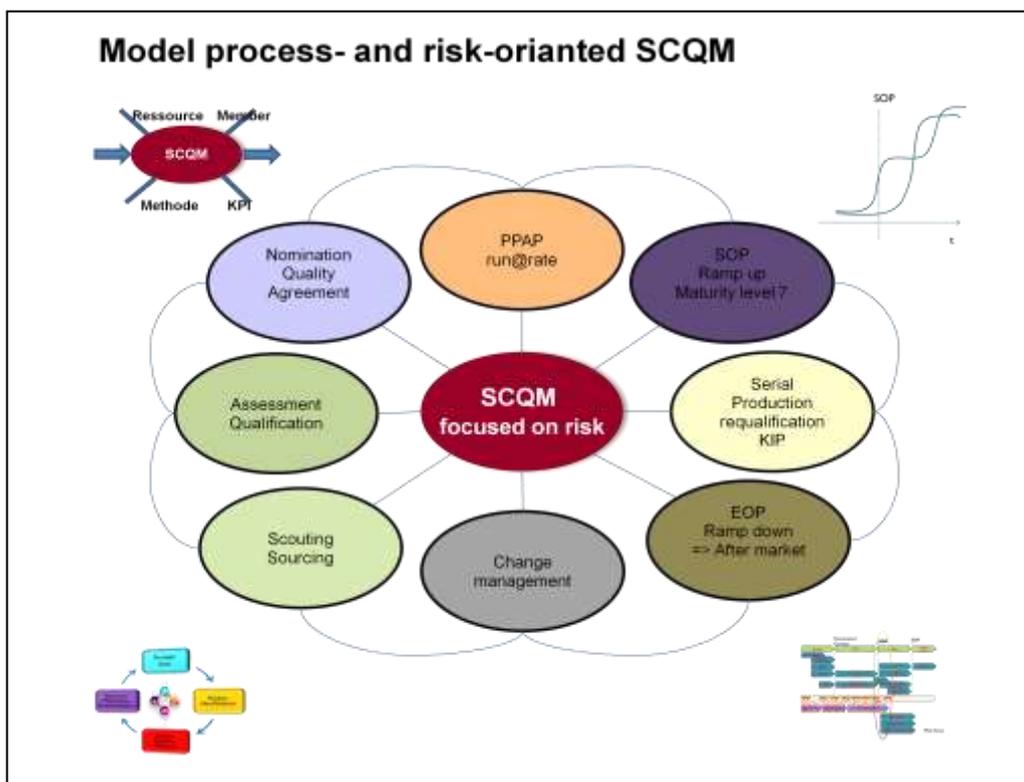


Abbildung 1 challenges and megatrends in automotive industries 21. century

business. Global supply and value-added chains hide risks, these must be secured against both preventatively and reactively.

The research project to be presented, examines the topic of risk-oriented supplier quality management in the product life cycle and focuses on the series launch and start-up phases of new products in the automotive industry

The practice of using familiar quality control methods and the need for new methods and processes, was analysed in an empirical study. The study was supported by over two hundred international participants who gave comprehensive answers to an online questionnaire. The results of the analysis and experience obtained from an automotive industry pilot project, carried out parallel to the research project, form the basis for a model with an integrated approach to preventative risk-oriented supply chain quality management (SCQM).. The SCQM model complies with the new, higher process-oriented quality standards approach (ISO 9001, IATF 16949, VDA 6.1), which includes the Plan-Do-Check-Act model (Deming-Kreise) as well as using risk-based thinking to recognise and manage chances and risks.



Picture 2 Model risk-orientete SCQM 1