

PhD Thesis on the Topic

Management of Logistics Service Providers

- A Situational Approach -

submitted in September 2007 by

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**Management of Logistics Service Providers
- A Situational Approach -**

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Content Overview

Foreword by Mervyn Rowlinson	I
Foreword by Horst Wildemann.....	II
Preamble and Acknowledgements.....	IV
Content Overview.....	VI
Table of Content.....	VII
About the Author	XIII
Abstract.....	XIV
List of Figures.....	XV
Glossary.....	XVIII
1 Introduction.....	1
2 Research Methodology	35
3 Conceptual Framework.....	53
4 System Model of the Situational LSP Management Approach	113
5 Design Fields of the Management of LSPs.....	154
6 Empirical Analysis of the Management of LSPs.....	232
7 Derivation of Design Recommendations for the Management of LSPs.....	305
8 Conclusion and Future Research.....	322
9 References and Bibliography	329
Declaration.....	381
Curriculum Vitae	382

Table of Content

Foreword by Mervyn Rowlinson	I
Foreword by Horst Wildemann.....	II
Preamble and Acknowledgements.....	IV
Content Overview.....	VI
Table of Content.....	VII
About the Author	XIII
Abstract.....	XIV
List of Figures.....	XV
Glossary.....	XVIII
1 Introduction.....	1
1.1 Initial Situation and Problem Formulation	4
1.2 Hypothesis and Research Questions	8
1.3 Research Aims	12
1.4 Literature Review.....	15
1.4.1 Logistics Outsourcing	16
1.4.2 Situational Buyer-Supplier Relationships	20
1.4.3 Life Cycle Management of Logistics Cooperations	26
1.4.4 Summary	28
1.5 Procedure and Method of Resolution	31
2 Research Methodology	35
2.1 Holistic View on the Management of LSPs.....	35
2.2 Research Approach on the Basis of Case Studies.....	37
2.3 Research Approach on the Basis of a Taxonomy and Explanation Buildings	44
2.4 Summary of the Research Methodology – Iterative Triangulation	50
3 Conceptual Framework.....	53
3.1 Management of LSPs as Object of Investigation	54
3.2 Logistics as an Object of Investigation	56
3.2.1 Logistics	56

3.2.2	Logistics Outsourcing	61
3.2.3	Logistics Services.....	64
3.3	Theoretical Approaches to the Design of the Management of LSPs	67
3.3.1	Traditional Approaches	68
3.3.1.1	Cost-Calculating Approaches	69
3.3.1.2	Learning Curve Concept	70
3.3.1.3	Assessment of the Traditional Approaches.....	71
3.3.2	Strategic Approaches.....	74
3.3.2.1	The Core Competency Approach.....	74
3.3.2.2	The Market-Based View	76
3.3.2.3	The Resource-Based View	79
3.3.2.4	Assessment of the Strategic Approaches	83
3.3.3	Modern Approaches	85
3.3.3.1	Network Approach.....	86
3.3.3.2	Principal Agent Theory	86
3.3.3.3	Transaction Cost Theory.....	90
3.3.3.4	Total Cost of Ownership.....	95
3.3.3.5	Assessment of the Modern Approaches.....	97
3.3.4	Choice and Reasoning of the Suitable Theoretical Approach.....	97
3.4	Basic Forms of Cooperation	101
3.4.1	Market or Hierarchy as Alternative Economic Institutions.....	103
3.4.2	Basic Forms of Logistics Cooperations	104
3.5	Guidelines for the Management Approach of LSPs	107
3.5.1	Holistic View of the Management Approach.....	108
3.5.2	Process Orientation	109
3.5.3	Differentiation of the Relation between Shipper and LSP	110
3.6	Summary of the Conceptual Framework	110
4	System Model of the Situational LSP Management Approach	113
4.1	Description of the System Model.....	113
4.1.1	Reasoning of the System Model Approach.....	114
4.1.2	System Model on Portfolio Basis.....	115
4.2	Influencing Factors on the Design of the Management Approach.....	117
4.2.1	Logistical Demand Structure.....	118
4.2.1.1	Specificity of Logistics Services	119

4.2.1.2	Complexity, Insecurity and Measurability of Logistics Services	121
4.2.1.3	Extent of Potential Damage by Logistics Services	125
4.2.1.4	The Logistical Demand Portfolio.....	126
4.2.2	Logistical Supply Structure.....	130
4.2.2.1	Market Power of the LSP.....	131
4.2.2.2	The Competencies and the Development Potential of the LSP.....	133
4.2.2.3	The Logistical Supply Portfolio	136
4.3	Creation of a Taxonomy of Logistical Situations	140
4.3.1	Logistical Situation ‘Basic’	144
4.3.2	Logistical Situation ‘High Risk’	146
4.3.3	Logistical Situation ‘Competition’	147
4.3.4	Logistical Situation ‘Partnership’	149
4.3.5	Summary	151
4.4	Summary of the System Model of the Management Approach of LSPs	151
5	Design Fields of the Management of LSPs.....	154
5.1	Information- and Decision Phase	157
5.1.1	Preparation of the Management Decision	157
5.1.1.1	Internal Analysis	158
5.1.1.2	External Analysis	163
5.1.1.3	Assessment and Definition of the Vertical Range of Logistics Strategy.....	168
5.1.1.4	Summary	172
5.1.2	Choice of Suitable LSPs.....	172
5.1.2.1	Direct Awards	175
5.1.2.2	Online Auction.....	176
5.1.2.3	Tendering	177
5.1.2.4	Concept Competitions.....	178
5.1.2.5	Summary	181
5.1.3	Organisational Structures between Shipper and LSP.....	182
5.1.3.1	Selective Interaction/ Interface Model	183
5.1.3.2	Team Models	183
5.1.3.3	Summary	186
5.1.4	Risk Management.....	186

5.1.4.1	Dependency Risks and Risks of Expertise Loss	187
5.1.4.2	Risks of Cost Increases	189
5.1.4.3	Performance Risks and Hazardous Risks.....	190
5.1.4.4	Summary	191
5.2	Agreement Phase.....	191
5.2.1	Contractual Framework of Logistics Cooperations.....	192
5.2.1.1	Design Elements in Logistics Cooperation Contracts.....	192
5.2.1.2	Characteristics of Logistics Cooperation Contracts	199
5.2.1.3	Summary	203
5.2.2	Incentive Systems.....	204
5.2.2.1	Passive Approaches.....	205
5.2.2.2	Organisational Approaches	206
5.2.2.3	Active Approaches	207
5.2.2.4	Summary	207
5.3	Processing- and Controlling Phase	208
5.3.1	Information- and Communication Structure	208
5.3.1.1	Information Technology.....	208
5.3.1.2	Summary	215
5.3.2	Controlling	216
5.3.2.1	Controlling of Quality.....	218
5.3.2.2	Controlling of Costs.....	220
5.3.2.3	Controlling of Time	221
5.3.2.4	Auditing	221
5.3.2.5	Benchmarking	222
5.3.2.6	Summary	224
5.4	Adjustment Phase.....	225
5.4.1	Triggers of the Adjustment Process	225
5.4.2	Summary	226
5.5	Summary of the Design Fields along the Cooperation Life Cycle.....	227
6	Empirical Analysis of the Management of LSPs.....	232
6.1	Characteristics of the Empirical Analysis.....	233
6.2	Analysis of the Influencing Factors	240
6.2.1	Analysis of the Logistical Demand Structure.....	241
6.2.2	Analysis of the Logistical Supply Structure.....	244

6.2.3	Assortment of the Case Studies to the Taxonomies of Logistical Situations.....	248
6.3	Empirical Analysis of the Characteristics of the Design Fields in the Specific Life Cycle Phases.....	250
6.3.1	Case Study One: Telecommunication Service Provider – ‘Basic’ Logistical Situation	253
6.3.2	Case Study Two: Automotive OEM Light Trucks – ‘Basic’ Logistical Situation	258
6.3.3	Case Study Three: Automotive OEM Light Trucks – ‘Basic’ Logistical Situation	261
6.3.4	Case Study Four: Financial Services Provider – ‘High Risk’ Logistical Situation	267
6.3.5	Case Study Five: Automotive OEM – ‘Competition’ Logistical Situation	271
6.3.6	Case Study Six: Telecommunication Provider – ‘Competition’ Logistical Situation	274
6.3.7	Case Study Seven: Automotive OEM Light Trucks – ‘Partnership’ Logistical Situation.....	283
6.3.8	Case Study Eight: Automotive Supplier – ‘Partnership’ Logistical Situation	288
6.3.9	Case Study Nine: Automotive Supplier – ‘Partnership’ Logistical Situation	294
6.4	Impact Analysis of the Situational Management Approach.....	298
6.5	Summary of the Empirical Analysis	303
7	Derivation of Design Recommendations for the Management of LSPs	305
7.1	Design Recommendations Independent of Logistical Situation	305
7.2	Design Recommendations for ‘Basic’ Logistical Situations	307
7.3	Design Recommendations for ‘High Risk’ Logistical Situations.....	309
7.4	Design Recommendations for ‘Competition’ Logistical Situations	312
7.5	Design Recommendations for ‘Partnership’ Logistical Situations	314
7.6	Summary of the Design Recommendations.....	317
8	Conclusion and Future Research.....	322
8.1	Answers to the Research Questions and Validation of the Research Hypothesis.....	324
8.2	Summary and Recommendations for Future Research.....	326
9	References and Bibliography	329

Declaration.....	381
Curriculum Vitae	382

List of Figures

Figure 1-1: Logistics Trends	6
Figure 1-2: Sorting of the Approaches in Literature to the Secondary Research Questions.....	29
Figure 1-3: Structure of the Dissertation.....	32
Figure 2-1: Hierarchical Levels in Management of LSPs	36
Figure 2-2: Relevant Situations for Different Research Strategies	40
Figure 2-3: A Representative Range of Methodologies and their Meanings	41
Figure 2-4: Methodological Process – Iterative Triangulation.....	51
Figure 3-1: Evolution of Logistics in Evolutionary Phases	60
Figure 3-2: Transaction Costs in Cooperation Life Cycle Phases.....	93
Figure 3-3: Cooperational Forms sorted by Mutual Dependency between Involved Parties (Shipper and LSP)	102
Figure 3-4 Cooperational Forms sorted by Formalisation/ Commitment	106
Figure 3-5 Relevant theoretical Approaches per Transaction Phase.....	112
Figure 4-1: Influencing Factors on the Occurrence Probability	119
Figure 4-2: Checklist for the Assessment of the Occurrence Probability	127
Figure 4-3: The Logistical Demand Portfolio	128
Figure 4-4: Influencing Factors on the Market Power of the LSP	133
Figure 4-5: Influencing Factors on the LSP Development Potential	134
Figure 4-6: Checklist for the Assessment of the Market Power of the LSP	137
Figure 4-7: Checklist for the Assessment of the LSP Development Potential.....	138
Figure 4-8: Logistical Supply Portfolio.....	139
Figure 4-9: Combination of the Logistical Demand and the Logistical Supply Portfolio	143
Figure 4-10: Logistical Situation ‘Basic’	145
Figure 4-11: Logistical Situation ‘High Risk’	147
Figure 4-12: Logistical Situation ‘Competition’	148
Figure 4-13: Logistical Situation ‘Partnership’	150
Figure 5-1: Relevant Design Fields of the Management of LSPs in the respective Cooperational Phases	156
Figure 5-2: Supply Chain Management Information Technology Systems	210

Figure 5-3: Effective Direction of the Design Fields	229
Figure 5-4: Morphological Box of Design Fields along Cooperation Life Cycle.....	231
Figure 6-1: Assessment Procedure of the Empirical Analysis	236
Figure 6-2: Attributes of the Case Studies	238
Figure 6-3: Characteristics of the Case Studies: Occurrence Probability of Logistical Problems.....	242
Figure 6-4: Logistical Demand Portfolio of the Case Studies.....	244
Figure 6-5: Characteristics of the Case Studies: Market Power of the LSPs	246
Figure 6-6: Characteristics of the Case Studies: Development Potential of the LSPs	247
Figure 6-7: Logistical Supply Portfolio of the Case Studies.....	248
Figure 6-8: Assortment of the Case Studies to the Taxonomy	249
Figure 6-9: Relevant Design Fields of LSP Management throughout the Cooperation life cycle	250
Figure 6-10: Morphological Box of the Design Fields to be assessed.....	252
Figure 6-11: Phases in which the Empirical Data of Case Study One was raised	253
Figure 6-12: Structure of the Supply Chain and Positioning of the LSP in Case Study One.....	254
Figure 6-13: Characteristics of the Design Fields in Case Study One	257
Figure 6-14: Phases in which the Empirical Data of Case Study Two was raised.....	258
Figure 6-15: Kanban Dimensioning Tool	260
Figure 6-16: Structure of the Kanban-based LSP Management.....	260
Figure 6-17: Characteristics of the Design Fields in Case Study Two.....	261
Figure 6-18: Phases in which the Empirical Data of Case Study Three was raised.....	262
Figure 6-19: Advantages of Cross-Docking.....	264
Figure 6-20: Milkrun Transport Principles	264
Figure 6-21: IT-based Pick-up Sheets for the Management of Milkruns.....	265
Figure 6-22: Characteristics of the Design Fields in Case Study Three.....	266
Figure 6-23: Phases in which the Empirical Data of Case Study Four was raised	267
Figure 6-24: Procedure for the Pre-selection of the suitable LSP	268
Figure 6-25: Criteria List for the final Choice of the suitable LSP.....	268
Figure 6-26: Characteristics of the Design Fields in Case Study Four	270
Figure 6-27: Phases in which the empirical Data of Case Study Five was raised.....	271

Figure 6-28: Procedure for the Derivation of the Logistics Balance Sheet.....	272
Figure 6-29: Logistics Balance Sheet.....	272
Figure 6-30: Characteristics of the Design Fields in Case Study Five.....	273
Figure 6-31: Phases in which the Empirical Data of Case Study Six was raised.....	274
Figure 6-32: Structure of the Supply Chain and Positioning of the LSP in Case Study Six	275
Figure 6-33: Supply Chain Cockpit	278
Figure 6-34: Controlling Factors with LSP.....	279
Figure 6-35: Characteristics of the Design Fields in Case Study Six	281
Figure 6-36: Optimised Management Structure of the Supply Chain.....	282
Figure 6-37: Phases in which the Empirical Date of Case Study Seven was raised	284
Figure 6-38: Characteristics of the Design Fields in Case Study Seven	287
Figure 6-39: Phases in which the Empirical Data of Case Study Eight was raised	289
Figure 6-40: Phase-Plan for the Transfer of Responsibilities to the Provider Company	290
Figure 6-41: Logistics BOT Concept.....	290
Figure 6-42: Business and Legal Interfaces between LSP, Automotive OEM and Provider Company	291
Figure 6-43: Legal Structure of the Logistics BOT.....	291
Figure 6-44: Characteristics of the Design Fields in Case Study Eight	293
Figure 6-45: Phases in which the Empirical Data of Case Study Nine was raised	295
Figure 6-46: Elements to be outsourced.....	295
Figure 6-47: Characteristics of the Design Fields in Case Study Nine	297
Figure 6-48: Overview on the Impact Analysis Results.....	302
Figure 7-1: Overview on the Design Recommendations for ‘Basic’ Logistical Situations.....	309
Figure 7-2: Overview on the Design Recommendations for ‘High Risk’ Logistical Situations.....	311
Figure 7-3: Overview on the Design Recommendations for ‘Competition’ Logistical Situations.....	314
Figure 7-4: Overview on the Design Recommendations for ‘Partnership’ Logistical Situations.....	317

Glossary

3PL	Third-Party Logistics Provider
4PL	Fourth-Party Logistics Provider
APS	Advanced Planning and Scheduling
BGB	Bürgerliches Gesetzbuch – German Civil Code
BOT	Build-Operate-Transfer – Legal Production Organisation Form
BSC	Balanced Scorecard
CIP	Continuous Improvement Process
CLM	Council of Logistics Management
CRM	Customer Relationship Management
DSS	Decision Support Systems
Ed.	Editor
ERP	Enterprise Resource Planning
et al.	et alii (and others)
EUR	Euro
Fig.	Figure
GPS	Global Positioning System
ISM	Institute for Supply Management
ISO	International Organisation for Standardisation
IT	Information Technology
JIT	Just-in-Time
KPI	Key Performance Indicator

LLP	Lead Logistics Provider
M&A	Mergers & Acquisitions
NDA	Non-Disclosure Agreement
No.	Number - Issue
OEM	Original Equipment Manufacturer
PIMS	Profit Impact of Marketing Strategy
p.	Page
pp.	Pages
PoS	Point of Sales
Prof.	Professor
QA	Quality Assurance
QFD	Quality Function Deployment
R&D	Research and Development
RFID	Radio Frequency Identification
RFP	Request for Proposal
ROI	Return on Investment
SCEM	Supply Chain Event Management
SCM	Supply Chain Management
SME	Small and Medium Sized Enterprise
SRM	Supplier Relationship Management
TCA	Transaction Cost Analysis
TCO	Total Cost of Ownership
TQM	Total Quality Management
Vol.	Volume

VPN	Virtual Private Network
vs.	versus
XML	Extensible Mark-up Language

1 Introduction

The economic context of industry and trade is characterised by an increasing stress of competition. Rising customer expectations are manifested in the demand for increasing product quality, service levels, and price sensitivity. In addition, product life cycles get shorter and product individualisation is on the increase. This situation is intensified by a rising volatility of markets. An intensifying inter-organisational division of labour relieves the resulting pressure on cost and performance. This leads to a concentration on core competencies by the companies¹ involved in the value-added chain and to a reduction in the respective vertical range of manufacture (Wildemann, 2005a: p. 1).

Such development is also increasingly valid for the required logistics services. The relevance of logistics has been acknowledged since the 1980s. Academic literature agrees that logistics does not only influence the cost situation of organisations but also their competitive positioning. The question arises as to which the vertical range of logistics² is the optimum and in which constellation logistics services should be performed. Main players on the logistics market are the outsourcing company³ and logistics service providers with various offers of logistical solutions. In recent years, a comprehensive market for external logistics services has evolved (Städtler-Schumann, Britsch, 1999) that further adds to the complexity. The question which logistics services should be outsourced is com-

¹ In the context of this work the terms ‘company’, ‘organisation’ and ‘enterprise’ are used synonymously.

² ‘Vertical range of manufacture’ defines the share of the value added that an organisation produces in-house. In literature there is no term defining the vertical range of manufacture in relation to the overall logistical performance. Therefore, for the purpose of this research the term vertical range of logistics is created. The vertical range of logistics is defined as the overall share of logistics services performed in-house in relation to the logistics services performed externally by logistics service providers.

³ In the context of this work the terms ‘outsourcing company’, ‘shipper’, ‘outsourcer’, ‘focal company’ and ‘buyer of logistics services’ are used synonymously.

plemented by the question of who should produce the required logistics service and how this logistics service provider⁴ should be managed.

In addition to the logistics market, the role and the contents of logistics have changed. Innovative concepts and new design approaches are developed to enable logistics to react efficiently, flexibly and to handle complex situations. Furthermore, strategic issues have increased in importance in recent years. Logistics has reached a firm position in the strategic configuration of the company. Since the foundation of logistics as a scientific discipline and since the acknowledgement of logistics as an independent and important working field in practise, the business context has changed. The general trend towards an intensifying and global cooperation provokes an adjustment of logistical processes and an uplift of specific problems. In this context, logistics is a strategic management instrument in companies and networks. Logistics influences company strategies, the intention of which is to gain sustainable competitive advantages and to secure the long-term survivability of a company in the market. To reach these goals, logistics links companies, suppliers and customers. In doing so, logistics is responsible for the holistic⁵ planning, steering, and implementation as well as the control of all company-internal and -external flows of goods and information. In parallel, logistics is very seldom seen as a core competency of companies.

The above trends result in logistics structures that are based on expanding inter-organisational service interdependencies. As a basic rule, these intensified inter-organisational relations reduce the room for manoeuvre concerning the unrestricted flow of goods for the outsourcing companies. Therefore, it can be stated

⁴ In the following, the term 'logistics service provider' will be abbreviated by 'LSP'.

⁵ 'Holistic' is a Greek term meaning 'all', 'entire' or 'total'. Holism is the idea that all the properties of a given system cannot be determined or explained by the sum of its component parts alone but that all of the individual parts have to be analysed as well. In the context of this work 'holistic' relates to the far-reaching definition of logistics used (see also chapter 3.2.1 and chapter 3.5.1).

that company-spanning value-added chains, due to their high interdependencies of the involved companies and their complex planning, design, (risk-) management and controlling⁶, pose high demands on the management approach of the participating companies. Furthermore, it can be noted that the inevitable coordination intensity leads to a significant rise in the company-spanning coordination costs. This results in a necessity for improved planning, design, management, and control of the inter-organisational value-adding activities and the involved market players. In the present study focus lies on the inter-organisational cooperation⁷ of the outsourcer in several industries with diverse types of LSPs (carriers⁸/ freight forwarders⁹/ third-party logistics providers (3PL¹⁰)/ fourth-party logistics providers (4PL¹¹)). In addition, focus lies on the implications of varying logistical situa-

⁶ In section 5.3.2 the use of the term ‘controlling’ in the present study is defined.

⁷ The management of logistics service providers always bases on some type of cooperation form. In this context, the term cooperation comprises each business connexion between an outsourcer and a logistics service provider, be it a one-time order or a long-term relationship. Hence, the terms ‘logistics cooperation’ and ‘management of logistics service providers’ is used synonymously in this work.

⁸ ‘Carriers’ are logistics service providers that offer single logistics services for a large anonymous market. These single services can be basic logistics services or system components of a logistical concept. They own the physical transport means and offer their transport capacities, whereby their aim is a high utilisation of their assets (Weber *et al.*, 2002: p. 29).

⁹ ‘Freight forwarders’ offer linked logistics services for which they arrange, own and/ or external resources. Freight forwarders take over the organisation of national, European-wide or global transport, including additional classical logistics services such as storing or handling. The main difference with carriers is the service portfolio that integrates several single services to a more integrated solution.

¹⁰ A ‘third-party logistics provider’ (3PL) is a firm that provides outsourced or ‘third-party’ logistics services to companies for part or sometimes all of their supply chain management function. Third-party logistics providers typically specialise in services that can be scaled and customised to customer’s needs based on market conditions and the demands and delivery service requirements for their products and materials.

¹¹ A ‘fourth-party logistics provider’ (4PL) is a term coined by consulting firm Accenture: “A 4PL is an integrator that assembles the resources, capabilities, and technology of its own organisation and other organisations to design, build and run comprehensive supply chain