

Project: **Navigator for German-Chinese Logistics Networks**

6<sup>th</sup> Workshop on German-Chinese  
Logistics Networks

# **Successfully Managing Supply Chain Volatility**

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## **A Focused Group Workshop**

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**Christian F. Durach, M.Sc.**

**Benjamin Nitsche, Dipl.-Ing.**

Shanghai, April 13, 2015



Technische Universität Berlin

**Fachgebiet Logistik**

# Thank you!

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Thank you for attending the workshop in Shanghai on April 13, 2015. We hope that you found the workshop informative and worthwhile. Our primary goal was to identify volatility drivers and mitigation strategies.

You were a great group and your enthusiasm and positive spirit helped make our time together both productive and fun. Thank you for your input. We hope you enjoy reading our analysis.

Again, thank you for participating and we hope to welcome you soon again at one of our workshops.

Sincerely,

Frank Straube, Benjamin Nitsche, Christian Durach

# Agenda

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1. Identified Volatility Drivers
2. Framework Volatility Management
3. Identified Mitigation Strategies for
  - Capabilities of Supplier
  - Lead Time Variability
  - Intra-Organizational Misalignment
  - Internal Forecasting Process
  - Lack of long-term Capacity Planning

# A multitude of drivers for volatile material flows have been identified on the Navigator Workshop.

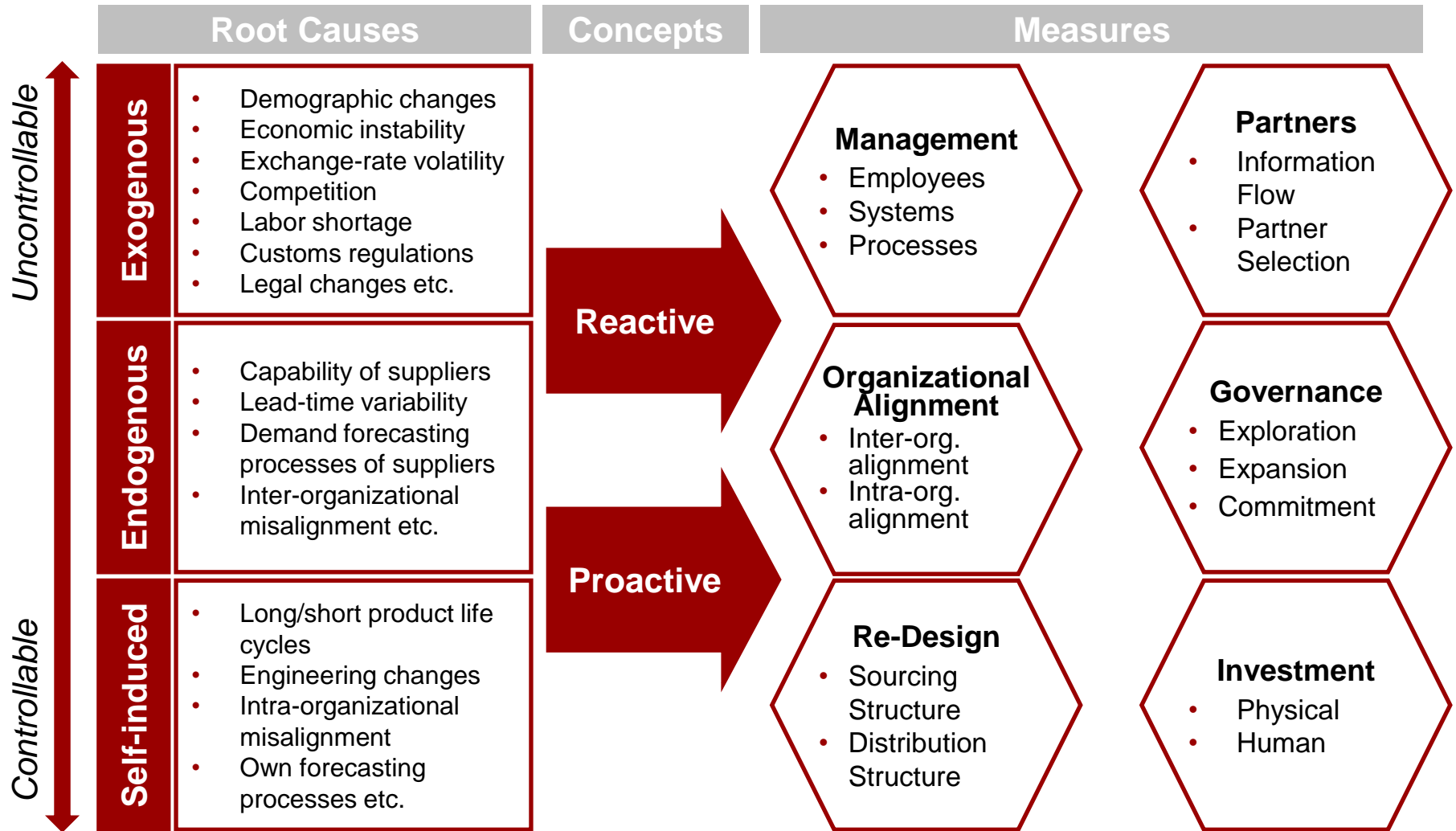
<p><b>Exo- genous to the SC</b></p>	<ul style="list-style-type: none"> <li>▪ Weather</li> <li>▪ Seasonality/holidays</li> <li>▪ Demographic changes</li> <li>▪ Economic instability</li> <li>▪ Exchange-rate volatility</li> <li>▪ Competition</li> <li>▪ Labor shortage</li> <li>▪ Customs regulations</li> <li>▪ Legal changes</li> <li>▪ Technological development</li> <li>▪ Political instability</li> <li>▪ Cultural differences</li> </ul>
<p><b>Endo- genous to the SC</b></p>	<ul style="list-style-type: none"> <li>▪ Capability of suppliers (quality &amp; capacity)</li> <li>▪ Lead-time variability</li> <li>▪ Demand forecasting processes of suppliers</li> <li>▪ Inter-organizational</li> <li>▪ misalignment (technology &amp; communication)</li> <li>▪ (expected) unstable material prices</li> <li>▪ Financial instability of suppliers</li> <li>▪ Lack of information</li> <li>▪ transparency in the SC</li> <li>▪ Lack of service quality (LSP)</li> <li>▪ Lack of IT</li> <li>▪ Quality issues</li> </ul>
<p><b>Self- induced</b></p>	<ul style="list-style-type: none"> <li>▪ Long/short product life cycles</li> <li>▪ Design/engineering changes</li> <li>▪ Intra-organizational misalignment</li> <li>▪ Delayed management decisions</li> <li>▪ Internal forecasting processes</li> <li>▪ Lack of long-term capacity planning/flexibility</li> <li>▪ New product launches</li> <li>▪ Product variety</li> <li>▪ Network complexity</li> <li>▪ Human error</li> <li>▪ Technical issues/unstable production</li> </ul>

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# Volatility Management Framework



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# Capabilities of Supplier (quality & capacity)

Endo

## Measures

## Operative

## Tactical

## Strategic

### Management

- Actively enhance supplier's quality through onsite coaching

- Collaborate & develop supplier to meet capacity requirements and quality standards
- Implement fair payment programs & share investment costs

### Organizational Alignment

- Align replenishment strategies to prevent capacity shortages
- Align performance measures to ensure common communication base
- Transparently communicate KPI to continuously re-evaluate performance

- Proactively strive for EDI integration to facilitate communication and evaluation as well as operative processes

### Re-Design

- Reduce dependence by Multiple Sourcing Strategy/Back Up Strategy



# Capabilities of Supplier (quality & capacity)

Endo

## Measures

Partners

Governance

## Operative

- Increase proactive communication & improve supplier relationship

## Tactical

- Employ profound Supplier Selection Process including quality norms

## Strategic

- Increase SC visibility
- Communicate forecasts and expected demands to enhance supplier planning processes
- Signalize long term commitment by e.g. contract, personal contact or investments

Measures	Operative	Tactical	Strategic
<p><b>Management</b></p>		<ul style="list-style-type: none"> <li>Measure end-to-end lead time and statistically acknowledge it in planning processes</li> <li>Use safety stock as buffer, but communicate stock levels to prevent bull wipe effect</li> </ul>	<ul style="list-style-type: none"> <li>Benchmarking</li> <li>Outsourcing of vulnerable business process</li> <li>Evaluate transportation concepts with a TCO perspective</li> </ul>
<p><b>Re-Design</b></p>			<ul style="list-style-type: none"> <li>Focus on local suppliers to reduce transportation time</li> <li>Employ dual sourcing strategy to reduce risk of stock outs</li> </ul>
<p><b>Partners</b></p>	<ul style="list-style-type: none"> <li>Promote quick information exchange with partners to react efficiently to lead time issues</li> </ul>	<ul style="list-style-type: none"> <li>Communicate forecasts to enhance supplier's planning processes</li> </ul>	<ul style="list-style-type: none"> <li>Employ profound and tailored Carrier Selection Process</li> <li>Strive for close SC cooperation</li> </ul>

## Measures

### Management

## Operative

- Stimulate personal contact via events and activities across departments and business units and thereby improve cross-department/cross-level communication
- Provide specific training to align business activities and use software effectively

## Tactical

- Implement diverse teams in educational background and experience
- Cross business unit meetings
- Allow job rotation to spread expertise and experience within the company

## Strategic

- Employ people engagement program
- Communicate Vision and Mission effectively

### Organizational Alignment

- Involvement of all departments in projects at an early stage
- Proactively communicate within the company

- Align department targets/KPI as well as performance dependent payments to ensure aligned business activities
- Employ common standards and standardize processes

- Display organizational structure & ensure organizational transparency
- Clearly assign responsibilities and communicate them as such
- Only allow one IT system

## Measures

### Management

### Organizational Alignment

## Operative

- Allow flexibility in the work force to manage short term capacity issues by e.g. flexible work times & contracts or overtime arrangements
- Allow adjustment of transportation modes to reduce transportation time
- Measure, evaluate and assure KPI accuracy to provide solid database

## Tactical

- Implement planning cycles to re-evaluate and adjust forecasting outcome
- Encourage internal/external communication to gain perspective and expertise
- Use key supplier's expertise for forecasting process

## Strategic

- Use Modelling/ Simulation Software to process internal and external data

# Lack of long-term Capacity Planning

Self-ind.

## Measures

### Management

### Organizational Alignment

## Operative

- Measure, evaluate and assure KPI accuracy to provide solid database

## Tactical

- Implement planning cycles to re-evaluate and adjust planning and forecasting outcome

- Encourage internal/external communication to gain perspective and expertise
- Use key supplier's expertise for forecasting process

## Strategic

- Use Modelling/ Simulation Software to process internal and external data
- Implement APO Planning tool
- Change top management in case of immense planning errors

- Promote department integration to increase collaboration, knowledge sharing and gain expertise for forecasting and planning process

# Contact Information

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