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SUMMARY OF DOCTORAL THESIS
**PERFORMANCE IN SUPPLY CHAIN
MANAGEMENT**

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THE CONTENT OF THE SUMMARY

THE CONTENT OF THE SUMMARY	1
THE CONTENT OF THE THESIS	2
Keywords.....	6
Introduction	6
RESEARCH METHODOLOGY AND DATA ANALYSIS	9
CONCLUSIONS AND RESEARCH PERSPECTIVES	12
1. The main contributions of the study	12
2. Contributions on supply chain management performance	15
3. Methodological and practical limitations, and new research directions.....	17
REFERENCES	18

THE CONTENT OF THE THESIS

Graphs list

Abbreviation list

Introduction

Chapter 1: Research introduction

1.1. Introduction

1.2. Importance of research

1.2. Thesis structure

Chapter 2: Supply chain. Conceptual approach

2.1. Supply chain: definition and structure

2.2. Supply chain design

2.3. Supply chain's components

2.4. „Push” supply chain versus „pull” supply chain

Chapter 3: Performance in supply chain

3.1. Performance- concept

3.1.1. Organizational performance

3.1.2. Supply chain performance

3.2. Key performance indicators- concept

3.3. Performance measurement systems

3.3.1. Balanced Scorecard perspective

3.3.2. Components of performance measurement systems

3.3.3. Positioning in the various phases of supply chain performance measurement systems

3.3.4. Levels of decision in a supply chain management system

3.3.5. Financial/ non-financial performance instruments

3.3.6. Fundamentals of supply chain performance measurement

3.3.7. Traditional versus emergent performance measurement systems

3.4. Types of approaches in the literature

3.4.1. Conceptual articles

3.4.2. Benchmarking articles

3.4.3. Case study articles

3.4.5. Modelling articles

3.4.6. SCOR articles

3.5. The results of the literature analysis

Conclusions

Chapter 4. The role of supply chain management in gaining a competitive edge

4.1. The importance of supply chain management

4.2. Supply chain management defined

4.3. The relationship between logistics and supply chain management

4.3.1. Logistics: concept

4.3.2. Logistic activities

4.3.3. Role of logistics within a firm

4.3.4. Logistics and supply chain management

4.4. Key aspects of supply chain management

4.5. The integration of key business processes within a supply chain

4.6. Key strategies of supply chain management

4.7. The value of information

4.8. Successful supply chain management

Conclusions

Chapter 5. Models of supply chain management performance measurement

5.1. Emerging performance measurement systems

5.2. Performance pyramid (SMART)

5.3. Performance measurement questionnaire

5.4. Matrix determinants and outcomes

5.5. Balanced Scorecard

5.6. Comparative Business Scorecard

5.7. Cambridge performance measurement process

5.8. Consistent performance measurement systems

5.9. Integrated performance measurement system (IPMS)

5.10. Dynamic performance measurement systems

5.11. Integrated performance measurement framework

5.12. SCOR model

5.13. Collaborative planning, forecasting and replenishment (CPFR)

Conclusions

Chapter 6. Empirical study on the assessment and analysis of supply chain management performance

6.1. Research Methodology

6.1.1. Target population

6.1.2. The instrument used

6.2. Analysis and interpretation of results

6.2.1. Descriptive analysis of data

6.2.2. Proposals for developing an model on performance evaluation and analysis in a supply chain - case study on the retail market and FMCG

Conclusions

Chapter 7. Final conclusions and personal contributions

7.1. The main contributions of the study

7.2. Contributions on supply chain management performance

7.3. Methodological and practical limitations

7.4. New research directions

References

Annexes

KEYWORDS

Supply chain management, supply chain, performance, performance in supply chain management, supply chain performance, supply chain management performance measurement systems.

INTRODUCTION

Supply chain management is an effective and efficient means by which firms seek to secure a competitive advantage through reduced costs and high customer service.

In today's world of business, competitive strength stems from the creation of a company or identifying an appropriate management system, effectively and efficiently, to ensure high performance.

Worldwide, companies are seeking to adopt supply chain management to achieve high performance. The question raised was: What is the situation in Romania, on the design and implementation of supply chain management in order to secure competitive advantage? and if firms adopt supply chain management, how it should be performing?

Although international research on supply chain management is in full swing, in Romania this area of research is only beginning. We believe that this thesis is nothing but a first step in strengthening the benchmarks for achievement of an efficient supply chain management by companies in Romania. We also consider that we have developed a model in which both practitioners and specialists can use to identify the factors that influence supply chain performance management, and we provide solutions that can be implemented to improve it

We hope this study will prove valuable material in understanding the concepts supply chain management operates with, and also the understanding of supply chain management performance measurement models.

Consequently, the main objective of this thesis is to create an evaluation and analysis model of supply chain management performance, focusing on industrial and commercial market.. The performance evaluation and analysis we intend to pursue at two levels: individual member of a supply chain and at a supply chain, viewed globally.

To achieve the overall objective, we sought more specific objectives:

1. We addressed the issue of supply chain performance from a theoretical perspective, to clarify the concepts of supply chain, supply chain management, performance, organizational performance and supply chain performance, key performance indicators, etc..
2. From a practical perspective we plan to identify ways of assessing and analyzing the supply chain performance in the companies with dominant position within the supply chain in the Romanian economy, focusing on industrial and commercial market.
3. We sought to identify real solutions to improve performance assessment and logistic systems in the supply chain. For this purpose we used the experience of successful companies (case studies).

To achieve the objectives of this work we went through several steps:

- First we studied the terminology related to concepts of supply chain and supply chain management. Thus in Chapters 2 and 4 have addressed these concepts, giving us of the fact that in Romania the terminology is still not clear;
- Later, we tried to see how performance is addressed supply chain worldwide, in Chapter 3 focusing on the concepts of performance, organizational performance, key performance indicators and discussing various items related to existing performance measurement systems in the literature and the types of research conducted to date to realize what research is the appropriate way;
- In chapter 5, we analyzed against traditional performance measurement systems with the emerging supply chain management performance measurement, and we detailed the most important ones.
- To build the model on performance evaluation and analysis in a supply chain, we found that the best approach is the study of literature in detail (Chapters 2-5), and qualitative research on several companies dominant in the supply chain their sites (Chapter 6), while for the analysis performed on companies' supply chain management, only qualitative research was considered as most appropriate.
- The last chapter highlights the main contributions that make this work, namely the performance evaluation model, to clarify terminology in the field of supply chain management and we have proposals for both industry researchers and practitioners in supply chain management .

The thesis is divided into six chapters followed by conclusions and future research. The six chapters of the thesis can be grouped into two main parts. The first part contains the first five chapters focus on theoretical foundations of the concepts related to supply chain, supply chain performance, supply chain management, supply chain management that role in ensuring the competitiveness and supply chain management performance measurement models. The second part includes Chapter 6, which is empirical research and aimed at developing a model on performance evaluation and analysis in a supply chain - the case study on retail and FMCG market.

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RESEARCH METHODOLOGY AND DATA ANALYSIS

The general objective pursued is to create a *research* model for the assessment and analysis of supply chain management performance in manufacturing and service companies in business. The performance evaluation and analysis we intend to pursue at two levels: individual member of a supply chain and at a supply chain, viewed globally.

In this study we approached a qualitative research, using methods as: case studies and conceptual research. The instruments used were: the interview, qualitative analysis of documents, and observation, and questionnaire to support them.

Instruments used in the study are: the focused interview (Yin, 2003) and a questionnaire based on the literature in order to obtain information on the supply chain management performance of companies concerned, its determinants and to understand the interactions between supply chain management practices and firm performance.

The data sample was collected from 23 large companies when they are faced with increasing competitive pressure and use global supply chain management to keep their competitive advantages. Data collection was done by eight interviews with managers in supply chain, financial directors, marketing directors from companies: Friesland Campina SA, Henkel Romania SRL, Nokia SA, Ursus Breweries, Profi SA, Coca-Cola HBC, European Foods, Metchel SA and by applying the three questionnaires (Annex 1, Annex 2 and Annex 3). Interviews were conducted from 25 July -1 September.

The choice of the firm involved in this study was based on several considerations:

- The firm must have a dominant position within its supply chain;
- Company to be either in production or service;
- The company has to have more than 250 employees;
- Company is top on her field of activity.

The interview was conducted in three parts. Discussions were held with representatives of each of the eight companies involved, and the discussion ranged between 0.5 - 1.5 h.

The first issue has been undertaken to clarify the research objectives and to explain the terminology used, so there's no doubt about it.

The second discussion meant going through the questionnaire based on literature created, after which the questionnaire has undergone some changes.

Last issue was fought to establish problems encountered to the related companies in supply chain management performance, in order to be offered proposals to solve them.

Target population consists of 50 companies with dominant position in their supply chain. We managed sending the first questionnaire to a number of 28 companies, the other companies couldn't be contacted or were not interested in participating in this research. Finally we managed to collect a number of 28 questionnaires, of which 23 proved to be valid, which corresponds to a response rate of 82 % (= 23/28).

The questionnaire (Appendix 1) includes five parts consisting of 30 parts and 286 items. The questionnaire was based on the literature reviewed in Chapters 2-5 of the thesis. We wanted it to be a support for structured interview conducted in companies analyzed and the results obtained from applying this questionnaire to help us in establishing the model of good practice in assessment and identification of factors determining Managing supply chain performance.

The first part of the questionnaire includes seven questions designed to provide additional structural information. The second part of the questionnaire focuses on the details of the products of the company. The third part of the questionnaire includes questions about the strategies used in the supply chain as a whole, the processes and capabilities, and collaboration. The fourth part of the questionnaire is related to the measurement, data quality and reporting (information systems). The last part includes questions related to performance evaluation level (global) supply chain, at both strategic and operational level.

To make the model on performance evaluation and analysis in a supply chain - case study on retail and FMCG market, with interviews and questionnaires previously mentioned we applied another 2 questionnaires (Annexes 2 and 3) to companies Profi and Metro.

Second questionnaire (Appendix 2) is a translation of a questionnaire applied by Eyefortransport, a consulting company (www.eft.com) in October / November 2011 on retail firms and the market for fast moving consumer goods (FMCG) in the world .

This questionnaire we applied to the 2 companies above to help us achieve the model on performance evaluation and analysis of the supply chain. Applied questionnaire has 16 questions related to:

- Profile of respondents

- Retailers expectations
- Retailers innovations and challenges

The third questionnaire (Annex 3) is based on the literature and interviews with the companies mentioned in connection with the evaluation of supply chain performance both globally and in the members integrated into it, with application on retail and FMCG market.

The questionnaire was also applied to the two companies, Profi and Metro and is divided into six parts, namely:

- Factors determining supply chain management performance
- Criteria for assessing the performance of providers of raw materials and components
- Criteria for assessing inventory management performance
- Criteria for assessing distribution performance
- Criteria for assessing marketing performance
- Criteria for assessing financial control performance

After analyzing data from interviews and questionnaires, we built steps to be followed in carrying out the the model on performance evaluation and analysis in a supply chain.

CONCLUSIONS AND RESEARCH PERSPECTIVES

1. The main contributions of the study

Theoretical contributions:

- The bibliographic study:
 - We presented the concepts of supply chain and supply chain management, logistics, performance, organizational performance, key performance indicators. Thus in chapters 2, 3 and 4 we addressed these concepts, giving us of the fact that Romania terminology the still remains not clear;
 - We approached the supply chain performance at international level;
 - We reviewed articles related to various performance measurement systems existing in the literature, and the types of research conducted to date to realize what research is the appropriate way;
 - We reviewed many supply chain management performance measurement systems, detailing each system, and making a comparison between them.
- We developed a theoretical model which asses performance evaluation of logistic procesess in a supply chain;
- Empirical study on analysis of how firms in the industry and trade measures, evaluates and analyzes the logistics performance in the supply chain
- Identify potential solutions to increase logistics performance and identify good practices.

Practical contributions:

- Experimental research was based on:
 - results of studies in the literature;
 - model tests conducted at the manufacturing and trading companies;

- case studies.
- Polls taken in this research are based on logistic audit models developed by Ballou, Lambert, Christopher, ETC., consulting firms such as Deloitte, PWC, and the Forum's Global Supply Chain (The Global Supply Chain Forum - GSCF) and Supply Chain Council (Supply Chain Council - SCC)
- We used my experience from the Economic University of Vienna mobility in the department of transportation and logistics, the project "Investing in People! PhD scholarship, co-financed by the Project of the European Social Fund, Operational Programme Human Resources Development Sector, 2007 -2013, Babes-Bolyai University, Cluj-Napoca, Romania. "

Thus the specific objectives pursued in the thesis were:

1. Defining the main concepts of supply chain management, of supply chain performance;
2. Identifying best practices in assessment and supply chain performance analysis and performance analysis of the ways by which managers establish performance standards and monitor the supply chain;
3. Developing a performance evaluation model for suppliers of raw materials and components (suppliers of grade 2) and evaluation of customer satisfaction;
4. Developing a performance evaluation model for dominant firms in the supply chain (with case study on trade);
5. Identifying potential solutions to improve performance in supply chain for industrial and trade companies in the Romanian economy;
6. The implementation of an evaluation model and performance analysis at the trade;
7. Identifying specific ways to increase performance and good practices for various logistics activities and processes (distribution, inventory management, purchasing, etc.);
8. How to achieve organizational and coordination flows, as a prerequisite for effective integration of various companies in the supply chain (turning to solutions).

To achieve the objectives set out several hypotheses have been pursued:

I. General hypothesis: *Models on logistics performance evaluation and analysis in the supply chain management should be adopted depending on the area of activity, complexity, and the supply chain, the particular activities and processes that are subject to performance assessment and firm position in the supply chain.*

ii. From the general hypothesis we drew the following specific hypotheses:

Hypothesis 1. Companies which evaluate and analyze the performance of the supply chain will record better results in achieving high performance in cost reduction, flexibility, customer service.

Hypothesis 2. Performance objectives determined by dominant firms in the supply chain performance boosts members (partners) that integrates within the supply chain.

Hypothesis 3. Companies that measure and evaluate the performance of logistics supply chain place a high valuation on models and analysis of logistics performance.

If hypothesis 2 and hypothesis 3 is validated in most companies analyzed, first hypothesis is validated in all companies.

The results of case studies in this thesis possible:

- ✓ identify factors that influence the supply chain management performance measurement process;
- ✓ identifying strategies and directions for action that can help improve performance especially for firms studied;
- ✓ achieve a model of good practice on supply chain management performance with literature's help;
- ✓ adoption of appropriate performance measurement systems by the management of the companies;
- ✓ implementation of supply chain management diagnosis of dominant firms in their supply chains in order to help companies facing the same problems to identify them and take action.

We believe that this thesis is an essential contribution to the literature focused on the theme supply chain management performance because it allows a better understanding of the performance measurement process and the factors that explain the use of key indicators and performance measurement tools in supply chain management and the balance between the two categories.

2. Contributions on supply chain management performance

A supply chain encompasses all activities associated with the transfer / movement of goods from raw material stage until they reach the end consumer. Supply chain includes a variety of companies, from which processes the raw material to dealing with retail. Supply chain also includes all types of companies engaged in transport, storage, processing information and materials.

A supply chain can be managed in two ways: either in an integrated manner, or fragmented.

Managing an integrated supply chain focuses on the relationships, information flow and material flow across organizational boundaries to reduce costs and improve flow.

Companies that adopt supply chain management seek ways to integrate logistics, procurement, operations and marketing functions with other members of the supply chain in order that materials, information, half-finished, finished products have a smooth flow from point of origin to the point of consumption at low cost and high customer service .

Supply chain management is based on partnerships and cooperation. Without these could not be integrated efforts. Supply chain management requires the sharing of sensitive information about customers, demand, company strategic plans, transactions, etc.. Supply chain management involves communication and joint involvement, and therefore often use teams working beyond organizational and functional boundaries to coordinate the movement of products to market.

In other words, to achieve the true potential of supply chain management requires the integration not only between departments within the organization but also with external partners.

The purpose of supply chain management is customer satisfaction, achieve a high performance organization, and identify ways in which companies continue to learn, innovate and grow.

The objectives of supply chain management are: to reduce waste, time compression, responsiveness and flexibility. These objectives were set for all managers we discussed with, and they speak of the importance of coordination both interfunctional, and between firms.

Thus, organizations seeking to compete with industry leaders must review and improve how they measure performance.

In general, supply chain management issues are:

- Lack of indicators in the supply chain;
- Inadequate definition of customer service;
- Inaccurate data delivery status;
- Inefficient information systems.

The scope for studying and measuring performance indicators at strategic, tactical and operational level is correct decision making, so that they can support each other in achieving the objectives and overall goals of an organization.

The success of the strategy formulation supply chain depends on its alignment to the different levels.

The process-based indicators and indicators based on the strategy are required at different levels and should support each other for achieving their own decision-making levels.

While financial performance are important tools for strategic decisions, control daily production and distribution operations are better managed with non-financial instruments.

We have concluded that companies using a combination of tools and indicators to measure financial performance have a significantly higher efficiency of assets and markets, and that the adoption of non-financial instruments improves the performance of current and future business.

The evolutionary process of the construction supply chain, SCOR model is the latest thinking in terms of supply chain indicators. In addition, SCOR is considered the most recent standard for supply chain performance.

3. Methodological and practical limitations, and new research directions

During the research we faced several problems, weaknesses, issues that have limited the conduct of research, as follows:

- In Romania, we didn't find extensive studies in the literature on the assessment and analysis of supply chain performance, supply chain performance management respectively;
- Exploratory type research based on questionnaire and interview has a certain degree of subjectivity, but given the complexity and characteristics of supply chain and the ability to obtain adequate information on performance evaluation and analysis logistics within a supply chain, this combination of research methods we considered most appropriate.
- Research based on case studies has the disadvantage that it can not be generalized, but it can be a benchmark for other companies in the industry, to develop models of assessment and analysis of logistics performance
- For some data and information provided we have no certainty of their accuracy, but the analysis and comparisons made we were able to diminish this shortcoming.
- Since we can not speak of extensive experience in supply chain management companies in the Romanian economy we saw that some data presents some differences that do not significantly affect the results. To cope with this aspect we focused on obtaining information from managers responsible for logistics and to specialists in the field.

As future research prospects want to:

- We analyze the process of integration and collaborative planning in the supply chain
- Achieve some depth case studies of performance evaluation of suppliers of raw materials, materials and components (procurement)

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