

Frank Straube
Shihua Ma
Michael Bohn

Internationalisation of Logistics Systems

How Chinese and German Companies
Enter Foreign Markets



Frank Straube · Shihua Ma · Michael Bohn

Internationalisation of Logistics Systems

Frank Straube · Shihua Ma · Michael Bohn

Internationalisation of Logistics Systems

How Chinese and German companies
enter foreign markets

Frank Straube
TU Berlin
Strasse des 17. Juni 135
10623 Berlin
Germany
straube@logistik.tu-berlin.de

Michael Bohn
TU Berlin
Strasse des 17. Juni 135
10623 Berlin
Germany
bohn@logistik.tu-berlin.de

Shihua Ma
Huazhong University of Science & Technology
Wuhan
430074 Hubei
P.R. China
shihuama@public.wh.hb.cn

ISBN 978-3-540-76982-8

e-ISBN 978-3-540-76984-2

DOI 10.1007/978-3-540-76984-2

Library of Congress Control Number: 2007939801

© 2008 Springer-Verlag Berlin Heidelberg

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Cover Design: WMXDesign GmbH, Heidelberg

Printed on acid-free paper

9 8 7 6 5 4 3 2 1

springer.com

Competence Center for International Logistics Networks, Berlin, Germany

The Competence Center for International Logistics Networks was established as part of the Logistics Department at the Berlin University of Technology (TUB) in 2005, and is financed by the Swiss Kuehne-Foundation. Its purpose is to carry out research in the field of global logistics in interaction with international partners from academia and business practice. The Competence Center is headed jointly by Prof. Dr.-Ing. Frank Straube and Prof. Dr.-Ing. Helmut Baumgarten. Prof. Dr.-Ing. Frank Straube is Director of the TUB Logistics Department and Managing Director of the TUB Institute of Technology and Management. Furthermore, he is Vice President of the German Logistics Association (BVL) and member of the Board of the European Logistics Association (ELA). Being an active member of the European logistics community, he published extensively on the subject of logistics and is a renowned presenter on national and international conferences. Dipl.-Ing. oec. Michael Bohn studied Industrial Engineering and Management in Hamburg and Singapore, and gained experience in the manufacturing industry and consulting business, before he entered the TUB Logistics Department in 2005. He works as Research Associate at the Competence Center for International Logistics Networks, specialising on research in the field of global logistics and he is managing international research projects.

For further details please visit: www.internationalelogistik.de

Institute of Supply Chain & Logistics Management, Wuhan, China

The Institute of Supply Chain & Logistics Management (ISC&LM) in Wuhan was founded at the Huazhong University of Science and Technology (HUST) in 1979. It is one of the earliest institutions active in research in logistics and supply chain management in China. In recent years, the ISC&LM has undertaken extensive international cooperation with overseas universities. The head of the ISC&LM is Professor Ma Shihua, who is also the Vice Dean of the School of Management at the HUST. He has been engaged in research and industrial practice in supply chain and logistics management for many years, as well as in production and operations management. His institute offers several courses including supply chain management, operations management and logistics management for EMBA, MBA, graduate and undergraduate students. He has consulting experience with numerous companies in China.

For further details please visit: www.logistics-chain.com

Authors



Prof. Dr.-Ing.
Frank Straube
Berlin University of Technology



Prof.
Shihua Ma
Huazhong University (HUST)



Dipl.-Ing. oec.
Michael Bohn
Berlin University of Technology

Research Associates



Dipl.-Inform.Wirt
Daniel Rief
Berlin University of Technology



Dipl.-Ing.
Jörg Pohl
Berlin University of Technology



Dr.
Kunpeng Li
Huazhong University (HUST)

Student Assistance

- Roman Figiel
- Sebastian Flucht
- Pravin Narkhedkar
- Jia Qu
- Christopher Schwarz
- Kuo-Hsiang Yong
- Xin Zhang
- Kun Huang
- Huijun Li
- Jing Xin
- Chen Wei
- Xu Guan
- Binzong Peng
- Zheng Lei
- Zheng Huang

Layout

- Axel Haas

Our Dearest Reader,

almost every company today is in one way or another part of a network of global supply chains all relying critically on efficient and reliable logistics systems. For enterprises of any size, the phenomenon of globalisation creates a multitude of opportunities to enter new regional markets, and equally requires a multitude of enablers. These form the core of the research on the **Internationalisation of Logistics Systems**. And it is the wealth of opportunities afforded by the interaction between Germany and China—the export world champion and the world’s fastest developing economy—that the focus of this survey is on these two global players.

The survey determines the logistics strategies that Chinese and German companies apply when expanding globally. Seven of the most important target regions for internationalisation activities are covered by this survey. The specific challenges and opportunities in the different markets are determined from a logistics perspective, thereby comparing how Chinese and German companies manage to become successful.

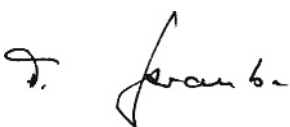
The research was conducted by the Competence Center for International Logistics Networks, which is part of the Logistics Department at the Berlin University of Technology (TUB) in close cooperation with the Supply Chain & Logistics Institute at the Huazhong University of Science & Technology (HUST), Wuhan. The Competence Center is financed by the Kuehne-Foundation, Switzerland. This set-up clearly emphasizes the international nature of the work that was conducted here.

This Sino-German research cooperation has been fruitful from the very beginning, when we started the project in January 2005 with our first meetings in Wuhan. The following design of a questionnaire and the comprehensive analysis of the results were characterised by mutual collaboration and open exchange of ideas in a friendly atmosphere.

The report is intended to fulfil both the practitioners’ needs for their daily work in globalised logistics networks, and the academia’s scientific interests in the phenomenon of international logistics. We hope this survey contributes to a further understanding of the issue and helps those who create tomorrow’s global logistics systems and the conditions logisticians will work in.

We sincerely thank all companies, logistics managers, and scientists who supported us during the work for this survey – either with interviews or by completing our questionnaires. We really appreciate your contribution.

With best regards from Berlin and Wuhan,



Prof. Dr.-Ing. Frank Straube
Head of the Logistics Department
Berlin University of Technology



Prof. Shihua Ma
Vice Dean, College of Management
Huazhong University (HUST), Wuhan



Dipl.-Ing. oec. Michael Bohn
Research Associate, Logistics Department
Berlin University of Technology

Background and Executive Summary

Over the past decades the world economy has reached an unprecedented level of global integration. As markets are being liberalised and trade barriers continuously being removed, companies are in an ongoing process of internationalisation to tap growth potentials in new regional markets and leverage cost advantages of locations with specific factor endowments and cost conditions. As a result, we see companies with internationally dispersed operations, embedded in global value chains and serving customers worldwide.

Background and scope. For the internationalisation of business activities, Global Logistics Systems play a significant role. They bridge the gap between cost efficiency in the global value chain and the required customer service. This clearly emphasizes that, nowadays, logistics is one of the most decisive success factors for companies in global competition.

The motivation of this survey is to review companies' internationalisation procedures from a logistics perspective. What are the challenges of setting up international logistics networks? What are the problems logistics managers must face when entering specific markets? How do managers cope with these challenges to ensure that internationalisation projects will be successful?

The research has been undertaken in China and Germany, surveying each country's companies when going global. In order to obtain a realistic picture, various aspects have been analysed according to the most important target countries and regions. These were identified as China, India, Russia, North and South America, and Western and Eastern Europe. However, the scope of this research is not a specific market analysis. The focus rather lies on patterns in internationalisation

behaviour and logistics strategies for foreign market entry.

Executive Summary. This survey adopts a holistic view of the collective experience of Chinese and German companies in regard to how they organize and employ logistics and logistics strategies in the internationalisation of their companies, and the challenges they face herein. Thereby it becomes clear that while internationalisation is not new, and the overall environment for setting up shop in foreign markets is probably better than ever before, it remains a challenging task.

As the basis for all further analysis, the survey starts with the corporate objectives that drive companies to set up offshore business entities. It shows that companies follow a complex set of objectives that are mostly composed of two major issues: to benefit from specific cost advantages and to leverage growth potentials of the respective foreign market at the same time. Hence, logistics systems have to be implemented to integrate the new facility into the global network as well as it has to cater the local demand.

It can be understood that on the one hand the advancements in logistics are enabling internationalisation, and on the other, internationalisation is steadily challenging the logistics discipline with its heightened requirements in terms of time, quality, and cost. Thereby, it has to be distinguished between country specific and transnational issues. The most important local challenges when entering new markets are infrastructure (especially in emerging markets), security issues, and the cultural distance between the domestic country of a firm and the respective target market. Intercultural management is significantly gaining importance for logistics managers. Transnational issues arise from the integration of

local logistics systems to form a global network. Most important is that companies are aware that situations in different countries are diverse and constantly changing. Hence, their logistics strategy has to cope with complexity and uncertainty. Regarding international trade procedures, it becomes clear that the main problem is not only the direct costs of tariffs and duties, but the lack of reliability in clearing, which may cause unexpected hold-ups.

The analysis of the internationalisation process forms the core of the survey. A simplified sequential process model was developed from the initial strategic idea to set up shop in a specific market until the final implementation of the new logistics system and its integration into the global network. Chinese companies finish this process within 14 months, Germans take a little longer with approximately 18 months, indicating the severe time pressure under which foreign market entries are carried out.

Improvements are necessary in the consideration of logistics aspects and the involvement of logistics managers, especially in the early phases of the foreign market entry, when strategic decisions have to be made. The most successful companies integrate logistics issues from the very beginning. Thereby, they do not only save time and money, but achieve competitive advantage as they meet the service expectations of their customers better.

Chinese and German companies follow different sets of objectives when establishing logistics systems in new markets; while the Chinese focus on a short and cost efficient set-up phase, Germans rather look at the characteristics of the final system to make sure that operations will be reliable, and time and cost efficient. Therefore, German companies accept a longer planning and implementation phase.

Three key components have been identified that have to be part of any logistics approach for setting up a offshore business entity:

Firstly, logistics managers have to ensure a high degree of flexibility and agility in their system to make sure it will meet the requirements of unknown future requirements. Basic levels of flexibility are generally incorporated among the reviewed companies, but it still falls behind cost and time considerations. A sound logistics system should provide companies with the ability to make swift adjustments in their supply chain in terms of where they manufacture, source, and sell. Surprisingly, few companies include an exit option in their logistics strategy, despite a growing number of famous market retreats.

Secondly, in order to deal with the heterogeneity and complexity of international networks, logisticians need to balance globally standardised procedures with local adaptations. The benefits from global process standardisation are widely recognised, yet not fully leveraged. Companies still tend to adapt their systems to a large extent to local requirements.

The third component is the strategic collaboration with logistics service providers (LSPs). Chinese companies traditionally outsource less than western companies. But in the context of foreign market entry the collaboration with LSPs can significantly facilitate to set up logistics operations. Hence, internationalisation leads to higher outsourcing levels and a broader range of outsourced activities at all reviewed companies.

To bridge the growing geographic and cultural distances in today's global supply chains, it takes a holistic logistics management approach that considers a multitude of aspects, ranging from the regional differences in lifestyle, working behaviour, technological skills

and equipment, infrastructure, and the supply of professional logistics services to the subtleties of international trade. The most important success factor for setting up shop in foreign markets is to be aware of this diversity and complexity, and to make sure that the people involved are sufficiently trained and empowered to get the job done efficiently.

Research Objectives and Methodology

This report is the result of a comprehensive research project on the Internationalisation of Logistics Systems conducted by the Competence Center for International Logistics Networks at the Berlin University of Technology (TUB), Germany, in close cooperation with the Supply Chain & Logistics Institute at the Huazhong University of Science & Technology (HUST) in Wuhan, China.

Research objectives. Whenever companies internationalise their corporate activities, the respective logistics system has to be expanded consequently. This might be the case, when new facilities are set up in Low Cost Countries or new regional markets are to be penetrated by opening sales offices or outlets. The resulting challenge for logistics managers is to design, implement, and monitor the adequate logistics networks for handling the corresponding flow of goods and information.

The objective of this survey is to develop a clear understanding of how logistics managers ultimately cope with those challenges type of problems they face herein – both from inside and from outside the organisation. It is looked at the complete process of setting up

business activities in overseas markets, from the initial strategic decision to enter a specific region, until the final implementation of the local logistics system, and its final integration in the global network. Thereby, strategies and methodologies applied by logistics managers are analysed and compared between Chinese and German managers in order to identify differences and commonalities in their approach. As logistics nowadays contributes significantly to a company's effectiveness, it will be examined as to whether specific concepts are more likely to succeed than others and what the relevant success factors are.

This research is limited to companies who do not see logistics as part of their core competence, i.e. manufacturers and retailers. Having completely different business models employed and following different goals with their internationalisation, Logistics Service Providers (LSP) are not reviewed here.

Research methodology. The research project was conducted with a combination of qualitative and quantitative methods. Based on a comprehensive literature review of the Internationalisation of Logistics Systems accompanied by desk-top research on the

Fig. 1 – Research approach

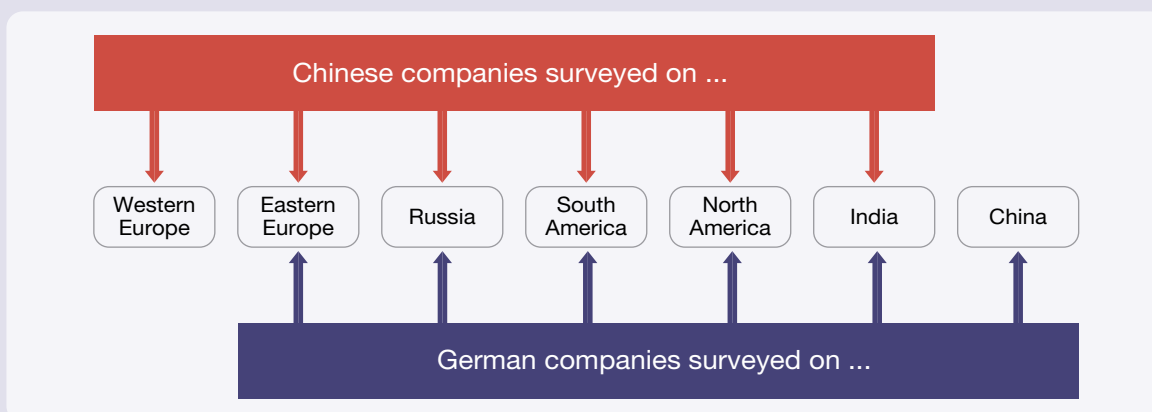
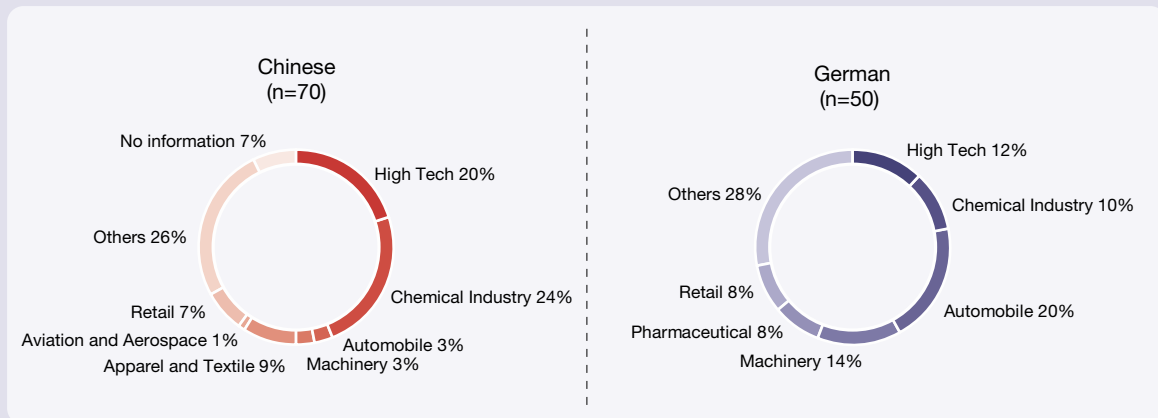


Fig. 2 — Sample representation



latest developments in the field, a general design of the research was developed. To get a broad and valid picture of internationalisation patterns along with the strategies and methodologies companies apply herein, it was concluded to base the investigation on a questionnaire based approach. The questionnaire was aimed at logistics managers from Chinese and German manufacturers and retailers, with global activities or with the intention to internationalise their activities. It was decided to review their global expansion towards a limited set of target regions and countries, which were identified to be the most important: North and South America, Eastern and Western Europe, India, Russia, and China (Fig. 1, comp. Chapter 1 for more details on the selection of these target regions.) The concept of the questionnaire resulted from the ideas and thoughts generated during the literature review, and was tested and improved by a limited number of in-depth interviews with selected practitioners in China and Germany.

The questionnaire was then distributed in German, English and Chinese among Chinese and German companies, with the option to answer either paper based or online. The poll started in June 2006 and the collection ended in January 2007. In total, 1,000 copies

were sent out in Germany with a return of 50 valid replies. In China 900 copies were sent out and 70 valid replies were received. Some 20 % of the respondents answered online. Fig. 2 depicts the distribution of industries in the sample.

The following analysis of the resulting Chinese-German data set was undertaken jointly by the two project partners employing common statistical methods for empirical research. The evaluation method for significance assessment is based on the creation of the arithmetic mean of a Likert Scale. Simultaneously, discussions of the results with logistics practitioners enriched the interpretation of the numbers.

Along with the results of the poll, this survey provides additional information from various sources for the selected target regions and specific internationalisation topics.

Research Report

Background and Executive Summary VIII

Research Objectives and MethodologyXI

1 Introduction—Internationalisation of Business Activities2

2 Strategic Objectives of Internationalisation8

3 Link Between Internationalisation and Logistics 11

 3.1 Significance of Logistics for Corporate Success 11

 3.2 Logistics and the Success of Internationalisation Activities..... 16

 3.3 Impact of Internationalisation on Logistics 18

4 Challenges and Difficulties in International Logistics 22

 4.1 Country Specific Issues in Global Logistics 23

 4.2 Transnational Issues in Global Logistics 30

5 Logistics Strategies for Entering New Markets 33

 5.1 Duration of the Internationalisation Process 38

 5.2 Consideration of Logistics within the Internationalisation Process 44

 5.3 Structuring and Standardising Internationalisation Procedures..... 48

 5.4 How to Cope with the Dynamic Environment 53

 5.5 Global Standards and Local Adaptation 58

 5.6 Strategic Collaboration with Logistics Service Providers..... 61

6 Conclusion..... 66

List of Excursions

Insight — China6

Insight — India..... 14

Insight — Russia 20

Insight — Western Europe 28

Insight — Eastern Europe 36

Insight — Useful Indicators for Country Assessment 41

Insight — South America 46

Insight — Dynamic Developments in China’s Automobile Industry 52

Insight — North America..... 56

List of Figures

Fig. 1	— Research approach.....	XI
Fig. 2	— Sample representation	XII
Fig. 3	— Development of world exports and GDP, comparison of shares in world GDP and population	3
Fig. 4	— Development of GDP over time, comparison of growth and wealth	3
Fig. 5	— Economic ties between China and Germany	4
Fig. 6	— Distribution of Fortune Global 500 companies in 2006	5
Fig. 7	— FDI inflows per country (2005) in million US\$	5
Fig. 8	— Main business objectives for internationalisation	9
Fig. 9	— Development of logistics	12
Fig. 10	— Significance of logistics for internationalisation.....	17
Fig. 11	— Transnational and country-specific challenges in global logistics.....	22
Fig. 12	— Main transnational issues in global logistic networks	30
Fig. 13	— Framework of internationalisation topics.....	34
Fig. 14	— Duration of the internationalisation process	39
Fig. 15	— Global logistics indicators structure.....	43
Fig. 16	— Involvement of logistics managers in internationalisation projects	45
Fig. 17	— Status quo and benefits of standardised internationalisation procedures.....	49
Fig. 18	— Standardisation of internationalisation procedures.....	50
Fig. 19	— Logistics strategy for foreign market entry	51
Fig. 20	— Dynamic changes in global logistics	54
Fig. 21	— Incorporation of exit options.....	55
Fig. 22	— Balancing global standardisation with local adaptation	59
Fig. 23	— Objectives of logistics outsourcing when going global	62
Fig. 24	— Outsourcing strategies and composition of self-run logistics	63

List of Tables

Tab. 1	— Key figures on the target regions and countries in the survey	3
Tab. 2	— Country-specific challenges and problems.....	24
Tab. 3	— Logistics objectives of foreign market entry	50
Tab. 4	— Criteria of LSP-selection.....	64

List of Abbreviations

3PL.....	Third Party Logistics
APS	Advanced Planning Systems
Benelux	Belgium, Netherlands, Luxembourg
BRIC	Brazil, Russia, India, China
CAGR.....	Compound Annual Growth Rate
EDI.....	Electronic Data Interchange
ERP	Enterprise Resource Planning
EU	European Union
FBU	Fully Built Up
FCL.....	Full Container Load
FDI.....	Foreign Direct Investment
GDP	Gross Domestic Product
ICD	Inland Container Depots
ID	Identification
IT.....	Information Technology
KPI.....	Key Performance Indicator
LSP.....	Logistics Service Provider
M&A.....	Mergers and Acquisitions
MERCOSUR	Mercado Común del Sur (English: Southern Common Market)
NAFTA.....	North American Free Trade Agreement
R&D	Research & Development
RFID	Radio-frequency Identification
RMB	Renminbi: official currency of the People's Republic of China
SARS	Severe Acute Respiratory Syndrome
SCM	Supply Chain Management
SMEs	Small and Medium Sized Enterprises
SUV	Sport Utility Vehicle
TEU	Twenty-foot Equivalent Unit
UNCTAD.....	United Nations Conference on Trade and Development
WTO	World Trade Organisation

Internationalisation of Logistics Systems

— How Chinese and German companies enter foreign markets

1 Introduction—Internationalisation of Business Activities

The conditions for employment and execution of cross-border economic activities have improved significantly during the last century, and have led to an unprecedented amount of globally exchanged goods and globally dispersed value chains.

Integration of the world economy. A comparison between the world GDP development and the world merchandise exports development as depicted in Fig. 3 and Tab. 1 demonstrates evidence of this strengthening interconnectedness. The liberalisation of markets, decreasing transportation costs, and huge steps forward in information and communication technologies not only lead to an increase of international trade in the most basic sense of products being distributed abroad, but moreover, lead to globally interconnected production systems. In this environment of increasing global integration of dislocated business activities, it is logistics that performs as the main enabler. By designing, managing, and monitoring the world's flows of goods and information, logistics is justifiably regarded as the backbone of the globalisation phenomenon.

Changes in the global market place. Although the triad of North America, Western Europe, and Japan concentrate nearly half of the world's GDP and are home to the lion's share of the Fortune Global 500 (see Fig. 6), current economic data foreshadows that the old triad-Era is becoming outdated. Rapidly emerging markets, sometimes referred to as BRIC (Brazil, Russia, India, China) have been showing impressive high growth rates and, considering the significant disparities between their share of the world's population and their share of world GDP (see Fig. 3), they have great potential for further persistent and sustainable growth. In addition, economies such as the Chinese are becoming more advanced

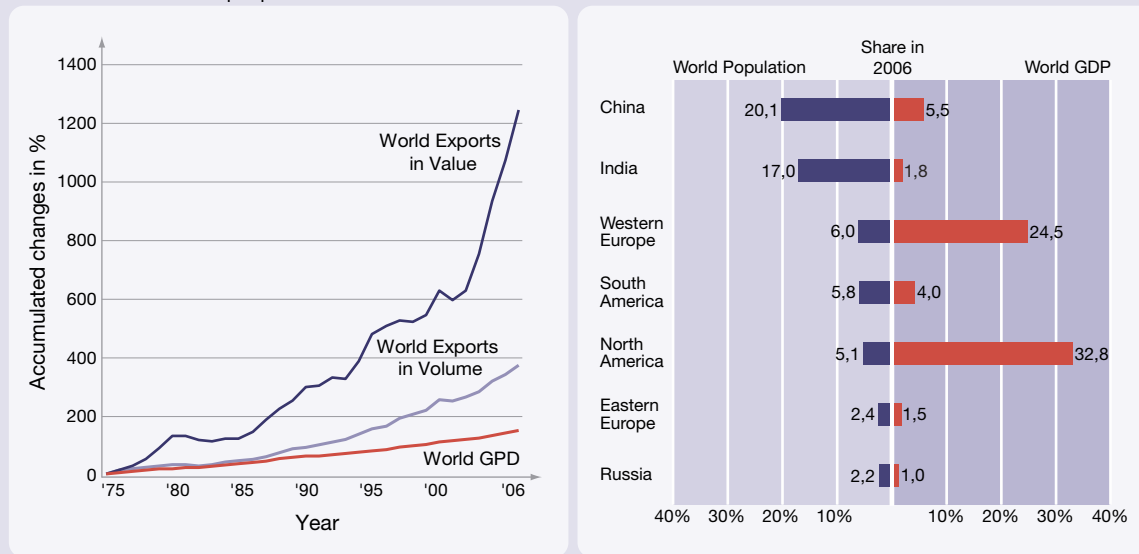
and technologically competitive to their triad counterparts. They begin to move away from merely providing low-cost labour and bring forward capable and ambitious players into the international market place, altering the traditional roles between the developed and the developing world. Internationalisation of businesses is happening in both directions: from the developed into the developing economies and vice versa.

Most important targets for foreign market entry. According to their economic relevance for the world economy, the seven most important target regions and countries for internationalisation activities were identified for this survey: North and South America, Western and Eastern Europe, Russia, India, and China.

Due to their high current significance and positive future prospects, the countries China, India, and Russia are analysed as single countries. They show the greatest economic potential - although their combined GDP is currently low at only 8 % of the world's total, growth rates have far outpaced those of the great economic powerhouses over the last decade (see Fig. 4). China, for example, has experienced double digit growth for almost 30 years consecutively. The Indian average GDP growth has doubled over the last decade.

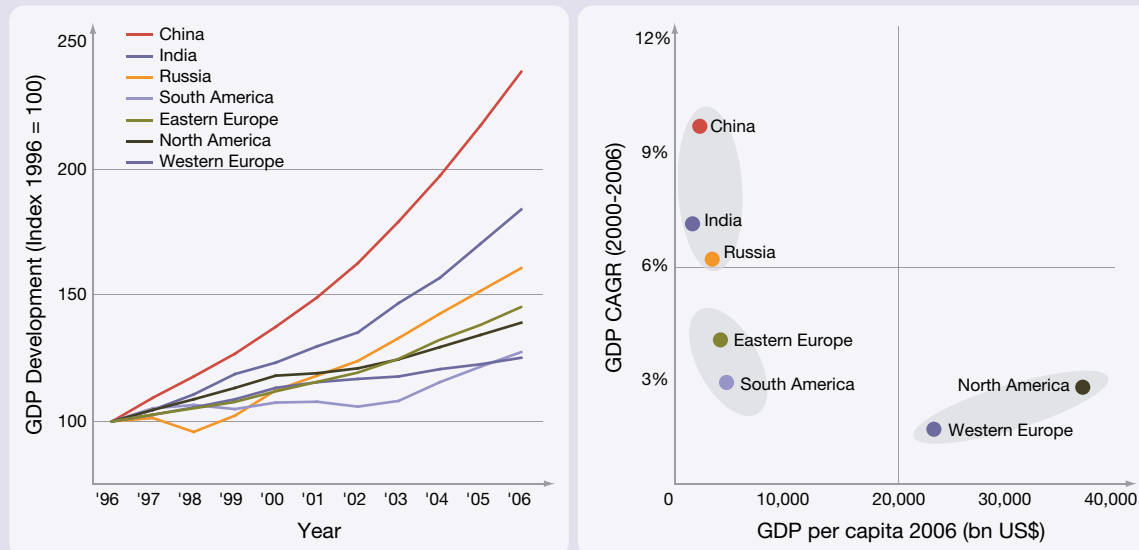
To keep the complexity of the survey at an adequate level, other countries are subsumed in the four regions of North and South America, Western and Eastern Europe. Although there is a certain heterogeneity within these regions concerning level of development (political situation and infrastructure etc.), each generally understands itself as a region in the economical, political (e.g. "EU", "MERCOSUR") and cultural sense, and is perceived as such on a global level. Western Europe and North America represent the group of devel-

Fig. 3 – Development of world exports and GDP, comparison of shares in world GDP and population



Source: ERS International Macroeconomic Data Set; Census Bureau of the U.S. Department of Commerce; World Bank World Development Indicators; World Trade Organization, Statistics Database; own calculations

Fig. 4 – Development of GDP over time, comparison of growth and wealth



Source: ERS International Macroeconomic Data Set; Census Bureau of the U.S. Department of Commerce; own calculations

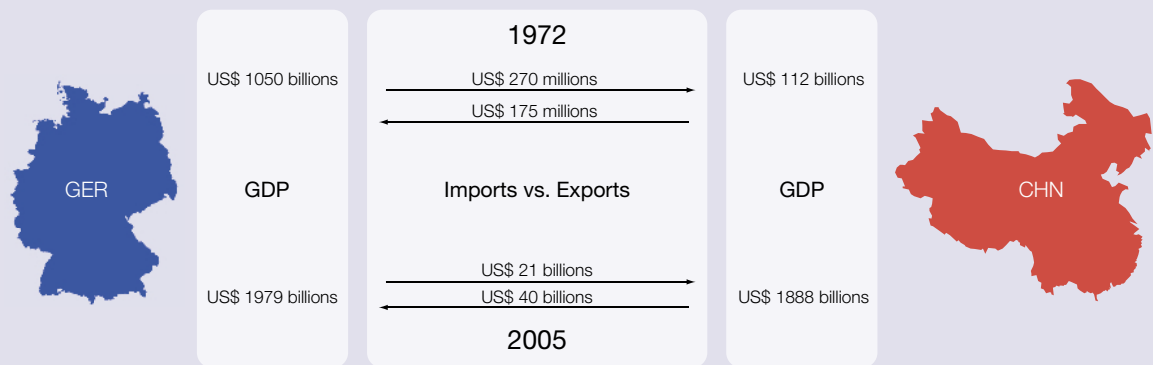
Tab. 1 – Key figures on the target regions and countries in the survey

	GDP 2006 (US\$/capita)	GDP CAGR 2000-'06 (%)	FDI Inflow 2005 (m US\$)	FDI Inflow CAGR 2000-'05 (%)	Exports of goods and services 2005 (bn US\$)	Export CAGR 2000-'05 (%)	Imports of goods and services 2005 (bn US\$)	Import CAGR 2000-'05 (%)
Western Europe	23,480.35	1.7	397,066.49	-12.64	4,549.04	8.5	4,408.96	8.5
Eastern Europe	3,549.05	4.4	50,651.20	6.68	478.86	18.7	505.21	19.3
North America	37,387.89	2.8	132,264.90	-12.99	1,551.17	2.1	2,134.13	4.9
South America	4,008.56	2.9	44,697.36	-7.66	354.53	12.7	268.60	7.0
Russia	2,608.64	6.1	14,599.61	5.53	268.32	18.6	164.62	21.4
India	612.24	6.9	6,598.00	3.96	165.49	21.1	194.80	23.8
China	1,579.07	9.8	109,073.69	4.78	836.89	24.5	712.09	23.2

Source: UNCTAD; ERS International Macroeconomic Data Set; Census Bureau of the U.S. Department of Commerce; World Bank World Development Indicators; World Trade Organization, Statistics Database; own calculations

1. Introduction

Fig. 5 — Economic ties between China and Germany



Source: ERS International Macroeconomic Data Set; Census Bureau of the U.S. Department of Commerce; World Bank World Development Indicators; World Trade Organization, Statistics Database; own calculations

oped economies, with comparatively high incomes per capita at low growth rates but with a huge share in global FDI inflows and outflows. Furthermore, these economies account for the largest number of global players in the marketplace (see Fig. 6 and Fig. 7).

The economies of South America just as Eastern Europe are also referred to as emerging or developing markets. The level of GDP per capita remains far below the developed economies and growth rates fall behind those of China, India, and Russia. Their position in the global market shows very positive future prospects as indicated by the shares of global FDI inflows.

With these countries and regions as the subject of discussion, this survey provides a comprehensive overview of the main targets of foreign market entry, while keeping a straightforward number of datasets. (For detailed information on the respective regions and countries, see individual excursions.)

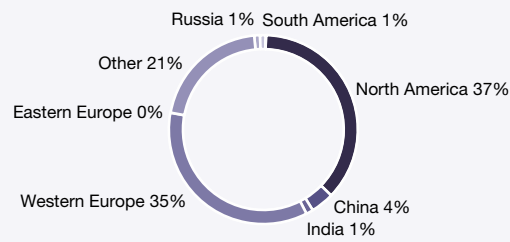
How Chinese and German companies enter new markets. The survey looks at logistics strategies for global expansion of companies from China and Germany. These two countries are key players in the world economy with specifically high involvement in foreign trade, and both countries significantly benefit from globalisation (see Fig. 5). Furthermore, the Chinese and the German econo-

mies share close ties with each other: Germany is China's largest export market in Europe and receives the largest share of China's FDI to Europe. China is Germany's second largest export market in the world and accounts for the major share of German FDI to Asia.

German global players represent those companies that are based in a developed market and have gained experience from internationalisation for decades. Chinese companies, on the other hand, are representing those based in emerging markets. Having benefited mostly from the low cost labour endowment at home and being successful in domestic competition, they are now heading off for new markets in both developed and developing countries. This new breed of Chinese companies has the potential to cause major changes in global competition.

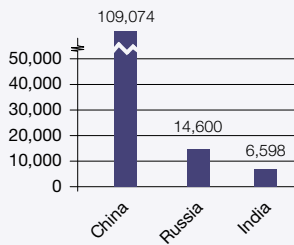
With a sample of 120 companies whose logistics managers gave details on their logistics strategies for going global, this survey gives deep insights into a variety of topics related to foreign market entry. Similarities and differences between the German and the Chinese approach are determined, and facts and figures are provided for a thorough understanding of the respective target regions.

Fig. 6 – Distribution of Fortune Global 500 companies in 2006

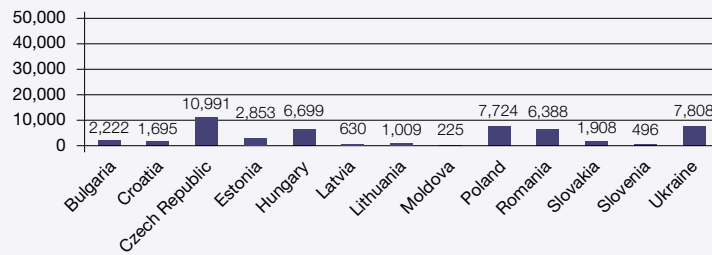


Source: 2006 Fortune Global 500

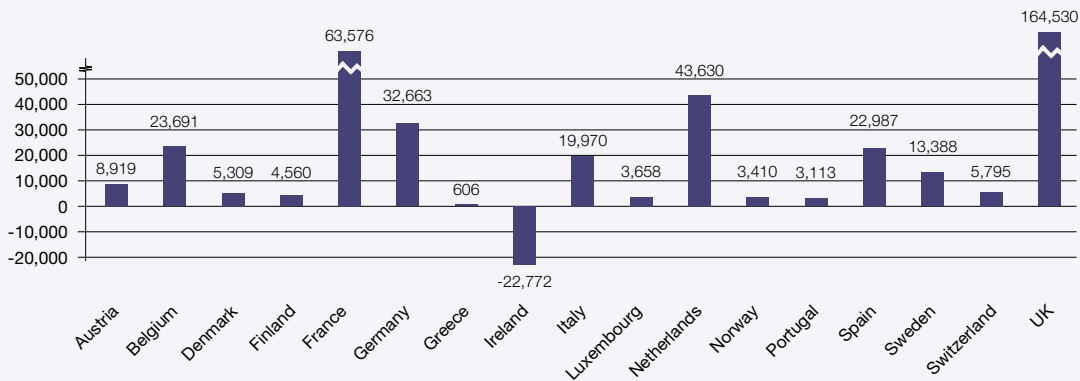
Fig. 7 – FDI inflows per country (2005) in million US\$



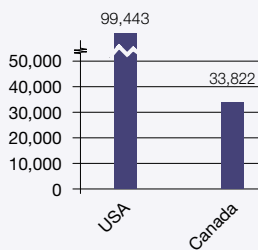
Single countries



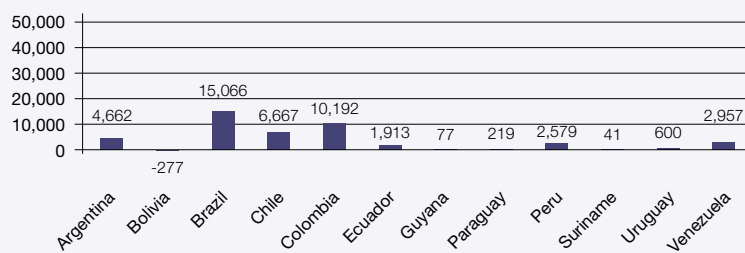
Region Eastern Europe



Region Western Europe



Region North America



Region South America

Source: UNCTAD databases

Insight – China

The Chinese economy has grown rapidly since the economic reform process began in 1978 and recently surpassed the United Kingdom to become the world's fourth-largest economy. Over the past 25 years, the mainland economy recorded an average real growth rate of more than 9.5 % per annum, making it the new world record holder among major economies. From only 4 % of global output in 2000, China should account for 11 % of world GDP by 2025.

In 2005 China is already the world's third largest trading nation behind only the US and Germany, with trade expanding nearly 29 % annually on average between 2001 and 2005, and seems destined to become the largest some time in the second decade of the 21st century. As an economy where external trade is equivalent to 72 % of the GDP, China stands to benefit from further rounds of trade liberalisation. The inflow of international capital has deepened China's integration with the global economy, attracting nearly US\$ 230 bn between 2002 and 2005.

China joined the WTO in 2001 after 15 years of negotiations and declared the step as a strategic decision in the process of an economic globalisation. The public sector became less important. Enterprises without competitive advantages are getting eliminated from the market, whereas the private sector benefited from the WTO participation. First of all, private companies enjoy having the same opportunities as state-owned enterprises at present. Secondly, due to the commercial partnerships private companies created a quick access to foreign know-how, capital, and technology.

In the six years since the WTO accession, China has changed in many positive ways. The ideas of market economy, trade, and investment liberalisations have been integrated into popular thinking. WTO core concepts including transparency, accountable governance, and national treatment are now widely accepted by the Chinese public. China's WTO entry has also changed the global economic landscape. The country has become a major global manufacturing centre and the engine of the global economy. Global sourcing is focussing heavily on China nowadays.

The labour force consists of 745 million people, that is separated into 3 categories: agriculture (50 %), industry (22 %) and service (28 %). However, the unemployment rate in China is extremely high. In urban areas it reaches 10 %, whereas in rural areas it is even higher. According to Premier Wen Jiabao, the gap between the cities and the hinterland is escalating. Tensions such as rural economic stagnation, disintegrating education, unacceptable healthcare system, and high unemployment are growing more acute.

Hence, global consumer goods companies initially focused their efforts mostly on China's three largest cities, Beijing, Shanghai, and Guangzhou. These areas are home to some 29 million people and represent China's most affluent and sophisticated market, accounting for 13 % of the country's disposable income. But relatively few global companies are taking note of the roughly 12,000 smaller cities and towns that dot the Chinese landscape. The total household income in these cities and towns is already about 50 % higher than that of the so-called first- and second-tier cities combined. The number of households in smaller cities and towns with incomes greater than 35,000 RMB a year is expected to grow annually by 7.6 million, or 7 %, over the next two decades, compared with average annual growth in cities generally of 6.6 million, or 5 %. These smaller communities form the gateway between

urban and rural China. Altogether about 400 million people - around a third of China's population - live in these regions.

As the world's third largest trading nation, China's logistics industry is gaining in importance. The government's 10th and 11th five-year plans stress the development of the logistics industry so as to facilitate and support continued economic growth. Currently, transportation costs constitute nearly 55 % of total logistics costs. Hence, China's government took the initiative in reducing this expense. In order to achieve improvements, it invested Rmb775bn in 2005 in infrastructure to address bottlenecks in the transportation network, an increase of 23 % over the previous year.

Much investment will be channelled into highway construction that grew at 6.7 % annually from 2001-05 to improve inland transportation. In addition, China is expanding its sea port capacities accommodate growing demand. Shenzhen and Shanghai, for instance, are ranked among the world's top four container ports regarding container traffic in TEU in 2005 behind Singapore and Hong Kong.

Airports in China have grown at a fast pace. More precisely, seven out of China's top ten airports have experienced two-digit growth rates over the last two decades. China's air freight industry, for instance, grew by 11 % in 2005 and is estimated to increase until 2010 by more than 50 %. In fact, China's transportation network is one of the largest in the world. Even in less developed regions such as the southwest, China will double its airports from 24 to 48 by 2010.

However, there is also a downside of China's growth. China's development relies strongly on exports which places the economy in a position vulnerable to external fluctuations. The market for logistics services is vigorously fragmented and underdeveloped. Experts estimate a total amount of up to 700,000 logistics companies in China. Not even one is able to possess 2 % of the market share. Due to these conditions 20 % of the GDP consists of expenses for logistics services, twice as much as in the US. 40 % of products' total costs are logistics related. China's exports to the U.S., for example, are significantly higher than imports vice versa. Consequently, the necessary return of empty containers to the Chinese mainland influences the price structure of shipping rates on these trade lanes.

Some experts warn that the real challenges in the future will be further market openings and the ability of China's leadership and economy to cope herewith. Others show more confidence and are looking forward to more market opportunities and expect positive progress, e.g. regarding the protection of intellectual property rights.

2 Strategic Objectives of Internationalisation

The logistics strategy is a subsystem of the business strategy and has to ensure the accomplishment of the corporate objectives. Consequently, in the first step of the survey, the strategic objectives that companies follow with their internationalisation activities are determined as the basis of all further analysis. As business objectives may vary for different regions it is determined what companies aim at when entering a particular target region or country.

Not all different objectives can be clearly distinguished as they may be closely related and have complex interdependencies. As illustrated in Fig. 8, it typically is a complete set of objectives that drives a firm to set up shop in a foreign region. The importance of each objective is displayed for German and Chinese companies and also for each specific region or country.

Objectives of foreign market entry. Basically, the two main areas of motivation to enter foreign markets are to tap either growth potentials or cost saving potentials.

Thereby, it is interesting that the growth aspect is valued as much more important than cost reduction. Going global strengthens the companies' market position as they leverage global opportunities. In opposition to frequent statements in public media, global cost pressures that make firms shift their production overseas - causing unemployment in developed economies - play a rather minor role in the current internationalisation behaviour of companies. In the first place, internationalisation means leveraging global expansion opportunities, i.e. it is to the very advantage of the company.

In the past, companies with a clear cost focus used to set up shop mostly in so-called "spe-

cial economic zones" or "free trade zones" in low cost countries to leverage the beneficial cost situation for manufacturing. The merchandise was mainly meant for export. Typically these special zones have direct links to international sea ports and/or airports, and provide services needed for international cargo handling. Hence, logistics is facilitated and the resulting network comparatively simple. Today, as the set of objectives is in many cases more complex and many companies follow the double objective of cost reduction and growth at the same time, the new overseas entities have to cater both, the new market itself and also other regions with exports. Consecutively, complex logistics networks are necessary, with local supply and distribution structures being integrated into a global network.

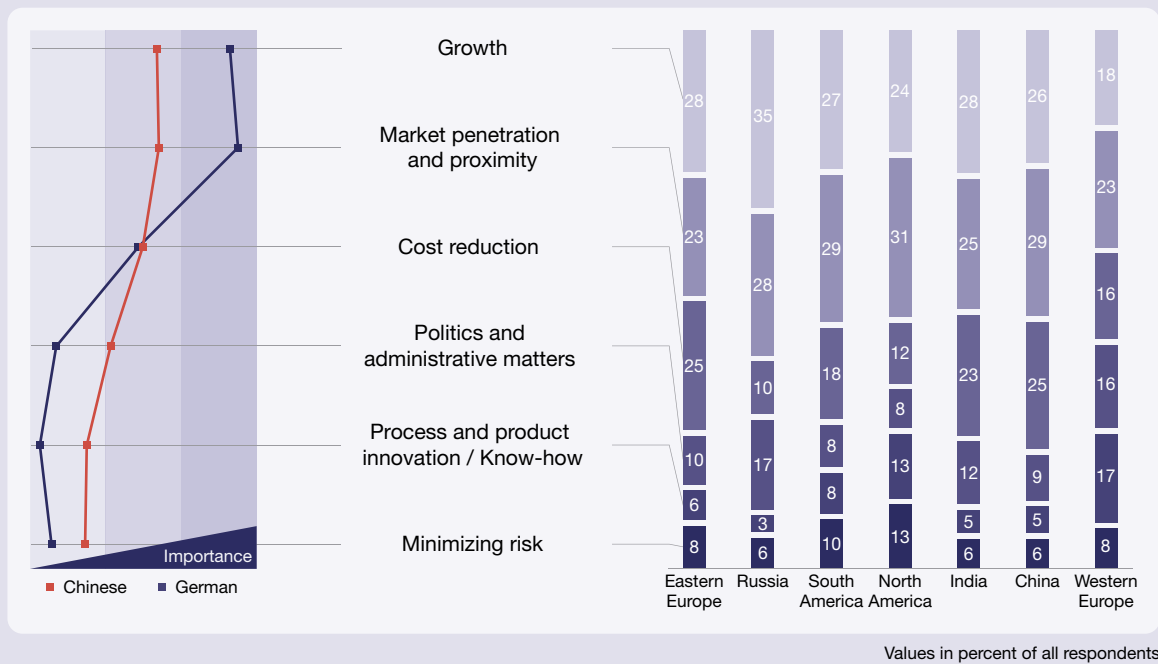
Comparison of German and Chinese sets of objectives. Looking at the patterns of Chinese and German companies' objectives for their internationalisation, one main difference becomes evident: While German companies almost exclusively focus on growth and cost, the valuation of objectives by Chinese respondents is more equally distributed (see the two curves in Fig. 8).

As shown in Chapter 1 developed economies like the German suffer from little growth or stagnation, while the developing nations are booming in rapidly growing purchasing power. Along with the fact that these countries simultaneously offer significant cost advantages, to participate in these dynamic market development is of major importance for German companies.

Chinese companies on the other hand have a broader range of objectives. Besides increasing domestic competition and market opportunities outside China, foreign market entries

2. Strategic Objectives of Internationalisation

Fig. 8 – Main business objectives for internationalisation



offer further opportunities in gaining access to innovation, know-how and specialised personnel or in balancing risk by a diversification of locations and markets.

Still, for Chinese, as for German companies, the growth aspect is most important, but with a distinct discrepancy: in many cases Chinese companies seek to leverage their cost advantages at home and enter foreign markets with a comparatively higher price level so they can achieve better margins. German companies, on the other hand, coming from a rather saturated market, seek to broaden their customer basis to realise economies of scale. As R&D expenditures per product have been constantly rising in the last years and product life cycles have been shortened, a broadened customer basis ensures an earlier break-even point and higher returns. Therefore, they even accept that the lower price level in developing markets lead to smaller margins.

At first sight, it might be surprising that Chinese respondents value cost reduction as similar important as their German peers, even though the overall cost situation in China seems to be much more favourable. But for

specific products, manufacturing in developed countries may be more cost effective than in China. Especially for knowledge intensive products with high quality requirements the factor endowments of developed countries show specific advantages. The availability of well trained personnel, along with educated and sophisticated processes ensure lower quality costs in terms of waste, rework and reliability, and thereby outweigh the comparatively high labour costs. Thus, for both Chinese and German companies foreign market entries may enhance the overall cost structure.

Another objective to internationalise business activities is to reduce risk. This can be achieved by a deconcentration of manufacturing through the establishment of different locations, thereby securing reliable operations. It can also insure against currency fluctuations, and self-owned off-shore manufacturing can prevent losses of intellectual property, which may result from off-shore outsourcing to low cost countries.

2. Strategic Objectives of Internationalisation

Differences between regions. China and India attract foreign companies to set up shop by offering a combination of both cost saving potential, and a huge sales market with an ever increasing purchasing power. Hence companies establish structures to cater the local demand as well as for export.

The same is the case for the countries in Eastern Europe. While growth rates are comparatively lower than in China and India, the economic outlook is still very positive and the ongoing accession of more and more countries to the EU keep future expectations high. The labour costs for most parts of Eastern Europe remain low, but in certain areas and fields of industry wages catch up with the Western European level. Liberal tax regulations and factor costs create an overall favourable environment for market entries. A specific advantage of the Eastern European countries is their proximity to wealthy economies in the western part of the continent (EU 15, Switzerland and Norway), which makes them an attractive location for “Near-Shoring”.

Currently, the main motivation to set up shop in South America is to cater to the domestic demand and participate in the positive market development of specific countries, e.g. Argentina or Brazil. Leveraging low cost manufacturing for export is of minor importance.

Russia attracts foreign market entries from manufacturers and retailers mainly with the increasing purchasing power of Russian customers. Unlike the emerging markets in East Asia and India, Russia is not a low cost location for manufacturing for the world market.

West European and North American countries are most interesting due to the high purchasing power of their customers. As mentioned above, cost reduction can only be achieved for specific products with higher levels of sophistication, as process and product innovations and know-how are of comparatively high importance to set up shop here.

In many cases, the final decision to locate an off-shore entity in a specific country depends strongly on politics and administrative matters. This includes subsidies, tax cuts, tariffs and non-tariff trade barriers, such as local content regulations and administrative procedures that hinder a company from catering a specific market with exports. These measures can have significant impact on the profitability of foreign market entries. Politics and administrative matters are perceived to be especially decisive in Russia, India, China, and Eastern and Western Europe.

3 Link Between Internationalisation and Logistics

There is a close relationship between internationalisation activities and logistics. On the one hand logistics is driving internationalisation as one of its key enablers. On the other hand internationalisation is challenging the logistics discipline with its unprecedented pace.

It is clear that the degree of globalisation we experience today would not have been possible without the advancements in global transport and communication systems. Transportation costs have been decreasing significantly during the last century, and so have communication costs. The costs for the most important international transport modes, sea and air freight, have fallen by approx. 65 % and about 88 % within the past 70 years. At the same time the transportation speed for goods and data has reached unforeseen levels, just like the capacity that today's global networks do offer.

For companies this has dramatically facilitated to set up off-shore facilities and the integration of overseas operations into highly complex value chains. Still, the design and management of these complex flows of goods and information remains a challenge for logistics managers worldwide.

The existence of global communication and advanced transportation systems frames an important prerequisite for global operations. But that does not imply that going global is an easy task. In order to successfully internationalise business activities, it takes a comprehensive management approach, incorporating logistics principles and methodologies.

3.1 Significance of Logistics for Corporate Success

In order to understand the significance of corporate logistics in the context of internationalisation it is necessary to begin with a look at the overall role that logistics plays in business today.

Over the past decades, the logistics discipline has been subject to constant change, as illustrated in Fig. 9.

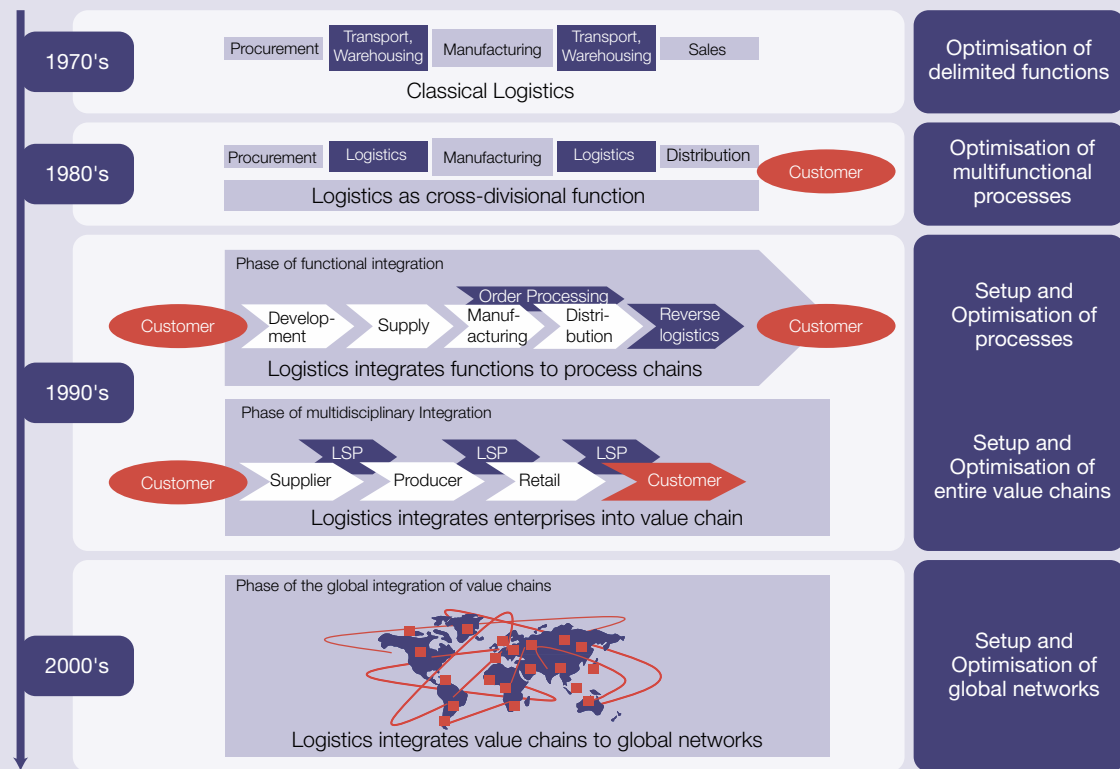
Development of logistics over time. In the western economies during the '60s and '70s, classical logistics encompassed material and goods-related tasks and functions. Transportation, handling, warehousing, packing, and commissioning fell within this jurisdiction. At this time, great importance was already ac-

corded to the availability of raw materials and components. Logistics was perceived as only being able to marginally influence a company's success. It was not a discipline unto itself, but embedded in the corporate structure in a fragmented manner resulting in isolated logistical segments without proper connection.

In the '80s, a transformation from a function to flow oriented approach was recognized within logistics, where the goal was a configuration and optimisation of processes, by integrating and coordinating the previously fragmented business processes in procurement, production, and distribution.

3. Link Between Internationalisation and Logistics

Fig. 9 — Development of logistics



Source: Baumgarten et al. (2004)

In the '90s, the concept of functional integration gained advances and incorporated the flow of goods and information. Through this holistic approach cross-functional optimization of the entire process chain could be achieved. The rapid advances in IT allowed the reduction of information deficits between and within the process chains.

Logistics has become a key function at strategic business levels as it has proven to achieve significant competitive advantage by catering the growing demands in speed and flexibility. Especially in the service driven and time based competition which is being observed in more and more markets.

Around the turn of the millennium, companies have begun to undertake the cross-functional and holistic coordination of business interfaces. Flows of goods and information are planned and controlled not only between functional entities but also across corporate borders aiming at a strong integration of sup-

pliers and customers. This integration has been advanced through the concept of Supply Chain Management which is based on the wide spread of ERP systems, connected via EDI links. The upcoming Advanced Planning Systems (APS) are facilitating this development. This cross company integration is not limited to national boundaries — so, the current phase of the logistics evolution is characterised by the setup and optimisation of integrated global networks.

Status quo of corporate logistics. Today, very few companies worldwide have yet reached the level of integrated and globally optimised networks. Most enterprises from developed nations currently do adopt a process oriented and integrated logistics approach. They mostly have information exchange with their direct suppliers and customers and monitor certain key points of their supply chain both upstream and downstream. But the application of fully global integrated network approach is still in its infancy.

3. Link Between Internationalisation and Logistics

For average Chinese companies, like those from other rapidly developing countries, things are different. Most of these companies still see logistics as rather isolated functions, mainly transport and warehousing, that are undertaken independently at different departments of the enterprise, similarly to the logistics approach of the '70s and '80s in western economies.

Those Chinese companies that already run international operations or are about to internationalise their business activities, usually have a more advanced understanding of logistics. As exclusively these companies are included in this survey's sample, we discovered a different picture than expected for the average Chinese firm: research has shown that the upcoming global players from China value logistics at least as equally important as their western competitors. The most successful ones amongst them engage in sophisticated logistics planning when it comes to internationalisation. Due to the fact, that their market entries follow a Greenfield approach they have the chance to develop very country specific and strategically planned logistics systems.

So, it is worth mentioning that the upcoming Chinese global players may not be underestimated by looking at the average Chinese company, which is mostly focussing on domestic competition.

Today's role of logistics for corporate success. For 90 % of the surveyed companies logistics is crucial for competition, as customers require high levels of service in terms of logistics performance and reliability. Logistics service levels directly influence the purchase decision of the customer as he perceives the respective product in combination with its availability, lead time and other service aspects.

As Chinese companies mostly compete in commodity markets and in fields in which price is the most important sales criterion, their focus is slightly more on costs (Chinese: 92 %, German: 62 %), while German companies tend to compete in other areas, e.g. technological sophistication, quality, and service. Hence, German interviewees focus slightly more on service levels in competition than their Chinese peers (Chinese: 65 %, German: 79 %).

The critical aspect is that the fierce international competition in most markets has led to the situation that customers do expect high logistics service levels but are unwilling to pay extra for it, as indicated by more than 70 % of the managers.

Hence, as cost pressure and customer expectations are rising at the same time, effectiveness and efficiency in logistics systems become even more important for corporate competition.

Insight – India

The Republic of India is home to about 17 % of the world's population (1.11 bn people). Alongside China, India is regarded as number two in Asia's booming new markets and has become increasingly important to international business - foreign trade already makes up one third of the GDP while both imports and exports rose by 36 % in 2006 (April-December) to US\$ 131.2 bn (imports) and US\$ 89.5 bn (exports).

Over the past years, India's economy has experienced a growth of around 8 % per annum. Although India has been experiencing economic growth throughout the last 15 years, it is still considered a developing country in which around one quarter of its 1.11 bn people live below the poverty line. India's economy has experienced a forceful shift from the primary sector to the secondary and tertiary sectors in the past decade. In 2006/07 (1st April – 31st March), GDP was at US\$ 923 bn, most of which was generated by the service and industrial sectors. In 2006, services – including retail, hotels, transportation, insurance, financial, social, and personal services – constitute 55 % of GDP. Although India is the world's second largest producer of food next to China, agriculture provides roughly 20% of GDP. At 1.5 % world market share, it only plays a subordinate role on a global scale. The agricultural sector provides the mainstay for the majority of the Indian population. Growth rates for the secondary and tertiary sectors have been at 10 % while the primary sector growth rate has decelerated from 6 % to 3 % between 2005 and 2006.

The country has become well-known for its IT expertise and is regarded as a location for offshore service outsourcing such as customer support. Besides services and IT, India also competes with world leaders in the production of pharmaceuticals, aerospace and biotechnology. Only recently, international companies such as global automotive manufacturers have discovered India as a production site. In order to reduce the dependency on offshore outsourcing, the Indian government is promoting the expansion of mass-production facilities.

Due to its socio cultural composition, the Republic of India is considered one of the most promising procurement markets. Factors contributing to this assessment are widespread proficiency of the English language, a stable governmental system, and broad endowment with well-educated engineers and technically apt workers. The Indian government is promoting foreign investments in manufacturing sites and infrastructure and has set up a legal framework that allows foreign companies to incorporate 100 % self-owned subsidiaries in certain industry sectors.

In India, economic activity is highly concentrated in major clusters in and around the largest cities. Delhi, Mumbai, Bangalore, Chennai, and Hyderabad together currently receive two-thirds of the country's FDI volume. The area around Mumbai on the western coast is home to the financial sector. This area provides nearly 40 % of GDP. In the south, IT-boom town Bangalore produces about 90 % of the nation's total software exports and is the location of aerospace and biotech companies. The automotive industry has built up capacity in the area around Chennai, former Madras on the southern Bay of Bengal. It is the designated home to Indian subsidiaries of international companies such as Ford, Renault, Mercedes-Benz, Hyundai, Honda, and BMW, as well as their subcontractors. Not far from Chennai, the biotechnology industry has settled in Hyderabad in the so-called "genome valley." Furthermore, the pharmaceutical industry – mainly focused on the production of generics – has settled around Ahmedabad in the northwest of the country.

As industries in these clusters continue to evolve and grow, there is a rising demand for qualified logistics services that are capable of providing qualified, complex supply chains. International logistics providers have made large investments in warehousing capacity. Local providers are yet not capable of providing nationwide services comparable to western standards.

The concentration of economic growth to these clusters causes challenges in several ways. Positive economic performance and higher incomes only affect a limited share of the Indian population. In rural areas, the situation has been largely unaffected by the growing economy. Thus, there is a general migration into cities, causing a rampant growth of slums in the areas surrounding the economic performers cited above. Disparities in the distribution of wealth may well be the cause for social unrest.

According to World Bank studies, major obstacles for investments continue to be bureaucratic hurdles, corruption, and deficient infrastructure.

Although infrastructure on the subcontinent is in a desperate state, until now national Indian investments in infrastructure have only been a fraction of the investments made by the most challenging neighbour China. While China invests US\$ 200 bn in infrastructure yearly, India invests only US\$ 28 bn.

On many routes, the railway system still operates at the technological level of around 1947 when India liberated itself from British colonialism. Yet, railways have provided the leading means of transportation for cargo and passengers until recently. As tariff policies intended to subsidize passenger transport burden freight transportation, there has been a noticeable shift to road transport of goods.

Roads are the main mode of transportation in India today. Although road density is comparable to that of the United States, road quality provides great difficulties. Less than 10 % of the country's road network is two-lane for each direction (only 1 % can be considered highways) and 40 % of India's villages are not accessible during poor weather conditions. As a result of chronic congestion and poor road quality, average truck speeds are around 30-40 km/h. Further delay is caused by the general lack of and obedience to traffic rules (such as lane driving) and a heterogeneous array of traffic participants. On almost all roads, including highways, truck drivers share the route with a heterogeneous array of road users such as livestock, harness teams, children, and cyclists. In an attempt to improve nationwide road-bound transport, the government is currently constructing the "Golden Quadrilateral," which, when finished, connects the cities of Delhi, Mumbai, Chennai, and Calcutta.

There are 12 major harbors in India and harbor capacities must be increased dramatically (doubled) in order to prevent a bottleneck for the nation's increasingly important foreign trade activities. At the moment, container handling times are around three or four times higher than global average. Until now, India has not managed to connect to international trade routes. Large freight volumes from India to Europe are still transferred to Singapore in feeder-transport and then forwarded to their final destination.

These infrastructural hardships, in combination with the governmental tax (service tax for outsourced logistics 12 %) and tariff framework make it difficult for 3PL providers to offer appealing quality services to customers. Yet, the Indian logistics market is expected to grow 18 % per year.

3.2 Logistics and the Success of Internationalisation Activities

Internationalisation of business activities means an increasing dislocation or geographic dispersion of the different steps in the value chain. It is clear that this leads to an increased significance of logistics in global networks compared to more locally concentrated operations, as logistics has to take care of the resulting flows of goods and information. Global supply chains show a higher degree of dependency on logistics performance and logistics costs account for a larger share of total costs. At the same time, the customers' expectations for logistics service and performance have increased (comp. Chapter 3.1). From these simple thoughts it is intuitive to conclude, that logistics frames an important backbone of any internationalisation activity.

Consecutively, it has to be determined to what extent companies and managers perceive the importance of logistics for internationalisation and whether it is sufficiently considered in respective projects dealing with foreign market entry.

Role of logistics for internationalisation.

As depicted in Fig. 10 more than 80 % of the respondents see logistics as one success factor for internationalisation which has to perform in close interaction with other corporate functions. One third of the German interviewees perceive logistics as the most important enabler of going global, while twice as much Chinese managers are of this opinion.

About 15 % of all companies in the sample experienced situations in which specific market entries were not undertaken due to poor logistics conditions in the respective region. E.g. one company decided not to enter certain parts of South East Asia due to shortcomings in temperature controlled transport and warehousing.

Not even 20 % of the German logisticians indicate that logistics is not crucial for new market entries, among the Chinese it is even less.

It shows that Chinese companies focus even more on logistics in the global context than their German peers. This can be explained by several reasons. At first, Chinese companies experience a more challenging environment when they enter global competition by exporting goods. Due to insufficient domestic infrastructure conditions in large parts of China, a less developed market for logistics services and frequent shortages in shipping capacities going out of China, the logistics function played a key role at Chinese companies ever since, and especially for those engaged in going global. Consequently, managers of the upcoming Chinese global players have learned to focus more on logistics than their German peers whose exporting activities are embedded in a much more favourable environment.

Furthermore, Chinese companies compete mostly in low-end commodity markets with severe cost pressure. Hence, the cost consideration of logistics is much more crucial for them than for German companies who can afford higher logistics costs in their calculations.

Significance of logistics in different regions.

Besides the overall recognition of logistics for the internationalisation, it can be observed that the interviewees value the importance of logistics for successful internationalisation varying slightly from region to region. Especially for China and India they see logistics performance as a very important success factor.

German companies state that especially in the emerging economies of China and India logis-

3. Link Between Internationalisation and Logistics

Fig. 10 — Significance of logistics for internationalisation



tics can make the difference between market success and failure. For Chinese companies especially developed markets like North America and Western Europe require specifically effective and efficient logistics to cater the comparatively high customer expectations in logistics service.

Summing it up, the logistics managers regard "good logistics" as one of the basic requirements for successful internationalisation and that it has to interact with other corporate functions. Logistics could be seen as a hygiene factor but with the potential to achieve

competitive advantage.

As 86 % of the Chinese respondents and almost 40 % of the Germans frequently face severe problems due to an insufficient consideration of logistics in internationalisation projects, it becomes clear, that herein lies one of the key issues for foreign market entries. Top management recognition for the logistics network in budgeting, resource allocation, and strategic planning is most vital for global operations. This will be analysed in more depth in Chapter 5.

3.3 Impact of Internationalisation on Logistics

Just like logistics is enabling and driving internationalisation, internationalisation directly affects the characteristics of logistics systems.

Considering domestic and global logistics networks, one main difference is distance, which equates to transportation speed and dependency. Owing to trade lanes being much longer in a global setting, delivery and replenishment lead times are greater as well as unreliability of demand forecasts and uncertainty of actual product quality and quantity increase. Hence, internationalisation directly alters certain KPIs of logistics systems. In this chapter these changes are examined in combination with the corresponding strategies employed by businesses going global.

Increasing share of logistics in total cost.

For several reasons, the internationalisation of the business activities leads to a rising share of logistics in total costs. Research shows that this increase is more severe for German companies than for Chinese companies. This is explained by the fact that even without internationalisation, logistics costs command a larger share of the total cost structure of Chinese products, due to shortcomings in logistics conditions in China.

Besides the increasing transportation efforts in global networks, internationalisation often causes product proliferation due to necessary local adjustments (frequently referred to as “localisation”). This causes rising logistics costs, as the additional number of items calls for more handling and administration efforts and less potential for economies of scale. This correlation is especially observed by Chinese managers. As German companies have increased the number of product derivatives for years to cope with the challenges of individualised customer demand in Western economies, many Chinese companies only recently

began to face the need for more product customisation. Accordingly about two thirds of Chinese respondents observe this challenge along with internationalisation, compared to only 45 % of the German managers.

Impact on inventory levels. More than two thirds of the German and Chinese companies face increasing inventory levels due to internationalisation as a result of extended transport distances.

Higher fluctuation in customer demand and reduced forecast accuracy also lead to rising inventory levels when companies expand globally. This, once again, is a challenge which is observed by more Chinese (about 70 %) than German companies (about 40 %), as these phenomena have already been widely recognised in the buyers markets of western economies since decades but are comparatively new to Chinese companies.

The application of related strategies to optimise inventory levels varies between German and Chinese companies:

- 63 % of the Chinese and 48 % of the German companies try to reduce inventory levels by centralisation of inventories.
- 74 % of the Chinese and 36 % of the German companies set up shop in high proximity to the market.
- 66 % of the Chinese and 44 % of the German companies are focussing on optimised planning and forecasting accuracy.

3. Link Between Internationalisation and Logistics

Transportation cost. 70 % of all respondents experience increasing transportation costs due to extended transportation distances, without significant differences between German and Chinese companies. In addition to the aspect of geographic distance, in international networks the use of expensive air transportation is generally rising as indicated by 63 % of the Chinese and 46 % of the German interviewees. This issue has to be taken into cost calculations from the beginning of any internationalisation project, especially when designing the business case. The general experience from all different branches of industry and retail shows, that in global networks air transport is to some extent inevitable. Even for goods of very low value density. There will always be some surprising incidents that can only be overcome by shipping merchandise by airplane, to keep schedules, satisfy key accounts, or simply to avoid stock-outs of strategically important goods.

In order to reduce transportation costs in the global network, 75 % of the Chinese and 35 % of the German companies try to benefit from optimised routing. One solution offered by various LSP is a combination of sea and air transportation, which would both minimise the costs whilst shortening the overall duration of the haulage. Especially between Asia and Europe, this concept is feasible and is gaining in importance.

Another approach, especially undertaken by small and medium sized enterprises (SME) is to form buying syndicates to get better cargo rates by pooling their freight.

Complexity of logistics network. A more subtle but still very challenging transformation of logistics systems when going global is the increase in complexity. 70 % of all respondents experience rising complexity due to the fact that more partners are involved in the network. 63 % of the Chinese and 45 % of the German companies stress the increasing number of involved LSP in global networks. One reason is that many companies tend to have specific LSP for each mode of transportation—and international transportation typically is intermodal by its nature, as the main haulage is either sea or air being accompanied by rail or road transportation. In addition, there is hardly any LSP at present who offers true global coverage at the required service levels and performance. Hence, companies tend to orchestrate different LSP for different regions and markets to cater their needs.

Insight – Russia

Since the dissolution of the Soviet Union in 1991, the Russian Federation has been in transition from a state-planned to a market-based economic system. This period of transition is still underway, hence mere reallocation of resources and reorganization of existing means of production can lead to huge efficiency gains.

Showing a persisting economic depression in the early post-Soviet years, the country plummeted into financial crisis in 1998. However, Russia recovered rapidly – mainly due to fortunate rising commodity market prices of its greatest export earners crude oil and gas. By 1999, GDP grew by 6.4 % and by 10 % in 2000. In 2006 the GDP increased by 6.7 % and this growth level may well continue. The unemployment rate has been decreasing over the last few years and is now at 7.2 % while inflation has decreased but remains high at 9 % in 2006.

With an area of roughly 17.1 million square kilometres, the Russian Federation (population: 142.8 Mio.) is the largest country in the world covering one ninth of the world's land mass. It is well endowed with natural resources and holds the world's largest natural gas reserves, the second largest coal reserves, and the eighth largest oil reserves. It is estimated that the oil and gas industry amount to approximately 20-25 % of its GDP. Thus, the Russian economy's direct dependency on volatile international commodity markets will continue to be a source of risk. The structure of exports is heavily dominated by fuels and raw materials generating a trade surplus of US\$ 118 bn in 2005. Oil and gas account for 61 % while manufactured goods make only 10 % of all exports. Manufactured goods exports suffer from high export prices due to overvalued exchange rates.

Accumulated FDI remain low in comparison to other growing economies at US\$ 52,518 million in 2003. Russian annual net inflow of FDI was at US\$ 3,461 million only 6.5 % of its Chinese equivalent. Fixed capital investments are at a relatively low 18 %, most of which are concentrated on the dominating oil and gas industry. In its "Strategy for Future Social and Economic Development of the Russian Federation" (October 2003), the Ministry of Economic Development and Trade emphasizes the importance of diversification of Russia's economy away from natural-resource production in order to facilitate a more broad-based growth. The Russian government has distinguished transport and logistics as one opportunity of diversification. Russia is eager to establish itself as a hub for Asian-European transport.

Other key industries next to the oil and gas industry include fast moving consumer goods, high-tech/electronics, heavy, automotive, and the pharmaceutical industry.

Another threat to Russia's continuing development and growth lies within the high degree of concentration of wealth. The fruits of Russia's positive economic development since the crisis of 1998 have been unevenly distributed and disparities in regional economic development could well be an obstacle for sustained growth and reduction of poverty.

Although poverty still is a great challenge to the Russian Federation, the economic development and overall rising real incomes (10.7 % in 2006) have boosted domestic demand. Consumer spending is mostly focused on fulfilling pent-up demand and private investments are low.

The current political situation is marked by accumulation of power by the central authorities and a general authoritarian shift. Main points of concern include state control of media, lack of transparency, widespread nepotism, and corruption. However, the government initiated several reform measures prior to the upcoming WTO accession. The tough demands of WTO-membership require legislation pushing for more transparency and independent legal protection as well as a further opening of the Russian market and less bureaucracy. Such reforms include financial and capital market reforms, abolishing monopolies (e.g. telecommunication and railway sector), introduction of anti-monopoly laws, and simplified customs clearance. Even though several incidents in the past have shown worrying developments of state-influence on market players, foreign investors evaluate Russia's political situation as stable. The business situation is often described as connection- and favour-based business culture – the so-called "blat".

In addition to the natural challenges arising from Russia's mere size and long distances as well as adverse climate conditions, infrastructure such as telecommunications networks, health and transportation systems are in a state of decay. The government is addressing these issues by increasing budgets. One example of Russia's interest in improving its networks is the extension of the Russian-Chinese railway connection.

The Russian railway network provides a solid base for further development in commercial transport. It is the world's second largest railway system, covering 85,500 km of railway tracks. Most of the Russian main lines are owned by state-owned monopolist Russian Railway, which is Russia's second largest company in revenues next to Gazprom.

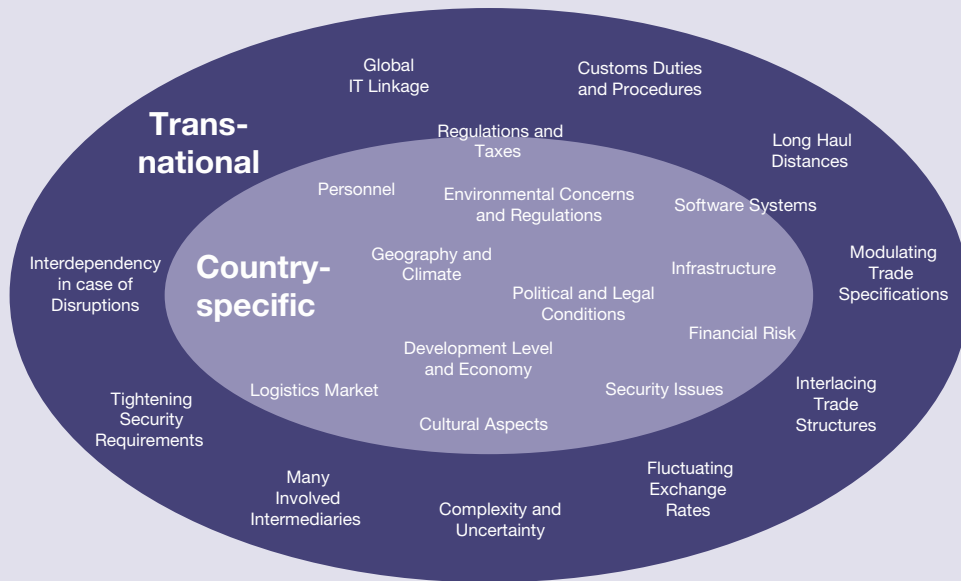
Rail freight is expected to account for around 40 % of total cargo shipments in Russia and for over 83% of cargo shipments excluding oil and gas. Railway passenger transportation represents 34 % of the transportation mix and is second largest next to automobile travel.

The most important current railway project is the extension of container transportation between Asia and Western Europe on the Trans-Siberian Railway. As president of Russian Railways Vladimir Yakunin noted in 2006, the main tasks facing Russia's railways today was to increase international transport on the Trans-Siberian and the Baikal-Amur Main Lines to 1 million TEU per annum. This project includes contracts with the German and the Chinese Railway as well as the construction of 18 container terminals. Russian Railways is planning to invest around US\$ 4.3 bn in the Trans-Siberian from 2006 till 2008. Further projects include the reconnection of the Trans-Siberian to the Trans-Korean Railway and a continuing overhaul of the network.

Investments in transportation infrastructure have been low throughout the 1990s and have been increased only recently. In the short and middle term prospect, however, the desolate state of Russian infrastructure as a whole is not expected to improve significantly. Although infrastructure and bureaucracy are constraining factors, the logistics market in Russia is booming, struggling to keep up with logistics demand. In 2006, the market volume for logistics services in Russia was estimated to be US\$ 120 bn. Around 6,000 companies are operating in the sector, most of which provide transportation services. As the Russian economy is proving solid growth, and foreign automotive manufacturers are transferring some of their production to Russia, there is a growing demand for sophisticated logistics services. Thus, international logistics service providers have recognized great opportunities in the Russian logistics market and are investing in their local infrastructure.

4. Challenges and Difficulties in International Logistics

Fig. 11 — Transnational and country-specific challenges in global logistics



Source: according to Pfohl, H.-C. (2004)

4 Challenges and Difficulties in International Logistics

Heterogeneity is probably the most important challenge for international logistics activities. Each country and region has its specific elements of peculiarity, which lead to a great variety of domestic logistics systems which, combined have to be orchestrated in a global network. Hence, for designing and managing such a global logistics network, several categories of differences between the involved countries and regions need to be considered. Amongst others, these are mutual integration of commerce and trading structures, homogeneity of customer requirements concerning transport time and flexibility of delivery date, transportation infrastructure and administration as well as the geographical spread.

The procedures of trade and transportation are only partially standardised on a global level, but to a large extent they depend on national specifications.

Consequently, matching the global logistics strategy of a company with environmental heterogeneities includes a universal view of the logistics conditions both within involved countries and also transnationally, as illustrated in Fig. 11 above.

In addition, two aggravating circumstances have to be kept in mind: firstly, most of the countries differ not only from one another, but also internally — one might think of the differences between China's coastal areas in comparison to its hinterland. Secondly, many conditions are continuously changing, making global logistics very alterable and by no means static.

4.1 Country Specific Issues in Global Logistics

Country specific issues in global logistics include a variety of aspects. Some of them typically differ from country to country; others will be of great similarity between countries and regions.

Tab. 2 shows the most severe challenges for each particular region and country that logistics managers are currently facing there.

The differences in the evaluation of each region between Chinese and German companies clearly show two things: firstly, the severeness of the challenges in a specific region is a matter of perception that depends strongly on what situation the company is used to in its domestic market and also in relation to the overall problems in a specific region. I.e. in North America the overall conditions for logistics are comparatively good, hence soft aspects like intercultural matters are more likely to be perceived.

Secondly, the results show certain patterns that are related to the specific situation each society and economy is currently in. To name the most important ones:

Infrastructure is a typical issue for all the developing markets addressed here: Eastern Europe, Russia, South America, India, and China. It is clear, that shortcomings in infrastructure are especially problematic for further development and growth of the economy as a whole. From a company's perspective, the understanding of these shortcomings is very important for cost considerations — it is estimated that in developing countries, the share of logistics in total cost is about double, compared to developed countries. But in local competition it is of minor corporate importance, since infrastructure is equally good or bad for all players in the market.

Security issues of certain regions are by no means limited to logistics and have to be understood in a general context of society and economy. And from a logistics point of view it is of vital importance, since logistics handles all kinds of valuable goods, theft, robbery and damage will lead to poor reliability, increasing lead times, and high direct and indirect costs. Here, the regions of South America, Eastern Europe, and Russia are clearly under pressure. Various sources currently rank some nations of Eastern Europe as “most hazardous” in terms of transportation.

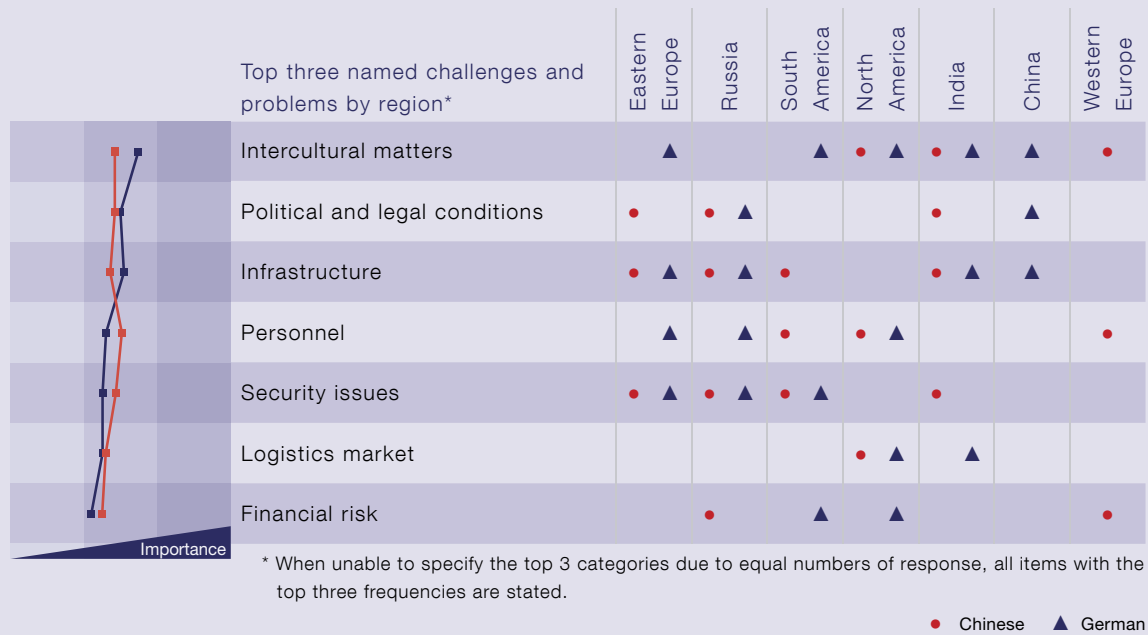
Intercultural issues and the level in which they are perceived is clearly related to the cultural distance between the home country and the new target market. As logisticians are considered the most important corporate link between the two, intercultural management is clearly gaining importance for their day-to-day business.

In the following, each country specific aspect is elaborated in more detail.

Personnel. The availability and skills of human resources clearly varies between countries. While unskilled labourers such as truck drivers and warehouse staff can be found around the globe, educated employees with technical and managerial logistics knowledge are scarce in many countries. This is especially true in emerging markets, where companies from any industry face a shortage of adequately trained personnel, both because of poor local education and shortages in supply of workers during rapid growth phases. Another important issue related to personnel is the willingness of expatriates to be appointed to leading positions in a specific market, as the attractiveness of different countries for upscale managers varies quite a lot. Usually less attractive locations call for higher

4. Challenges and Difficulties in International Logistics

Tab. 2 — Country-specific challenges and problems



monetary incentives. Hence, it is important to foresee in early planning stages what efforts are necessary to train locals and to compensate overseas managers to live in the specific region.

Regarding expansions into economically further developed countries, the key issue logistics managers have to face is that competent workers are generally available, while unskilled labour, however, is relatively expensive in these countries.

Intercultural matters. At first sight, one might be surprised to find this topic related to logistics. But as the logistics discipline has broadened its scope in recent years, logistics managers today have to increasingly cope with aspects from various fields that were traditionally not considered logistics (comp. Chapter 3.1). Intercultural Management is one of these. Research has shown that knowledge in this subject is vital to today's logisticians, as differences in life habits, mentalities, languages, beliefs, values, customs, and environmental concerns are significant key challenges when interacting with people in global networks.

Looking at business practices, aspects of culture have to be considered from an organisational as well as from a customer point of view. Here, the term 'organisational' implies company internal procedures such as structuring of work and efficiencies in having a job done in each country. The customer point of view means the importance to understand the local needs and expectations of customers to assure the required service levels and appropriate treatment. The valuation of time for instance varies significantly between cultures, which might have great impact on service and goods movement. Punctuality may be viewed in some places as very important, while in others it is of minor significance.

In the intercultural context not only is communication and coordination made more difficult, but distinct local, country-dependent shifts in performance and motivation of logistics staff also exist. Moreover, these differences are constantly in flux because of cultural exchanges and assimilations of living standards and education within the dynamics of globalisation.

4. Challenges and Difficulties in International Logistics

Consequently, culture has to be considered independently and distinctly when operating in different countries. Language is one of the most obvious differences between cultures and significantly influences the mutual understanding. The meanings of words often have to be seen in the general context in which they are used - as language is the common means of expression within a culture, it is inherently laden with meaning that might be obscure to the cultural outsider.

Another important aspect in global networks are religious practices, also procedures of prayers and sacrifices that have to be considered and treated with a maximum of respect. This has especially integrated in the planning and organisation of work, regarding working hours, holidays, places of worship etc.

Infrastructure. As the facilitation of goods movements is one of the fundamental factors governing the growth of a country's economic power, transportation infrastructures vary dramatically between nations at different levels of development.

In developed countries, the infrastructure is not only highly upgraded and superior, linking its industrial centres nationally, but it is also integrated to connect the country with its neighbouring countries. Recent challenges faced by developed nations are increasingly congested traffic lanes.

In developing nations, several reasons might have led to insufficient transportation networks and facilities. The rapid economic growth and, hence, the extension of domestic goods movements can overwhelm the existing infrastructures, which were often developed only for the transportation of basic goods. Furthermore, the focus on infrastructure development may initially have been driven by exports, thereby ensuring trade growth and the inflow of foreign exchange at first. This

could have hindered the building of a domestic system which companies rely on when they, as observed today, enter new markets with the objective to grow by catering local demand.

For example, outside the main economic centres in China, insufficient integration of warehouses and distribution facilities, as well as the lack of a suitable infrastructure are the main reasons for holding businesses back from outsourcing their operations to the western provinces, which would offer cheaper manufacturing and therefore reduce operating costs.

The quality of traffic routes depends not only on the surface conditions such as uneven and porous pavements, but also on the availability and density of networks. In some countries, the rate of network integration is very low, traffic links are simply missing and many highways and flyovers simply do not exist. Often, infrastructures are very fragmented domestically and include many regional differences between the level of quality of the networks and the level to which they are maintained. Moreover, other factors may lead to congestions, reduced speed and accidents, and therefore to increased transport times and associated costs. These factors include poor traffic control systems, missing traffic signs, inadequate traffic education and awareness, and slow moving vehicles such as tractors and cyclists on the roads. On Indian roads, for example, approximately 250 km can be travelled per day, while in developed nations over 600 km can be covered within the same time.

Logistics market. For decades, logistics outsourcing has been a very important method to lower logistics cost and to improve logistics quality at the same time (comp. Chapter 5.6). In the global context it is gaining even more importance and the range of serv-

4. Challenges and Difficulties in International Logistics

ices outsourced to logistics service providers for overseas operations is usually broader than it is at home.

Though, the quality and the range of logistics services offered in specific markets vary significantly and until today the global LSPs cannot offer their services in all countries and regions at the same standard. For example, China's warehousing sector was closed to foreign investments until the end of 2005. As a result of the lack of investment, China's low-end facilities, often with low ceilings, insufficient lighting, rare dock-levelling and inadequate security, cause high levels of product damage and stock deterioration. For instance, it is estimated that around 25 % of China's fruit and vegetable harvest is damaged every year by the inability to store it appropriately. In addition, the utilisation of load transfer points often differs between countries, some of which might bias the domestic movements of goods.

In India, for example, Inland Container Depots (ICD) are placed close to industrial centres and main metropolises to carry out customs clearance and distribution, helping to reduce congestion at the gateway ports. Consequently, import containers are transported to these depots duty free, primarily using railways. Hence, inland transportation networks have to be managed depending on infrastructure initiated by the Indian government.

As we will see in more detail in Chapter 5, a comprehensive market analysis regarding LSP services before entering a new market is of great importance and a clear strategy of how to organise logistics activities in collaboration with a capable LSP is regarded as a key success factor for the internationalisation of logistics networks.

Political and legal conditions. International logistics operations have to follow both global as well as national regulations. The survey shows that the political conditions in the emerging markets of Eastern Europe, Russia, India, and China are perceived to be specifically challenging.

Most emerging markets are characterised by institutional voids, leading to high importance of informal relations. The most important aspects to look at when setting up operations in new markets are: levels of corruption and nepotism, importance of informal connections to local authorities, arbitrary decisions from governmental authorities, security in jurisdiction and political stability.

Especially in German companies the importance of informal relations to authorities and even with local suppliers is sometimes underestimated. But as written contracts and laws are in many regions of less importance than in Western Europe, this aspect has to be taken into consideration from the beginning of any internationalisation activity.

In recent years, many countries have made huge efforts to facilitate and simplify regulations regarding the transportation of goods (e.g. liberalisation of logistics service markets), especially for import and export operations. Still, overregulation is perceived in many countries, in developed markets as well as in rapidly developing countries. Here, especially Russia has made significant improvements since 2004 with a reduction of customs regulations from some 3,500 down to 439.

Financial risk. As logisticians control significant assets along with warehousing facilities and inventory, financial risk management has gained considerable importance in recent

4. Challenges and Difficulties in International Logistics

years, not only in the context of internationalisation. With global operations, a company is exposed to different kinds of financial risk which may vary from country to country. Especially the experiences from financial crisis (e.g. Argentinean Crisis, Asian Crisis etc.) have shown the importance of the topic and logistics and supply chain managers are obliged to keep an eye on it when designing their networks, flows of goods, replenishment strategies and so forth. Currently logistics managers from both China and Europe see this issue to be most severe in Russia, and North and South America. For certain countries property rights remain a concern but most important is the volatility of currency exchange rates. With hedging strategies and optimised terms of payment and delivery, companies try to reduce those risks and to mitigate the respective consequences.

Security issues. Even though many companies mainly focus on increasing efficiency, security issues have become another major concern, especially for global logistics. The issue is of course not limited to national or regional boundaries. Still, as the survey shows, the valuation of the problem from logisticians' perspective does differ between the respective regions.

Security issues consider not only criminal acts such as theft, hold-up and fraud, but also increasingly politically motivated attacks, which might target trade lanes.

Today, criminals target not only high-value consumer goods, which have been typically most susceptible to theft, but are moving to other medium-value goods and different types of industrial cargo as well. The growth in global organised crime, which targets at large volumes of goods, suggests a strong reason for the increase of losses worldwide.

When one observes the domestic challenges of protecting cargo from theft and fraud, individual security standards of each country become evident. In certain parts of the world, poor economic conditions and organised crime cartels have led to increased threats to stored and transported goods. Whilst robberies are certainly a risk to the security of goods, hold-ups, in particular, incur additional risk to the safety of drivers and employees, and it is especially this added danger which is necessary for the implementation of avoidance measures. In certain countries, some LSPs organise convoys of trucks, employ shifts of drivers and appoint armed guards to accompany inland transportations. In response to the heightened risk of theft in Eastern Europe, some shippers choose to move cargo by sea from Germany to Russia rather than by land, which takes three days longer than by truck and is even more costly.

Insight – Western Europe

The term Western Europe was largely defined in times of the Cold War, but it is still commonly used even 17 years after its end in 1990. In the present survey, Western Europe includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. With the exception of Norway and Switzerland, these countries also essentially make up the European Union (EU 15) before the 2004 enlargement, which saw many Eastern European countries joining the EU.

While this region's population only forms 6 % of the world's population, it commands for 24.5 % of the world's share in GDP. At US\$ 397 bn, Western Europe has easily the largest FDI of all regions considered in this study, more than 2.5 times that of North America, which has the next largest FDI. Most of the countries in this region may be classified as developed nations. Western European economies are characterized by large GDP's per capita and technological advancements as evidenced by the fact that Western European companies also constitute for 35.4 % of all companies in the Fortune 500 list of 2006.

Due to the eastern enlargement of the EU, Germany has become more important from a logistics perspective. Geographically, Germany now is at the very heart of Europe providing access to many European markets. It's the continent's commercial hub, connecting North and South, East and West. As of 2006, Germany, characterized by a highly developed economy and a perceived high quality of life, has the largest economy in Europe and the third largest economy in the world, behind the United States of America and Japan, and is also the world leader in exports and world's second largest importer. Logistics is one of the key pillars of Germany's competitiveness as a business location, paving the way for added industrial value, the movement of goods and cooperation between companies. Behind the automotive industry and retail, logistics is the third largest sector in Germany, employing some 2.6 million people. The logistics sector also displays better than average growth. This is due not only to its geographic situation right in the heart of Europe, but to the top international position Germany has assumed in infrastructure and logistics technology in the view of many foreign investors.

The EU enlargement causes a relocation of logistics sites in aid of the eastern part of Europe. New markets are emerging with the potential for near-shoring facilities. That results in a changing logistics structure with the objective of a comprehensive Pan-European market place. Additionally, distribution centres were shifted from Benelux to Eastern Europe, to Poland for example, due to low wages comparatively to Western Europe. However, the supply of entire Europe with goods from Asia and North America is mostly transferred via Western Europe, especially by the use of harbours in Rotterdam, Hamburg, Antwerp, and Bremen – also known as the North-West-Range.

A secondary positive effect of the European Union is the harmonisation and coordination of Europe's transportation infrastructure. Western Europe's roads, railways, and airports compared to the world's average is highly developed and of great importance for logistics services.

The North-West-Range holds an outstanding position among the North Sea harbours concerning their size and their variety of function. They can be regarded as multi purpose harbours. Concerning total cargo handling Rotterdam is the largest European harbour, and it is also ranked 2nd in terms of cargo volume. Rotterdam, Hamburg, and Antwerp are also among the top 10 ports in terms of container traffic. The total of container handling in Europe amounts to 61 million TEU. Not only harbours of

the North-West-Range have growth potential, also harbours on the Mediterranean grow by 9 % annually such as Gioia Tauro and Genoa (Italy), Algeciras, Valencia and Barcelona (Spain), and Piraeus (Greece). It must be pointed out that 4 % of the handled TEU in Western Europe is due to intra-regional transportation, whereas the main container harbours mostly operate as transit harbours as well as serving hinterland needs.

Western Europe is also home to some of the world's most important airports. The four major airports in Western Europe are Frankfurt (Germany), Paris (France), London (UK), and Amsterdam (The Netherlands), all of them situated geographically together. They unite 67 % of the regional freight traffic (5.4 million tons) and hold therefore a hub function for Europe with main focus on the international freight traffic. In Frankfurt, for instance, the Asian market covers with 771,000 t a share of 49 % of total air freight. In contrast, London focuses on trade with North America.

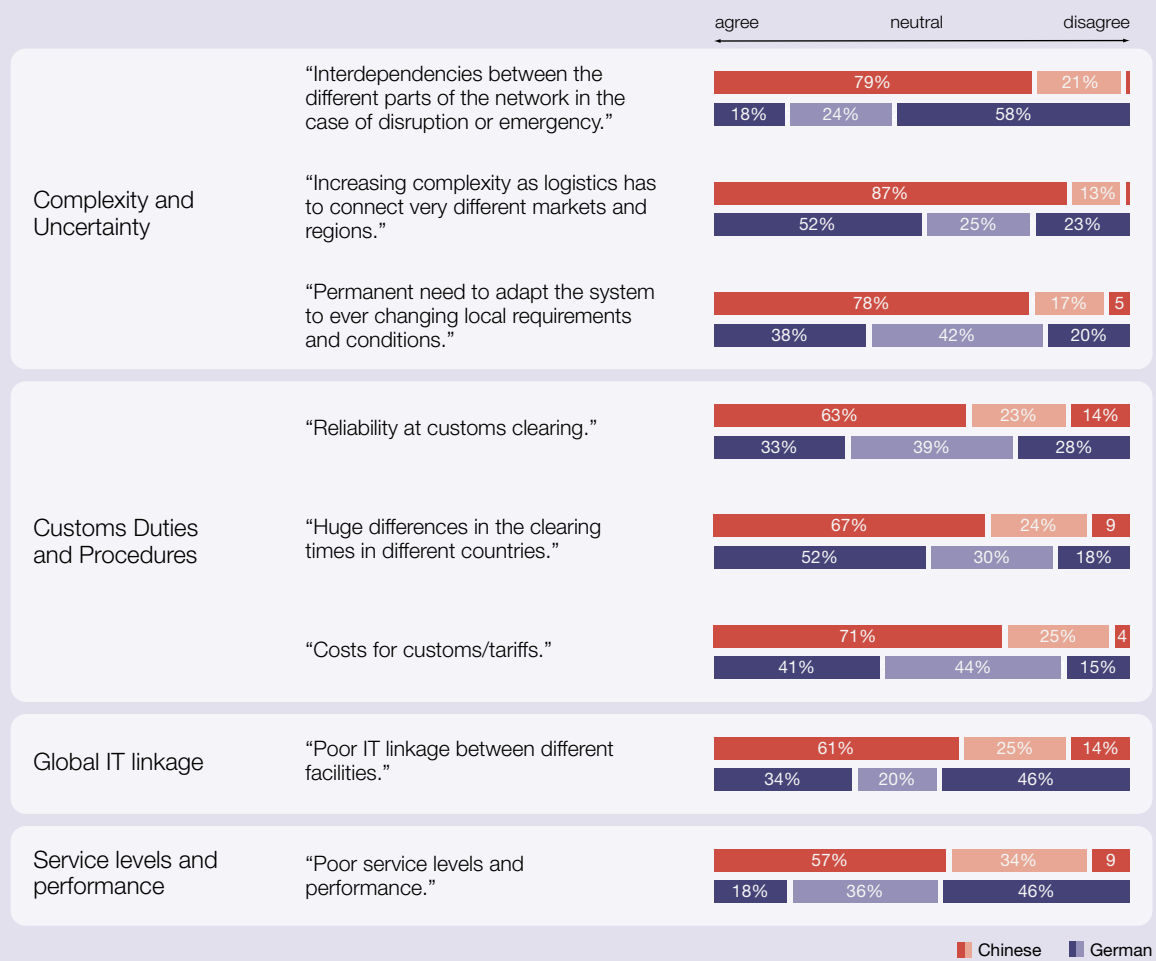
Overall, Western Europe benefits from a high diffusion of modern logistics concepts for the demanding industry and a comparatively high developed logistics market. By now, 24-hour transportation and delivery within Western Europe is already a common practice compared to Eastern Europe where it could not put into practice yet. Looking further, contract logistics will play a major role in an international context as well as globally acting logistics service providers. Still, outsourcing of logistics services in Western Europe is traditionally higher than in other parts of the world (e.g. China).

In Western Europe, technical and environmental standards are of high concern. The ISO 14001 environmental management standards, for instance, exist to help organisations minimize how their operations negatively affect the environment. Such ecological standards already have a high penetration at the logistics sector in Western Europe. In order to enforce sustainability in the field of logistics, for instance, one political approach is road pricing to support ecologically friendly railways. It is imaginable that these interferences will have long-term effects on the modal split for Western and Eastern Europe.

As the EU continues to enlarge, further cooperation between East and West is expected. As this cooperation deepens, all the more exciting is the prospect of bridging historical barriers brought about by political ideologies, as Europe progresses towards a united economic and political entity.

4. Challenges and Difficulties in International Logistics

Fig. 12 — Main transnational issues in global logistic networks



4.2 Transnational Issues in Global Logistics

Besides the country specific issues of global logistics there are a number of transnational aspects to be considered when setting up global logistics structures (see Fig. 12).

Complexity and uncertainty. Managing and executing cross-border movements of goods and information between countries worldwide make global logistics an outstandingly complex task. The complexity, comprised of long haul distances, fault-prone information exchange when linking multiple intermediaries, and diversifying external interferences, effects uncertainty in status of goods movements, higher transportation costs, risks, as well as long lead times. In international logistics networks, the risk of incorrect information exchange and misguided goods is very high.

Among others, the main reason is the high amount of persons, companies and institutions that are involved in planning, realisation and control of international goods movements.

These intermediaries can be grouped into authorities such as customs and administrative bodies, associations such as tariff unions and shipping conferences, transport companies such as airlines and shipping lines, logistics facilitators such as freight forwarders and customs brokers, and merchants such as consignees and shippers. Beside a complex documentation process, interfaces between these different intermediaries have to be bridged, which is not only challenging for physical treatment of goods but especially

4. Challenges and Difficulties in International Logistics

for directing data flow. Resulting from different software systems, information might be incorrect, not complete, or can get lost during the transfer process. Clearly, management of global logistics networks require more coordination, more communication, and the constant improvement of determined monitoring systems.

Interdependencies in case of disruptions.

The complex interdependencies in today's international value chains have led to the situation that minor disruptions in one specific part of the chain may cause severe consequences elsewhere. Almost 80 % of the reviewed Chinese companies report that this as a major problem in their global networks, German companies are more confident that their risk management could mitigate such difficulties. Less than 20 % see this as an important issue.

It can be observed that in recent years the likelihood for supply chain disruptions has risen. Technological disasters, which can be defined as man-made industrial or transportation accidents such as ship loss, train crashes, and tank explosions, have increased exponentially worldwide over the last 30 years. Also natural disasters such as earthquakes, tsunamis, volcanic eruption, landslides, as well as hurricanes and tornados have become more likely to occur. As a result, they do not only cause augmented human casualties but also damage infrastructures and facilities. This can lead to temporary obstructions and losses, or at the worst, result in total destruction of global logistics networks, having profound long-term implications for firms with vendors, suppliers, or assembly facilities in the affected area.

For instance, the outbreak of the Severe Acute Respiratory Syndrome (SARS) within Southeast and East Asia in 2003 caused the decrease of local manufacture and closure of

ports so that also computer assembly operations in the US had to shut down temporarily because of the lack of import components.

Customs duties and procedures. Another transnational problem is the result of trade barriers, which may be grouped into tariffs and non-tariff measures. Tariffs are various types of duties, while non-tariff measures are direct and indirect protectionism laws such as import restrictions. As customs laws, tariffs and procedures of clearance differ widely from country to country, this increases complexity and makes a separate analysis of specifications for each nation and region necessary. From a transnational perspective, this survey shows that, besides the direct cost effects of the duty itself, the time aspect of clearance procedures is almost equally important. The lack of reliability and transparency in the clearing processes in many places in the world affects the predictability in global transportation. Consequently, logisticians react with additional safety stocks and extra efforts in administration. E.g. indirect costs occur which can significantly affect the overall cost structure of international business activities. Hence, this issue may not be underestimated when planning to go global.

Global IT linkage. In global logistics, accuracy is of high importance as shipment delays and errors at a certain stage in the value chain can be tremendously amplified until final fulfilment to the customer, due the mentioned complex interdependencies. Accordingly, the intensive use of advanced information technology for planning and managing flows of goods is essential for global logistics, which includes visibility for goods in motion as well as goods at storage in warehouses and loading transfer points. In technical terms, it allows companies to focus on the status of goods and manage supply chains strategically. By looking at the supply chain from end-to-end holistically, they are able to act

4. Challenges and Difficulties in International Logistics

knowingly on information and foresee how those actions will impact a shipment's movement. Clearly, in-transit visibility brings most benefit for the shipper, but is, at the same time one of the most challenging functions to be established in global logistics. Tracking and tracing systems have to integrate a large number of involved intermediaries through a variety of means, including Web services, EDI, and legacy systems etc.

Still, the IT landscape in different countries, different companies, and in many cases even

inside a firm is quite diverse. IT interfaces to link companies with their suppliers and customers in global supply chains is a key issue since years. This survey shows that one-third of the reviewed German companies and even double that of the Chinese suffer from poor IT-integration of their own global facilities.

Despite huge steps forward in terms of technology, e.g. new middle ware products and new formats for data exchange, this topic will remain a key issue in global networks in the years to come.

5 Logistics Strategies for Entering New Markets

This chapter analyses the process of foreign market entry in two steps: At first, it is looked at the role of logistics during the internationalisation process and how it is being integrated herein. Secondly, the key components of successful logistics strategies are analysed to support setting up shop in foreign markets.

Fig. 13 gives a short overview of the topics that will be discussed in more detail in the following subchapters and it will be guiding through the analysis' structure. The six different issues addressed here are considered both relevant and critical for the logistics management of a company when going global. The red and the blue line in Fig. 13 indicate how the most successful Chinese and German companies are positioned regarding each item. While the detailed analysis in the following subchapters are considering the complete sample of respondents, Fig. 13 illustrates the consolidated data from the most successful companies only, i.e. these companies have accomplished their logistics objectives in more than half of the foreign markets they operate in.

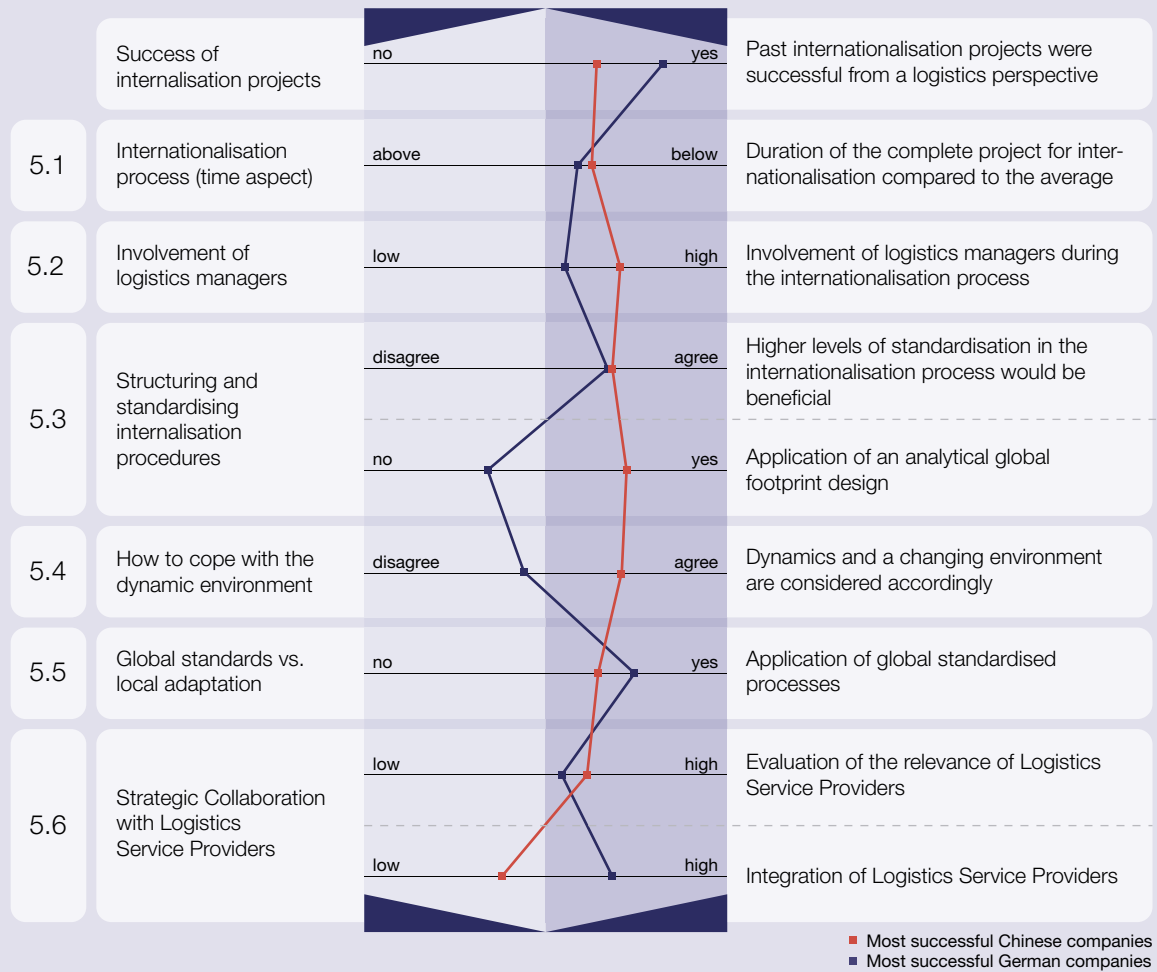
Duration of the internationalisation process (Chapter 5.1). A process model of sequential steps was developed to analyse the time aspect of internationalisation activities, starting from the initial idea to set up shop in a specific foreign market until the implementation of the new logistics system and its integration in the global network. The results show, that logistics managers at both Chinese and German companies face severe time pressure whereas Chinese companies are slightly quicker. The most successful companies take less time for setting up shop than the average.

Involvement of logistics managers (Chapter 5.2). It has been shown that the intense involvement of logistics managers in the internationalisation process from the very beginning leads to better cost and time effectiveness in the global network, and also bares the opportunity to develop additional competitive advantage. The comparison of companies from both countries indicates that Chinese companies attach even more importance to the consideration of logistics aspects and their integration of logisticians is even more intense. The influence of logistics managers at German companies is comparatively limited.

Structuring internationalisation procedures (Chapter 5.3). Chinese and German companies both consider higher levels of standardisation of the internationalisation process and its repetitive procedures as beneficial. Correspondingly, most of the successful companies have such concepts in place, including standardised checklists for market analysis, guidelines etc. to enhance the cost effectiveness and speed of the market entry and improve the characteristics of the final system. Remarkable differences can be observed regarding the application of an analytical global footprint design including methods such as Total Cost of Ownership. German companies have been gradually entering foreign markets for decades. Hence, their networks have typically grown organically over time, with less strategic planning on a global level. In contrast, Chinese companies are currently at the beginning of their global expansion. The most successful among them follow a Greenfield approach and indicate that they plan their global logistics networks right from scratch and with sophisticated and holistic planning.

5. Logistics Strategies for Entering New Markets

Fig. 13 — Framework of internationalisation topics



These first three sections of Chapter 5 that are dealing with characteristics of the internationalisation process are followed by the three key components of a logistics strategy for successful foreign market entry.

How to cope with the dynamic environment (Chapter 5.4). Flexibility becomes increasingly substantial for international logistics networks as they have to meet unknown future requirements and are operated in an ever changing business environment. Hence, it is analysed to what extent flexibility aspects are incorporated in logistics strategies for going global. Among the most successful companies of the sample, the Chinese consider flexibility objectives to a higher degree than German companies, who focus more on quantitative aspects like costs and speed in their systems.

Global process standardisation (Chapter 5.5). Decisions in the process design of international logistics systems are to be made between the two extremes of global standardisation, in order to reduce complexity, and local adaptation, to meet local peculiarities in logistics conditions and customer expectations. The majority of respondents appreciate the benefits of globally standardised procedures, though its application remains limited. The most successful companies indicate higher levels of global standardisation than the average – this is especially the case for German companies, where the discrepancy between the most successful companies and others is especially severe.

Strategic collaboration with logistics service providers (Chapter 5.6). When companies enter foreign markets they show higher outsourcing levels and the range of activities that is outsourced to LSPs is increasing. Chinese and German respondents consider the cooperation with LSPs as similarly beneficial; it is regarded as a strategic topic of global logistics management. Despite the fact that the most successful Chinese companies value the collaboration with LSPs as even more important than German firms, they ultimately

outsource to a lesser extent. This is most likely due to the fact that outsourcing in China has not yet reached the same diffusion as in western economies. Hence it can be expected that these companies will outsource more in the future, when the general outsourcing culture of these upcoming global players will have altered.

All these aspects will be examined in more detail in the following sections and Fig. 13 will be of help in navigating through Chapter 5.

Insight – Eastern Europe

After the end of the Cold War and the fall of the Iron Curtain in 1989, Eastern Europe was the scene for numerous reforms as well as the transition from planned economies to open markets. In this survey, Eastern Europe includes Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Slovakia, Slovenia, and the Ukraine.

As of 2006, Eastern Europe made up 2.4 % of the world's population and 1.5 % of the world's share of GDP compared to 6.0 % (population) and 24.5 % (GDP) in Western Europe. However, Eastern Europe has received much investment interest in recent years, partly because, as a region, it has been labeled a Rapidly Developing Economy. Economies in Eastern Europe are characterized by consistent GDP growth, growth of industrial output and decreasing unemployment rates. Some of the countries have made huge efforts to catch up with technology and modern lifestyle. In Estonia, for instance, ministers hold paperless meetings on laptops and a high percentage of residents files their tax returns by e-mail. However, heterogeneity can be observed throughout Eastern Europe. The downside of the emerging markets begins just a few kilometres beyond the sparkling new skyscrapers: decaying villages with gray and peeling facades, many without paved streets. In small villages in Poland, for instance, nearly half of the population is out of work. Other members of the former Eastern bloc also have their poorhouses, where time seems to have stood still. The gulf between rich and poor has widened dramatically in the past few years.

The 2004 EU enlargement included East European countries, which were the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia amongst others. Again in 2004, Croatia became the status of a candidate country; Moldova and the Ukraine have future enlargement possibilities. In 2007, Bulgaria and Romania joined the EU. In comparison, Eastern and Western Europe are extremely diverse, not only in terms of culture and language, but also in terms of economic and industrial strengths and weaknesses. Nowadays many West European companies, for example, apply the concept of near-shoring to East European countries due to comparative cost advantages. One of such an advantage can be realised with the ongoing EU accession of Eastern European countries where low-wage workers offer their manpower to western economies. Overall, Eastern Europe's history has seen many changes, making it home to many different cultures and languages, and thus a strongly heterogeneous region. As the EU further enlarges, historical borders that separate nations will be considered as obsolete, as the entire European market will be harmonized, including transport and logistics infrastructure.

Today, railway systems in Eastern Europe, traditionally expanded over decades, represent the most important transportation mode and therefore have a high diffusion in terms of intra-regional logistics services. When looking ahead, however, transportation will shift from railway to road on a long-term effect such as it is being observed in Western Europe, for example. For the supply of Eastern European companies, short sea shipping is comparatively important. Although, harbours in Eastern Europe are not ranked among the most important in the world, short sea shipping is still usual for loading and delivery, and harbours at the Baltic Sea benefit from European sea transportation. However, compared to Western Europe, the Eastern part of Europe still shows poorly developed construction of roads, railways, and airports.

Before the necessary reforms, the Eastern European logistics sector was affected by state-run logistics companies that featured rigid and given market structures. According to the economical reversal,

the logistics market now is reseeded by numerous small logistics service providers comparable to the situation in China after market liberalization. Actually, none of the European logistics service providers is capable of supplying whole Europe with self-run operations, not even globally acting providers from Western Europe. Herein, there is more room for expecting the prospective Pan-European network. The most important reason for a non area-wide and continuously developed infrastructure is the heterogeneity amongst the member states in Eastern Europe. However, in recent years the so-called “Pan-European Transport Corridors” between eastern and western member states were established with the objective to facilitate transportation amongst different countries and regions. Herein, the major difficulty was and will be financing the mandatory investments. Even though the European Union agreed on financial support, the main part of the funding remains with the individual member state.

When it comes to international logistics services, the influence of Western Europe is still remarkable. Shipped goods and commodities from Asia and North America, for example, are directed to West European harbours like Rotterdam, Hamburg, Antwerp, and Bremen, also known as the North-West-Range, before they are transported to their destinations in Eastern Europe via short sea shipping, by rail, lorry, or aircraft. Therefore, equally important for supplying the eastern part of Europe are major cargo airports in Western Europe such as Frankfurt, London, Paris, or Amsterdam. Hence, international flow of commodities and haulage into the eastern part of Europe is mostly transferred via Western Europe.

Due to the political and economical changes resulting from the EU enlargement, new highly developed hubs are continuously emerging and many distribution centers are being relocated to the eastern part of Europe. Black Sea harbours and the Trans-Siberian Railway gain significance for international transportation, due to time and cost savings, especially concerning the linkage from and to Asia. Locations such as Bratislava (Slovakia), Constanza (Romania), Odessa (Ukraine), and Katowice in Poland are important logistics locations with huge potential. With a population of more than 38 million, for example, Poland as the largest new EU member is both an affordable production site and a market full of demanding consumers.

As a matter of course, heterogeneity also affects logistics markets. Quality and performance of logistics services are unevenly spread among the East European member states. On the one hand, advanced logistics markets with international and globally acting logistics service providers exist, on the other hand, poorly developed logistics structures are not uncommon. Poland, Slovakia, Hungary, and Czech Republic are numbered among the advanced economies regarding logistics structures. Until the end of 1990s, for instance, Slovakia was considered the problem child of Eastern Europe, holding up negotiations for EU membership. Today, foreign financiers value the country as an investment jewel. A notable foreign investor is Kia, for example, who launched its production in late 2006, giving Slovakia a huge boost to her automotive industry. The plant is projected to bring 10,000 new jobs. Kia was not the first auto manufacturer who discovered the remote Eastern European country. VW produces its SUV, the Touareg, in Bratislava. Hence, Slovakia is among the EU's most attractive countries for foreign investors, due to its low labour costs and moderate tax rates. The other side of the coin are countries such as Hungary and Romania that are poorly developed in terms of logistics due to their geographical position and industrial structure. Though, due to low labour costs, an increasing volume of inward processing can be observed here. In between, the Baltic countries extend their potential as important hubs between Europe and Russia.

5.1 Duration of the Internationalisation Process

In the rapidly changing environment of today's globalising markets, time is continuously gaining importance and, as a matter of fact, timing is considered to be an essential part of any business strategy in the context of foreign market entry. Thereby the time aspect has several dimensions: one is the specific point in time, when the market will be penetrated, and second is the duration of the complete process of foreign market entry. To cater ambitious timing strategies, to keep the costs of a market entry low and to utilise assets as quickly as possible, internationalisation projects suffer from tremendous time pressure. Chinese companies state that they set up shop in foreign country within 14 months, German companies need on average almost 18 months.

Structure of the internationalisation process. For this survey, the internationalisation process is defined to start with the initial strategic idea of entering a specific foreign market, and is finished with the completed implementation of the new local logistics structure and its integration into the global network of the respective company. In general, such a project comprises several steps on all decision making levels of a company. It can be understood as a top-down process, with top-level decisions in the beginning, handed over to middle and lower management levels, and operational tasks in its final stages.

Fig. 14 illustrates a simplified internationalisation process that was developed for this research. It consists of four sequential steps that represent the main phases of a typical foreign market entry from a logistician's point of view. These are: (1) evaluation of the new market, (2) strategic planning, (3) logistics planning, and (4) implementation of the logistics system.

Of course, the complete process in real business practice is much more complex and involves many different functions of the company in one way or the other; though the simplification of the process permits an analysis of the time aspect of such projects with regard to the internationalisation of logistics networks.

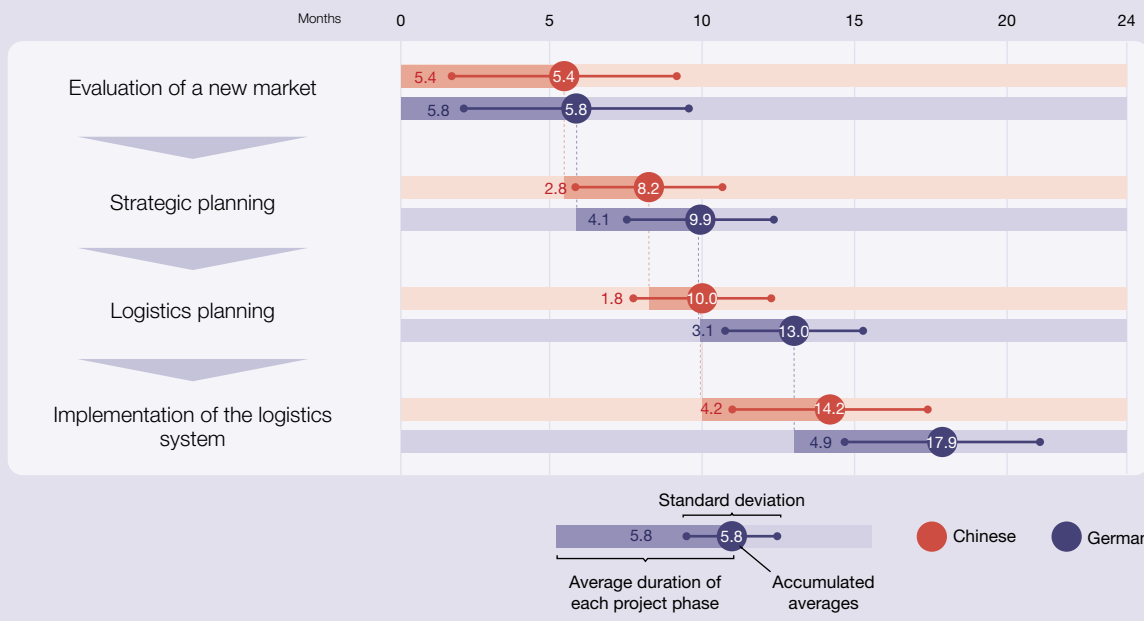
Step 1: Evaluation of the new market.

Triggered by the initial strategic idea to set up shop in a specific market or region, the internationalisation process begins with comprehensive market analysis. In addition, the top-management level evaluates the overall conditions in the target market: sales potential (market size and potential market share), input factors (e.g. local supplier base, cost for labour, resources and land), infrastructure for domestic and international transportation, political and legal aspects etc. The set of objectives for the market entry is defined (comp. Chapter 2) and different designs of thinkable business cases are examined. If the analysis shows that the market entry is feasible and it is expected to meet the respective objectives, this first phase is finished with the final decision to set up shop.

For some companies the initial idea results from a continuous monitoring of internal KPIs and country specific indicators, which gives a signal whenever a market entry seems to be favourable.

With about one-third of the total project's duration for both German and Chinese companies, this phase accounts for the largest share, compared to all other phases. As so many aspects need to be considered and evaluated, it is clear that the expertise and know-how of almost all corporate functions need to be included to create a holistic and realistic picture of the market.

Fig. 14 — Duration of the internationalisation process



On average, German and Chinese companies require between 5 to 6 months; Chinese companies seem to be slightly quicker.

Step 2: Strategic planning. The final decision to set up shop in the market is followed by the phase of strategic planning. Still on the top management level, in this phase the foreign market entry is outlined as a project, with a time schedule, defined milestones, budgets, and concrete objectives for the different corporate functions. Cross-functional aspects of the planning process will be clarified and concrete measures are prepared to ensure that the functional planning afterwards will not create unexpected interferences.

The result of this phase is a framework, which will guide the functional divisions of the company to develop their plans of action according to the strategic objectives of the foreign market entry.

This phase is by far shorter than the evaluation phase. Chinese respondents calculate less than three months for this phase, Germans with slightly more than four months.

Step 3: Logistics planning. When the strategic planning is finished, the different corporate functions involved, including the logistics department, start their specific planning. In close interaction with all other relevant functions, inbound, outbound, and in-house logistics processes are defined and implementation plans are developed. Relevant topics in logistics planning include the definition of service levels, intended lead times, inventory policy, network structure, capacity calculation, allocation of facilities (e.g. warehouses, cross docks), IT integration, decisions about logistics outsourcing, and preparation of tenders.

The phases of strategic and logistics planning are relatively short in comparison to the other two. At Chinese companies, logistics planning accounts for less than two months, at German companies it takes slightly more than 3 months. This reflects the severe time pressure under which these complex logistics structures are being planned.

Step 4: Implementation of the logistics system. After 10 months Chinese companies start implementing the new logistics system along with its integration into the global net-

5. Logistics Strategies for Entering New Markets

work. German companies begin the implementation on average three months later.

Being extremely complex and crucial for the internationalisation's success at the same time, the implementation phase is comparatively time consuming. With 4.2 months at Chinese and 4.9 months at German companies it is the second longest lasting phase of the foreign market entry. Here it shows, if the plans and decisions made in the early phases meet the requirements of the real world. The work in this phase is at an operational level and it requires an organisation with comprehensive problem solving skills, as unexpected occurrences and developments cause a lot of fire fighting. The global integration of processes, people, and technology is extremely challenging and it is important that the people who are working on this are well trained, not only on logistics, but also in leadership and cross cultural management, and that they are empowered to take decisions at the level where they are required.

Characteristics of the process. On average, Chinese companies indicate that the complete internationalisation process lasts for approximately 14 months. German companies exceed that with a mean duration of almost 18 months. As stated in Fig. 13, the most successful companies are below average. Hence, they cope with the challenges of time pressure more efficiently than the rest of the sample.

After all, the internationalisation process addresses aspects of cross-functional as well as the cross-company integration from the top management to operational levels, from the initial idea of going global to the point of implementation. In reality, the process is by far more complex than the sequential model that was applied here. Typically, several steps are carried out concurrently and the interdependencies are hard to overlook. Especially at the beginning of the internationalisation process, most of the decisions are made under uncertainty, due to the lack of information and the unpredictability of future developments. In the final stages, planning is of less importance while pragmatism and incrementalism are required to get the market entry done.

Insight – Useful Indicators for Country Assessment

Logistics services differ significantly in their quality and performance across countries and regions. In Kazakhstan, for instance, it takes 93 days to export a 20-foot full container load (FCL) container of cotton apparel, and in Mali 67 days, while in Sweden it only takes 6 days. These variations in time and costs respectively across countries and regions result from differences in quality and costs of infrastructure services as well as differences in the economy, culture, policy, etc. Overall, all these aspects have a significant effect on trade competitiveness.

After the initial strategic idea to set up shop in a foreign market or region, the evaluation of a new market builds up the first step in the internationalisation process (comp. Chapter 5.1). As a result of globalisation, it has become increasingly challenging to identify internationalisation strategies, to choose which countries to do business with, and where to locate an offshore entity. Among basic macroeconomic figures like GDP, GDP growth, per capita income growth rates, purchasing power parity, exchange rates etc., many more indicators have to be taken into consideration in order to provide a first assessment and orientation whether or not to enter a foreign market.

Macroeconomic figures alone cannot suffice when entering new markets, especially if the country's background, history, culture, infrastructure, habits, and policies differ greatly from the home economy. To analyse a specific country or region from a logistics perspective, figures such as transportation costs, timeliness of shipments, transport and IT infrastructure, customs and border procedures, and the overall logistics competence of foreign markets have to be taken into account.

A variety of institutions continuously aggregate facts and figures to meaningful country indices on a mutual basis. In order to facilitate a quick start for logistics managers in internationalisation projects, a selection of helpful indices for country assessment is stated here:

Global Competitiveness Index (World Economic Forum – www.weforum.org)

The Global Competitiveness Index by the World Economic Forum provides a holistic overview of factors that are critical to driving productivity and competitiveness, and groups them into nine pillars: institution, infrastructure, macroeconomics, health and primary education, higher education and training, market efficiency, technological readiness and business sophistication. The higher the respective country's Global Competitiveness Score, the more competitive the economy.

Economic Freedom of the World (The Fraser Institute – www.fraserinstitute.ca)

The index published in Economic Freedom of the World by the Fraser Institute measures the degree to which the policies and institutions of countries are supportive of economic freedom. The cornerstones of freedom are personal choice, voluntary exchange, freedom to compete, and security of privately owned property. Thirty-eight data points are used to construct a summary index and to measure the degree of economic freedom in five areas: size of government, legal structure and security of property rights, access to sound money, freedom to trade internationally, and regulation of credit, labour, and business.

Hiring and Firing Indices (World Bank – www.doingbusiness.org)

The Hiring and Firing Indices by the World Bank's Doing Business measure the flexibility of labour regulations. It examines the difficulty of hiring a new worker, rigidity of rules on expanding or contracting working hours, the non-salary costs of hiring a worker, and the difficulties and costs involved in dismissing a redundant worker. Higher values of the respective indices indicate more rigid regulations. Further indicators by the World Bank's Doing Business include topics concerning tax payment, contract enforcement, license handling, and investor protection.

Corruption Perception Index (Transparency International – www.transparency.org)

Transparency International's Corruption Perception Index is a survey-based index that ranks the degree of corruption as seen by business people and country analysts. It ranges between 10 (highly clean) and 0 (highly corrupt).

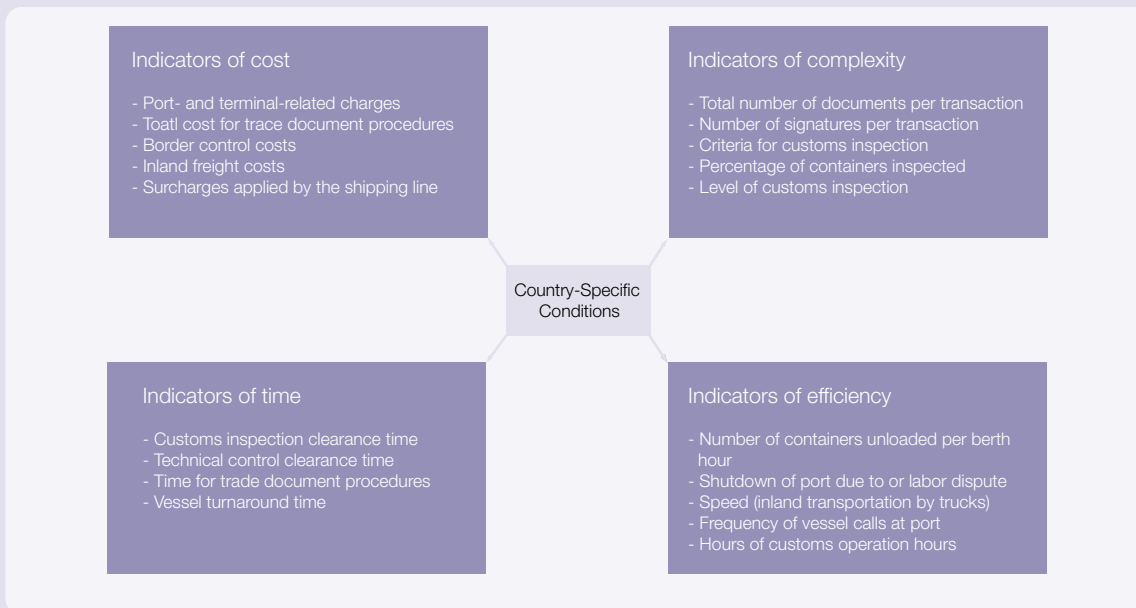
Logistics Perception Index (Global Facilitation Partnership for Transportation and Trade – www.gfptt.org)

The evaluation of the Logistics Perception Index is still underway. It is based on a survey on the logistics environment of countries gathered from managerial level personnel of international freight forwarding firms worldwide. The survey is supposed to help generate an informed set of logistics perception indices that measure the key dimensions of logistics for developing and industrialized countries. Aspects of measurement are economic impact of trade facilitation, trade logistics and developing countries, trade logistics and practical measures and trade logistics strategies.

Global Logistics Indicators (World Bank – www.worldbank.org)

The World Bank has determined an array of Global Logistics Indicators to measure the efficiency of international trade procedures. Here, characteristics of the global environment, respectively country-specific conditions such as differences in the quality of infrastructure services as well as differences in policies, procedures, and institutions are direct subject to the indicators. Although primarily designed to help governments in deciding actions towards improvement of logistics performance, the World Bank's Global Logistics Indicators can also give a guideline for logistics professionals. They provide a framework of classification and criteria that can help managers attain an overview of their respective fields of interest in country assessment from a logistics viewpoint. The global logistics indicators can be classified in different dimensions of measurement, which are primarily cost, time, complexity, and efficiency. This classification provides a starting point for the manager in a more advanced stage of target country/region analysis. A possible set of global logistics indicators is outlined in Fig. 15.

Fig. 15 — Global logistics indicators structure



As a result, all of the different indices can be compared against macroeconomic indicators and allows benchmarking across countries and regions from a logistics perspective considering various indicators of development levels. Different indices should also be independently taken into account when operating in different countries. Furthermore, other global logistics indicators also have to be measured according to each specific country when evaluating the quality of business environment and logistics services. Due to different projects of trade facilitation being initiated by international associations as well as national and local authorities, metrics of global logistics indicators are changing in each country and have to be updated regularly. These indicators help managers assess logistics performance in the country of interest, providing sensitisation for logistics performance for each respective target country.

5.2 Consideration of Logistics within the Internationalisation Process

In order to benefit from the advantages that motivate companies for going global, logistics costs and performance levels have to be taken into consideration from the initial idea for internationalisation until the final implementation and integration of new facilities. This leads to the question to what extent logistics and logisticians are being integrated institutionally or methodologically in the internationalisation process and whether there are differences between Chinese and German companies. Thereby two factors have been considered: the time aspect, i.e. when logistics and logisticians come into play, and the degree of their overall involvement during the internationalisation process.

Importance of an early integration of logistics. One significant issue to ensure the success of new market entries is to consider logistics and integrate logisticians at a very early stage of the process (comp. Chapter 5.1), i.e. during the evaluation phase and the strategic planning. Unexpected high logistics and transportation costs frequently outweigh the advantages that motivate for going global from a manufacturing, procurement, marketing or sales perspective and hence endanger the entire foreign investment. Already at the stage of defining the basic market entry strategies and designing the respective business case for the new region, it is mandatory to take the opportunities and expected shortcomings of the future logistics system into account.

A look at the most successful projects shows that comprehensive analysis of the logistics conditions and feasibility studies for several alternatives of logistics systems do not only lead to enhanced cost structures of the final logistics solution. Furthermore it is possible to develop significant competitive advantage by achieving superior customer service.

More than two-thirds of all respondents stated that late involvement of logistics during the internationalisation process will lead to unnecessary high logistics costs (see Fig. 16). More than half of them see this as a potential threat to the market entry as a whole. The results show that Chinese managers take this issue more serious than their German counterparts.

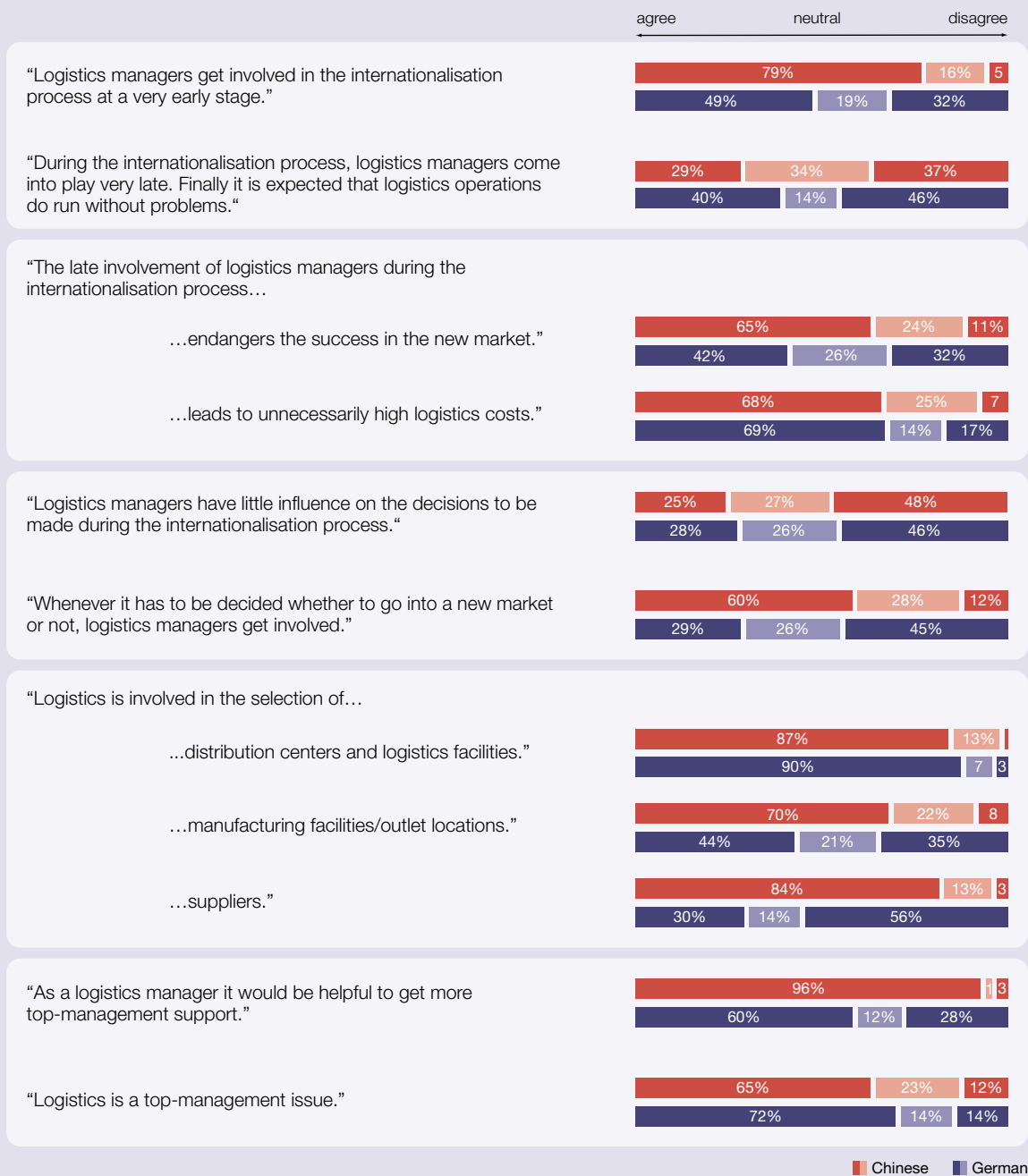
Despite these clear statements from the logisticians interviewed here, about one-third still feel that they are not involved in the decision making process early enough — which shows that not all companies do utilize logistics know-how to establish a high level of transparency in the cost structure of global networks as well as to create competitive advantage.

Degree of logistics involvement in the decision making process for new market entries. The extent to which logistics managers are involved in the decision making process differs widely, and there are huge differences between German and Chinese companies. While 60 % of the Chinese respondents state that logistics is always being considered when it comes to the decision to enter a new market or not, less than 30 % of their German peers experience this level of involvement.

Concerning three specific topics of internationalisation, it was investigated as to whether logisticians are integrated in the decision making or not: selection of locations for (1) distribution centres/logistics facilities, (2) manufacturing facilities or outlets and, (3) suppliers. While most of the respondents are, by nature, involved in locating logistics facilities, German companies still show little consideration of logistics in the other two issues. For Chinese companies more than two thirds of the respective logistics managers get

5. Logistics Strategies for Entering New Markets

Fig. 16 — Involvement of logistics managers in internationalisation projects



involved in locating manufacturing sites and outlets as well as in supplier selection. However, in more than 25 % of the total reviewed companies, logistics managers have little influence in the final decision making. As mentioned before, the opportunity to benefit from methods like Total Cost analysis to establish the transparency of costs among several partners in a value chain by leveraging logistics knowledge is still widely unused.

This shows that a lot of companies today do not yet use the full potential of logistics as a holistic, integrated tool for customer and network management. Thereby, the strategic potential of logistics for the international business success remains in many cases unleveraged. That is why almost 70 % of the total respondents in this survey call for more top management recognition and support to avoid miscalculations, prevent follow up costs, and suboptimal international logistics networks.

Insight – South America

South America includes the 12 countries Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela with a population of 373 million people. Because of lower levels of competition and higher unmet demand, the vast region is now regarded as perhaps the second most lucrative international market behind Asia. South America is responsible for 4 % of the world GDP whereas the region forms 5.8 % of the world population.

Starting in the 1980s, democratisation has found its way into a multitude of South American parliaments. The increased democratisation of governments there is promising more stable long-term investment opportunities. At the same time, except for certain cases, South American countries are moving away from state-owned companies monopolizing the industrial sector, and embracing foreign investment and joint ventures as an effective way to boost development. Nonetheless there is still a certain number of socialist leaders governing the continent with a tendency to refuse free market capitalism.

An example of the economical instability is the Argentinean Crisis at the end of the last century. Argentina experienced a major economic collapse due to high interests on debts and an overvalued Peso pegged to the American Dollar. The result was reflected in the high unemployment rate of 23 % and a devalued currency of 30 %. The rate of the population under the poverty line reached 57 %. As international markets are more interconnected than ever before, financial crisis like in Argentina are quickly felt in neighbouring countries like Brazil and Venezuela. The South American continent still has not fully recovered from the setback.

Many problems remain to be solved in South America. The South American market is an export and import market; only 11 % of the Latin American trade is internal trade compared to Intra-European trade (EU 25), which accounted for two-thirds of Europe's exports in 2005. This minimal internal trade is mainly limited to the larger cities. The purchase power is highly concentrated in urban areas. In fact, 25 % of the South American population is residing in the ten largest cities. Some 80 % of the population in Latin America consists of low income sectors. The unemployment rate in South America with more than 10 % is respectively high and the inflation rates are twice as much as in the USA. The economic gap between rich and poor is leading to enormous discrepancies.

The complexities in tariff rules, customs procedures and practices in most countries in South America are relatively high and therefore, for example, implicate difficulties in providing logistics services. Taxes and licensing provisions typically increase overall costs for private investors, and therefore impede private investments. Tax burden is very high, with the state commanding 90 % or more of total profits in Venezuela, for example. Therefore, the design and structure of tax systems in each country affect the extent to which financial risks are borne by private investors. Interest rate fluctuations, occurring currency depreciations and political instabilities should also be taken into consideration.

Despite all the economical and political risks, the 12 South American countries have agreed on the foundation of an intergovernmental union in 2004, so-called "Union of South American Nations", similar to the role model of the supranational European Union. Furthermore, two existing free trade organisations have been founded long before, the Andean Community of Nations in 1969 and Mercosur in 1991, whose purposes are to promote free trade and the facilitated movement of goods, people, and currency. Since the founding of these organisations, trade barriers were dismantled significantly and

therefore trade has increased significantly. In addition, a harmonisation of laws is intended in order to have positive implications on intra-regional and international trade. These aspects are promising for a more open market access and therefore a greater trading volume.

From a logistics perspective, the major challenges are related to infrastructure. The lack of a modern infrastructure system and reliable communication networks leads to a low level of performance accompanied with high logistics costs. These remain much higher than the standard, with a share of 12-20 % in total product costs compared to only 6-10 % in more developed regions. Most of the international movement of goods are transported by aircraft, while other international haulage is processed by sea freight. Regarding sea and air freight, however, none of South American harbours or airports is listed among the global top 30 in terms of turnover. Globally acting logistics service providers, for example, mostly serve their South American customers from North American hubs, e.g. Miami (USA). Railways are rarely being used for transportation because of the geographical and topographical difficulties they bare. The geographical challenging Amazon, Andes, and rain forests are insurmountable by rail. Besides, apart from not being modern, railways are not uniform from region to region and the terminals are currently not equipped to unload or reload goods.

A recent Georgia Tech study showed that 67 % and 72 % of companies surveyed in Latin America used third-party logistics providers in 2004 and 2005, respectively. Of these, 77 % rated the relationships with 3PLs as very successful. Logistics service providers regard South America as a challenging market as they have to deal with political and economic instability, port and transportation infrastructure challenges, and regulatory and tax issues. The major share of the growing logistics market in South America is driven by FDI as well as the 10-20 % annual growth of demand for international logistics. Although the logistics market in South America is growing, there are many problems that have to be solved. One of these problems, for example, is related to the logistics processes of domestic industry enterprises. They lack to some extent basic logistical concepts in the form of replenishment and shipment tracking.

The current trend to bring South America's economy up is an increase on the FDI side. This is forcing domestic firms to compete and cut costs, while bringing South America into the global network of suppliers and customers.

5.3 Structuring and Standardising Internationalisation Procedures

Internationalisation in the sense of setting up shop in a foreign market is not a unique activity for a firm. Internationalisation projects are typically carried out frequently, with different target regions. Hence, it is analysed, to what extent these projects and their repetitive procedures are being unified by logisticians, or if they treat every market entry separately. It shows that some logisticians take each individual market entry as a completely new project, with little standardisation in its procedures.

Afterwards, it is analysed whether companies apply a logistics strategy for setting up shop in foreign markets and which objectives such a strategy follows.

Standardisation of the internationalisation process. Looking at the internationalisation process model suggested in Chapter 5.1, it becomes clear that certain procedures will occur in any such project, regardless of the respective target country. Market evaluations, feasibility studies, analysis of the country specific infrastructure, methods for the location of facilities, heuristics and routines for network design and many more repetitive activities, could be standardised, to enhance the quality and reliability of these procedures.

Standardisation in this context is seen to be highly beneficial. More than seven out of ten respondents conclude that higher levels of standardisation would enhance the quality, the speed, and the cost effectiveness of internationalisation processes (see Fig. 17).

Despite these clear statements, not all companies have effectively implemented such concepts. 45 % of the Chinese and 34 % of the German managers indicate that their companies' internationalisation process is not yet sufficiently standardised. Though, the majority

of the respondents call for more standardisation in the future (see Fig. 17).

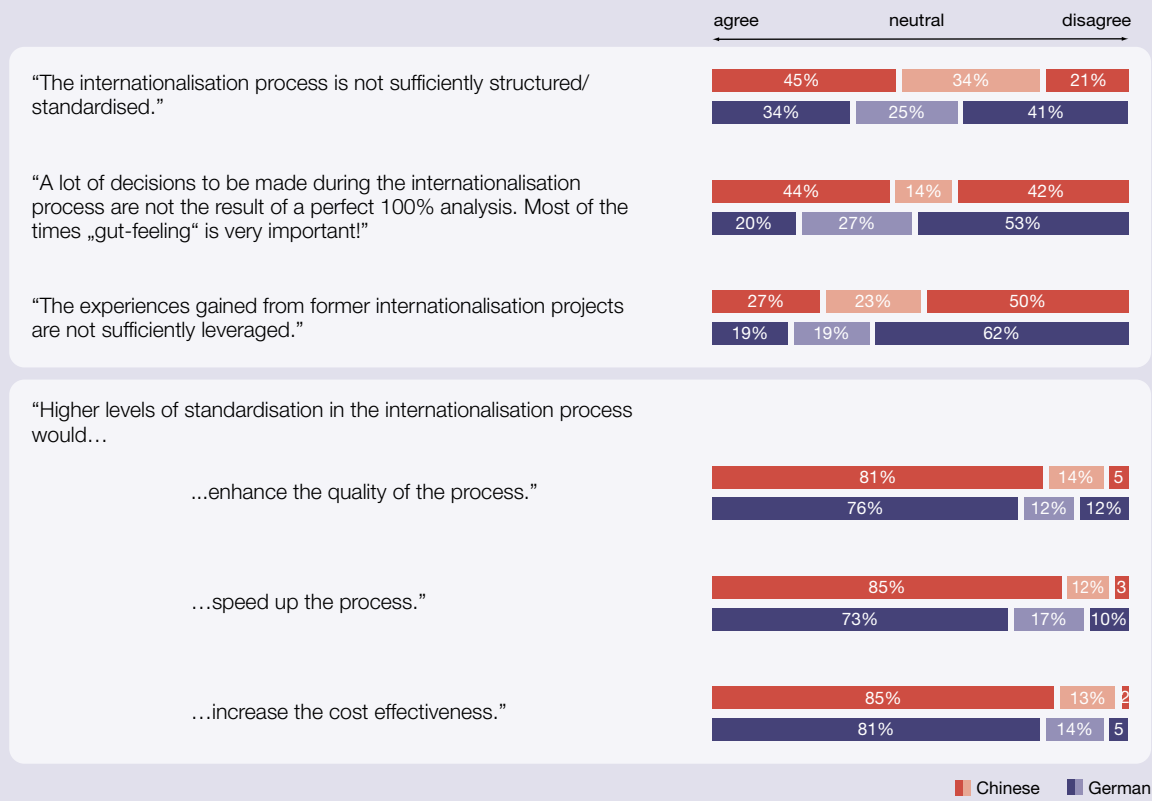
Standardisation is valuable, but has its limits. The complex heterogeneity between the different countries and regions makes it necessary to treat every foreign market individually. The standardisation approach has to be understood as a generic tool that provides a comprehensive framework for the market entry, and one that is not too detailed and leaves sufficient room for individual adaptation. The evaluation of the most successful companies of the sample shows that they do benefit from higher levels of unification in their internationalisation procedures (see Fig. 13). Still, 17 % of Chinese and 37 % of the German logisticians neglect the general applicability of standardisation because of the severe distinctions between countries.

Companies with standardised procedures typically have unified guidelines and handbooks in use, provide methods and checklists for market evaluation and establish a special team of experts to support any internationalisation activity with know-how and expertise (see Fig. 18). Such teams include, in more than half of the cases, logistics managers. No matter whether standardisation is in place or not, any company should make sure that it learns from former market entries and leverages the respective knowledge for future projects.

Just like any standardisation has to leave room for adaptation when needed, it is also clear, that not all decisions during the internationalisation process can be grounded on precise analysis. In contrast, 44 % of the Chinese and 20 % of German respondents state that in many cases, the individual "gut-feeling" of managers is of significant importance. Strategic and analytic planning has its limita-

5. Logistics Strategies for Entering New Markets

Fig. 17 — Status quo and benefits of standardised internationalisation procedures



tions and especially in the final stages of the internationalisation process, pragmatism and common sense for improvisation is required to get the job done efficiently.

In general, the data shows that the share of German companies who apply higher levels of standardisation is slightly higher compared to Chinese companies, who on the other hand have higher expectations on future standardisation. This could be explained by more international experience at German companies, and having already accomplished comparatively more market entries in the past.

Application of a logistics strategy for internationalisation. With the development of logistics towards an integrated corporate function (comp. Chapter 3.1) and its increased importance for corporate success, the concept of a logistics strategy has emerged, as a subsystem of the corporate strategy. Along with the standardisation of internationalisation procedures, this survey figured out whether companies apply a strate-

gic logistics approach for going global.

About half of the Chinese and two-thirds of the German companies have a logistics strategy for internationalisation in place, consisting of strategic objectives, long-term plans, and policies. Most of the logistics managers get instructions or performance objectives from higher hierarchy levels, e.g. from the top management during the strategic planning phase (comp. Chapter 5.1). In many cases logisticians are expected to meet the same performance and cost levels like in their home market (see Fig. 19)

The approach of those companies that do not apply a logistics strategy and do not engage in strategic planning when entering foreign markets, is best described with the concept of Incrementalism or Muddling Through. In order to operate in the global environment with its complexity and rapid changes which can hardly be covered with strategic plans, these companies enter foreign markets in a sequence of incremental steps. This enables

5. Logistics Strategies for Entering New Markets

Tab. 3 — Logistics objectives of foreign market entry

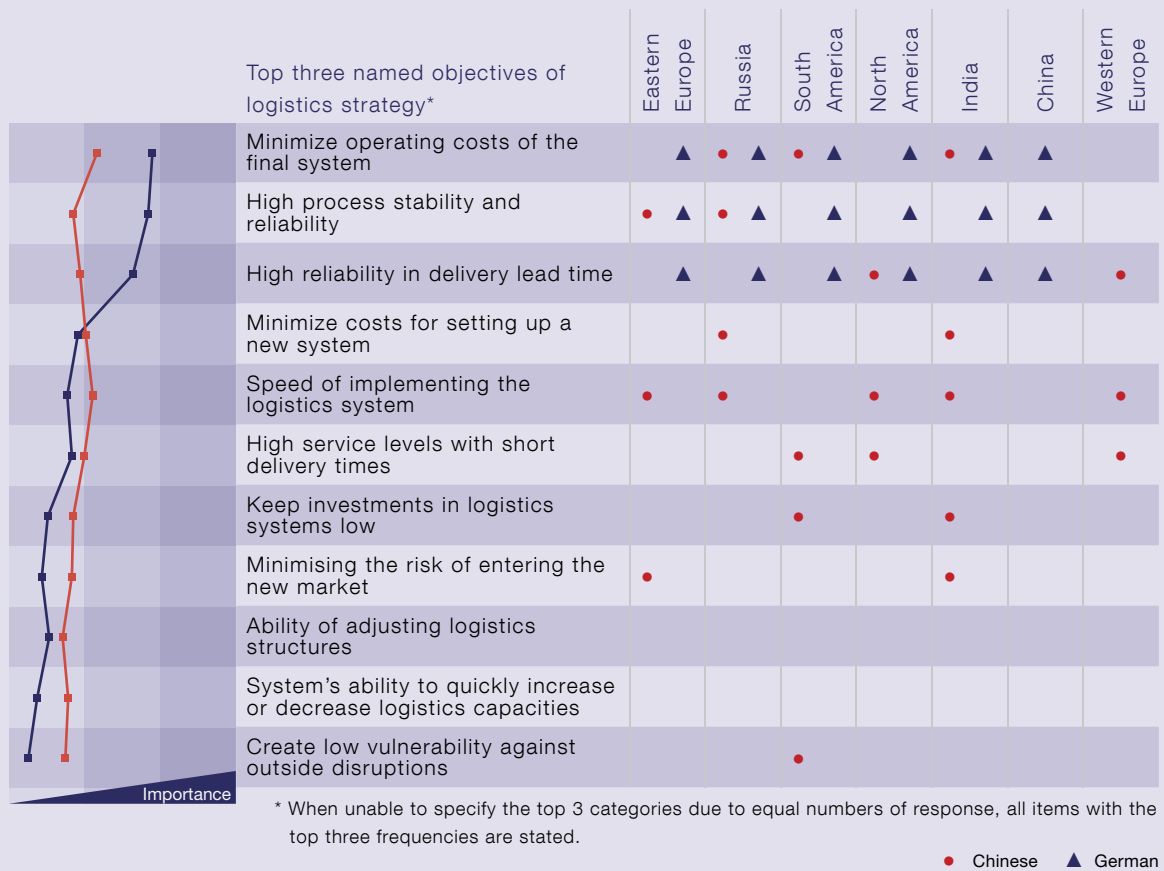


Fig. 18 — Standardisation of internationalisation procedures

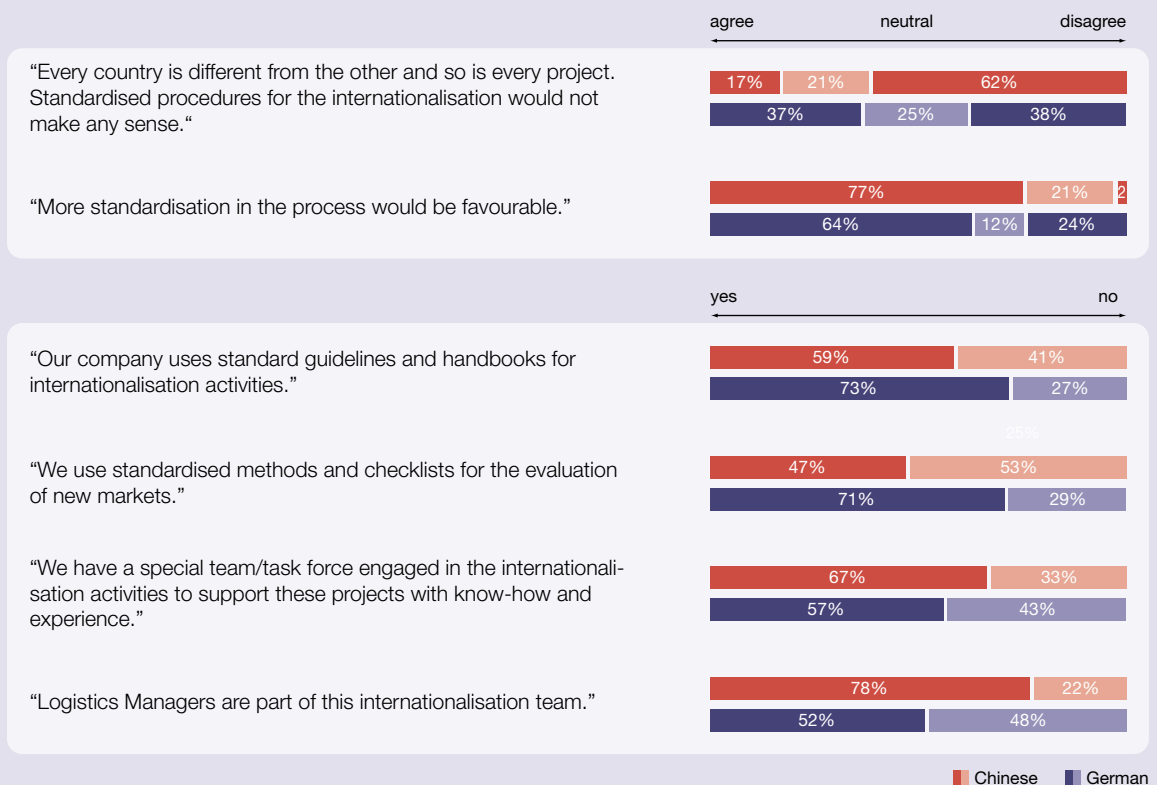
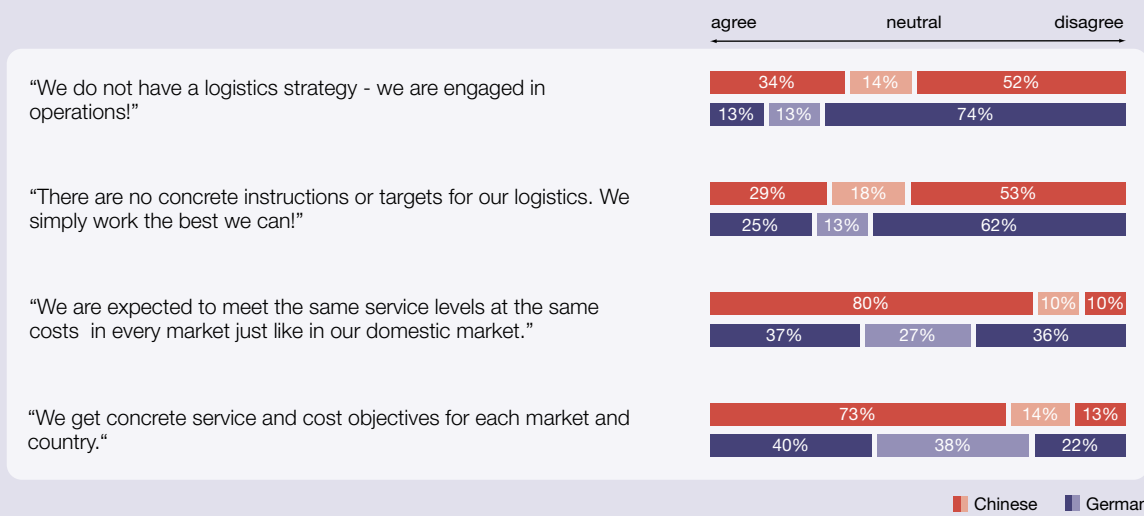


Fig. 19 — Logistics strategy for foreign market entry



the company to quickly adapt to unforeseen developments, as problems are immediately handled at the time that they occur. As internationalisation procedures suffer from high uncertainty and unpredictable developments, incrementalism seems to be the choice for quite a few companies.

The comparison of German and Chinese companies indicates that the application Muddling Through for the internationalisation of logistics systems has a higher share among Chinese companies. On the other hand many of them follow a Greenfield approach when entering new markets, and the most successful ones (see Fig. 13) even apply quite sophisticated logistics planning. Hence, a clear trend can hardly be identified.

Logistics objectives for setting up shop in foreign markets. When entering a new market, various logistics objectives are thinkable. For this survey, two different types of objectives are distinguished. Firstly, objectives that are related to the internationalisation process itself, e.g. speed of implementing the logistics system, minimizing costs for setting up a new systems etc. Secondly, objectives that are related to the characteristics of the final system, e.g. reasonable operating costs, high reliability in delivery time etc.

Interestingly, the top three objectives of German companies are the same for all respective regions and focus all on the quality of the final system: minimize operating costs of the final system, high reliability in delivery lead time, and high process stability (see Tab. 3). Hence, the outcome of the internationalisation process is more important than speed and cost of the process itself. What counts, is the final logistics system.

In contrast, Chinese companies' objectives are more diverse and differ from region to region. A look at the Chinese preferences shows that the most important issue of the logistics strategy is the speed of setting up shop, followed by the operating costs of the final system, minimising the costs for setting up the new system, and finally high service levels with short lead times. The focus on speed and cost of setting up shop is also reflected in Fig. 14, where it could be shown that the internationalisation process for Chinese companies lasts significantly shorter than for their German counterparts.

Overall, a clear trend within the Chinese respondents' objectives can hardly be discovered. For each region a different set of objectives is most important and in total, the importance of each objective seems to be almost equally distributed. One possible

explanation could be the higher degree of Muddling Through among Chinese logisticians compared to their German counterparts, who follow a limited set of strategic logistics objectives, regardless of the specific region.

Insight – Dynamic Developments in China’s Automobile Industry

A significant example of the rapid Chinese economy development is the automobile industry. As China’s reform period began in the late 1970s, the nation turned its attention to improving domestic car and truck production. By the year 2000, nearly every passenger car in Shanghai was made by a local Volkswagen (VW) factory, and Wuhan traffic was dominated by the city’s Citroen venture’s products. Beijing saw a large number of nearby Tianjin-made Daihatsu cars serve as the capital’s low-cost taxi fleet. Overall, VW took some 60 % of the entire nation’s passenger car market until just a few years ago.

Over the past five years, automobile production and sales in China have nearly tripled, and with more than 4 million vehicles made in 2003, the country now ranks with car powerhouses such as Germany and France, and is among the top-five auto makers in the world. The forecast for 2007 are 4.9 million sold automobiles in the Chinese market. Foreign corporations have played a major role to date in the explosive expansion of the automobile sector, but mainly through Sino-foreign joint ventures.

A spate of new foreign and domestic plant investments over the past two years has created a problem of looming production over capacity, with Nissan, Ford, Toyota and Hyundai joining Volkswagen, General Motors, Honda, Citroen and others in an increasingly crowded production arena. The automobile production was growing at a rate of 87 % in 2003. Thus imports of spare parts and components increased between 17.4 and 25.8 % during 2001 and 2005. The import of so-called Fully Built Up (FBU) vehicles to China for example, is highly restricted with duties. Today, only 5 % of newly registered cars are FBU in this country, while the content of local components of the Volkswagen model ‘Santana 2000’ has increased to 98 %. Hereafter a few figures of foreign car producers to underline the rapid growth in the automobile industry:

- Volkswagen AG invested € 5.3 bn in Changchun 2003 and also founded a new € 6 bn engine plant for 300,000 engines annually in Shanghai.
- Ford invested US\$ 1 bn in China 2003 and plans to make further investment of US\$ 16 bn until 2010.
- Delphi plans to develop injection pumps in China.
- Yamaha thinks about moving its R&D department division to China.

5.4 How to Cope with the Dynamic Environment

The first part of Chapter 5 deals with the internationalisation process, i.e. how it is organised, what steps it consists of, how logistics is being integrated in the decision making, and which objectives companies follow herein. The second part focuses on the issues that have to be considered when setting up international logistics systems.

Key components of logistics strategies for setting up offshore business entities.

No matter whether a company is engaged in strategic planning or acts according to the concept of incrementalism and regardless of what objectives the logistics strategy tries to accomplish, three key components have to be part of any logistics approach to ensure that the final logistics system will effectively support the foreign market entry: (a) the logistics system has to cope with rapidly changing conditions it will be operated in, (b) globally standardised logistics processes have to be balanced with local adaptation (comp. Chapter 5.5), and (c) decisions have to be made regarding the strategic collaboration with logistics service providers (comp. Chapter 5.6).

Rapidly changing business environment.

In order to obtain the full value of logistics as a source of competitive differentiation, managers evolve and implement logistics systems that are increasingly more complex, longer lasting, more difficult to reverse, and riskier than ever before. Ironically, the greatest risk may lie in failing to develop a logistics network responsive to the rapid pace of environmental change. As indicated in Chapter 4, internationalisation increases dynamics and uncertainty in logistics networks to a large extent. The logistics conditions, e.g. infrastructure, legal regulations, administrative matters etc. are subject to constant change. Future development of markets and even the company's future success are — by its

nature — unpredictable. Considering that all these influencing factors change differently in each country makes clear, that the design and management of global logistics systems are challenging and error-prone tasks. Correspondingly, more than 80 % of the logistics managers stress that the dynamic changes of the business environment create the biggest challenge for internationalisation (see Fig. 20).

This overwhelming awareness of the fact that logistics systems have to cater unpredictable and rapidly changing requirements in the future, leads to the question of to what extent flexibility and agility is incorporated in their planning and design.

Consideration of dynamics and uncertainty.

More than 80 % of the reviewed companies insist that the AS-IS situation cannot form sufficient ground for planning logistics networks. During the planning and design of logistics capacities, location of facilities, network structure, definition of leadtimes etc., 80 % of the Chinese and 60 % of the German logisticians develop different scenarios, which are evaluated according to their future expectations. This is typically undertaken in cooperation with other corporate functions, to take the anticipations of other experts also into account, e.g. sales expectations.

Still, future developments are only estimated and will most likely be inaccurate. Hence, 72 % of the Chinese and 53 % of the German respondents focus on creating flexible logistics structures to cope with uncertainty.

Dynamics and uncertainty originate from various causes, e.g. shifting of customer's preferences over time, changes in legal restrictions, etc. In the early stages of China's economic upswing, for example, foreign investors located manufacturing facilities and distribution

Fig. 20 — Dynamic changes in global logistics



centres exclusively along the coastline. Nowadays, China's purchasing power is moving more and more into the hinterland and logistics structures with a focus on the coastal areas may not be efficient any more.

Regarding changes in the legal framework, one might think of China's WTO accession. For those who adapt to the resulting changes a multitude of opportunities arise. Those who do not immediately realise the transformation's consequences to their business might be quickly out of market.

In general, the dynamic and uncertain environment is perceived mostly in emerging markets. However, even in developed regions dynamics must not be underestimated. One prominent example is the eastern enlargement of the EU. When countries like Poland, Slovakia, and the Czech Republic joined the union, many companies felt that their centralised distribution structures in Western Europe had to be redesigned. Many central warehouses were removed eastwards, to cater the enlarged market.

Coping with dynamics and uncertainty.

Logistics flexibility has different dimensions, ranging from a system's ability to adapt to short-term changes in customer demand to the possibility to alter a network's structure according to major shifts in its geographic

focus. Various methodologies may be applied in accordance with a company's business model. That can be postponement strategies, agreements for flexible working hours, outsourcing concepts, etc. Logistics outsourcing is a hot topic since more than a decade and it becomes increasingly relevant in the context of foreign market entry (comp. Chapter 5.6).

More important than the exact arrangement of measures to raise flexibility, is the overall awareness of managers at strategic levels that the logistics system they set up in foreign markets has to be agile enough to fulfil tomorrow's unpredictable business requirements.

Exit strategies for the case of market retreat.

Managers often ground their positive expectations regarding international business expansion on the abundance of international success stories. But there are just as many famous examples of failure, where companies lost a fortune overseas and even decided to retreat from certain markets. The retreat of Wal-Mart from the German retail market is just one very recent example, another would be the German home improvement chain OBI, who decided to leave the Chinese market a few years ago.

The high degree of uncertainty regarding the market development leads to the challenge that logistics systems should be supportive

Fig. 21 — Incorporation of exit options



for a rapid expansion and, at the same time provide the possibility to retreat from a country with a minimum of sunk costs and residual overhead costs.

Even though the surveyed companies mostly reflect that when planning and designing international logistics systems they do consider that the environment of the system and its conditions might change at a fast pace, there can still be observed a poor consideration of failure in the new market.

Expectations concerning the success of internationalisation projects are very high. Hence, one third of the respondents regard any foreign market entry as a long-term engagement (see Fig. 21). 60 % of the German logisticians only include an exit option in their strategy, when they perceive the market particularly risky. Only 30 % of their Chinese peers show the same behaviour. Another 35 % of the Chinese and only 10 % of the German companies consider a failure in a foreign market always

possible, and consecutively install exit options in any new logistics system. Chinese companies seem to incorporate flexibility in their internationalisation approach better than German companies, which could be explained by the fact that companies in China are exposed to a much more dynamic environment than in Germany.

From a logistician's perspective, dynamics and uncertainty of the logistics environment can hardly be influenced. Hence, he has to deal with it. The degree to which flexibility is being incorporated into the set of objectives for foreign market entries still leaves room for improvement. The findings show that, in comparison with quantitative measures, e.g. costs and performance, flexibility receives relatively little attention. With regards to the justifiably high dynamics and uncertainty of today's business environment and the corresponding costs from inflexible logistics systems, this target system seems to be doubtful.

Insight – North America

In the understanding of this survey, North America comprises the United States of America (USA) and Canada. With only 6 % of the world population, North America ranks first with 33 % share of the world GDP. Its landmass makes North America the third largest continent on the globe with an area of almost 18.5 million square kilometres (simply USA and Canada).

The USA, the third biggest country by land area and population, is the strongest economic power of the world. Their GDP of more than US\$ 13 trillion ranks first worldwide. In fact, the USA is the first largest importer and second largest exporter of goods. Additionally, the GDP grew at a 2.8 % annual pace since 2000 and the unemployment rate has fallen to only 4.6 % in 2006. The USA is also affected by a high urbanisation degree. More than 87 % of the population (302 million) live in urban areas, mainly concentrated on the West and East coast.

The USA have a convenient road system of interstate and U.S. highways, linking almost every urban agglomeration to an efficient road network. On the other hand the railroad system is comparatively scarce. The national rail organisation, Amtrak, provides services to many cities, but some parts, particularly the bridging of East and West, suffer from the poorly developed railroad tracks. In order to cross the continent from East to West, for instance, it can take up to an entire week. Because of this unfavourable duration many companies stick to the more expensive air transportation.

Consequently, the aviation sector in the U.S. has been of particular importance from the very first. Due to the large distances, air transportation is widely developed. The U.S. has the highest ratio of passenger to inhabitant world wide. In 2005, 660.9 million passengers were reported, which makes every inhabitant fly more than twice a year. Seven American airports are among the TOP 15 of the largest cargo airports in the world regarding cargo handling and even eight airports are listed in the TOP 15 of passenger capacity worldwide. Both lists are led by American airports with Memphis on top of the cargo airports and Atlanta as the number one in the passenger category. While FedEx, UPS, and United Airlines are the world leaders of air freight carriers in the category Revenue Tonne Kilometres (RTM), Delta Air Lines, American Airlines, and Southwest Airlines are in the vanguard of passenger transportation. In 2005, when the new aviation agreement drew to a close, the USA reached a full open skies aviation agreement with Canada. It allows an unrestricted number of flights by carriers between the countries and also eliminates restrictions of the kinds of aircraft flown, and prices charged.

The major harbours in the U.S. are in the northeast, responsible for freight originating from Europe and along the entire West Coast. The three most important harbours are located at Los Angeles, Long Beach, and New York responsible for almost 50 % of the container handling in the U.S. There are signs of fierce competition among West Coast ports from British Columbia to Southern California. The West Coast of North America is a logistics hub for Asian imports on a global scale, especially when China's rising began. China sends more than 12 million TEU to the U.S. each year. All that traffic has created an image for the ports that includes problems such as land constraints and infrastructure at or near capacity.

Canada with English and French as official languages is the largest country in North America by area and the second largest in the world after Russia. The population density of 3.5 inhabitants per square kilometre (33 million in total) is among the lowest in the world. Many rural areas are uninhabited. Canada is one of the wealthiest countries with a high income per capita of more than US\$ 30,000. The

Canadian economy has been growing steadily over the last decades with a low unemployment rate at 6 %. The primary sector has an unusual important role in Canada compared to other developed countries such as in Western Europe. The oil and logging industries are among the largest. The country holds the second biggest oil and gas reserves in the world after Saudi Arabia which makes Canada a strong net exporter of energy. Canada is also the world leading producer of natural resources such as nickel, aluminium, zinc, uranium, and gold. However, the Canadian economy is dominated by service industry which employs more than 75 % of all Canadians. Canada is highly dependent on international trade, especially with its southern neighbour the U.S., which put the economy vulnerable to external fluctuations.

Due to the size of the country, it is hard to cover every area by road or railway. Nonetheless, the infrastructure in Canada is one of the most developed in the world. The very fact that the Canadian government made a historical investment of US\$ 16 bn in 2007 in infrastructure for the next seven years is a sign of positive future developments. Canada is linking two sides of a coin, residential densities that look much like those in the U.S. and transportation characteristics that look more like in Europe.

Despite arguments about specific portions of the North American Free Trade Agreement (NAFTA), signed in January 1994, it is generally agreed that its effects have benefited the three signatories - the USA, Canada, and Mexico. The NAFTA has been in effect for 13 years. When it was founded in 1994, it represented a US\$ 6 trillion economy with a population of 360 million. Within a decade the area grew to a US\$ 12.5 trillion economy with a population of 430 million. The intention of the agreement was to dispose all trade barriers and tariffs among the three participating countries USA, Canada and Mexico. Restrictions were to be abolished in various fields, including computer applications, motor vehicles and textiles and. Intellectual Property Rights were also included.

Since the passage of NAFTA, the U.S. and Canada have experienced significant growth in trade, increased specialisation, and deepened integration of the two economies. Although the agreements liberalised trade and investment policies, they only partially facilitated a free flow of products across the border. However, in reality they have actually lead to an increase of processes and paperwork necessary for bilateral trade. These can be considered as an obstacle to the a free flow of transportation, and the resulting costs are in fact increasing logistics costs. The U.S. and Canada share the world's largest bilateral trading relationship. For 2006, total merchandise trade (export and import) between the two countries totalled US\$ 533.7 bn. The U.S. is still Canada's most important market, and Canada is the largest single country trading partner of the United States. In 2006, total merchandise trade with Canada accounted for US\$ 303.4 bn in imports and US\$ 230.3 bn in exports. The U.S. and Canada are also major sources of FDI to each other.

The impact of globalisation and protecting business continuity are the two most important changes for the 3PL industry in North America. One of the major globalisation trends is an increasing number of U.S. and Canadian companies taking control of goods at their overseas point of origin before they are loaded into containers for export to these shores. This trend is particularly strong in the retail sector. In terms of business continuity, customers expect their 3PL to truly be a global player to ensure their business continues uninterrupted. Customers change their sourcing plans with increasing frequency, pushing their providers to quickly react and deliver the goods without any disruption to normal business operations. The last decade witnessed a significant shift in manufacturing production to low-cost countries, particularly China. China is the origin of almost 70 % of U.S. imports from Asia.

5.5 Global Standards and Local Adaptation

Besides the rising dynamics, another major challenge of global logistics networks is the inherent heterogeneity of processes. Caused by the huge number of involved locations, intermediaries, suppliers, and customers working with different methods and routines under distinct logistics conditions, global logistics management is an increasingly complex task (comp. Chapter 4).

A widely recognised approach to address complexity in global logistics networks is process standardisation. Similarly to the concept described in Chapter 5.3 about the attempt to standardise repetitive procedures of the internationalisation process itself, logistics activities in global logistics networks may be standardised as well. It means that complex logistics tasks are decomposed to a limited number of simple standardised process modules which are equally carried out at all locations, all over the world. Furthermore, complete logistics practices may be applied similarly at any place in the network, no matter whether it takes place in the domestic market of the company or overseas.

Potentials and characteristics of globally standardised processes. Global process standardisation can mitigate the problem of complexity in many ways. First of all, it enables companies to establish worldwide transparency by monitoring their networks with globally linked and unified IT systems. If all processes share a minimum of similarity a predefined set of KPIs may cover global supply chains in terms of quality, time and costs, making different parts of the network comparable. In case of disruptions or hold-ups it is easier to identify and solve relevant problems; process optimisation on a global level is facilitated as well as the implementation of best-practices at different locations. Furthermore, the exchange of staff members and managers

between different facilities becomes possible with a minimum of introduction. All these features of globally standardised processes enhance the supervision and management of logistics networks, reduce costs, save time and increase the reliability of operations.

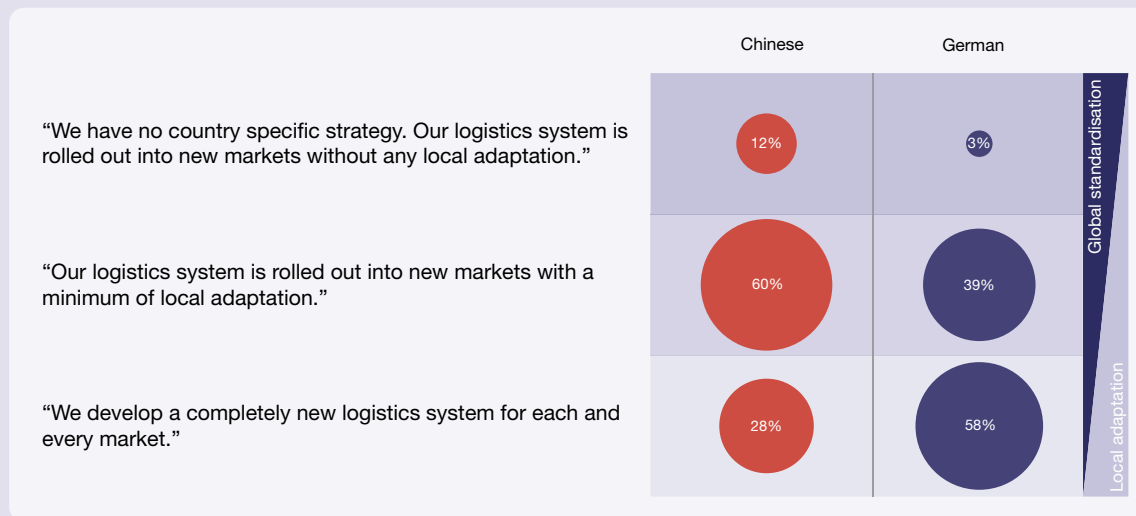
For the individual company the range of processes to be standardised will differ according to their specific industry and business model. Basically all kinds of inbound, in-house and outbound processes could be subject to standardisation. One might think of boxes and pallets in use for the transportation and storage of goods, order cycles and replenishment strategies, the application of milk runs and KANBAN systems, production scheduling, Push-Pull strategies, the design and layout of cross docks and warehouses, the degree to which distribution networks are centralised or regionalised, the use of Auto ID technologies (e.g. bar codes and RFID), etc. Standardisation is by no means limited to a company's boundaries. It may also include partners, customers and suppliers in the supply chain as the collaborative processes and interfaces could be unified for enhanced cooperation.

Limitations of global standardisation. Despite its various beneficial aspects, the standardisation concept has limits. The local business environment in the different countries and regions, including the legal framework, infrastructure and customer expectations, call for local adaptation of logistics processes.

To give an example, the German retailer Metro has a unified concept for the design and layout of its cash-and-carry-outlets. The processes in the building are standardised. The replenishment, for instance, takes place by trucks that are unloaded at the back of the outlet and timeslots are defined, at what time of the day which segment of the assortment

5. Logistics Strategies for Entering New Markets

Fig. 22 — Balancing global standardisation with local adaptation



has to be delivered. Perishables have their specific timeslot, dry food has another etc. The standardised building concept and the respective processes have proven their practicability and efficiency in the huge number of Metro’s outlets.

However, in different regions, customers have different habits and prefer different locations of stores. European consumers generally prefer stores that are situated near the city centres, while consumers in the U.S. like complex shopping centres at the outskirts. Again, consumers in China or India prefer shopping at corner shops. Different ways of shopping call for different types of stores and assortments. In many developing nations, for example, people shop on a daily or as-needed basis and carry bought items home, due to low incomes and a lack of storage and refrigeration space. As a result, goods need to be offered in small packages at a larger number of small shops handling only specific types of goods.

According to the peculiarities of the consumer behaviour and the market for real estate in Asia, Metro had to apply certain modifications on their standard concept for outlet buildings, to cater the local demand in those markets. This represents a typical example for the necessity to adapt to local conditions when companies go global.

Application of global standardisation versus local adaptation. The remarks and examples above lead to the question, to what extent companies apply standardised logistics processes when entering foreign markets, and how much adaptation it takes to meet the requirements of their target regions.

As illustrated in Fig. 22, 12 % of the Chinese and 3 % of the German respondents indicate to roll out their logistics system without any local adaptation. These companies simply transfer the design and structure of their domestic system to the foreign market, without modification according to local requirements and country-specific conditions. This may include modes of transportation, use of warehouses and cross docks, collaboration with service providers, and suppliers..

As in many cases specific local conditions prevent from a complete roll-out, the majority of Chinese companies (60 %) accept a minimum of local adaptation, but adheres to the idea to standardise logistics processes as much as possible. Some 39 % of the German respondents follow the same approach.

With 58 %, the majority of German companies develop completely new logistics systems for each and every market, to make sure it ca-

5. Logistics Strategies for Entering New Markets

ters the specific local conditions as much as possible. About one quarter of their Chinese peers act similarly.

Two explanations for the discrepancy between the German and Chinese majority's approach may hold: at first, Chinese companies compete mostly in commodity markets, where low cost is the main factor for the customer's purchase decision. Therefore, standardisation seems to be adequate for them. German companies on the other hand, mostly offer products of higher sophistication, and feel that their logistics system has to provide superior customer service. Hence, German companies tend to develop country specific systems.

A second explanation could be drawn from the fact that Chinese companies, in general, apply a Greenfield approach when entering foreign markets (push strategy). This creates the opportunity to apply well designed and systematically planned standardised processes. German companies, seem to grow their networks more organically over time, often driven by business opportunities derived from customers' requests from overseas (market pull). Thereby, individual island solutions have evolved, that will later be optimised when necessary.

The most successful companies (see Fig. 13) apply higher levels of global standardisation than the average, and surprisingly, the German respondents do it even more than their Chinese peers.

Basically, the overwhelming majority of all respondents appreciate the benefits of a standardised international roll-out. The differences in the results come from the different perceptions to what degree each business model requires an individual country specific system. Legal and infrastructural necessities aside, one can say that the overall objective is to fulfil the customers' needs—but it has to be effectively balanced, to what extent he recognises and values regional adaptations and to what degree he would accept the global standard of the company.

Like in many other disciplines, the sentence "Think global, act local!" proves to be right, which means to have a global strategy in mind, and adapt it where necessary.

5.6 Strategic Collaboration with Logistics Service Providers

As indicated in Chapter 5.4, three components are key for any logistics approach in the context of foreign market entry: how to cope with the rapidly changing conditions in which the logistics network is operated (comp. Chapter 5.4), how to balance globally standardised logistics processes with local adaptation (comp. Chapter 5.5), and finally, how to strategically collaborate with logistics service providers.

Logistics outsourcing. In the developed economies, outsourcing of logistics activities has been a hot topic for decades, having boosted the continuously prospering industry of logistics service providers. Various types of LSPs have emerged, ranging from freight forwarders and 3PL to specialised logistics and SCM consultancies, offering a multitude of logistics services, including basic activities such as transportation, warehousing and handling, up to sophisticated and complex network solutions including information processing. Today's logistics revenues show the economic significance of the LSP industry; for Germany alone, the total logistics revenues in 2004 are estimated to be EUR 170 bn and for the region considered Western Europe in this survey (EU 15, Switzerland and Norway) calculations are about EUR 729 bn. For China, estimations for the value of total logistics services (including outsourced services and self-run logistics activities) vary between EUR 250 bn and EUR 320 bn, which is roughly one-fifth of the Chinese GDP.

In the context of internationalisation and the inherent dislocation of value adding activities, the outsourcing of logistics activities becomes even more important as compared to a mainly national environment. Hence, manufacturers and retailers increasingly rely on logistics service providers when setting up shop in foreign markets.

Importance of logistics service providers for foreign market entry. Less than one-third of the reviewed companies in this survey indicated, that they need to have self-run logistics assets and operations to maintain the right quality and service levels for their business. Though, most of these only keep a limited range of specific operations which they perceive to be most important under their control. Very few manufacturing and retail companies own and manage the complete range of their logistics activities.

Companies entering foreign markets outsource an even broader range of activities when going global in order to reduce the risk of the market entry and to leverage the country specific know-how of their partner. Clearly, it is now a strategic decision to outsource logistics activities; in addition, the role of LSPs has changed as they have been allowed to penetrate further into their customers' operations and supply chains.

In case that in the new target market, there is no adequate and capable LSP available, 71 % of the Chinese and 61 % of the German managers would rather help a new LSP to develop in that market, than investing in dedicated self-run assets. This clearly shows the strong coherence of foreign market entry and global logistics outsourcing.

Hence, the LSP industry should address this strong willingness to outsource, by providing services that further reduce market entry barriers for their customers. Many of them do not have the knowledge and expertise to carry out logistics operations in foreign countries by themselves because until recently, in most cases, their logistics activities have been confined to the countries or regions in which they

5. Logistics Strategies for Entering New Markets

Fig. 23 — Objectives of logistics outsourcing when going global



are located. Especially services that support the global expansion of SMEs have a huge potential.

Strategic objectives of logistics outsourcing. As mentioned before, the time aspect is of major strategic importance for successful market entry (comp. Chapter 5.1). Consequently, the highest ranked objective for the collaboration with LSP is to ensure a quick market entry by leveraging the LSP's existing global network (for the complete sample, see Fig. 23).

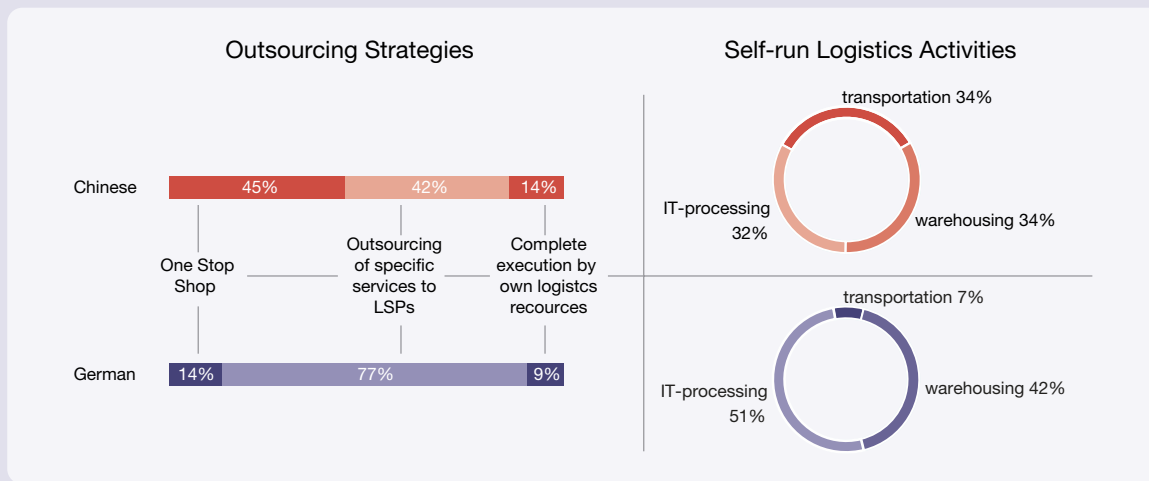
For German logisticians, the LSP's cost advantages from his ability to benefit from economies of scale are most important.

As setting up global logistics networks requires regional expertise in order to cope with local culture, politics, and environmental pe-

culiarities, Chinese managers value the LSP's specific know-how and service quality as the strongest argument for outsourcing. As LSPs typically have already tremendous local market expertise and knowledge in the respective country or region, and are familiar with the legal and administrative regulations, in addition to possessing the required licenses etc., the market entry is significantly facilitated.

Another important aim of outsourcing is to keep investments for the market entry low and thereby minimise the inherent risks with asset-light strategies. Furthermore, collaboration with LSPs may improve the logistics flexibility of a company. In general, LSPs have better possibilities to adjust capacities in short term than their clients themselves. As they serve multiple customers, the volatility in the demand of each individual company is very likely to be balanced out by the aggrega-

Fig. 24 — Outsourcing strategies and composition of self-run logistics



tion at the LSP. Additionally, 76 % of the Chinese and 48 % of the German respondents try to raise their flexibility by enforcing short contract periods.

Outsourcing levels and self-run logistics activities. While Chinese and German companies both appreciate the benefits from logistics outsourcing, their concrete collaboration with LSP shows certain distinctions. In general, Chinese companies show significantly lower outsourcing levels than their German peers (see Insight — China). Though, Chinese upcoming global players who are now entering foreign markets show a clear tendency towards higher outsourcing levels.

Regarding the actual cooperation with LSP, 45 % of the Chinese respondents prefer one-stop-shopping, i.e. they work with only one partner who provides a global scope and can cover all needed services. Oftentimes the service provider reaches geographical coverage and the full range of activities only by close cooperation with further partners and subcontractors. But from the customer's perspective the advantage is to have only one partner to be in touch with, hence, a simplified coordination.

However, only 14 % of the German respondents demand one-stop-shop solutions. Know-

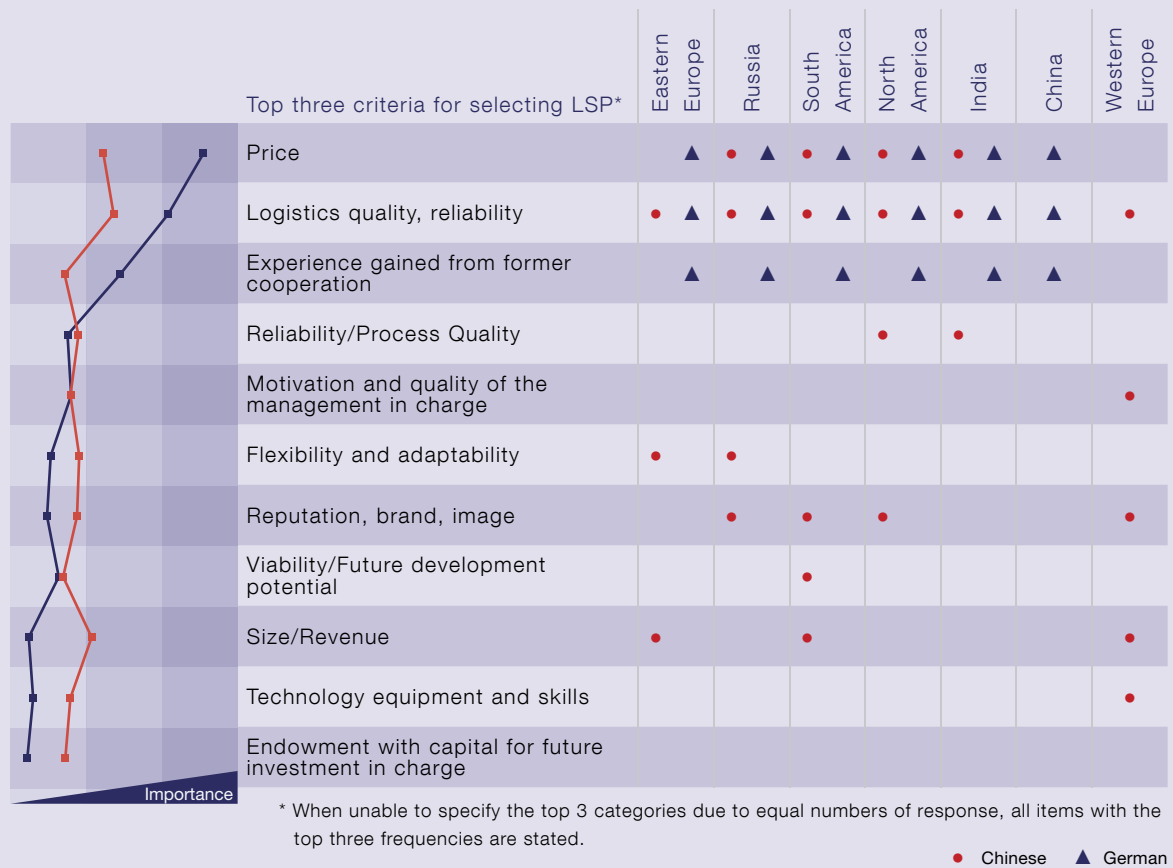
ing, that the LSP cannot provide all required services and therefore has to work with subcontractors leads to certain scepticism, whether it is ensured that all partners and intermediaries involved are sufficiently reliable and how they commit to the defined rules and quality standards. Furthermore, manufacturers and retailers are still restraining to rely on one provider only, because they do not want their global logistics procedures to depend on the performance of one single third party. Besides arising problems in case of disruptions, bargaining power and switching costs are further strong arguments not to rely on a single LSP.

With 72 % of the German and 42 % of the Chinese, the clear majority of logistics managers outsource specific activities to several LSPs. The overall control of the logistics and supply chain network remains at the customer side, and the limited range of services per provider ensures not to become too dependent on certain LSPs.

Looking at the range of outsourced logistics activities, customers often ask for value added services and global capabilities, but these categories are, as of yet, less important for the final outsourcing decision. Moreover, logistics outsourcing is still based on traditional services and to a lesser degree on a more holistic approach where the full supply chain

5. Logistics Strategies for Entering New Markets

Tab. 4 — Criteria of LSP-selection



is outsourced, mainly because of customers' concerns. These common concerns are the potential loss of direct control of logistics activities, uncertainties about the service levels provided by the outside company, and questions concerning the true costs of employing a third party.

Only 14 % of the Chinese and 9 % of the German reviewed companies completely execute their logistics activities by themselves with self-owned assets and facilities.

The composition of activities that companies do not fully outsource when going global, also shows strong differences between German and Chinese companies. Among the Chinese respondents, transportation, warehousing, and IT processing, all show an equal likelihood not to be outsourced. German respondents indicate that self-run transportation is very exceptional. Of German companies, 42 % would have self-run warehousing in

foreign markets and — with the largest share — 52 % of the German respondents tend to keep the IT processing of their global logistics networks in-house (see Fig. 24).

Criteria for LSP selection. Having made decisions about the extent to which logistics activities should be outsourced and whether the complete volume should be handled by one or more partners, it is time for the LSP selection.

The survey determines the most important selection criteria for LSP when setting up shop in foreign markets (see Tab. 4). First of all, it shows that the key factor nowadays is price, while the next-highest factor rated is the quality and reliability of the services provided. Both are not mutually exclusive but must be balanced in particular. When companies focus on price as criterion, it is important to keep a holistic view on the overall costs. Customers should be aware that a fruitful collaboration

with a capable LSP may significantly improve the way in which products are moved around the world – and thereby reduces costs in consequence. This potential for savings throughout the global logistics network may by far outweigh the direct price for the LSP's services, because logistics efficiency can then be improved by considering other issues such as quality, operations, and technology.

According to the complete sample of respondents, the third most important criterion to select a LSP for foreign market entry is the experience gained from former cooperation. For Chinese companies, this even is the most important criterion of all. One-third of the Chinese and 10 % of the German logisticians indicate that they would not go into a new market without the LSP they work with in their domestic region. Almost 50 % of the Chinese respondents always work with one of the renowned global LSP, only one-third of the German logisticians do it the same way.

Analysing the set of criteria according to the different target regions and countries, it shows that German companies do not change their preferences with regards to the regions. Their top 3 criteria are the same for all. In contrast, the Chinese respondents make certain distinctions, e.g. in Eastern Europe and Russia, flexibility is of comparatively higher importance, in South America they care relatively more about the viability and future development potential of their partners.

The observation that German companies in this respect show a clear pattern in their selection criteria while Chinese companies' criteria are more equally distributed and vary more strongly according to the target regions, might be another evidence that Chinese companies follow the Muddling Through concept more than their German peers.

Global logistics industry. Overall, the results of the survey show that through their global expansion, companies have heightened expectations regarding logistics outsourcing. They increasingly require complex and specialized logistics solutions from their LSP who have to continuously improve their capabilities and facilities. Accordingly, the competition in the logistics industry has sharpened so that logistics service contracts become ever more sophisticated and place more pressure on providers to continually improve processes.

The results clearly show that, beside large operational networks with huge geographic coverage, customers also appreciate the LSP's local logistics expertise of each region and country. However, despite the existence of major global players in the logistics markets and huge M&A activities in recent years, a single provider with the level of knowledge and infrastructure required to truly operate globally without subcontracting and cooperation, can currently hardly be identified. In fact, only a few of the LSPs, because of their size and scope, can ensure that a project is properly implemented worldwide, and that their own people will be working directly with customers in all locations.

6 Conclusion

The survey provides clear evidence for the superior significance of logistics for the successful internationalisation of business activities.

The process model developed for this research has enabled the conceptual analysis of how companies set up shop in foreign markets and what role logistics plays herein. The results of the most successful Chinese and German companies show, that the intense integration of logistics issues and the early integration of logistics managers into the decision making process and the business design of foreign market entries are key success factors.

Though, a standard logistics blueprint for internationalisation which guarantees success cannot be identified. The different business models, strategies, and market peculiarities make it necessary for every company to find the logistics concept that matches best with its individual needs. On average, German companies tend to apply a more formalised approach with a higher degree of central strategic planning. Among Chinese companies a higher share of respondents follow a Muddling Through approach. But the consolidated data of the most successful respondents paints a different picture — here, the most successful Chinese companies show advanced logistics planning and in many cases analytical global footprint design.

Comparing German and Chinese companies' internationalisation strategies it has to be understood that they have completely different backgrounds and starting positions. Most German companies have grown their international logistics networks more organically over time, often driven by business opportunities derived from customers' requests from overseas. Step by step, and oftentimes without

a clear global strategy individual island solutions have emerged that are being optimized when necessary. Currently, these companies are more experienced in foreign market entries than their Chinese counterparts. On the other hand, only a limited number of Chinese companies are yet ready to begin their global expansion. Typically, these companies apply a Greenfield approach when entering foreign markets, which creates the opportunity to conduct in depth analysis of market developments and conditions and to apply a holistic global planning for global footprint design.

The level of logistics sophistication that is observed at the Chinese respondents' answers might be surprising to those who have already gained experiences with Chinese companies in China. But it has to be stressed, that the sample does not represent the average Chinese firm, which is mostly competing in the domestic market. Only those companies that already run international operations or are about to do so have found their way into this survey. Hence, they represent the avant-garde of Chinese firms. They are typically well endowed with capital, well-educated talent, skilled leadership, and oftentimes employ managers with overseas experience. Hence, these upcoming Chinese global players may not be underestimated. They are well positioned to cause major changes in the global market place.

Considering that the overall importance of logistics and supply chain management for corporate success has increased dramatically over the past decades, it is clear that it is even more important to incorporate these issues in internationalisation activities. Three key components have been identified that are mandatory to be integrated in any global logistics approach. Firstly, any global logistics network has to be designed with respect to

the fact that the conditions under which it will be operated will change at fast pace. And the business requirements it has to meet are subject to constant change. Hence, high levels of flexibility and agility have to be ensured.

Secondly, as international logistics networks are connecting increasingly diverse regions and markets, logisticians have to deal with high levels of complexity. Therefore global standardised processes have to be balanced with local adaptation.

The third aspect is the strategic collaboration with LSPs. Its benefits are widely recognised and it shows that the outsourcing levels as well as the range of activities outsourced increase in the context of internationalisation. This is observed at both Chinese and German companies.

The conditions for the establishment of international business activities and global logistics networks have probably never been better than today. Though, it is not an easy task. It remains challenging for managers from various fields, especially for logisticians. As the topic is so diverse and complex, it is not surprising that some of the respondents' statements might even appear somewhat contradictory. Internationalisation is not a standard procedure and the related issues are by no means completely clarified. In practice, a lot of issues have to be solved with gut feeling and pragmatism.

Being so rich in topics the fascinating field of international logistics management can by no means be sufficiently covered by this survey. A multitude of questions remain unanswered and provide the fruitful ground for future research in the years to come.

References – Research Report

- Baumgarten, H.; Darkow, I.-L.; Zadek, H. (ed.) (2004): Supply Chain Steuerung und Services: Logistik-Dienstleister managen globale Netzwerke – Best Practices; Published by Springer Verlag; Berlin et al. 2004.
- Baumgarten, H.; Herter, M. (1999): Internationalisierung der Logistik; in: Weber, J.; Baumgarten, H. (ed.): Handbuch Logistik 1999 – Management von Material- und Warenflußprozessen; Published by Schäffer Poeschel Verlag; Stuttgart 1999; pp. 828-41.
- Beatson, D. (2004): Becoming Truly Global: 3PLs face new Challenges; Source: <http://www.inbound-logistics.com/articles/3plline/3plline0104.shtml>; Access on March 11, 2007 at 11:37 p.m.
- Bowman, R.J. (2006): Globalization, Customer Demand Drive Logistics Outsourcing to the Next Level; in: Global Logistics and Supply Chain Strategies; Vol. 10; No. 6; June 2006; pp. 40-5.
- Busse, M. (2002): Transaktionskosten und Wettbewerbspolitik (Transaction Costs and Competition Policy); in: Wirtschaft und Wettbewerb, Vol. 52, Iss. 2, pp. 112-120.
- Butts, J. (2006): The Seven Abilities of Highly Effective 3PLs; Source: <http://www.inboundlogistics.com/articles/3plline/3plline0906.shtml>; Access on March 11, 2007 at 16:02 p.m.
- Capgemini; Langley, C.J.; SAP; DHL (ed.) (2006): 2006 Third-Party Logistics – Results and Findings of the 11th Annual Study; Georgia Institute of Technology; Atlanta 2006.
- DHL (ed.) (2005): Logistik-Lotse 2005. Leifaden für Logistik – eCommerce – KEP – Spedition – Land-, Luft- und Seeverkehr – Zoll – Außenwirtschaft; 13th, revised edition; Published by Verkehrs-Verlag J. Fischer; Dusseldorf 2005.
- Foster, T.A. (2005): Logistics Inside China: The Next Big Supply Chain Challenge; in: Global Logistics and Supply Chain Strategies; Vol. 9; No. 9; September 2005; pp. 28-36.
- Foster, T.A.; Armstrong, R. (2006): The Top 25 Global 3PLs: Is Bigger Really Better?; Source: http://www.glscs.com/archives/05.06.25_3pls.htm?adcode=90; Access on December 14, 2006 at 17:00 p.m.
- Germain, C.; Andrews, S.; Vera, H.; Dunsmore, S. (2006): Worth Repeating – Four Experts outline the Challenges of Global Trade Management; in: Canadian Transportation & Logistics; March 2006; p. 42.
- Gershenson, A. (2004): The Making of a Successful Global Supply Chain; in: World Trade; Vol. 17; No. 12; December 2004; pp. 19-22.
- Gourdin, K.N. (2006): Global Logistics Management: a Competitive Advantage for the 21st Century; 2nd edition; Published by Blackwell Publishing; Oxford 2006.

- Harps, L.H. (2003): Global Logistics: Bridging the Culture Divide; Source: http://www.inboundlogistics.com/articles/features/0303_feature01.shtml; Access on December 10, 2006 at 13:30 p.m.
- Hoffman, K.C. (2002): Global Growth of 3PLs Is in Response to Customer Demand; Source: <http://www.glscs.com/archives/03.02.outsource.htm?adcode=90>; Access on December 12, 2006 at 20:15 p.m.
- Hofstede, G. (2005): Cultures and Organizations: Software of the Mind; revised and expanded 2nd edition; Published by McGraw-Hill; New York 2005.
- Kerr, J. (2006): What's the Right Role for Global 3PLs?; in: Logistics Management; February 2006; pp. 51-4.
- Lee, H. L. (2004): The triple-A supply chain; in: Harvard Business Review, Vol. 82 No. 10; pp. 102-112.
- Loderhose, B. (2007): Frische Fernöstlich; in: Lebensmittel Zeitung; Vol. 20; May 18, 2007; pp. 32-33.
- Ma, S.; Lin, Y; Chen, Z. (2000): Supply Chain Management. China Machine Press, 2000.
- MacDonald, A. (2006): Managing a Global vs. Domestic Supply Chain; in: World Trade; Vol. 19; No. 7; July 2006; http://ctl.mit.edu/public/070606_WorldTrade_Sheffi_GlobalvDom.pdf; Access on November 30, 2006 at 21:34 p.m.
- Mentzer, J.T.; Myers, M.B.; Stank, T.P. (2006): Handbook of Global Supply Chain Management; Published by Sage Publications; London 2006.
- Mercer Management Consulting (ed.) (2005): Mythen der Kontraktlogistik: Mercer Studie untersucht Logistik-Geschäftsmodelle; Source: http://www.einkauf-und-management.at/index.php/einkauf/more/mythen_der_kontraktlogistik; Access on November 10, 2006 at 16:31 p.m.
- Nohlen, D. (ed.) (1998): Lexikon Dritte Welt – Länder, Organisationen, Theorien, Begriffe, Personen; completely revised new edition; Published by Rowohlt Taschenbuch Verlag; Reinbek 1998.
- Pfohl, H.-C. (2004): Logistiksysteme – Betriebswirtschaftliche Grundlagen; 7th, corrected and updated edition; Published by Springer Verlag; Berlin et al. 2004.
- Piszcalski, M. (2002): Global Logistics Issues; in AD&P; January 2002; pp. 16-8.
- Richardson, H.L. (2005): How to maximize the Potential of 3PLs; in: Logistics Today; May 2005; pp. 19-21.
- Simchi-Levi, D.; Kaminsky, P.; Simchi-Levi, E. (2003): Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies; Published by McGraw-Hill; 2nd edition; New York 2003.

References

Straube, F. (2004): e-Logistik – Ganzheitliches Logistikmanagement; Published by Springer Verlag; Berlin et al. 2004.

Straube, F.; Dangelmaier, W.; Günthner, W.A.; Pfohl, H.-C. (2005): Trends und Strategien in der Logistik – Ein Blick auf die Agenda des Logistik-Managements 2010; in: Bundesvereinigung Logistik e.V. (ed.); Published by Deutscher Verkehrs-Verlag; Hamburg 2005.

Transport Intelligence (ed.) (2006): Global Contract Logistics 2006: Outsourcing and Collaboration; Brinkworth, United Kingdom; May 2006.

Tufinkgi, P. (2006): Logistik im Kontext internationaler Katastrophenhilfe; in: Schriftenreihe Logistik der Kühne-Stiftung 9; Published by Haupt Verlag; Bern 2006.

Vijayaraghavan, T. A. S. (2001): Impact of Transportation Infrastructure on Logistics in India; Source: http://www.findarticles.com/p/articles/mi_qa3766/is_200101/ai_n8952924; Access on January 4, 2007 at 18:44 p.m.

Waters, D. (2007): Global Logistics: New Directions in Supply Chain Management, Published by Kogan Page; London 2007.

References – Excursions

- AAPA World Port Rankings 2005; Source: <http://aapa.files.cms-plus.com/Statistics/WORLD%20PORT%20RANKINGS%202005.xls>; Access on August 30, 2007 at 03:40 p.m.
- Auswärtiges Amt (2007): Indien: Wirtschaft; Source: <http://www.auswaertiges-amt.de/diplo/de/Laenderinformationen/Indien/Wirtschaft.html>; Access on June 7, 2007 at 02:45 p.m.
- Auswärtiges Amt (2007): Länderinformation: Russische Föderation; Source: <http://www.auswaertiges-amt.de/diplo/de/Laender/RussischeFoederation.html>; Access on May 2, 2007 at 1:00 p.m.
- Auswärtiges Amt (2007): Wirtschaftsdatenblatt Indien; Source: <http://www.auswaertiges-amt.de/diplo/de/Laenderinformationen/Indien/Wirtschaftsdatenblatt.html>; access on June 5, 2007 11:10 a.m.
- Biedermann, D.; Dibenedetto, B. (2007): Twist of Fate; in: *Journal of Commerce*; New York; Apr. 9, 2007; p. 1.
- Bundesagentur für Aussenwirtschaft (2006): Russlands Logistiksektor kann Nachfrage kaum decken; Source: <http://www.bfai.de>; Access on August 30, 2007 03:20 p.m.
- Bundesagentur für Aussenwirtschaft (2006): Transport und Logistik – Russland; Source: <http://www.bfai.de>; Access on May 03, 2007 02:20 p.m.
- Charles, A. (2007): *The China Business Handbook 2007*; 10th, completely revised and updated edition; Published by Alain Charles Publishing; London 2007.
- Chiarello, A. A. (2005): Maersk Logistics USA Inc.; in: *Journal of Commerce*; New York; Jan 12, 2004; p. 1.
- Cygnus Business Consulting and Research (2006): Background note – Logistics; Source: <http://www.cygnusindia.com/articles/White%20paper%20on%20CII%20conf%20on%20Logistics%20-Kolkata%2080906.pdf>; Access on 30 August, 2007 at 05:05 p.m.
- Davies, Tim (2002): Argentina: Crisis? What Crisis?; in: *Credit Management*; Oct 2002; pp. 35-36.
- de Schmidt, A. (2007): Provider am Ganges; in: *Logistik Heute 05/2007*; pp. 54-55.
- de Schmidt, A. (2007): Take off am Taj Mahal; in: *Logistik Heute 05/2007*; pp. 48-49.
- de Schmidt, A. (2007): Zäher Prozess; in: *Logistik Heute 05/2007*; pp. 56-57.
- Dibenedetto, Bill (2007): Growing Pains; *Journal of Commerce*; New York: May7, 2007; p. 1.
- Energy Information Administration (2007): Country Analysis Briefs: Russia; Source: <http://www.eia.doe.gov/emeu/cabs/Russia/Background.html>; Access on May 03, 2007 at 10:00 a.m.

References

- Federation of Indian Chambers of Commerce and Industry (2007): Current State of Indian Economy; Source: <http://www.indiabusiness.nic.in/indian-economy.pdf>; Access on August 30, 2007 at 05:00 p.m.
- Franz, M.; Hassler, M. (2007): Eine Milliarde Kunden; in: *Logistik Heute* 05/2007; pp. 58-60.
- Gakenheimer, R. (1997): The urban transport crisis in Europe and North America; in: *Journal of American Planning Association*; Vol. 63; Iss. 4; pp. 530-531.
- Gallagher, J. (2007): Racing for NAFTA freights; in: *Traffic World*, Newark; Mar 12, 2007; p. 1.
- Göpfert, I. (ed.) (2006): *Logistik der Zukunft – Logistics for the Future*; 4th, updated and revised edition; Published by Gabler Verlag; Wiesbaden 2006.
- Hausman, W.H.; Lee, H.L.; Subramanian, U. (2005): *Global Logistics Indicators, Supply Chain Metrics, and Bilateral Trade Patterns*; Source: http://rru.worldbank.org/Documents/Discussions/global_logistics_indicators.pdf; Access on November 22, 2006 at 18:12 p.m.
- Hemerling, J.; Michael, D. C.; Michaelis, H. (2006): *China's Global Challengers: The Strategic Implications of Chinese Outbound M&A*; Published by Boston Consulting Group; May 2006; Source: http://www.bcg.com/publications/files/Chinas_Global_Challengers_May06.pdf; Access on 03 September at 04:45 p.m.
- Invest in Germany (2005): *Germany: Europe's Logistics Hub – Strengths and Opportunities*; Source: <http://www.kompetenzcluster.org/fileadmin/vdidaten/Logistik/Fakten/Germany-Logistics-Hub.pdf>; Access on August 30, 2007 at 03:35 p.m.
- Jahns, C.; Darkow, I.-L.; Weigl, T. (2006): *Dynamic Supply Chains in Russia: Industries, Strategies, and Logistics Structures*; Published by Bundesvereinigung Logistik e.V. (German Logistics Association); Deutscher Verkehrs-Verlag, Hamburg 2006.
- JSC Russian Railways Company Profile (2007); Source: http://www.eng.rzd.ru/page.html?nav_id=145; Access on August 30, 2007 03:30 p.m.
- Klaus, P.; Kille, C. (2006): *Die TOP 100 der Logistik*; 4th edition; Published by Bundesvereinigung Logistik e.V. (German Logistics Association), *Deutsche Verkehrs-Zeitung*; Deutscher Verkehrs-Verlag, Hamburg 2006.
- Lopez-Carlos, A. et al. (2006): *The Global Competitiveness Index: Identifying the Key Elements of Sustainable Growth*; Source: http://www.weforum.org/fweblive/groups/public/documents/wef_member_pdf/gcr_0607_1_1_gcindexes.pdf; Access on August 30, 2007 at 1:00 p.m.
- Morton, R. (2006) NAFTA: Twelve years after; in: *Logistics Today*; Vol. 47, Iss. 2; p. 10.

Open Joint Stock Company Russian Railways (2006): Annual Report 2005; Moscow (2006), Source: http://www.eng.rzd.ru/images/download_im.html?id=3810; Access on August 30, 2007 at 03:45 p.m.

Schulz, J.D. (2006): DHL crashes the party; in: *Logistics Management*; Vol. 44; Iss. 8; pp. 59-62.

Sissel, K. (1995): Foreign investment picks up; in: *Chemical Week*. New York; Nov 15, 1995; pp. 30-31.

Smith, James L. (2005): Calculating investment potential in South America; in: *World Oil*; June 2005; Vol. 216; Iss. 6; pp. 117-221.

Staudenmayer, M. (2007): Hohe Qualität in kleiner Stückzahl; in: *Logistik Heute* 05/2007; pp. 50-51.

Taylor, J.C., Robideaux, D.R., Jackson, G.C. (2004): U.S.-Canada Transportation and Logistics: Border Impacts and Costs, Causes, and Possible Solutions; in: *Transportation Journal*; Lock Haven; Fall 2004; Vol. 43, Iss. 4; pp. 5-16.

Verstaen, J.; de Schmidt, A. (2007): Achillesferse mit Schlaglöchern; in: *Logistik Heute* 05/2007; pp. 52-53.

Waters, D. (2007): *Supply Chain Risk Management: Vulnerability and Resilience in Logistics*, Published by Kogan Page; London 2007.

World Bank (2005): *From Transition To Development: A Country Economic Memorandum for the Russian Federation*; Published by ABSOLUT Print, Moscow 2005; Source: http://ns.worldbank.org.ru/files/cem/CEM_final_eng.pdf; Access on August 30, 2007 03:00 p.m.

World Bank (2006): *Decentralization in India*; Source: <http://go.worldbank.org/YQWVRQ7NO0>; Access on May 05, 2007 03:20 p.m.

World Bank (2006): *Governance in India*; Source: <http://go.worldbank.org/JZ4EGDJQ30>; Access on May 03, 2007 03:20 p.m.

World Bank (2007): *Growth in India*; Source: <http://go.worldbank.org/1DLEBZ7C50>; Access on May 04, 2007 02:40 p.m.

World Bank (2007): *India at a glance*; Source: http://devdata.worldbank.org/AAG/ind_aag.pdf; Access on 30 August, 2007 at 05:00 p.m.

World Bank (2007): *India Foreign Trade Policy*; Source: <http://go.worldbank.org/RJEB2JGTC0>; Access on August 30, 2007 at 04:30 p.m.

World Bank (2007): *India Transport Sector*; Source: <http://go.worldbank.org/FUE8JM6E40>; Access on August 30, 2007 at 04:30 p.m.

References

World Trade Organization (2007): Accessions: Russian Federation; Source: http://www.wto.org/english/thewto_e/acc_e/a1_russie_e.htm; Access on August 30, 2007 03:00 p.m.

WTO (2006): WTO International Trade Statistics, Source: http://www.wto.org/english/res_e/statis_e/its2006_e/its06_toc_e.htm; Access on August 30, 2007 at 03:55 p.m.