



Resilience in the Czech automotive companies

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Content of the presentation



LITERATURE
REVIEW



METHODOLOGY



RESULTS



FUTURE
RESEARCH



DISCUSSION

The Literature Review

- **Supply chain resilience** – the adaptive capacity of the supply chain to prepare for unexpected events, respond to disruptions, and recover from them by maintaining continuity of operations at the desired level of connectedness and control over structure and function (*Ponovarov & Holcomb, 2019*)
- Qualitative research (*Matsuo, 2014; Scavarda, 2015; van Hoek, 2020; Scholten & Schilder, 2015; Herold, 2021*)
- Quantitative research (*Balakrishnan & Ramanathan, 2021; Frederico et al., 2021; Thun & Hoenig, 2011*)
- Mixed research (*Belhadi, 2021*)
- Conceptual and lit. review papers



RQ1: Do the resilience building techniques of the interviewed Czech companies differ from those described in the SCM literature?



RQ2: Do the applied response strategies vary among Czech automotive companies?

Methodology



To answer RQ1 and RQ2 -> systematic lit. review and qualitative research



Sample of 5 companies, TIER 1 and TIER 2 companies, 3 OEMs



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RQ1: Do the resilience building techniques of the interviewed Czech companies differ from those described in the SCM literature?

4 main resilience building areas (Christopher & Peck, 2004)

- Design & supply chain engineering
- Collaborative working within the chain
- Agility, visibility & velocity
- Creation of a risk management culture

OEMs resilience measures based on information from Czechia

- Proactive strategies – screening by suppliers, audits, analysis, workshops with suppliers, developing the transparency
- Alternative suppliers, regional diversity, production with fewer semiconductors, shortening of supply chains (production of strategic components in Europe) & new crucial components in electromobility
- Strong and effective IT infrastructure
- Created a special team
- Developed simulations and scenarios, including impacts on the company and markets
- Switch to airfreight
- Limited possibilities to increase the stock
- Diverzification of supplies
- Operations management
- Strategic decisions
- Production planning
- Communication between the chain members

Findings of qualitative research

- Big data analysis as a significant tool not confirmed by our research
- Finding new suppliers
- Individualism vs. cooperation
- Information sharing across the organization units
- No changes in EDI
- Agility in transportation and in production
- Speed of analysis, new KPIs, risk management; meetings on all managerial levels



RQ2: Do the applied response strategies vary among Czech automotive companies?

- The companies were rather similar in terms of resilience building measures, but sign of impact to the strategic level
- Potential to develop dynamic capabilities
- Based on the research, the position in the supply chain may play a significant role

Future research



Information technologies

- Fast data retrieval and analysis
- Technology to improve visibility & traceability



Resilience building & developing dynamic capabilities

Longitudinal studies; studying the preparedness to external environment changes/ disruptions and how the resilience building contributed for overcoming the disruptions and securing the continuity of operations



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Thank for your attention

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