



VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS

VERSLO VADYBOS FAKULTETAS

ĮMONIŲ EKONOMIKOS IR VADYBOS KATEDRA

Joana Vasiliauskaitė

GAIVIŲJŲ GĖRIMŲ SEKTORIAUS ANALIZĖ: LIETUVOS PAVYZDŽIU
SOFT DRINKS SECTOR ANALYSIS: LITHUANIAN CASE

Baigiamasis magistro darbas

Verslo vadybos studijų programa, valstybinis kodas 62403S121

Tarptautinio verslo vadybos specializacija

Vadybos ir verslo administravimo mokslo kryptis

Vilnius, 2011

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS
VERSLO VADYBOS FAKULTETAS
ĮMONIŲ EKONOMIKOS IR VADYBOS KATEDRA

TVIRTINU

Katedros vedėjas

(Parašas)

Romualdas Ginevičius
(Vardas, pavardė)

(Data)

Joana Vasiliauskaitė

GAIVIŲJŲ GĖRIMŲ SEKTORIAUS ANALIZĖ: LIETUVOS PAVYZDŽIU
SOFT DRINKS SECTOR ANALYSIS: LITHUANIAN CASE

Baigiamasis magistro darbas

Verslo vadybos studijų programa, valstybinis kodas 62403S121

Tarptautinio verslo vadybos specializacija

Vadybos ir verslo administravimo mokslo kryptis

Vadovas prof. dr. Manuela Tvaronavičienė

(Moksl. laipsnis, vardas, pavardė)

(Parašas)

(Data)

Konsultantas

(Moksl. laipsnis, vardas, pavardė)

(Parašas)

(Data)

Konsultantas

(Moksl. laipsnis, vardas, pavardė)

(Parašas)

(Data)

Vilnius, 2011

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS
VERSLO VADYBOS FAKULTETAS
ĮMONIŲ EKONOMIKOS IR VADYBOS KATEDRA

Vadybos ir verslo administravimo studijų kryptis
Verslo vadybos studijų programa, valstybinis kodas 62403S113
Tarptautinio verslo specializacija

TVIRTINU

Katedros vedėjas

(Parašas)

Romualdas Ginevičius
(Vardas, pavardė)

(Data)

**BAIGIAMOJO MAGISTRO DARBO
UŽDUOTIS**

.....Nr.
Vilnius

Studentui (ei) ...Joana Vasiliauskaitė.....
(Vardas, pavardė)

Baigiamojo darbo tema: Gaiviųjų gėrimų sektoriaus analizė: Lietuvos pavyzdžiu.....

patvirtinta 2011. m. d. dekanų potvarkiu Nr.
Baigiamojo darbo užbaigimo terminas 2011 m.

BAIGIAMOJO DARBO UŽDUOTIS:

Surinkti medžiagą ir parengti išsamią gaiviųjų gėrimų sektoriaus analizę Lietuvos pavyzdžiu, aprašant
vaisvandenių sektoriaus struktūrą, veiklą ir rezultatus. Kitiškai išanalizuoti mokslinę literatūrą ir parengti
empirinių tyrimų tinkamą darbo temai. Pateikti išvadas ir pasiūlymus.

Baigiamojo darbo rengimo konsultantai:.....
.....
(Moksl. laipsnis, vardas, pavardė)

Vadovas prof. dr. Manuela Tvaronavičienė.....
(Parašas) (Moksl. laipsnis, vardas, pavardė)

Užduotį gavau

.....
(Parašas)
.....JOANA VASILIAUSKAITĖ.....
(Vardas, pavardė)
.....
(Data)

Vilniaus Gedimino technikos universiteto egzaminų
sesijų ir baigiamųjų darbų rengimo bei gynimo
organizavimo tvarkos aprašo 2010–2011 m. m.
6 priedas

(Baigiamojo darbo sąžiningumo deklaracijos forma)

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS

Joana Vasiliauskaitė, 20091136

(Studento vardas ir pavardė, studento pažymėjimo Nr.)
Verslo vadybos fakultetas

(Fakultetas)

Verslo vadybos studijų programa, 09-TVmidu

(Studijų programa, akademinė grupė)

**BAIGIAMOJO DARBO (PROJEKTO)
SĄŽININGUMO DEKLARACIJA**

2011 m. _____ birželio _____ 6 d.
(Data)

Patvirtinu, kad mano baigiamasis darbas (projektas) tema _____

Gaiviųjų gėrimų sektoriaus analizė: Lietuvos pavyzdžiu

patvirtintas 20 _____ m. _____ d. dekanato potvarkiu Nr. _____, yra
savarankiškai parašytas. Šiame darbe (projekte) pateikta medžiaga nėra plagijuota. Tiesiogiai ar
netiesiogiai panaudotos kitų šaltinių citatos pažymėtos literatūros nuorodose.

Prenkant ir įvertinant medžiagą bei rengiant baigiamąjį darbą (projektą), mane konsultavo
mokslininkai ir specialistai: _____

Mano darbo (projekto) vadovas _____ prof.dr. Manuela Tvaronavičienė

Kitų asmenų indėlio į parengtą baigiamąjį darbą (projektą) nėra. Jokių įstatymų nenumatytų
piniginių sumų už šį darbą niekam nesu mokėjęs(-usi).

(Parašas)

JOANA VASILIAUSKAITĖ
(Vardas ir pavardė)

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS
VERSLO VADYBOS FAKULTETAS
ĮMONIŲ EKONOMIKOS IR VADYBOS KATEDRA

Vadybos ir verslo administravimo studijų kryptis

Verslo vadybos studijų programa, valstybinis kodas 62403S113

Tarptautinio verslo specializacija

PAŽYMA
APIE BAIGIAMĄJĮ BAKALAURO DARBĄ

.....Nr.
Vilnius

Studentas (ė).....Joana Vasiliauskaitė.....
(Vardas, pavardė)

Studento (ės) studijų svertinis įvertinimų
vidurkis.....balo.

Baigiamojo darbo (projekto) tema: Gaiviųjų gėrimų sektoriaus analizė: Lietuvos pavyzdžiu.....

.....
Baigiamasis darbas (projektas) peržiūrėtas ir studentui (ei) Joana Vasiliauskaitė.....
leidžiama ginti šį baigiamąjį darbą (projektą) magistro kvalifikacinio laipsnio suteikimo komisijoje.

Katedros vedėjas prof. habil. dr. Romualdas Ginevičius
(Parašas) (Moksl. laipsnis, vardas, pavardė)

VADOVO ATSILIEPIMAS
APIE BAIGIAMĄJĮ BAKALAURO DARBĄ

.....

Baigiamojo darbo (projekto) įvertinimas:

.....

Vadovas
(Parašas)

Manuela Tvaronavičienė
(Vardas, pavardė)

Vilniaus Gedimino technikos universitetas

Verslo vadybos fakultetas

Įmonių ekonomikos ir vadybos katedra

ISBN ISSN

Egz. Sk.: 2

Data

Verslo vadybos studijų programos baigiamasis magistro darbas

Pavadinimas: **Gaiviųjų gėrimų sektoriaus analizė: Lietuvos pavyzdžiu**

Autorius: **Joana Vasiliauskaitė**

Vadovas: **Prof. dr. M. Tvaronavičienė**

Kalba

☐

lietuvių

☒

anglų

Anotacija

Magistriniame darbe nagrinėjama Lietuvos gaiviųjų gėrimų verslo sektoriaus struktūros pokyčiai, veikla ir rezultatai. Pagrindinis darbo tikslas yra įvertinti sektoriaus finansinius duomenis, koncentraciją ir verslo tendencijas, bei pateikti pasiūlymus, kaip sėkmingai plėtoti vaisvandenių verslą vietinėje ir tarptautinėje rinkoje. Šiam tikslui pasiekti analizuojama pasaulinė ir Lietuvos vaisvandenių pramonė, pagrindiniai rinkos žaidėjai, pramonės vaidmuo ir svarba. Pristatomos pagrindinės sektoriaus problemos, įtakančios įmonių pelningumą.

Išnagrinėjus mokslinę literatūrą, įvairius straipsnius, publikacijas ir kitas metodikas, pasirenkamas sektoriaus analizės modelis: “Struktūra – Veikla – Rezultatai”, kuris toliau adaptuojamas tiriant Lietuvos gaiviųjų gėrimų pramonę. Remiantis statistiniais duomenimis ir atlikus koreliacinę regresinę analizę buvo išryškinti pagrindiniai sektoriaus koncentraciją lemiantys veiksniai ir nustatytas stipriausias ryšys su sektoriaus BVP augimu.

Darbo pabaigoje suformuluotos išvados ir pateikti pasiūlymai.

Darbą sudaro 7 dalys: įvadas, teorinė dalis, literatūros apžvalga, praktinė dalis, pasiūlymai, išvados, literatūros sąrašas.

Darbo apimtis – 89 p. teksto be priedų, 23 iliustr., 17 lent., 73 bibliografiniai šaltiniai.

Atskirai pridedami darbo priedai

Prasminiai žodžiai: Struktūra – Veikla – Rezultatai, BVP, finansinis pelningumas, vaisvandeniai, koncentracija.

Vilnius Gediminas Technical University

Business management faculty

Economics and management of enterprises department

ISBN

ISSN

No. of copies: 2

Date

Final paper of masters **Business management** studies

Title: **Soft drinks sector analysis: Lithuanian case**

Author: **Joana Vasiliauskaitė**

Supervisor: Prof.dr. **M. Tvaronavičienė**

Language

☐

Lithuanian

☒

English

Annotation

In master thesis it is investigated Lithuanian soft drinks business changes in the structure, operations and results. The main aim is to assess the industry financial data, content and businesses trends and provide suggestions how successfully develop the soft drinks business in the local and international markets. To achieve this objective analysis of international and local soft drinks industry are made, major market players, the industry's role and importance are revealed. It is presented the major problems of the sector regarding profitability.

After examination of the scientific literature, articles, publications and other methodologies "Structure - Conduct – Performance" method is selected and adapted for Lithuanian soft drinks sector analysis. According to the statistics and correlation regression analysis the main determinants of industry concentration were found and the strongest relationship with the sector GDP growth.

At the end conclusions and proposals are introduced.

Structure of 7 parts: introduction, theoretical part, literature overview, practical part, suggestions, conclusions, references.

Thesis consists of: 89 p. of text without appendixes, 23 figures, 17 tables, 73 bibliographical entries. Appendixes included.

Keywords: Structure – Conduct – Performance, GDP, financial profitability, soft drinks, concentration.

TABLE OF CONTENTS

INTRODUCTION	9
1. THE ANALYSIS OF THE SOFT DRINKS INDUSTRY IN THE WORLD AND THE MAIN PROBLEMS	11
1.1. Soft drinks industry: products groups, brands and process characteristics	11
1.2. Production process	11
1.3. Soft drinks market structure importance	12
1.4. Industry changes trends	13
1.5. The biggest industry players in the world	14
1.6. Financial analysis of the global soft drinks industry as international context of local production	14
1.7. Soft drinks industry vulnerability and topicality considering to situation in our life and economy	16
1.7.1. <i>Health problems</i>	16
1.7.2. <i>Competition problems</i>	17
1.7.3. <i>Marketing problems</i>	19
1.7.4. <i>Innovations problems</i>	21
1.7.5. <i>Environment problems</i>	22
1.7.6. <i>Management problems</i>	23
2. LITERATURE RELEVANT TO SOFT DRINKS SECTOR ANALYSIS OVERVIEW	24
2.1. Theoretical study of creating the brand	24
2.2. Foreign market entry modes	27
2.3. New concept of the companies examination based on the value driven strategies by P. Kotler	31
2.4. Industry concentration literature overview	32
2.5. Structure – Conduct – Performance method literature overview	32
2.6. Structure – Conduct - Performance method application for industry analysis: theoretical application	34
2.6.1. <i>Market structure – conduct - performance hypothesis</i>	34
2.6.2. <i>Construction of the variables for structure – conduct – performance analysis</i>	34
2.6.3. <i>General environments influencing market structure, conduct and performance</i>	36
2.7. Structure – conduct - performance method practical application	36
2.7.1. <i>Market structure: applications and analysis</i>	37
2.7.2. <i>Market conduct: applications and analysis</i>	38
2.7.3. <i>Market performance: applications and analysis</i>	39
2.7.4. <i>Combination of market structure, conduct and performance</i>	41
3. EMPIRICAL RESEARCH: THE ANALYSIS OF THE SOFT DRINKS SECTOR IN LITHUANIA.....	42
3.1. National economy structure of Lithuania	42
3.2. Food and drink industry place in Lithuania's national economy	44
3.3. Future forecasts for food and drinks products manufacturers	47
3.4. Lithuanian soft drinks sector characteristic	49
3.5. Structure – conduct – performance application for soft drinks sector in Lithuania analysis	51
3.5.1. <i>Adaptation of structure – conduct – performance approach for soft drinks sector analysis: literature overview and author's opinions</i>	53
3.5.2. <i>Chosen indicators for structure – conduct - performance analysis of soft drinks sector in Lithuania</i>	54

3.5.3. Analysis of market structure and performance in Lithuanian soft drinks sector	55
3.5.4. Analysis of market conduct in Lithuanian soft drinks sector	59
3.5.5. Concentration strategies: expansion and activity strategies	62
3.6. Conclusions of the research:.....	64
3.7. Structure – Conduct – Performance cases	64
3.7.1. Case 1. The case of commercial banks in Denmark	64
3.7.2. Case 2. The case of Austrian insurance industry.....	65
3.8. Correlation regression analysis regarding soft drinks profitability factors	67
3.8.1. Literature and other researches overview	69
3.8.2. Initial data and regression analysis.....	71
3.8.3. Conclusions and overall test hypothesis of ANOVA statistical significance and regression parameters:.....	74
3.8.4. Further hypothesis and recommendations:.....	75
4. PROPOSALS FOR SOFT DRINKS SECTOR DEVELOPMENT	75
4.1. The most relevant suggestions for expanding soft drinks sector.....	76
CONCLUSIONS.....	82
REFERENCES	85
APPENDIXES.....	90

List of tables and figures

List of tables

Table 1. Total carbonated and still drinks	12
Table 2. Soft drinks in context – on trade value	13
Table 3. Total take-home soft drinks split.....	17
Table 4. Total beverages in low calorie and standard	17
Table 5. Grocery multiples sub – category performance	18
Table 6. The main marketing problems in soft drinks company	20
Table 7. Foreign market entry modes: factors and effects	28
Table 8. Reasons for exporting.....	29
Table 9. Value – based matrix model by P. Kotler.....	31
Table 10. Elements of market structure.....	37
Table 11. Different kinds of conduct through behaviour at network level.....	39
Table 12. Elements of market performance.....	40
Table 13. Structure, conduct and performance characteristics and effects	41
Table 14. Companies numbers changes by the industry	44
Table 15. Soft drinks sector geographical prevalence (2009)	46
Table 16. Industry production sales growth comparison 2007 with 2009 years	48
Table 17. Initial correlation regression analysis data in Lithuania.....	72

List of figures

Figure 1. Brands of the top soft drinks companies in the world.....	14
Figure 2. Brand positioning model	26
Figure 3. Brand platform according to Kapferer (2008)	27
Figure 4. GDP structure by economic sectors in Lithuania 2010.....	43
Figure 5. Lithuania's sectors growth in 2010.....	45
Figure 6. Lithuania export to Russia, Poland, Germany in 2010	45
Figure 7. Soft drinks sector turnover changes 2005 – 2009 (LTL)	46
Figure 8. Total 2009 soft drinks market	47
Figure 9. Brands of the biggest soft drinks companies in Lithuania	49
Figure 10. Real soft drinks sector GDP growth rate in Lithuania 1996 – 2009	50
Figure 11. Soft drinks sector turnover 2005 – 2009	50
Figure 12. SCP approach adapted for Lithuanian soft drinks sector analysis	55
Figure 13. Soft drinks sector concentration (%) in 2005 and in 2009.....	55
Figure 14. ROA, ROE changes by the company (2005-2009).....	57
Figure 15. Soft drinks sector ROE changes between 2005 – 2009	58
Figure 16. Soft drinks sector ROA changes between 2005 – 2009	58
Figure 17. Soft drinks sector equipment 2005 – 2009 (LTL).....	61
Figure 18. Soft drinks companies' assets (LTL)	61
Figure 19. Soft drinks sector liabilities 2005 – 2009 (LTL).....	61
Figure 20. Soft drinks sector equity 2005 – 2009	62
Figure 21. The SCP paradigm in insurance industry.....	66
Figure 22. Vision of the soft drinks company's development perspectives.....	76
Figure 23. Projected model for improving soft drinks companies profitability	88

SHORTENING

SCP – Structure – Conduct – Performance

GDP – Gross Domestic Product

RGDP – Real Gross Domestic Product

NP – Net Profit

NPM – Net Profit Margin

SME – Small and Medium Enterprises

FDI – Foreign Direct Investment

CI – Concentration Index

ROA – Return On Assets

ROE – Return On Equity

INTRODUCTION

The global soft drinks industry is very important sector of the economy in terms of investment, revenue, trade and employment generation all over the world. Beverages play an important part of human's life since their birth, as they are the way to keep human's body in health. In order to fully understand the soft drink industry, the following should be considered: the dominant economic factors, concentration, competitive sources, industry trends, and the industry's key factors. Market size, growth rate and overall profitability are three economic indicators that can be used to evaluate the soft drink industry. For these reasons the soft drinks sector should be taken seriously into account because the powerful sector is the way to success for the soft drinks companies.

The main problem of the thesis is the role of financial soft drinks sector profitability for improving their activity and increasing profits.

The purpose of the master thesis is to analyze soft drinks sector in Lithuania and to suggest proposals to promotes companies' profits, development and brand loyalty.

The main tasks of the thesis:

- To analyze the soft drinks industry in the world and in Lithuania, the main definitions used in it;
- Critically examine the existing and possible problems, which can affect negatively soft drinks industry;
- To overview the theories and scientific articles related to the strong brand creation, concentration, foreign entry modes, structure – conduct – performance analysis in the market;
- To analyze the present situation of soft drinks market in the world and in Lithuania, to provide empirical studies on this issue;
- To do Structure – Conduct – Performance analysis of soft drinks sector in Lithuania;
- To analyze SCP cases;
- To do correlation regression analysis using ANOVA model finding out the correlation between the variable factors and the profit in the soft drinks industry;
- To provide proposals and recommendations for soft drinks companies strategies to promote their activities improving profitability in international and local markets.

Analyze methods:

- The processing of statistical data;
- Graphical data and influence representations analysis;

- Companies documentation data analysis;
- The logical and systematic review of the literature and scientific articles;
- Structure – Conduct – Performance analysis;
- Correlation regression analysis using ANOVA model.

The first part of the thesis is theoretical. In this part the main used definitions, market players and structure importance of the soft drinks industry are described. Moreover, the overview of major problems considering to situation in our life and economy which can the soft drinks companies face are being viewed.

The second part contains literature relevant to soft drinks sector analysis overview. Such as theoretical study of creating the brand, foreign entry modes, concentration and SCP analysis. SCP method application for industry analysis is studied deeper because this method is relevant to my future thesis analysis.

The third part of the master paper is practical. In this part the development of soft drinks sector in Lithuania, its products, consumers and the market is analyzed. Economy structure of Lithuania and food and drinks industry place in it is presented. The empirical research using SCP method for Lithuanian soft drinks sector analysis is presented and SCP method cases are analyzed and introduced. The empirical research of the author's (correlation regression analysis) is introduced in this part as supporting basic SCP analysis of the sector.

The final fourth part is proposals for soft drinks sector development. The most relevant suggestions for expanding and gaining profits for companies of the sector are represented. Two models for soft drinks sector companies are created and introduced as relevant to have growth, to be worldwide and profitable.

The accomplished master thesis provide value for current and future companies, which are planning to have profits and growth, to introduce new soft drinks brand or for soft drinks retailers who would like to change their current marketing strategy and gain more profit. Also this thesis can help future students and researchers to prepare and project more detailed theoretical principles on soft drinks sector in Lithuania and in the world or with the works which are related with the soft drinks industry financial results.

1. THE ANALYSIS OF THE SOFT DRINKS INDUSTRY IN THE WORLD AND THE MAIN PROBLEMS

1.1. Soft drinks industry: products groups, brands and process characteristics

Soft drinks - carbonated drinks made without any alcohol injected with carbon dioxide at high pressure.

Diet sodas, diet pop, sugar-free, or light soft drinks refreshments, or carbonated beverages - sugar-free, non-alcoholic carbonated beverages generally marketed towards health-conscious people, diabetics, athletes, and other people who want to lose weight or stay fit.

Brand - a name, sign, and symbol intended to identify the goods or services of one seller and to differentiate them from those competitors. [60]

Global industry is an industry in which strategic positions of competitors in major geographic markets are fundamentally affected by their overall global positions.

Promotion in product research, development and design, promotion (especially advertising) is usually the largest line of global enterprise marketing budget. At this stage of company development, integrated marketing is the purposes. [26]

The product packaging in each country covers the contour bottle design and dynamic bands in some way, shape, or form. However, the bottle or can also include the country's native language and is the same size as other beverage bottles or cans in that country. [26]

Recycling involves processing used materials into new products in order to prevent the waste of potentially useful materials, reducing consumption of fresh raw materials, reduce energy consumption, reduce air pollution and water pollution by reducing the need for conventional waste disposal, and lower greenhouse gas emissions, compared with virgin production.

Globalization describes an ongoing process by which regional economies, societies, and cultures have become integrated through a globe-spanning network of communication and execution.

1.2. Production process

Carbonated drinks made without any alcohol are called Soft Drinks. They are also known as Coke, Soda, Pop etc. Hot chocolate, teas, coffee are usually excluded from this classification. They are sold in a variety of sizes and manner. In the U.S., they are often sold in two-liter bottles, one litre plastic bottles, 24 and 20 US fluid ounce bottles and in 12 US fluid ounce cans. Packaging is also available in many different quantities including six packs,

12 packs and cases of 24 and cases of 36 [8]. Table 1 shows the difference in value and volume of carbonated and still drinks. From the table we can see that carbonated drinks are more popular than still.

Soft drinks are available in glass bottles, aluminium cans and bottles for home consumption. Fountains also dispense them in disposable containers non-alcoholic soft drink beverage market can be divided into fruit drinks and soft drinks. Soft drinks can be further divided into carbonated and non-carbonated drinks. Cola, lemon and oranges are carbonated drinks while mango drinks come under non carbonated category.

The market can also be segmented on the basis of types of products into cola products and non-cola products. Cola products account for nearly 61-62% of the total soft drinks market. The brands that fall in this category are Pepsi, Coca- Cola, Thumps Up, diet coke, Diet Pepsi etc. Non-cola segment which constitutes 36% can be divided into 4 categories based on the types of flavours available, namely: Orange, Cloudy Lime, Clear Lime and Mango.

Table 1. Total carbonated and still drinks [67]

VALUE	millions £	share %
Carbonated	2795	45
Still	3424	55
VOLUME	litres millions	share %
Carbonated	3361	48
Still	3588	52

1.3. Soft drinks market structure importance

Global sales of soft drinks exceed 327 billion litres and are valued at more then US \$393 billion annually [41]. In comparison with alcohol drinks Table 2 shows that soft drinks hold second in place in value after beer in global contest. North America, Europe and Japan are the most mature markets for global soft drinks. Coco Cola and PepsiCo Inc have significant control over the global soft drinks market and both have similar business organizations and processes worldwide. The industry includes other than the soft drink manufactures themselves, the bottlers and various raw material suppliers. Suppliers of cans, plastic and glass bottles are included in this category.

Globally, the major of soft drinks continue to face challenges. One of the key global trends swam to healthier drinks that may pose some pressure on the annual growth in sales of soft drinks. Direct sells of diet drinks were good, with the major manufacturers - with sales of diet Coke and diet Pepsi are still strong. Recently is increasing trend of sports drinks. Bottled

water has also experienced very strong growth. Finally, the water quality used in soft drinks production poses a serious problem for the industry. The main players are working on this issue as the water shortage is becoming a global problem.

Table 2. Soft drinks in context – on-trade value [67]

VALUE	millions £
Beer	7,984
Soft drinks	2,369
Spirits	2,015
Wine	1,188
Cider	944
Champagne and sparkling wine	59

1.4. Industry changes trends

Macro environmental factors. The soft drink industry is affected by the macro environmental factors. First, the entry and exit of the companies is a trend that is likely to lead to changes. Specifically, the merger and consolidation has been distributed soft drinks on the soft drinks market, causing some firms to leave the industry and then re-introduce themselves. Several leading companies have been looking to drive revenue growth and improve market share through increased economies of scale using mergers and acquisitions. This trend of increased competition as firms' diversification of products is increasing.

Globalization. Globalization is the second trend in the macro environment. Increasing use of the internet and other electronic technologies, global communication is growing rapidly. This enables companies to cooperate in the domestic market and expand their businesses into global markets. It encourages a competition, as companies strive to be first movers. Specifically, the global soft drinks market compound annual growth rate.

Healthy lifestyle. Third, the changing societal concerns, attitudes and lifestyle trends are important. In the United States and Europe, people are becoming more concerned with healthy lifestyles. Consumer awareness of health problems resulting from obesity and inactive lifestyles pose a serious risk that the carbonated drinks sector. This trend is causing the change of the business environment, because companies are differentiating their products to increase sales of market stagnation, for long-term industry growth.

The fourth trend is low growth rates concern about the soft drink companies and the number of new strategies to combat low prices.

Buyer preferences. The fifth trend is growing customer preference for different products. Because soft drinks have been around since 1798, customers want innovative products they are buying. For all the beverage companies the key is differentiation such as

new formulations and appearances. Regardless of strategy, whether it be a new colour, taste, or formula, the company will build the largest brand awareness to the exclusion of its competitors in hopes of consumers' minds. So, the latest trends, product innovation is necessary to combat the tastes of the buyers need.

1.5. The biggest industry players in the world

U.S. Market. The U.S. is closely linked with Coca Cola being an American in much of the world. About 550 soft drinks companies operate in the U.S. Annual sales of refreshments total approximately US \$99 billion, of which three quarters are soft drink sales. There are about 550 soft drink bottlers in the United States. Coke, Pepsi and Cadbury Schweppes control over 90% of the U.S. market share (see Figure 1). They employ about 65,000 people in the U.S. Pepsi and Coca-Cola hold the dominant share of the world market. Cadbury Schweppes follows a close third. Coca-Cola has approximately half of the world market share and sells 4 out of the top 5 soft drink brands in the world. Coca Cola sales for 2008 reached US \$30 billion. It has profit margins of 22% and a market capitalization of US \$135 billion. Pepsi sales stood at US \$40 billion but this also includes snacks and other foods [13].



Figure 1. Brands of the top soft drinks companies in the world [8]

1.6. Financial analysis of the global soft drinks industry as international context of local production

The carbonated beverage industry is highly competitive global industry. Coca-Cola was the number one brand of 4.6 billion cases sold in 2008. Pepsi followed with 3.3 billion cases and the Cadbury had sold 1.6 billion cases. However, the market share shows a different picture. Coca-Cola and PepsiCo control the market share with Coca-Cola holding 43% and Pepsi with 32%, but the market shares of Coca-Cola and PepsiCo both declined slightly from 2007 to 2008. Coca-Cola's volume also decreased 1% between 2007 and PepsiCo's volumes rose 0.5% Diet Coke posted 7% growth, but the Coca-Cola's other top 10 brands declined. Overall, Coca-Cola's position in the market fell in 2008. Strategic group map also shows the growth of Cott Corp., 18% which is much higher than Coca-Cola and PepsiCo. American Beverage Association (2006) argues that the 2008 total retail sales of non-alcoholic beverage industry has \$ 69,9 billion. [41]

Coca - Cola financial statements. Coca - Cola profits are rising, but slowly. This is consistent with what is happening in non-alcoholic beverage industry. The market is highly competitive and has stable growth. A slight increase is seen in the Coca-Cola's profit is from new energy drink product line. This industry is currently expanding rapidly, and it allows the major beverage companies to increase their profits.

Coca-Cola's working capital was approximately \$ 1.3 billion, the 2008 and it is a significant increase from 2007 at just \$ 550 million. This shows that they have sufficient funds to pursue new opportunities. However, the current ratio and quick ratio is a reason for concern. The current and quick ratios are in line with industry averages, but the Coca-Cola needs to improve these in order to focus on the relationship between long-term plans. [12]

PepsiCo's financial statements. PepsiCo cannot be analyzed only for soft drinks industry, because they do not differentiate between businesses. More than half of their profits are from meals or other beverage items, but sales and profit figures for the two beverage subsidiaries. These sales grew from \$ 17 billion in 2007 to \$ 19 billion in 2008 [13]. Their operating profit margin also increased by 2% from 2007 to 2008. Drinks have increased their profits, but also slowly. Increase may be due to the increase in market share to Pepsi products acquired in 2008. PepsiCo annual report (2008) argued that the beverage volume increased by 4% in 2008, but due to strong growth in the global carbonated drinks industry.

Cadbury Schweppes. The current ratio and the quick ratio of Cadbury Schweppes in 2008 shows that Cadbury has difficulties in paying the debt and short-term requirements and claims. Cadbury's net profit margin increased by 0.8% from 2007 to 2008. This can be attributed to their market share growth in 2008 of 0.3% of the ratio of their debt-equity ratio was concerning the 2007. They are almost twice as much debt as they have in equity, which means that their funds are provided mainly by the creditors rather than owners. This is due, because they owe a lot of money, and to make a decent profit to be able to pay it off. The industry average debt to equity is 82%, and Cadbury had far from that number. In addition, Cadbury is a negative working capital in 2007 and in 2008, they had more liabilities than assets. This shows that they have no funds to pursue new opportunities, because their assets are being used to settle liabilities.

Overall financial statements of the three top competitors. The soft drink industry shows that the industry is highly competitive and has low growth. Net profit increased in all three corporations, but only at a small circle. It seems that all three companies do not have enough current and quick ratios, but all are with a reasonable range of the industry average. For the broadening range of product lines their included energy drinks in carbonated beverages and diversified business. Soft drinks market is now at the mature stage of the life

cycle. Industrial growth and stable financial statement of the major industrial corporations illustrated that their sales and earnings are following their trends. Companies are at good financial position, profit and gross profit margins are even continuing to increase every year. Performance and leverage, all companies are an acceptable range. However, one area of three corporations needs to be improved: their quick and current ratio because it is low and should be increased for free so that they can meet short-term obligations.

1.7. Soft drinks industry vulnerability and topicality considering to situation in our life and economy

The soft drinks companies have been involved in a number of controversies and lawsuits related to its perceived relationship with human rights violations and other perceived unethical practices. A number of lawsuits have been issued in relation to its allegedly monopolistic and discriminatory practices, some of which have been dismissed, some of which have caused the soft drinks companies to change its business practices, and some of which have been settled out of court. They have also been involved in a discrimination case.

The companies have been criticized on a number of environmental issues. Critics claim that the companies' overuse of local water supplies in some locations has led to severe shortages for regional farmers and the forced closure of some plants. Packaging used in soft drinks products has a significant environmental impact. However, the companies strongly oppose attempts to introduce mechanisms.

1.7.1. *Health problems*

High levels of carbonated soft drinks have been traced to the increase in childhood obesity. Obesity is a major health problem for both adults and children. A surge of obesity among children results in the increase rate of diabetes and other types of systemic health problems.

Childhood obesity has grown considerably in recent years. Unhealthy weight gain due to poor diet and lack of exercise is responsible for over 310,000 deaths each year. More shocking is that the annual cost to society for obesity of all forms now exceeds \$95 billion. [34]

There are indirect effects of obesity as well. Obese children may have greater difficulty with high blood pressure, high cholesterol levels, orthopaedic problems, sleeping habits, as well as self-esteem and peer relationships. Dr. Alemzadeh cites studies indicating that adults who were obese as children also face significant health and social difficulties later in life. [31]

From 2001 to 2008, people doubled their consumption of sweetened beverages - a trend that was paralleled by a doubling of the prevalence of obesity. The consumption of sugar-sweetened beverages is associated with weight and obesity, and changes in consumption predict changes in weight. Table 3 shows value of soft drinks sold in different places.

Table 3. Total take – home soft drinks split [67]

VALUE	millions £	share %
Out of town	2,827	46
Convenience	2,02	33
High street	1,369	22

Fuelled by aggressive and effective marketing in schools and the population in general, carbonated soft drinks became a multi-billion dollar business. In supermarkets, newspapers, television and radio and in printed media, soft drink companies spend aggressively to promote their message of supposed good health and refreshment.

However, evidence is starting to emerge that soft drinks are not healthy for the individual. Therefore, changes are required to ensure and establish a healthy life style for the soft drink consumer.

1.7.2. *Competition problems*

The competitive forces. The soft drink industry is highly competitive, all corporations are engaged in, with the biggest competition from rival vendors within the industry. All soft drinks companies have to think about pressure of rival vendors within the industry, new industry entrants, substitute products, suppliers and customers.

Brand name loyalty. It is still one of the competitive pressures. The brand keys customer loyalty leaders study shows the highest customer loyalty in all industries brands: Diet Pepsi and Diet Coke is the most loyal customers having brands. In Table 4 we can see that regular soft drinks are still more popular than diet, but diet soft drinks have more loyal consumers.

Table 4. Total beverages in low calorie and standard [67]

VALUE	millions £	share %
Diet	488	21
Regular	1,881	79
VOLUME	litres millions	share %
Diet	120	23
Regular	395	77

New entrants. The new competition among competing sellers is to create new varieties of soft drinks, such as vanilla, cherry, in order to maintain and increase sales by enticing new customers. New entrants are strong competitive pressures in the soft drinks industry. Coca-Cola and Pepsi Co dominate the industry with its strong brand name and strong distribution channels.

The high fixed costs. In Addition, the soft drink industry is completely saturated and its growth is limited. It is very difficult for new, unknown players to compete with existing firms. Another barrier to entry the market are high fixed costs of warehouses, trucks, labour and Economies of Scale [39]. New entrance can not compete on price without economies of scale. These queries and high capital market saturation make it extremely difficult for companies to enter the soft drink industry, so the new entrance is not a strong competitive force.

Substitute products. They are competitors who are not involved in the soft drinks industry. Such substitutes are: bottled water, sports drinks, coffee and tea. Bottled water and sports drinks are increasingly popular trend to be more health conscious consumer. There are more varieties of water and sports drinks that appeal to different consumer tastes but also looks healthier than soft drinks. Table 5 shows substitute products of soft drinks and their popularity in value. In addition, coffee and tea are competitive substitutes, since they provide the caffeine.

Table 5. Grocery multiples sub - category performance [67]

VALUE	millions £	share %
Still juice	1,028	23
Cola	850	19
Squash	417	10
Dairy and dairy substitute	339	8
Juice drinks	335	8
Plain water	285	6
Fruit carbonates	282	6
Glucose/stimulant drinks	233	5
Smoothies	116	3
Water plus	116	3
Lemonade	112	3
Non-fruit carbonates	97	2
Traditional mixers	95	2
Sports drinks	73	2
Cold hot drinks	6	0,1

Suppliers. It is very cheap for customers to switch to a substitute under making a very potent threat. Suppliers in non-alcoholic beverage industry do not take a lot of competitive pressure. Suppliers to soft drink companies are: bottling equipment manufacturers and

subsidiary of packaging suppliers. If soft drinks companies' bottler owns majority, a supplier does not have much bargaining power. For equipment manufacturers, suppliers usually product the same products. The number of suppliers of equipment could be missing, so it is quite easy for a company to change their supplier. This takes away the supplier's negotiating a lot of power. [37]

The buyers. Soft drinks buyers are mainly large stores, discount stores, and restaurants. The soft drink beverage companies distribute these stores for resale to the consumer. The bargaining power of buyers is very clear and strong. Large stores and grocery stores buy large quantities of soft drinks allowing them to buy at lower prices. Eating places have less bargaining power because they are not so large.

1.7.3. Marketing problems

Seasonality is always an issue in respect of the storage. Be it Easter, Christmas or summer peak demand for juice drinks, mixers or a new sub-brand sparkling beverage create challenges for supply chain practitioners in the beverage sector. The main issues here are the appropriate sourcing of work, equipment or processes that can cope with the demand. This is a huge problem for drink producers as it entails a serious challenge for warehouse functions. And while automation can often seem to offer a tempting solution, seasonal variances may limit the flexibility of such systems.

Accommodating is to move on the smaller sizes order. As retailers are demanding more choices and fewer resources, the consolidation of regional centres is becoming commonplace. Increased adoption of cross-docking operations throws up specific problems of producers, especially in terms of delivery and its consequences are picking and packing operations frequency.

International soft drinks marketing research. International marketing research as the same way as domestic research, but there are a few more problems that may arise. Customers in international soft drinks market may have very different customs, cultures, and expectations from the same company. In this case, secondary information must be collected from each individual country and then together, or to compare. It takes a long time and can be misleading. International Soft Drink Market Research based on more primary data, rather than secondary information. Collecting primary data can interfere with speech, literacy and access to technology.

Limitations for buying on the internet. Internet marketing of soft drinks requires customers to use newer technologies rather than traditional media. Low-speed internet connections are another barrier for customers. If the soft drink companies build large or

overly-complicated websites, individuals connected to the Internet through dial-up connections or mobile devices experience significant delays in the content delivery [40].

From drinks buyer's perspective inability to touch, smell, taste or try on non-alcoholic beverages, before the purchase of the internet may be limiting. However, it is the industry standard for e-commerce vendors to reassure customers that a liberal return policy, as well as providing for store pick-up service.

Security concerns. Information security is important for soft drinks companies and consumers who participate in online business. Many consumers are hesitant to buy things online because they do not trust that their personal information will remain private. Encryption is the primary method for implementing privacy policies. Another major security concern that consumers have with e-commerce merchants is whether or not they will get exactly what they are buying.

Figure 6. The main marketing problems in soft drinks company [10]

Problem:	Explanation:
Customers	The company is not sufficiently market focused and customer driven.
Competitors	The company needs to better define and monitor its competitors.
Stakeholders	The company has not properly managed its relationships with its stakeholders.
Target customers	The company does not fully understand its target customers.
Opportunities	The company is not good at finding new opportunities.
Planning	The company's marketing plans and planning process are deficient.
Product and service	The company's product and service policies need tightening.
Communications	The company's brand-building and communications skills are weak.
Marketing	The company is not well organized to carry on effective and efficient marketing.
Technology	The company has not made maximum use of technology.

1.7.4. Innovations problems

Innovation in soft drinks company, is a way to do something new that is made useful. In addition to the organizational context, innovation may be linked to performance and growth, improving efficiency, productivity, quality, competitive positioning, market share, etc. While innovation typically adds value, innovation may also have a negative or destructive effect as the new actions clear away or change old organizational forms and practices. Beverage product innovation in the development of customer service is expensive and a risky process because it may affect the shareholders' return.

Failure of innovation. Research findings vary from 40 to 80 percent of innovation projects considered soft drinks that have made little or no contribution to organizational goals. One survey of soft drink product innovation quotes that out of two thousand ideas for new products in the market only one has success [49]. Failure is an inevitable process of innovation, and refreshments of the most successful organizations in the appropriate level of risk factor. Perhaps it is because all the organizations experience failure that many choose not to monitor the level of failure very closely. The impact of failure goes beyond the simple loss of investment. Failure may also lead to lose morale among employees, to increase the cynicism and even higher resistance to change in the future.

The causes of failure have been widely researched and can vary considerably. Some causes will be external to the soft drinks organization and outside its influence of control. Others will be internal and ultimately within the control of the organization. Internal causes of failure can be divided into causes associated with the drinks cultural infrastructure and causes associated with the innovation process itself. Failure in the cultural infrastructure varies between soft drinks organizations but the following are common across all soft drinks organizations at some stage in their life cycle [73]:

- Poor Leadership
- Poor Organization
- Poor Communication
- Poor Empowerment
- Poor Knowledge Management

Common causes of failure within the innovation process in most soft drinks organizations can be distilled into five types:

- Poor goal definition
- Poor alignment of actions to goals
- Poor participation in teams

- Poor monitoring of results
- Poor communication and access to information

Beverages innovation can fail if seen as an organizational process whose success stems from a mechanistic approach. Change control, performance and structure of the emphasis is only a partial truth to achieve innovation. Organisational gatekeeper's frame of soft drinks organizational environment enables innovation. However, innovation is the way - found, developed, applied and adopted - through individuals.

1.7.5. *Environment problems*

Data study shows that 75% of people leave the sheets of paper, beverage bottles, cans or something on the street behind. Young people between 15-28 years makes soft drinks cause litter more than the average person. But older people also cause litter. For example, 20% of people who regularly have non-alcoholic drinks litter was 50 years old or older [33].

Local environmental impacts. As with all highly concentrated industry, the glass is suffering from an average high local environmental impact. Compounding this is because it is a mature market business and companies are often located in the same place for a long time, and this led to residential encroachment. The main effect of housing and urban are: noise, fresh water use, water pollution, NOx and SOx air pollution and dust.

Global environmental impact. The major global impact factor is the CO₂ production of burning fossil fuel in the oven, and electricity production to supply compressors for heating. Usually a ton of glass packaging will liberate from 550 to 850 kg of CO₂, assuming gas furnace and coal-fired electricity usage [35]] In the areas where there is a renewable or nuclear energy, the CO₂ released comes only from itself of the carbonates to oxides in the glass ingredients.

Effects. Beverages litters are environmental, economic, health and aesthetic problem, affecting all regions of the world. Soft drinks litters can harm the environment in different ways. It is the breeding ground of the disease-causing insects and rodents. This ugliness of scenic environmental the damage appearance. Open containers such as paper cups or beverage cans can hold rainwater, providing breeding places for mosquitoes, which have been known to cause diseases such as west Nile virus and malaria. Uncollected litter can attract more flowing into streams and storm water drainage systems, local bays and estuaries. Entanglement and ingestion of soft drinks litter is directly harmful to wildlife and the environment in which they live. Litter can cause habitat destruction also.

Economy/aesthetics. Soft drinks litters along the beautiful beach and the water destroy the beauty and enjoyment of these areas and hence have a negative impact on tourism

and economic benefits it brings. Maintaining the beauty of these areas costs time and money for both the private and public sectors. Ghost fishing, which is when the fishing is accidentally caught in lost or abandoned fishing gear, nets and pots can also cause economic losses for fisheries. Soft drinks wastes dumped or transported to the beaches by the wind and waves could threaten public health through disease transmission. Broken glass and other sharp objects can cause harm to people - especially young children. [32]

1.7.6. *Management problems*

Contracts. There are many food and drink companies whose cannot agree to simple rules of engagement after the start of the contract. Therefore, suppliers can not achieve the agreed terms of any interest or changing the standard box quantities without notice.

Performance. Drinks manufacturers should take supplier management and procedural issues in a serious storage perspective, as a poor performance in the supply chain can lead to a huge direct impact on the whole organization. While managing suppliers more effectively will bring better visibility and control, clear storage systems can improve the performance overnight. Many retail stores, food and beverage sectors, where poorly organized management of stock has brought chaos. Poor visibility for what stocks are considered to be (and what quantity and quality) creates huge inefficiencies and wastes workers time for looking warehouse of locating the products. [11]

Disciplined process. The buying operations of several companies - orders of all suppliers separately, often encounter problems with regard to the management of stocks when not using a centralized system. This can usually occur within the drinks sectors, where several plant source packaging from the same supplier, but are unable to coordinate their order processing. Inevitably, this leads to poorly disciplined process in which there is little visibility. Moved to the most appropriate and accessible location is extremely important and effective process that drinks manufacturers need to do it regularly. Although the assignment of moving very slowly, and their respective shares of stock is an important process in place too.

Logistics. Cross-docking is a logistics solution to the food and beverage companies which they can use for handling fast-moving stock. Manufacturers should take into account the faster moving products in the quantities and look for opportunities to simplify the handling of the sales outlets.

The human touch. Many inventory management issues arise from the fundamental human error, often in the input information space. Errors made during the process of obtaining, for example, entering operations mistakably 240 units instead to 24 units in the

system. Again, having clear guidelines when it comes to a common understanding of what the unit actually is, may be confusing area between the warehouse staff. It is possible to solve educational and training sessions, or providing a product guides with pictures, in order to ensure the contribution of errors is minimal. Dimensions and weight checks can also be built into the process to ensure accuracy.

Summing up the first chapter:

- The soft drink industry is highly competitive global industry. North America, Europe and Japan are the most mature markets for global soft drinks. Coco Cola and PepsiCo Inc have significant control over the global soft drinks market and both have similar business organizations and processes worldwide.
- The soft drink industry sold products to consumers through five principal channels: food stores, convenience and gas stations, fountain, vending, and mass merchandisers. The least profitable channel for soft drinks is the fountain sales and the most profitable – vending.
- The main problems and topicality of the soft drinks sector: health, competition, marketing, innovation, management and environment vulnerability.

2. LITERATURE RELEVANT TO SOFT DRINKS SECTOR ANALYSIS OVERVIEW

2.1. Theoretical study of creating the brand

An advertising. Langmaid and Gordon (1988) was one of the early, who attempts to categorize brands. They classified brands into nine categories, based on a consideration of advertisements, representing a role in advertising, varying from simple through to complex branding. By contrast, at the most complex end of the spectrum, they identify structural branding. While their typology is of value to advertisers, its overt advertising bias restricts its value as an aid in evaluating how to employ the other elements of the marketing mix. [57]

An eight-category typology [57]

1. Brand - a sign of ownership
2. Brand - differentiating design
3. Brand - a functional device
4. Brand - symbolic device
5. Brand - a risk reducer
6. Brand - a shortage device
7. Brand - a legal device

8. Brand - a strategic device

The review of building brand personality. When a brand has a well-defined personality, consumers interact with it and develop a relationship. The nature of a relationship between people can be inferred by observing their individual attitudes and behaviors. Likewise as Blackston argue, the nature of a relationship between consumers and the brand can be determined through the attitudes and behaviors they display towards each other, in particular [59]:

- How consumers perceive and react to a brand;
- How the brand behaves and reacts to the consumers.

Marketers first of all have to understand how consumers perceive the brand as the object of their attitudes; secondly, they need to discover the subjective brand, with its own set of attitudes. This dual perspective provides a more realistic insight into consumers' perceptions than the single-sided traditional analysis of consumers' views of the brand. Marketers need to undertake market research to unearth what consumers think the brand thinks of them.

Brands can also act as relationship partners for consumers, enabling them to resolve personal issues. The nature of these relationships is varied and Fournier has identified fifteen different types of good brand relationship and the following attributes are necessary [63]:

- Love and passion (affection for the brand)
- Self-concept connection (a sense of belonging or make them feel younger)
- Interdependence (part of the consumer's everyday life)
- Commitment (faithful to the brand through good and bad times)
- Intimacy (familiar with the brand and understand it well)
- Partner quality (trustworthiness)
- Nostalgic attachment (pleasant memories)

Theoretical analysis of brand positioning in the market. In general, positioning a brand means emphasizing the distinctive characteristics that make it different from its competitors and appealing to the public [58]. This can be reflected in the following Figure 2.

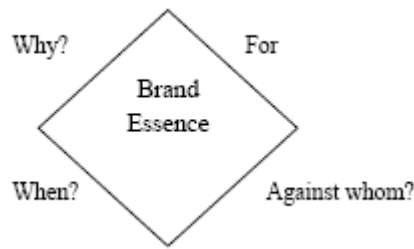


Figure 2. Brand positioning model [58]

As Kapferer states, positioning is very essential as it evokes that all consumer choices are made by comparison. Thus, a product will be only considered if it is clearly part of a selection model. Therefore the four questions that helps to position the new product or brand and make its contribution immediately obvious to the customer. Kapferer also suggests two stage process of positioning [58]:

- Indicate to what competitive set' the brand should be associated and compared;
- Indicate what the brand's main difference is in comparison to the other products and brands of that set.

Brand positioning is based on principle: all choices are comparative. Identity expresses the brand's intangible and tangible characteristics – everything that makes brand what it is. Identity draws upon the brand's roots and heritage – everything that gives it its unique authority and legitimacy within realm of precise values and benefits. Positioning is competitive: customers make choice, but with products, they make comparison. Products increase customer choice, brands simplify it. Positioning is competition-oriented: it specifies the best way to attack competitors' market share. [58]

As Kapferer identifies, the brand positioning can be built on these factors:

- The competitive environment.
- The target.
- The consumer insight.
- The benefits brought by the brand.
- Brand values and personality.
- The reasons to believe.
- The discriminator.
- The brand essence.

Scholars identify five phases to this process [61]:

1. The understanding phase is about identifying all potential added values for the brand, based on its identity, roots, heritage, and prototypes, as well as its current image.

Analysis required of competitors, customers, markets, where opportunities and areas of interest are identified.

2. The exploration phase is about suggesting scenarios of the brand. The questions: whom, why, when, for whom should be answered. This is how can be angle of attack of the market/competitors identified.

3. The test phase is the time when scenarios are either refined or eliminated. It requires consumer studies to evaluate the credibility and emotive resonance of each scenario.

4. The strategic evaluation takes the form of a comparison of scenarios based on criteria, followed by the economic evaluation of potential sales and profits.

5. Implementation and activation phase is all about defining the brand's marketing strategy, functional objectives and campaign plan.

To sum up, brand identity and brand positioning construct a brand platform, by which the general brand should be developed. All the principles should be consistent for successful identity and positioning formulation.

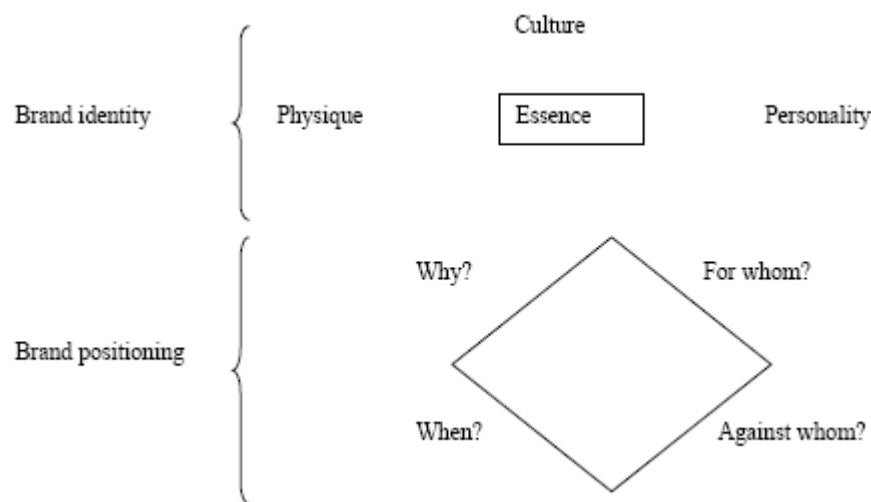


Figure 3. Brand platform according to Kapferer [58]

2.2. Foreign market entry modes

According to Bo and Shuqin one the main problem for firms to enter foreign market is the choice of the foreign market entry mode. The selection market entry modes depends on such factors as degree of enter risk, economic return and control right of newly established enterprise. According to these factors entry modes can be classify as Export, Acquisition, Franchising, Joint Venture and Green Field Investment. Buckley and Casson suggested a prediction model for choosing the entry mode, depending on the factors which occurs when entering the foreign market [52]. The prediction model is shown in the Table 7.

Table 7. Foreign market entry modes: factors and effects [52]

Factor	Effect
An increase in transportation cost or loss of economies of scale in domestic production	Licensing and wholly-owned foreign production
Specific type of technology	Greenfield production is required to acquisitions and licensing
An increase of the cost of building trust	Greenfield FDI and arm's-length contractual arrangements are preferred to acquisition
High cost of learning about the foreign market through experience	No inclination towards acquisitions, licensing and franchising as well as subcontracting or Greenfield FDI in distribution
High transaction costs in intermediate goods	Vertical integration of production and distribution, which can be achieved by exporting to a wholly-owned distribution facility, licensing, or vertically-integrated joint venture
High transaction costs of arm's-length technology transfer	FDI is preferred to arm's-length arrangements such as subcontracting
The presence of significant monopoly rents associated with a high cost of competition	Acquisition is preferred to Greenfield FDI in either production or distribution. Also, a long-term arrangements (such as licensing) are preferred to short-term arrangements (such as subcontracting and franchising)

There are a lot of entry modes of entering foreign market in this part of theory and only the appropriate ones for the apparel's industry will be discussed.

Exporting. Exporting has been traditionally regarded as the first step to entering international markets, serving as a platform for future international expansions. Lu, J.W. & Beamish, P. W. made a research on internationalization and studied several advocates (Kogut and Chang, 1996; Dalli, 1995; Zahra, Neubaum, and Huse, 1997; Root, 1994; Sullivan and Bauerschmidt, 1990; Erminio and Rugman, 1996; Aaby and Slater, 1989; Kim *et al.*, 1993; Ramaswamy, 1992) which led to these findings [53]. Exporting provides SMEs to gain valuable international experience with fast access to foreign markets and little capital investment. The most obvious gains received from exporting are related to scale and scope economies as achieved from larger volumes of sales and production made possible by revenue growth in the geographic extension of markets. In addition, a presence in multiple, diverse international markets can lead to advantages related to increases in market power and gains from the diversification of revenues. The potential economic benefits from exporting, together with the stepping-stone effect for future international expansion, suggest that the extent of exporting should be positively related to an SME's financial performance. [56]

Different authors provide their reasons for a country which may be able to export them good or service (see Table 8).

Table 8. Reasons for exporting (created by author)

	Author					
Reason	Branch A.	Albaum G., et.al	Kumar P. & Ghosh A.K.	Cook T.A.	Weiss K.D	Nelson C.A.
Domestic contraction	X					
Production cost is lower			X		X	
Price sold abroad is larger			X		X	
Economies of scale		X	X	X		X
Products are horizontally different			X			
Less intensive competition				X	X	
Better quality products		X				X
A specific good	X					
New product		X				X

According some authors one of the reasons to start exporting is to introduce a new product, which is demanded worldwide and the country. Another aspect is specific goods which only have a particular country and it does not entirely uses. Such goods can be natural resources. Moreover, some countries might have a strategic option know - how might produce better quality products that are demanded by foreign markets. In other authors' opinion, the reasons to export could be lower quality requirements and less intensive competition abroad. Horizontally different production is one more reason to enter foreign market. Falling price, better quality, larger quantities produced, and the domestic market is known through such factors as economies of scale. The price of goods or services which can be sold abroad at a higher rate comparably to domestic prices is other aspect which encourages export and it concludes to the lower production cost. A domestic contraction of demand leads the producers to discover new markets for their production capabilities.

Joint Venture. Joint venture is co-operative strategy, in which the manufacturing facilities and strategic option know-how of the local company are combined with the expertise of the foreign firm in the market. Especially the large, competitive markets use this strategy where it is hard to acquire property to set up the retail outlets or there are other kinds of obstacles that require co-operation with a local company. [55]

Bukley and Casson generalized the basic factors for establishment of joint-venture, including:

1. The possession of complementary assets;
2. Opportunities for collusion;
3. Barriers to full integration.

The main characteristics of joint venture according Gutterman are [55]:

1. Contractual arrangement;
2. Specific limited purpose and duration;
3. Joint property interest;
4. Common financial and intangible goals and objectives;
5. Shared profits, losses, management and control.

The main advantages of choosing the joint venture are described by Hill and Jones [54]:

- A firm can benefit from a local partner's knowledge of the host's country competitive conditions, business systems, political systems, culture, and language.
- When the development risks and costs of entering the foreign market are high, a firm can win by sharing this risks and costs with a local partner.
- The joint venture is the only accessible way for the firm to enter another's country market, as the political considerations of that countries allows such way.
- Despite all the advantages joint venture has disadvantages too:
- A company that enters into a joint venture risks giving control of its technology and brand name to its partner as with the licensing and franchising.
- A joint venture does not give a firm the tight control over subsidiaries that it might need to realize experience curve or location economies.
- Nor does it give a firm a tight control over a foreign subsidiary that it might need for engaging in coordinating global attacks against its rivals (Hill, Jones, 2009).

The most successful examples of joint ventures are LG and Phillips, Nokia and Siemens AG, Columbia Pictures and HBO, Tata Teleservices and Virgin Group, CBS

Corporation and Warner Brothers, Colgate-Palmolive, Sony and Ericsson, and CBS, General Motors.

2.3. New concept of the companies examination based on the value driven strategies by P. Kotler

The financial system and economic situation in the world changes crucially, the overall population number is growing rapidly, the climate situation varies year by year, and finally, technology is shifting from the mechanical world to the digital world. These and other changes accordingly to P. Kotler require a major rethinking of marketing.

Kotler states that if companies want to succeed they should understand that nowadays consumer increasingly appreciate co creation, communalization, and characters. Co creation means that companies are looking for the new innovative ways for product creation and experience this by collaboration with other companies, consumers, suppliers, and channel partners interconnected in a network of innovation. For this reason companies firstly should create —platform which is a generic product that can be customized further. Secondly, within a network let individual consumers customize the platform to match their own identities. Finally, ask for consumer feedback and enrich the platform by incorporating all the customization efforts made by the network of consumers. [62]

Kotler suggests using value-based matrix for building a new brand strategy. A value-based matrix is introduced where, on the axis, the company strives to occupy the minds, hearts, and spirits of the customers. The other axis takes into account the company's mission, vision, and values). Kotler states while delivering performance and satisfaction to the customers at the product level a brand ought to be seen as realizing emotional aspirations and practicing compassion in some form (see Table 9).

Table 9. Value-based matrix model by P. Kotler [51]

INDIVIDUAL				
COMPANY		Mind	Heart	Spirit
	Mission (Why)	Deliver SATISFACTION	Realize ASPIRATION	Practice COMPASSION
	Vision (What)	Profit Ability	Return Ability	Sustain Ability
	Values (How)	Be BETTER	DIFFERENTIATE	Make a DIFFERENCE

2.4. Industry concentration literature overview

In scientific literature there are production and market concentration. In production concentration the quantity expression is company's production program [25]. This concentration process could be direct and indirect. Direct indicator – current technical equipment and staff. Indirect indicator – company's management level: its position activity, resources and availability, group and command labor spirit, capacity to solve problems and to learn quickly.

Besides, for concentration investigating are using: Entropy measure, index of Rosenblutas, index of Horvatas and others. Majority indicators variation is being calculated in order to avoid shortage. [28]

Industry concentration could be like process in which less companies belonging to the same activity sell more shares of production. Industry concentration determines market concentration. In the dictionaries we can find that company making its activity concentrated seeks to get one, but big or few smaller markets shares without seeking small part in big market. This conception focuses on final market aim – to get more market share. Besides this strategy could be dangerous when demand of the production is decreasing or increasing concentration.

According many authors concentration can be expressed like company's expansion in many ways. Once it can be like a choice to produce one product and all efforts for improving manufacturing, expansion, development.

In many cases measurement of concentration is based on concept of the curve. In coordinate system abscissa axis market players are added by decreasing size or in ordinate axis – their accumulation values [29] Measures of this conception are discrete or cumulative. Discrete measures evaluate only part of concentration curve points, cumulative – all in ordinate axis market players' size values. Among discrete concentration measures well known and widely used is concentration index CI [27]. M – market player, I – the proportion of market player's sells and the total amount of sales.

2.5. Structure – Conduct – Performance method literature overview

A number of studies relevant to structure – conduct – performance analysis have been conducted for various industries and commodities and products. The general objective of these studies was to investigate the factors that affect the structure conduct performance of the specific industries. These studies provided the basic background information needed to formulate the structure – conduct – performance model used in the industries.

Byeongyong and Weiss tested the traditional structure-conduct-performance model and the efficiency structure hypothesis to examine the relationship among market structure and performance in property-liability insurers. The efficiency terms in this analysis were estimated using a stochastic frontier analysis. This analysis supported the efficiency structure hypothesis. The results found that efficient firms charged lower prices than competitors causing them to capture larger market shares which lead to increased concentration. [27]

Smirlock tested the structure performance hypothesis and efficiency hypothesis using regression of the firm's profitability against the traditional hypothesis with a proxy for relative efficiency. The firm's profitability was measured by q which is the firm's market value divided by replacement costs of its assets, the variables used to represent the traditional hypothesis were concentration, entry barrier, and growth rates, and the proxy used for relative efficiency was the firm's market share. The results of this analysis strongly supported the efficient structure hypothesis. [46]

Summing up the second chapter:

- Langmaid and Gordon was one of the early, who attempts to identify structural branding employing element of the marketing mix. Fournier has identified types of good brand relationship and the necessary attributes. Brand positioning is based on principle: all choices are comparative. According Kapferer it specifies the best way to attack competitors' market share.
- According to Bo and Shuqin the selection market entry modes depends on such factors as degree of enter risk, economic return and control right of newly established enterprise. Exporting provides SMEs to gain valuable international experience with fast access to foreign markets and little capital investment. Joint Venture strategy is used where it is hard to acquire property to set up the retail outlets or there are other kinds of obstacles that require co-operation with a local company. [55]
- According many authors concentration can be expressed like company's expansion in many ways. Once it can be like a choice to produce one product and all efforts for improving manufacturing, expansion, development [25].
- Byeongyong and Weiss tested the traditional structure-conduct-performance model and the efficiency structure hypothesis. The results found that efficient firms charged lower prices than competitors causing them to capture larger market shares which lead to increased concentration. [27]

- Smirlock tested the structure performance hypothesis and efficiency hypothesis using regression of the firm's profitability against the traditional hypothesis with a proxy for relative efficiency [46]. The results of this analysis strongly supported the efficient structure hypothesis.

2.6. Structure – Conduct - Performance method application for industry analysis: theoretical application

2.6.1. *Market structure – conduct - performance hypothesis*

In the SCP paradigm there are two competing hypotheses: the traditional structure performance and efficient structure hypothesis. The structure performance hypothesis claims that the degree of competition is inversely related to degree of market concentration. This is because market concentration encourages companies to reconcile actions. The standard SCP paradigm asserts that there is a direct relationship between the degree of market concentration and the degree of competition among firms. If positive relationship between market concentration (measured by concentration ratio) and performance (measured by profits) exist, this hypothesis will be supported, independently of efficiency of the company (measured by market share). In such a way firms in more concentrated industries will earn higher profits than firms in less concentrated industries, regardless of their efficiency. [44]

The efficiency structure hypothesis means that efficiency of the firm is positively related to its performance. This is because market concentration appears from competition where companies with low cost structure increase profits by reducing prices and expanding market share. A positive relationship between company profits and market structure is assigned to the returns made in market share by more efficient companies. In turn, this growth rate could increase market concentration [47]. More efficient firms are assumed to accrue increased profits, because they are more efficient.

2.6.2. *Construction of the variables for structure – conduct – performance analysis*

Market structure consists of the stable features of the market. These features influence the competition among the sellers and buyers in a market. Some examples of the market structure: the number of buyers and sellers, the nature of trading relations among market participants, barriers to entry into the market...

Market conduct refers to the models of behaviour that traders and other market participants adopt to affect the markets in which they sell or buy. Some examples of the market conduct include buying and selling practices, price setting behaviour.

Market performance means to the extent to which markets result in outcomes that are deemed good or preferred by society. Market performance is about how well the market fulfils private and social objectives. Some examples would be: price stability in the long and short term, price levels, costs, profit levels, efficiency and quantities and quality of products sold.

Market share is the share of firm in time period. The proportion of the market that the firm is able to capture is referred to as the firm's market share and can measure the firm's performance relative to competitors. Market share is estimated by dividing individual firm's revenue with the total industry revenue. It is often associated with profitability. Firms seek to increase their sales relative to competitors.

The market concentration of firms in an industry is interesting for business strategists, economists or agencies of government. The most used method of measuring industry concentration: is the Concentration index. The concentration index shows the percentage of market share owned by the largest firms in an industry. These largest firms are often 4, but sometimes could be a larger or smaller number.

According literature the structure-conduct-performance paradigm was devised over half a century ago to explain industry dynamics. However, the framework suffers from a number of shortcomings and, consequently, it has been criticized over the years. Yet, it is still used in industrial organizations for the purposes of competitive analysis. [47]

The SCP framework attempts to analyze the competitive conditions of industries by examining how the underlying structure (the factors that determine market competitiveness) of an industry is related to, and affects the conduct (the behaviour) and performance (success in the industry) of firms. The framework also considers public policy as having an impact on affecting firms' structures and behaviour and regards the basic conditions of supply and demand in any industry as influencing that industry's structure.

According the findings in the scientific literature researchers over the years has employed the SCP framework to investigate dynamics of the industry, competitive market structures, strategic change and structural evolution. Some have used the concept to examine intra-industry variations in the competitive behaviour and performance of firms. Others have used it to analyze mobility barriers, profitability differences and competitive positioning.

According to Van Cayseele and Van Den Bergh the strength of the SCP is that the original models of competition such as technological aspects, and buyers, number and size of suppliers choices over differentiated brands. All elements are integrated into a framework with performance indicators in that industry, by considering, the competitive behaviour of firms in relation to that industry's structure. [46]

Overall, the SCP approach seeks to explain and predict the performance of an industry, market or firms as a consequence of market structure and conduct. There is a stable and causal relationship between the structure of an industry, firm conduct, and market performance. Later studies have disagreed with the perspective of performance flowing from structure and argued that dissatisfaction in firm performance can lead back to changes in firm conduct, and consequently changes to structure.

2.6.3. General environments influencing market structure, conduct and performance

Market structure, conduct and performance could be affected by economic conditions, public policy, and environmental characteristics that emerge. The structure, conduct and performance of the market are being influenced of demand and supply of commodities such as incomes of the population, prices, population densities, availability of inputs and elasticity of demand and supply influence. For example, places which are populated with households that have low income cannot attract many sellers of products and services. The few traders who supply products to such places can charge higher prices than the costs they incur due to lack of competition. [47]

The structure, conduct and performance of markets can be influenced by government policies such as tariffs, subsidies, quotas, price controls, and export or import taxes. For example, the traders who get trading licenses (barriers to trade), or the volume of goods and services that traders can import into a country (performance) can be determined by license requirements, import taxes and import quotas [46]. Such government policies which restrict the flow of foreign trade into countries result into high consumer prices for imported products commodities.

2.7. Structure – conduct - performance method practical application

Observing the market structure, conduct and performance signals of potential industry insecurity can be early perceived. Analysing and understanding about the SCP of markets provides insights on the determination of industry security outcomes (performance), and indicators as well as the behaviour of those indicators to look for in order to determine whether the market is operating in a way that will likely have good or bad industry security outcomes.

The effects on industry security are influenced by the way markets perform in it. Households depend on markets in many ways. For example, farmers sell dairy, animals, beef, hides and skins on the market and obtain income. This income they used to buy food for home

consumption (maize and wheat flour). Many households sell part of the crop they grow to obtain income that they use to purchase food and other basic needs. In urban households spend many proportions of their incomes on food. While SCP was designed for more industrialized countries but this paradigm can now be applied to market analysis in developing countries because a number of modifications have been suggested and applied. [45]

The tables and SCP paradigm described below have been compiled from a number of previous market research studies and literature. This paradigm emphasis on countries' industries, which are developing. Additional literature, which covers more classical SCP is also included.

2.7.1. Market structure: applications and analysis

Market structure consists of the relatively stable features of the environment. These features influence the behaviour and rivalry among the all that are operating in a market. For example, if the market structure is characterized by high barriers to entry, it may result in entering certain markets and for only a few firms or traders profitably maintaining business activities. These few traders or firms may engage in non-competitive behaviour like collusion, exclusionary or predatory price setting behaviour [45]. This non-competitive behaviour can result in high marketing margins and higher profits for traders and forms.

Concentration can also result in low producer shares for producing goods. This can have a significant impact on the income and on the purchasing power of goods that depend on the market [72]. The common elements of market structure are summarized in Table 10. This table provides examples of how each element is relevant to market and what is the effect for the industry. This list can be very long, but I took into consideration only commonly used ones. Also, some elements are interdependent and tend to occur jointly.

Table 10. Elements of market structure [43]

Element of structure	Examples	Effect
Barriers to entry. This refers to factors that restrict the participation of households or traders in the market.	Lack access to credit	Traders fail to market or store commodities to sell when prices are high, thus reducing returns. When traders store and sell later in the season, seasonal price swings become less dramatic, leading to increased income and security of both producers and consumers.
	Traders pay high license fees before starting to trade	Small - scale traders and households are deterred from starting businesses or trading, which reduces their opportunities to earn income.
		High license fees deter traders from delivering output to markets by

		themselves, which leads to higher prices and low household income. Traders attempt to push the costs onto sellers in the form of lower producer prices and onto consumers in the form of higher consumer prices.
	Traders pay high export and import taxes	With export taxes, the countries goods become more expensive to potential importers, and producers in the exporting country obtain less income from the sale of their surplus output. With import taxes, traders and consumers in the importing country face higher prices, sometimes production shortages.
	Traders control critical locations and assets such as stores and markets.	A few traders limit the participation of other traders in the market, and make households to pay high input prices.
Vertical coordination/integration. Traders and livestock herders get less income depending on whether traders buy produce directly from sellers.	Traders sell their products in terminal, spot or auction markets	Traders obtain efficient or competitive prices because many buyers and sellers converge in terminal, spot or auction markets. However, spot market prices tend to be volatile, therefore subjecting households to price and income risks when prices fluctuate due to changes in supply and demand for commodities. In addition, traders can deliver commodities to spot markets but fail to sell when there are few buyers.
	Traders sell directly to buyers at their homes.	They get less income, but do not incur costs of transporting produce to markets.
	Traders sell through contracts to sellers	Traders obtain predictable prices and income, thus reducing production insecurity. Sometimes traders get lower prices compared to those obtained when selling on the spot market. Unlike selling on spot markets, however, if traders deliver in contract arrangements, the quantities are specified in advance, implying that traders have assured markets under contract sales.
	Traders engage in group marketing, or are organized as cooperatives	Traders obtain higher prices and income due to increased bargaining power, and trading in high volumes.

2.7.2. *Market conduct: applications and analysis*

Market conduct means to the patterns of behaviour that traders follow and how they adapt to changing market environment. Market conduct examples could be: price setting and buying behaviour and selling practices. In an environment with many buyers and sellers, the market tends to determine the price. If one trader tries to increase the price, he sells nothing. This means that people buy commodities and other inputs at prices that equal to the costs of producing the last unit of the products [47]. In contrast, if there are only a few sellers of goods in a market, these few traders can conspire and charge consumers higher prices, up to the level where consumers can afford to buy at a lower cost.

The activities carried out within the network are the most obvious conduct to be studied: the perspective of the behaviour and activities of the companies in their cooperation within the network. It is very important to understand the joint behaviour within a network.

The cooperative behaviours that follow from an organisation network are significant because networks are the sociological analogue of the type of small-numbers bargaining

situations. In transaction cost, game and agency theories there are a fundamental source of opportunism and inefficiency. The common elements of market conduct through behaviour at network level are summarized in Table 11.

Table 11. Different kinds of conduct through behaviour at network level [42]

Cost reducing activities	A joint marketing campaign; shared cost of administration; attempts to achieve economies of scale; attempts to accept large orders jointly, contributing to lower production costs.
Increased proceeds	Increased proceeds through increased sales resulting from joint marketing.
Specialization.	Member companies specialize on the value creating activities which they do best.
Stabilisation	Through cooperation better control of the environment is achieved.
Transferring knowledge	
Socialising.	This means the development of trust and confidence between member companies.
New products	New products development and further development of existing products. Cooperation with other members companies in the network.

Activities carried out by member companies are of interest here and are also intended to affect the network. Contacts of firms are often referred by individuals through direct contacts, during which commercial and social interaction takes place. Ongoing cooperation is often developing conventions, this cooperation includes ingredients: moral and fairness. [72]

2.7.3. Market performance: applications and analysis

Market performance means to the size to which markets result in outcomes that are considered good or preferred by society. For example, a desirable outcome could be regular and predictable availability of basic commodities at affordable prices or that traders do not obtain excessive profits, and that people meet certain sanitary standards [73]. In addition, prices paid by consumers should not be excessively above the cost of marketing, processing

and transaction costs for a given commodity, and the prices received should cover their costs of production [43]. Table 12 shows some of the market performance measures and their effects of the market.

Functioning of the market requires that some standard measurements, which can be compared to assess the deviation from what society considers normal. The establishment of market indicators is subjective. For example, a dealer who charges a higher price than a certain quantity of goods can be said that the market performs well even the consumer who pays a premium to say the market is inefficient spending.

Table 12. Elements of market performance [43]

Element of performance	Examples	Effect
Price levels and stability		
Long run	Consumer prices for production and livestock products are higher than normal during the same period of time in previous years.	Market dependant households with fixed amount of money have reduced access to products from the market
	Stable and affordable prices.	Households that depend on the market for specific products, become more production secure
Over space	The difference between consumer prices in two nearby locations differs by more than transport, marketing and transaction costs.	This spatial difference can indicate that areas with high prices are more insecure compared to those where prices of products are lower. Factors that cause this include poor infrastructure, civil unrest and climatic conditions.
Short run	Consumer prices of products change very frequently over a short period of time in some areas.	This subjects poor households to uncertainty and possibly reoccurring price shocks because products become very expensive to buy and planning or budgeting for basic expenditures becomes very difficult.
Profits (net returns)	Traders receive excessive profits or net returns from sales of products commodities.	This implies that traders are over charging products commodities, compared to costs they incur, thus reducing the amount of food that poor households can access relative to fixed incomes.
Margins and costs	There are large differences between prices paid by consumers and prices received by sellers compared to marketing, processing and transaction costs for a given commodity.	This indicates that produce buyers or processors are underpaying households that produce over charging households that buy production commodities for consumption. These two phenomena reduce incomes and access for households that depend on the market as a source of products, exposing them to insecurity.

Volumes (quantity)	There is a regular supply (volume) of products entering the market	No shortages of production in the market. This is good for products availability.
	Quantity of production entering the market falls below the usual average.	Prices can increase, reducing the amount of production that households can access.

2.7.4. *Combination of market structure, conduct and performance*

In Table 13 examples of how market structure sets conduct and performance and how they are related of producer households that depend on the market as a key source of products are provided. In the table there could be added many more variables and relationships, but these examples are sufficient to provide a good illustration of the main points. The last two columns are the most critical for measuring the effect of market structure and conduct on industry performance. It is argued that the competitive structure of companies, collecting most of the final consumer or retail prices of these conditions, the more monopolistic structure [47]. This implicitly means that the competition for producers to increase their income, they can use to buy more products from the market than in a monopoly or oligopoly.

The last column shows that on the competitive market structure, consumers will spend less money to buy products from the market than in an oligopolistic or monopolistic market structure. This means that with a fixed amount of money consumers are faced with competitive markets to buy more products than a consumer in monopoly or oligopoly market structure. Thus, competition in the market improves production and depends on the people in both rural and urban areas, all other things being equal.

Table 13. Structure, conduct and performance characteristics and effects [47]

Structural elements			Conduct variables		Performance variables			
Number of sellers/buyers	Cost of starting business	Economies of Scale	Ways of determining prices	Buying and selling practices	Net returns to traders	Marketing Margins to traders	Producer Share/Income	Consumer prices
Many	Low	None	Market (open)	Spot markets	Low	Low	High	Low
Few	Medium	Medium	Collusion. Discrimination	Contract sale. Commission	Medium to High	Medium to High	Medium	Medium
One	High	High	Collusion. Discrimination	Contract sale. Commission	High	High	Low	Low

Summing up the third chapter:

- The standard SCP paradigm asserts that there is a direct relationship between the degree of market concentration and the degree of competition among firms. The efficiency structure hypothesis means that efficiency of the firm is positively related to its performance.
- The SCP framework attempts to analyze the competitive conditions of industries by examining how the underlying structure of an industry is related to, and affects the conduct and performance of firms. The structure, conduct and performance of markets can be influenced by government policies such as tariffs, subsidies, quotas, price controls, and export or import taxes. [47]
- Market structure consists of the relatively stable features of the environment, which influence the behaviour and rivalry among the all who are operating in a market (buyers and sellers, the nature of trading relations among market participants. barriers to entry into the market). [43]
- Market conduct means to the patterns of behaviour that traders follow and how they adapt to changing market environment (buying and selling practices, price setting behaviour).
- Market performance means to the size to which markets result in outcomes that are considered good or preferred by society (price stability in the long and short term, price levels, costs, profit levels, efficiency, quantities and quality of products sold). [42]

3. EMPIRICAL RESEARCH: THE ANALYSIS OF THE SOFT DRINKS SECTOR IN LITHUANIA

3.1. National economy structure of Lithuania

According financial records Lithuania is a member of the European Union and has the biggest economy among three Baltic States. GDP per capita reached USD 17,800 in 2008 and was higher than Latvia, Russia, Belarus and Poland.[15]

Lithuania was the first of having moved away from central planning system and to break away from the Soviet Union to become an independent economy. GDP growth rate was positive 9 years till 2009, because Lithuania soon implemented liberal reforms. It becomes one of the fastest growing countries in the world last decade and enjoyed high growth rates after entering the European Union. Telecommunication infrastructure and multilingual, well-educated, workforce provide high quality business services and produce products worldwide. [18]

In 2005 the inflation rate was 3% and the GDP grew by 8%. In 2007 GDP growth reached its height increasing by 9,3 %. GDP growth rate in 2008 was still positive and Lithuania was the last among the Baltic states to be hit by the economic crisis. In the third quarter of 2009, compared to the previous quarter, GDP grew again by 7,1 % after 5 quarters with negative numbers. In the EU Lithuania's economy in the third quarter was the fastest. In the last quarter of 2009 Lithuanian economy rose moderately by 0.2%. [17]

Figure 4 shows GDP structure 2010 in Lithuania. The biggest side of GDP goes from trade sector and the smallest from construction, hunting, fishing and other agriculture activities. Sectors related to real estate and domestic consumption is still suffering from the economic crisis [19]. However, exporters have started making profits even with lower levels of revenue. Lower raw material prices and staff expenses are important of growing profit margins.

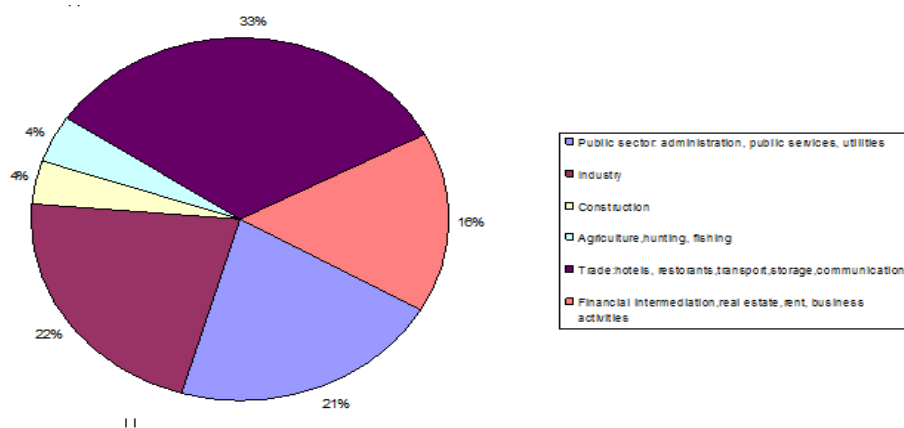


Figure 4. GDP structure by economic sectors in Lithuania 2010 (created by author regarding information from the Department of the Statistics)

Lithuania's key industrial sectors include energy, machine building, chemicals, metal working, textiles, construction materials and cement, forestry products, food processing, and electronics. Table 14 shows companies changes by numbers during three years period by industry. From this table it is seen that food and drinks industry manufactures' companies in 2009 decreased by 216 company and now are in the forth position after construction, wood and furniture industry and clothing – textile manufacturing industry. In 2006 food and drinks industry held third place by companies' numbers.

Table 14. Companies' numbers changes by the industry (created by author regarding information from the Register Centre)

Company number	2006	2009
FOOD AND DRINKS MANUFACTURING	1143	927
Clothing and textile manufacturing	1113	1046
Wood and furniture industry	2406	2372
Chemistry industry	124	116
Machine, equipment, electronic industry	529	504
Construction	3789	5478

3.2. Food and drink industry place in Lithuania's national economy

During 2009 food and drinks market prospects in Lithuania are closely linked to the contraction of the GDP growth (see Figure 5). Lithuania's recovery beyond economy crisis will be weak but food and drinks consumption values are forecast to post high growth levels. By 2014, spending on food and drink is expected to reach LTL13.52 bn. with the value contracting by 2.30% year-on-year [16]. However, for the duration of the economic downturn mass grocery retail margins will continue to be squeezed. Still, a number of foreign players indicating the belief in the longer-term potential of the food and drinks markets have invested in Lithuania.

The dairy industry makes the progress, but it does not mean everyone in the sector is prospering. Rokiskio Suris and Pieno Zvaigdes are top two local dairy firms. They counted for more than 39,9 % of dairy sales in 2009. Meanwhile, many smaller processors and farmers are still struggling to survive. Whilst fellow EU countries cannot, erect overt barriers against Lithuanian dairy products. Lithuania's dairy sector represents ability to go right in new accession countries. Lithuania decided to focus on local cost advantages and favourable geographical location to revive virtually moribund industry.

Domestic food and drink market in Lithuania should not be overlooked itself. Food and drinks consumption is expected to grow by 53.2% between 2005 and 2012 [22]. The percentage of household expenditure spent on food will fall slightly over the same period. The increase in price competition between retailers, hypermarkets and the development of discount retailers means that food and drinks get to the consumer for less, translating into lower and more efficient food and drinks spending.

External demand. The recovery will continue to be highly dependent on foreign demand. Prospects for the export-oriented industries remain good for this year as well, with exports to Lithuania's major export partners expected to grow very rapidly. Exports to Russia, Germany and Poland are very important, accounting for more than 30% of total exports in 2010 [68]. Electrical equipment, pulp and paper, textile, chemical and plastics industries continue to show a rapid recovery. Lithuania's export market diversification reduces the risk of high dependence on a single source of growth (see Figure 5).

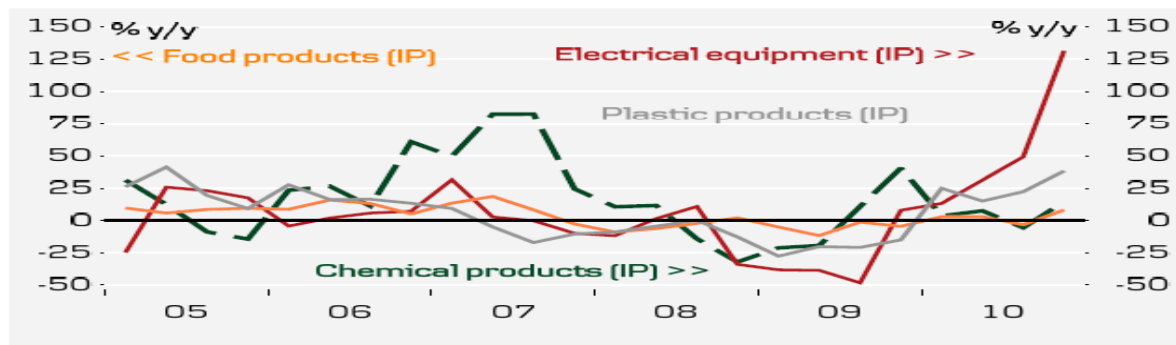


Figure 5. Lithuania's sectors growth in 2010 [68]



Figure 6. Lithuania export to Russia, Poland, Germany in 2010 [68]

Figure 7 shows soft drinks sector turnover from 2005 till 2009. We can see that non-alcoholic beverages have decreased about 17 %. When analysing published articles, television broadcasting about food and drinks consumption this figure shows different picture, because every year consumption and turnover are expected to be increased, but as we can see in 2009 turnover had decreased. Among other alternatives to drink soft drinks had good position and its share was 45 % in 2009 (see Figure 7).

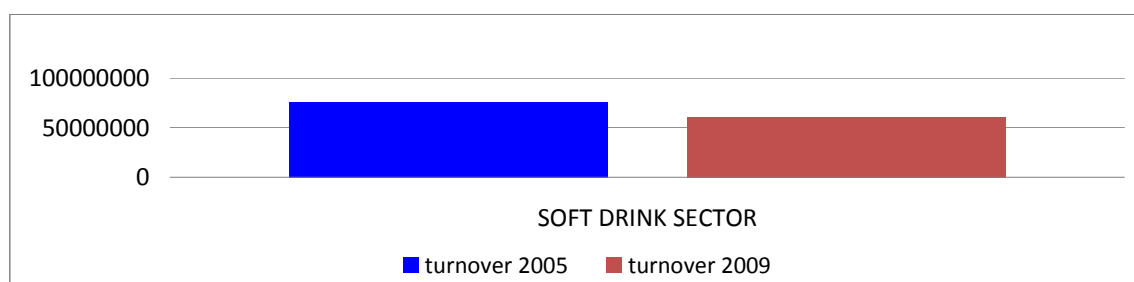


Figure 7. Soft Drinks sector turnover changes 2005 – 2009 (LTL) (created by author regarding information from the Department of the Statistics)

Table 15. Soft drinks sector geographical prevalence (2009) (created by author regarding information from the Department of the Statistics)

Town	Consumption
Alytus	3%
Kaunas	24%
Klaipėda	12%
Marijampolė	6%
Panėvėžys	13%
Šiauliai	12%
Tauragės	5%
Telšiai	4%
Ukmergė	4%
Vilnius	17%

According Table 15 in the bigger cities such as Vilnius, Kaunas, Panevezys consumption of soft drinks is bigger than in small cities such as Alytus, Telsiai, Ukmerge. In Kaunas there is the biggest consumption of soft drinks, where in Alytus the smallest amount of soft drinks buying. This tendency could be analysed that big cities are more urbanite and people living there choose more soda and carbonated drinks such as coca cola or sprite to be fashionable and to save time. Small cities people choose more their own make drinks with jam or syrup, milk and juice, so the consumption in small cities are less than in big ones.

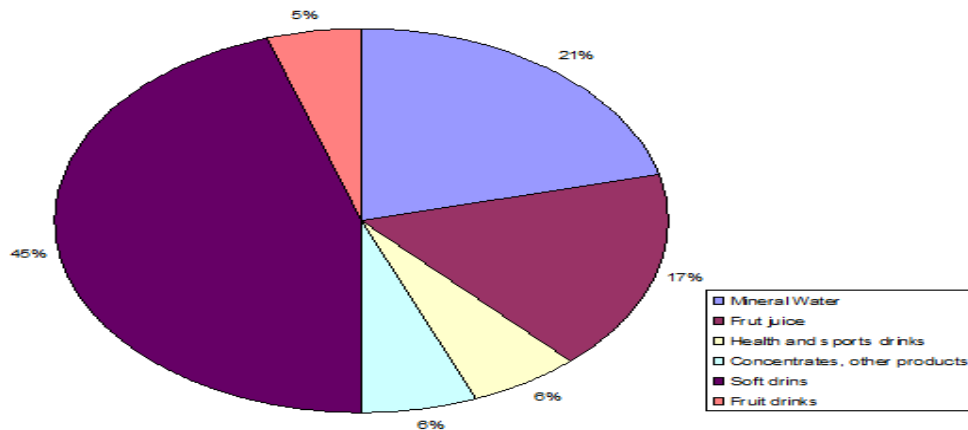


Figure 8. Total 2009 soft drinks market [9]

3.3. Future forecasts for food and drinks products manufacturers

The food industry has deep traditions and the past years were generous to this industry, because sales and profits were constantly increasing. However, the situation is already changing. According to data from the Department of Statistics, in the first eight months of 2009, food products and beverages manufacturing fell by as much as 4 per cent, whereas last year the growth was high at almost 22 per cent. However, food and drinks products exports are still increasing - this year, sales to foreign countries have increased by as much as 8 per cent. [21]

A bleak future for the food and drink industry possibilities for production realisation in the internal market and export are forecasted. Food and drinks are prime necessity products so this industry is one of the less sensitive industries to the changes in the cycle of business. The declining domestic demand will have a hard effect on manufacturers of gourmet products and more expensive products. In the forthcoming year the size and number of food and drinks enterprises will experience quite a number of combination and mergers. The most profound drops and flows are expected for Lithuania's dairy industry [22]. Large foreign companies probably from Russia and Scandinavia will try to conquer the domestic market by acquiring enterprises if the situation of local enterprises becomes more difficult, that find local companies in financial difficulties.

Positive, but slow average annual total volume and total constant value growth of soft drinks is expected over the economic grow period. Low consumer purchasing power is not expected to bounce back rapidly, which will limit the demand for soft drinks over the period.

The health and wellness trend is expected to grow even more strongly, affecting consumer preferences and new product developments [18]. This will lead to the launch of more health-positioned products, which emphasise natural ingredients, vitamin or mineral content or low sugar levels.

Table 16. Industry production sales growth comparison 2007 with 2009 years [14]

Increase manufacture in:	Growth rate:
Oil products	49,9 %
Machines and equipment	16,6 %
Furniture manufacture	17,0 %
Chemistry industry production	1,3 %
Decrease manufacture in:	
Food products	3,2 %
Wood and wooden articles	9,1 %
Building material	13,1 %
Textiles production	14,4 %
The biggest productivity in:	
Food and drinks industry	28,5 %
Textile industry	14,8 %
Wood industry	21,5 %
Chemistry industry	129,7 %
Machines and equipment industry	35,3 %

According Table 16 the biggest productivity was in food and drinks industry increasing by 28,5 %. This aspect shows that food and drinks industry are important to all Lithuania's economy and this industry are relevant to all of country's people. Food and drinks productivity could be influenced by country's law, taxes, import and export or other external factors [14]. But people just can't to refuse to use food or drinks, they can only reduce the amount of goods to buy or change their eating habits.

3.4. Lithuanian soft drinks sector characteristic

Soft drink sector are not separated part from food industry. It is difficult to calculated data only for soft drink sector. In all official second data resources soft drink are included in food industry. In Lithuania there are main five big soft drink companies, which we can refer as soft drink sector: Druskininku Rasa UAB, Selita ir Ko UAB, Birstono mineraliniai vandenys ir Ko UAB, Vaisiu sultys kooperatinė bendrovė and Neptuno vandens pristatymas UAB (see Figure 9). Soft drink sector is different from other manufacturing industry with its big direct consumer influence in specific products. New drinks survive in the market for short time, when analogues arise, so their added value is small.

Soft drink sector enlargement are influenced by these factors: sector renewal and investment, new markets, niches, partners searching experience, export competition, less dependence form one market, labour structural changes, old technologies and work organization, efficiently of small and medium business enterprise economy, people consuming habits [71]. Soft drink sector external factors: favourable market industry, globalization, direct foreign investment, export channels, human resources, energy, industry resources tendencies.

In 2009 the Lithuanian soft drinks market experienced a double-digit decline in both total current value and total volume terms. This year the performance was noticeably weaker compared with the steady growth seen over the rest of the five year review period. The economic recession reduced consumers' purchasing power, which was the main reason for the negative results in 2009 [22]. All soft drinks companies decreased in their turnover when compare 2005 and 2009. Only Selita and ko UAB had bigger turnover profits in 2009 than in 2009. The strong decline was driven by a poor performance in all the major soft drinks categories: carbonates, fruit and vegetable juice, bottled water and tea. Only low priced concentrates benefited from consumers looking for cheaper alternatives to other soft drinks, which resulted in slight positive growth for this category.



Figure 9. Brands of the biggest soft drinks companies in Lithuania

Growing consumer appreciation of health and wellness was the key trend in the soft drinks market in 2009. Consumers showed greater interest in healthier and more natural soft

drinks, with no artificial additives or sweeteners. This trend was beneficial to still bottled water, cold tea and juice, whilst it negatively affected sales of carbonates and carbonated bottled water. Companies increasingly emphasised the natural and health features of their products in their advertising campaigns.

In 2009 the off-trade channel strengthened its clear leading position in soft drinks distribution in Lithuania. There were no significant changes within off-trade distribution. Supermarkets remained the dominant distributor of soft drinks in Lithuania, due to high outlet penetration, a large number of discount promotions and the general consumer preference for modern retailing. Distribution through on-trade channels was more affected by the economic recession, as consumers significantly reduced their visits to on-trade outlets, and ordered less drinks with their food. [19]

According Figure 10 real soft drinks gross domestic product growth rate in Lithuania reached the peak two times in 2003 and in 2007. These peaks coincided with total Lithuania economy growth, because real GDP of the country was fixed in the highest rates over period 1996 – 2009. From 2003 GDP of the soft drinks sector decreased about 2 % and from 2004 starts to grow till 2007. After 2007 the situation had repeated. This situation is called cycles of the economics, when after economic peak goes economic recession. [17]

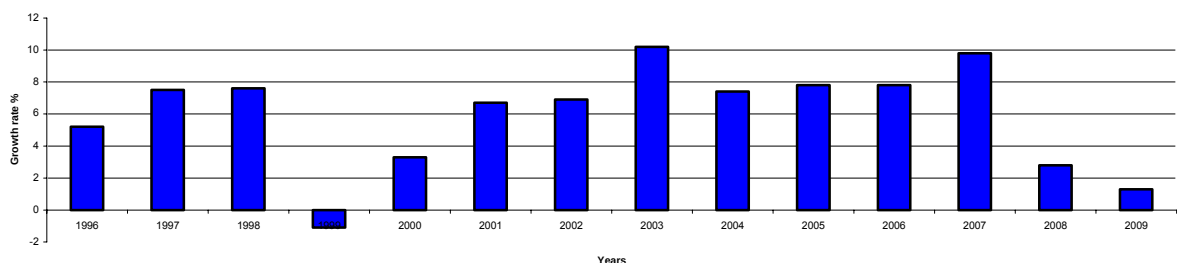


Figure 10. Real soft drinks sector GDP Growth rate in Lithuania 1996 – 2009 [17]

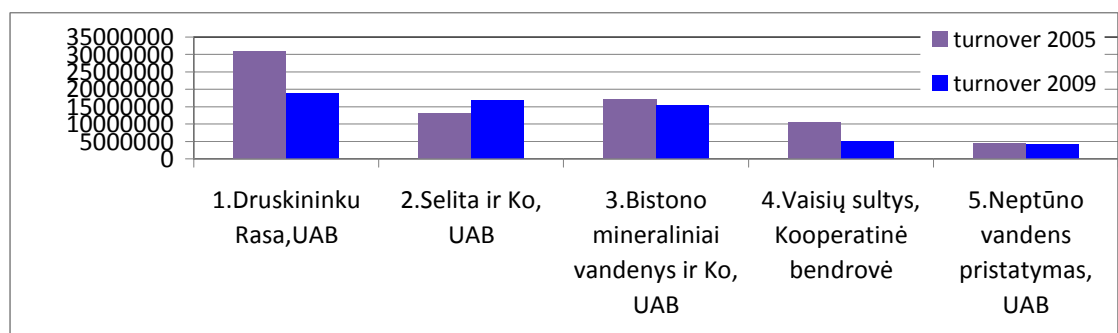


Figure 11. Soft drinks sector turnover 2005 – 2009 (LTL) (created by author regarding calculations from the companies' balance sheets)

Summing up the analysis of Lithuanian economy and soft drinks place in it:

- Last decade (1998–2008) Lithuania economy was one of the fastest growing in the world. Since the year 2000 GDP has almost doubled with a growth rate of 78%. Food and drinks industry manufactures' companies in 2009 decreased by 216 company and now are in the forth position after construction, wood and furniture industry and clothing – textile manufacturing industry. [14]
- The biggest side of GDP goes from trade sector (33%) and the smallest from construction, hunting, fishing and other agriculture activities in 2010. [17]
- During 2009 food and drinks market prospects in Lithuania are closely linked to the contraction of the GDP growth. The food industry has deep traditions and the past years were generous to this industry, because sales and profits were constantly increasing. Food and drinks consumption is expected to grow by 53.2% between 2005 and 2012. The health and wellness trend is expected to grow even more strongly, affecting consumer preferences and new product developments. Exports to Russia, Germany and Poland are very important, accounting for more than 30% of total exports in 2010. [68]
- In Lithuania there are main five biggest soft drink companies, which we can refer as soft drink sector: Druskininku Rasa UAB, Selita ir Ko UAB, Birstono mineraliniai vandenys ir Ko UAB, Vaisiu sultys, Kooperatinė bendrovė and Neptuno vandens pristatymas UAB. All soft drinks companies decreased in their turnover when compare 2005 and 2009. Only Selita and ko UAB had bigger turnover profits in 2009 than in 2009.
- According Figure 10 real soft drinks gross domestic product (GDP) growth rate in Lithuania reached the peak two times in 2003 and in 2007. These peaks coincided with total Lithuania economy growth.
- According Table 15 in the bigger cities such as Vilnius, Kaunas, Panevezys consumption of soft drinks is bigger than in small cities such as Alytus, Telsiai, Ukmerge.

3.5. Structure – conduct – performance application for soft drinks sector in Lithuania analysis

Introduction. This research deals with changes in Lithuanian soft drinks sector, which occurred during the 2005-2009 period. Chosen highlight main driving force – turnover, profit

indicators, companies' assets, equity, equipment, liabilities and concentration index into sector. SCP approach for sector analysis has been adapted and applied. Change of a set of indicators incorporated into presented variation SCP is being calculated and commented. On that basis it is evaluated analysis of soft drinks sector in terms of number of chosen indicators of soft drinks market players, sector expansion, concentration and financial performance efficiency.

Before analysis of Lithuanian Soft drinks market it is necessary to choose calculations measures of market concentration. Concentration index was chosen because it shows one point of concentration curves. This measure can show and not only one point, but few as well, but I need to cover soft drinks market changes. Sales volume of soft drinks companies is the most important for calculations.

In this research I adopt prevailing opinions about importance of soft drinks sector for economic health. Existence of close relation between soft drinks sector expansion and country economic development, not going into discussion what serves as cause, what, respectively, for consequence, is being taken as premise as well. Agreeing about importance of soft drinks sector in presented paper I strive to tackle the issues related to Lithuanian soft drinks sector specifics.

The main purpose of this study was to assess the market structure, conduct and performance (profitability) of the soft drink sector in the Lithuania by using panel data for the period 2005-2009.

The tasks:

- To detect how Lithuanian soft drinks sector has been transformed in terms of market players, turnover, profit, companies' asset, equity, equipment, liabilities and concentration starting from the 2005 to 2009.
- To analyse how market structure change impacted on general performance of considered sector.
- To make conclusions and recommendations for improving soft drinks sector profitability and growth.

Chosen data for the SCP analysis. All necessary data and other information for SCP analysis were found in collaboration with companies' managers, accounting departments, Department of Statistics, and the information from Register Centre. Additional information was taken from scientific literature articles and other secondary sources. Companies' balance sheet, profit-loss reports, capital change reports and financial accountability papers from 2005 to 2009 have been analyzed, calculated and presented within SCP analysis.

Research limitations and assumptions. Applying SCP methods analyzing sector there are many indicators, which can be chosen. Because of some data limitations I can adapt not all SCP methods indicators. Department of the Statistics gives data of food and drinks industry in Lithuania as a whole, but not only for soft drinks sector. It is accessible data only for the biggest companies producing soft drinks in Lithuania.

Because of this lack of data the assumption of soft drinks sector accusers that the main five market players producing soft drinks will consist analyzing soft drink sector. These companies are: Druskininku Rasa UAB, Selita ir Ko UAB, Birstono mineraliniai vandenys ir Ko UAB, Vaisiu sultys Kooperatine bendrove, Neptuno vandens pristatymas UAB (see Figure 9).

3.5.1. Adaptation of structure – conduct – performance approach for soft drinks sector analysis: literature overview and author's opinions

The role of soft drinks sector in general performance of any economy – developed or under process of development – usually is perceived important in consideration of countries food and drink producing. Approach towards role of all drinks producing in any economy is determined by making business servicing they perform. Despite authors do not argue about importance of soft drinks sector in economy, there is no common agreement about character and direction of relationship between level of soft drinks sector development and pattern of country economic growth. Some authors adopt an approach that economic growth and development of economic growth are driven by the same set of factors. Other group of researchers state that food and drinks export and import performing role to stimulate economic growth. Some studies propose that countries with well-developed agriculture tend to experience more rapid rates of real GDP per capita growth.

One common of analysis of firms' performance is to take into account structure of industry in which firms operate. A SCP approach provides a framework, which rather successfully could be applied for analysis of Lithuanian soft drinks sector. The SCP approach suggests starting from the structure of industry being analyzed [1]. Hence, I adopt a premise that firms' conduct, or behaviour, is determined by industrial structure. Then, having measured behaviour of firms, I can analyze their performance.

Before starting to employ SCP method, I need to discuss issues related to its application. The first facet under discussion concerns type of causal relationships between market structure, conduct and performance.

According to many authors, there is clear direction of causality from industry structure to conduct and to performance then. Nevertheless, some economists argue that relationships

between distinguished characteristics are much more complex, e.g. conduct can affect structure and performance could predetermine conduct, in its turn. As concerns my view on the direction of causality, we assume, that in my specific case conduct was the central determinant of market structure and performance, consequently. The arguments behind approach lie in very sharply expressed change of conduct style of soft drinks sector system during period being analyzed. [2]

All possibly used characteristics of conduct, e.g. price behaviour, product strategy, innovations, and advertising has been changed. Taking into account that conduct changes were triggered by turnover mainly, in the provided analysis conduct is to be characterized by latter indicator, which, is believed, in result has determined all main components of conduct (as mentioned above, pricing behaviour, product strategy, innovation and advertising policies) [4]. Now, after discussing direction of causality and choosing indicator reflecting soft drinks sector conduct specifics during 2005 - 2009 periods in Lithuania, aspects of market structure and performance under elaboration should be indicated.

3.5.2. Chosen indicators for structure – conduct - performance analysis of soft drinks sector in Lithuania

A brief characteristic of market players' change by number and capital origin is presented above. That is one of market structure's specific features if to apply SCP approach for economic sector analysis. Theoretically, market structure could be reflected by e.g. following indicators: number of sellers and buyers, product differentiation, barriers to entry, cost structures, vertical integration, and conglomerates [47]. In my soft drinks sector analysis research besides number of companies I am going to employ the following indicators: companies turnover, net profits, expressed in terms. The next indicators: companies assets, liabilities, equity would provide picture of scale of sector expansion and, partly, give at least partial ideas of barriers to entry. The last indicator, which has been chosen to characterize market structure, is market concentration index, calculated for 5 main market players. To perceive scale of transformation all indicators are given for each year of period under elaboration.

A performance block in SCP sector analysis could embrace profitability, efficiency, economic growth, and full employment and equity indicators. I am going to examine at profit/loss of companies' and change of their return on equity (ROE) and return on assets (ROA). SCP approach adapted for Lithuanian soft drinks sector analysis is presented in Figure 12. Below results of developed SCP application are to be presented.

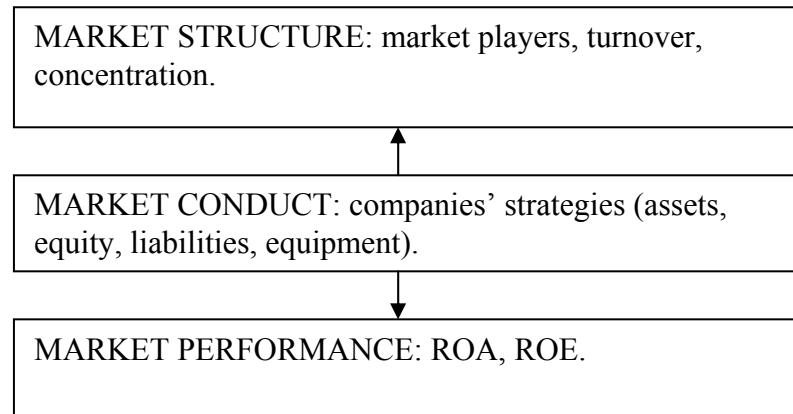


Figure 12. SCP approach adapted for Lithuanian soft drinks sector analysis (created by author)

3.5.3. Analysis of market structure and performance in Lithuanian soft drinks sector

In Lithuania for concentration question is too less attention. Nationwide there is no statistics about market concentration degree. So, it is difficult to make research for positive and negative consequences. My analysis tries to find soft drinks market concentration degree and influence to companies' profits. Essential market concentration feature is market structure with its market players and activity degree. Figure 13 shows soft drinks sector concentration changes between 2005 and 2009.

Recall that before a concrete model of considered economic sector analysis was devised, direction of causal relationships had been discussed. In my case I adopted assumption that it was an intensive inflow of turnover, which caused changes in market structure and impacted on performance and concentration of Lithuanian soft drinks sector simultaneously.

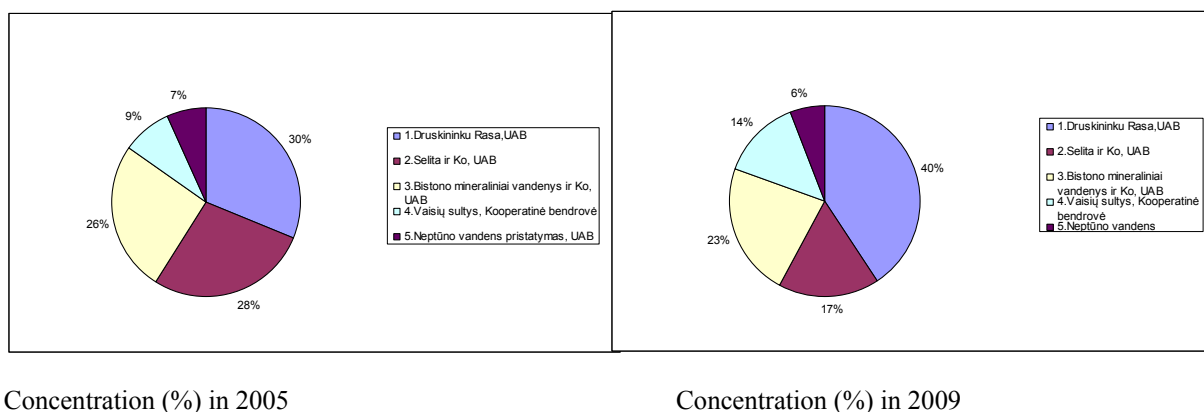


Figure 13. Soft drinks sector concentration (%) in 2005 and in 2009 (created by author regarding data from Department of the Statistics)

Juxtaposition of the considered indicators leads to a conclusion that structure of Lithuanian soft drink sector has changed from turnover side. If in 2005 the biggest soft drinks companies Druskininku Rasa and Birstono mineraliniai vandenys comprised 73 % of market, in 2009 they share diminished to 14 % due to other companies activities, but still they are one of the biggest among soft drinks companies with Selita ir ko 28%. Other smaller companies like Neptuno Vandenys remain no changes in turnover over discussed period, while Vaisiu sultys decreased 5% from 2005.

Return on Assets (ROA). ROA is an indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as "return on investment". The formula is presented as: [45]

$$ROA = \text{Net Income} / \text{Total Assets}$$

Return on Equity (ROE). ROE is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. The formula is: [45]

$$ROE = \text{Net Income} / \text{Shareholder's Equity}$$

ROA and ROE analysis in soft drink sector. Transformation of soft drink sector, caused by Net income is being reflected by performance indicators, which add to a whole picture of a change. In order to give evaluation of net income impact on performance of considered economic sector let us recall companies' balance sheets calculations and data provided officially. Investigation of relationship between big companies and the performance of the smaller companies in soft drink sector in Lithuania has been performed, panel estimations with 5 companies observations for 2005–2009 employed [20]. The main result of the study was that there is no difference in having better profits of big or small companies. The common intuition is that big companies should display a better performance than smaller companies, because they usually work global and have many channels. Changes of chosen indicators reflect that at the operation big companies performed the same as smaller companies (in some years higher or lower) (Figure 14).

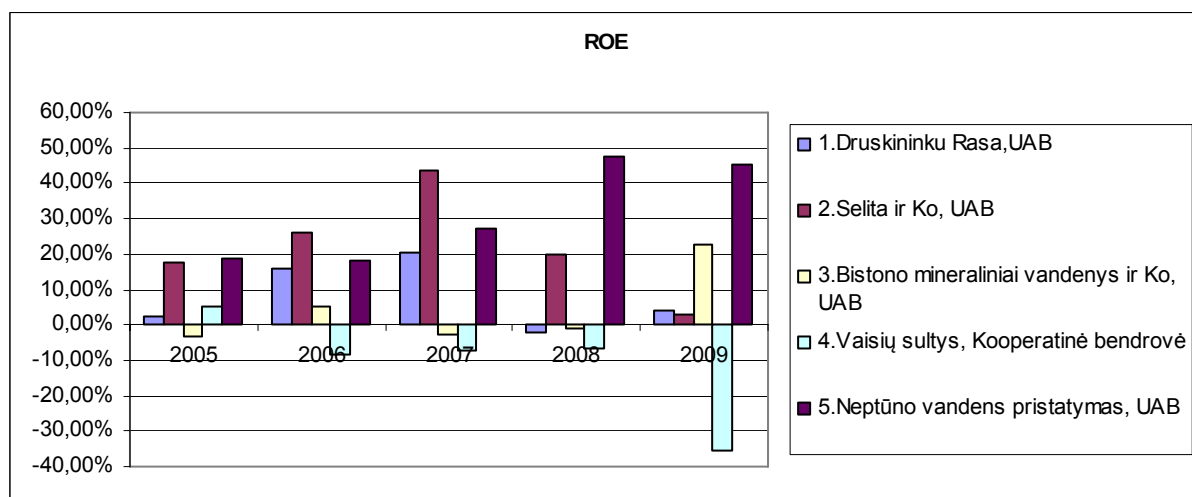
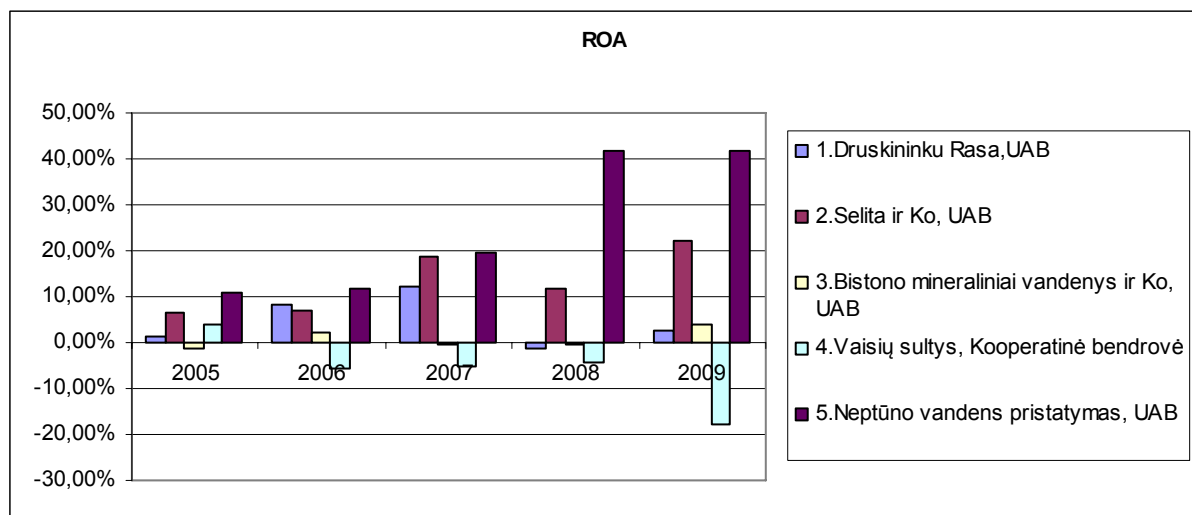


Figure 14. ROA, ROE changes by the company (2005 – 2009) (created by author regarding calculations from the companies' balance sheets)

That notice holds for all measures, e.g. big companies of sector experienced losses in 2008, while small companies displayed perfect performance in terms of profit estimated both in absolute numbers and return on assets (ROA) and return on equity (ROE). The most peculiar moment here is about small and big companies performance efficiency during considered period. Calculations show, that in the year period of 2005 - 2009 ROA levelled the highest in 2008 and 2009 of small companies and was equal to 40 %. As concerns ROE, it converged as well and equals to about 40 % in small companies as well. Taking in consideration about big companies of the sector ROA and ROE were the highest in 2007. Thus we have very clear evidence about crisis influence for small and big companies: small companies managed they performance better than big companies.

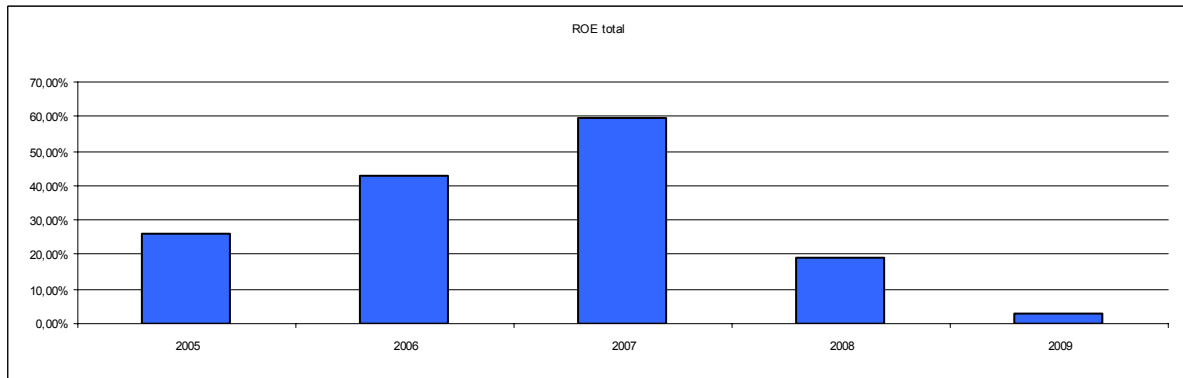


Figure 15. Soft drinks sector ROE changes between 2005 – 2009 (created by author regarding data from the Department of the Statistics)

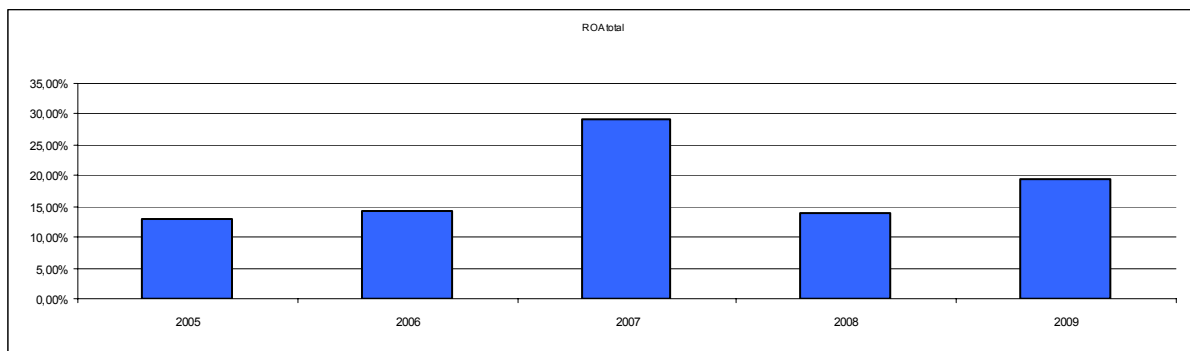


Figure 16. Soft drinks sector ROA changes between 2005 – 2009 (created by author regarding data from the Department of the Statistics)

When analysing total soft drinks sector (not by the company separately) ROA and ROE (Figures 15 and 16) shows that sector return on investments (assets) and on equity was the biggest in 2007. It means that sector profitability was in the highest rates between 2005 and 2009. Both ROA and ROE was increasing from 2005 till 2007, because of Lithuanians economy stabilization and growth. Soft drinks sector companies were investing more money in its assets and shareholders seem to invest their money into companies too. After 2007 the situation changed: ROA and ROE decreased about 30 – 40 % from 2007 to 2008. In 2009 ROE decreased about 60 % from 2007, because investors turn away from soft drinks companies. This action could be influenced by global economic crisis. Different situation was to ROA. From 2008 ROA increased about 15%. Soft drinks companies had been still investing in the assets seeking efficient management using their assets to generate earnings, despite shareholders absence.

3.5.4. Analysis of market conduct in Lithuanian soft drinks sector

Strategy is the creation of a unique and valuable market position supported by a system of activities that fit together in a complementary way. It is about making choices, trade-offs, and deliberately choosing to be different. Soft drinks companies marketing strategies may differ depending on the unique situation of the individual business. However there are a number of ways of categorizing some generic strategies [58]. The following factors impact the conduct of the soft drink industry is presented below:

- Investment strategy
- Landing strategy
- Innovation
- Research & Development expenditures
- Market dominance strategies
- Concentration strategies

These things can change very quickly. Conduct changes more frequently than structure does.

Market dominance strategies. Calculations of soft drink market dominance yield quantitative metrics, but most business strategists categorize market dominance strategies in qualitative terms. Typically there are four types of market dominance strategies that a marketer will consider. We can gain further insight by classifying firms by the roles they play in the target market: leader, challenger, follower, or nicher. Soft drink market is occupied by the firms shown in Figure 9.

Competitive strategies for soft drink market leaders. 40 % of the market is in the hands of a market leader (UAB Druskininku Rasa). The remaining percents are in the hands of market nichers, firms that serve small market segments not being served by larger firms.

Market nicher. In this niche strategy the soft drinks firms concentrates to be large enough to be profitable, but small enough to be ignored by the major industry players. Profit margins are emphasized rather than revenue or market share. The firms look to gain a competitive advantage through effectiveness rather than efficiency [7]. Soft drinks firms are small and tend to have high value added industries and are able to obtain high margins, highly focussed on a specific market segment, they tend to keep their operating expenses down by spending less on R&D, advertising, and personal selling.

In 2009 soft drink industry contain one firm that is the acknowledged market leader – Druskininku Rasa. This firm has the largest market share in the soft drinks production and usually leads the others firms in price changes, new-product introductions, distribution coverage, and promotional intensity.

Market leader. The market leader Druskininku Rasa is dominant in soft drink industry (2009). It is the industry leader in developing innovative new business models and new products. It tends to be on the cutting edge of new technologies and new production processes. Of the four dominance strategies, it has the most flexibility in crafting strategy. There are few options not open to it. However it is in a very visible position and can be the target of competitive threats and government anti-combines actions.

Research in experience curve effects concluded that market leadership was the most profitable strategy in most industries. It was claimed that if you cannot get enough market share to be a major player, you should get out of that business and concentrate your resources where you can take advantage of experience curve effects and economies of scale, and thereby gain dominant market share. Today we recognize that other less dominant strategies can also be effective. Although marketers assume well-known brands are distinctive in consumer's minds, unless a dominant firm enjoys a legal monopoly, it must maintain constant vigilance. A product innovation may come along and hurt a leader, a competitor might unexpectedly find a fresh new marketing angle or commit to majors marketing investment, or the leader might find its cost structure spiraling upward. [36]

While trying to expend total market size, the dominant soft drink company UAB Druskininku Rasa from 2005 to 2009 continuously and actively defend its current business and became the leader of the market. The most constructive response of this company was continuing innovation. The leader leads the industry in developing new products-drinks and customers services, distribution effectiveness, and cost cutting. It keeps increasing its competitive strength and value to customers by providing comprehensive solutions.

External shocks. In the soft drink industry, there would be many external shocks like change in regulation, economy, and sugar price or employment level for example and then how these factors will have ripple effects through conduct and performance. These shocks occur purely from outside the industry. In the current scenario, the soft drink industry received a mix of external shocks in the forms of economic slowdown and increasing costs. [50]

Investing and borrowing strategies of the soft drink sector. When analysing soft drinks sector conduct from 2005 to 2009 (see Figures 17 and Figure 18). All sector companies tend to have their behaviour strategies. From 2005 all companies invested in their equipment, assets and their tend to lend more money. Soft drink companies assets increased from 47,8 mln. to 64 mln. Litas, while the biggest power in assets was in 2007 - 79,8 mln. Litas (more than 15 times). The peak was reached in 2007 after the companies changed their strategies. They invested more in production than in assets or equipment.

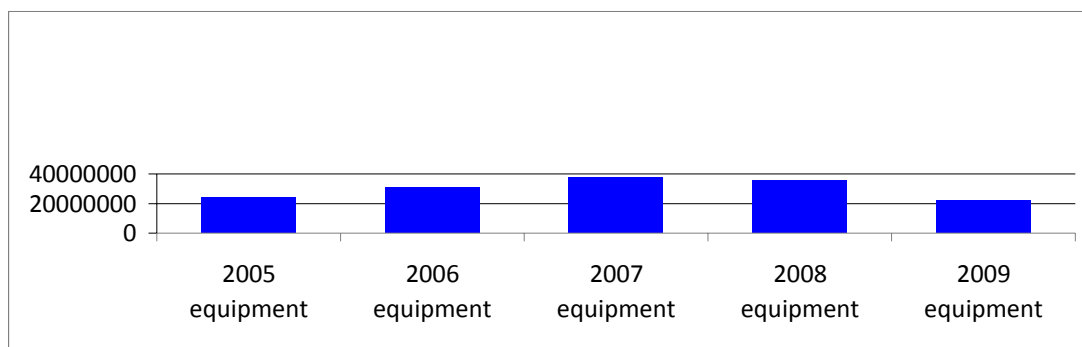


Figure 17. Soft drinks sector equipment 2005 – 2009 (LTL) (created by author regarding calculations from the companies' balance sheets)

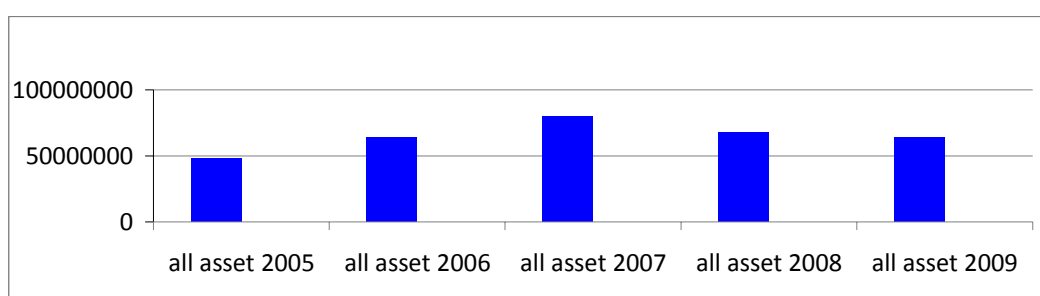


Figure 18 Soft drinks companies' assets (LTL) (created by author regarding calculations from the companies' balance sheets)

Figure 19 shows that the liabilities from 2007 peak went down, because investing in production doesn't need so much money as investing in assets or equipment. Return from production sales comes quicker than from assets. Total soft drinks sector equity decrease from 24 mln. LTL to 13 mln. (see Figure 20).

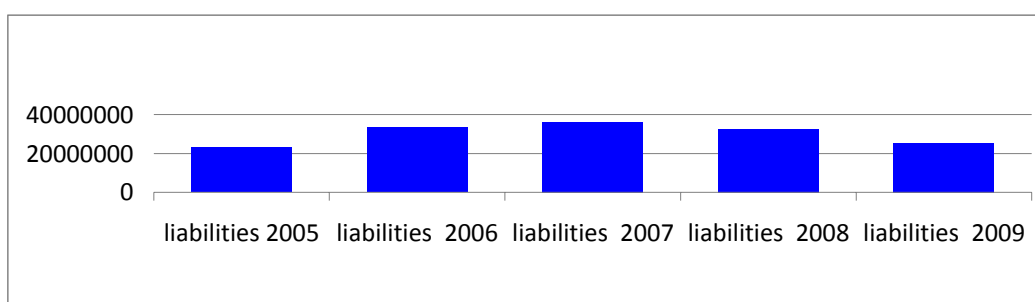


Figure 19. Soft drinks sector liabilities 2005 – 2009 (LTL) (created by author regarding calculations from the companies' balance sheets)

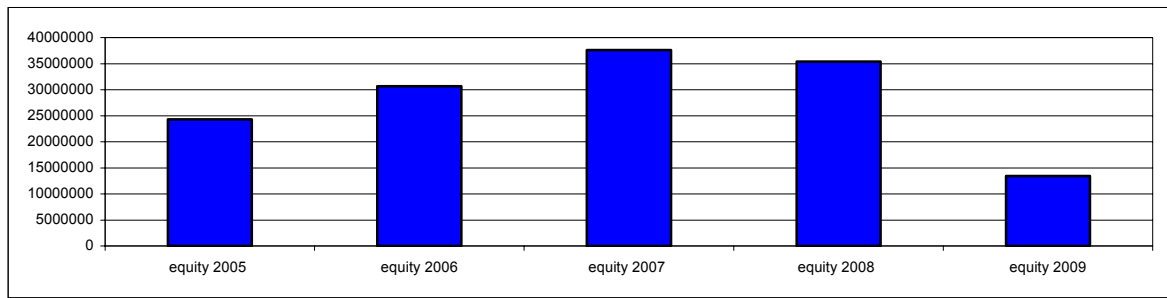


Figure 20. Soft drinks sector equity 2005 – 2009 (LTL) (created by author regarding calculations from the companies' balance sheets)

Innovation. Innovation is the constant driving force in soft drink market during analysing period. The innovation can be in bottle design, taste, logistics, order management, sales automation or any other department that will reduce the operational cost or increase the customers' interest towards the product [5]. The most was investing of soft drinks sector in equipment to reach profitability and wealth (Figure 17). After 2007 companies return to invest in production and less in equipment.

Developing technology and process control techniques. Companies can invest on new technologies to run their business efficiently. They can deploy automated technologies in terms on sales and operations to minimize the inventory and operational expenses. Soft drinks sector had reduced equipment levels about 10 percent when liabilities increased more then 25 percent over the period. The companies focused on designing marketing programs for customer centric segments. By this way they used the available resources to tap the resourceful market. They saved the funds by not focusing on the entire gamut of customer segments [6]. Definitely the coming years the companies are expected to concentrate on the investing segments such as production, equipment or assets to gain the ongoing market demand and high Net profit.

3.5.5. *Concentration strategies: expansion and activity strategies*

Soft drinks sector concentration could be described as main companies' expansion – growing strategy, which successful implementation is position in the market improvement. Today expansion strategies, also concentration, are popular because expansion is like possibility to adopt changing exterior conditions. Concentration is the orientation into current company's activities. Entities in order to get profitable expansion are orientated in specific market with all resources and technologies. [26]

Concentration of sector has changed. In 2005 the biggest company possessed 40 % of market share, when other four companies were smaller. In the year 2009 the same company Druskininku Rasa had 30 % of market share, while other two Birstono mineraliniai vandenys (26 %) and Selita ir ko (28%) grew to be almost in the same concentration power. The main transformation here is that these companies have been taken over, were renamed and increased their assets dramatically. At first, market share controlled by one owner or shareholder was literally replaced by many equal owners. And investing actively increased companies' assets.

Scientific research shows that expansion strategies are applied six times more than operational stability strategies, like penetration and seven times more often used than expenses reducing strategies [25]. Concentration as company's expansion strategy is successful when industry attraction of activity is low, but position of competition is strong or medium strong. In other ways operational activity strategy is appropriate [24]. This strategy has been applied for Druskininku Rasa, Selita ir ko and Birstono mineraliniai vandenys soaking up completely new operating area: producing new products, when concentration of materials and intellects resources is necessary. So in concentrated companies activities and contests are being concentrated.

According authors opinion industry concentration is functioning well when less companies sell the biggest quantity of certain industry branch prepared products. In this occasion it is important not separately one company concentration strategy, but all industry operation concentration. Industry concentration is related with market concentration [30]. Soft drinks companies' concentration process is like production implementing, labor resource and production manufacturing saturation in increasingly big company. Concentration of the soft drinks companies is incorporating two company's growing forms – manufacturing capacity and production range.

Concentration strategies the main purpose of the soft drinks companies is to keep competitive ability. This concept M. E. Porteris describes like competitive ability advantage strategy for the company. His competitive ability advantage theory is based thesis that this advantage could be achieved only providing biggest value for consumer. This value soft drinks companies could be made providing basic product in lower price, especially for small companies: Vaisiu sultys and Neptuno vandens pristatymas. For more expensive product additional value should be added, which pay for increased price. [38]

3.6. Conclusions of the research:

- Classical structure-conduct-performance approach was adapted to analysis of Lithuanian soft drink sector (2004 – 2009).
- Structure of Lithuanian soft drink sector has changed: in 2005 the biggest soft drinks companies Druskininku Rasa and Birstono mineraliniai vandenys comprised 73 % of market and in 2009 they still were ones of the biggest among soft drinks companies with Selita ir ko 28%. Other smaller companies like Neptuno Vandenys remain no changes in turnover over discussed period, only Vaisiu sultys has decreased its share.
- Concentration of the sector has changed. In 2005 the biggest three companies possessed equal 30 % of market share, when others were smaller. The main transformation here is that at first, market share controlled by three owners or shareholders in 2009 was literally replaced by one leader Druskininku Rasa. And investing actively increased company's' assets.
- Both ROA and ROE was increasing from 2005 till 2007, because of Lithuanians economy stabilization and growth. After 2007 the situation changed: ROA and ROE decreased. This action could be influenced by global economic crisis.
- The following factors impact the conduct of the soft drink industry was presented from strategies side of the soft drinks companies: Investment strategy, Landing strategy, Innovation, Research & Development expenditures, Market dominance strategies, Concentration strategies.
- The dominant soft drink company UAB Druskininku Rasa during analysed period has defended its current market share and became the leader, continuing innovation.
- All sector companies tend to have their behaviour strategies. From 2005 all companies invested in their equipment, assets and they tend to lend more money. In 2007 the companies changed their strategies. They invested more in production than in assets or equipment.

3.7. Structure – Conduct – Performance cases

3.7.1. Case 1. The case of commercial banks in Denmark

The main purpose of this study is to test empirically structure - activity (S-P) under the hypothesis of commercial banking context. The analysis is based on a cross-sectional data collected from the three dominant banks in Denmark from 2000 through to 2007. The three

accounting measures the bank's activities were used: the return on capital (ROC), return on assets (ROA) and return on equity (ROE). To some extent, the model explain the dependent variable. The results show that the concentration of market power is of paramount importance and profitability of the banking establishment. In addition, the positive impact of loan collateral ratio (risk measure) is not under the adverse impact of loans to total assets ratio and operating expenses, the bank's profit rate. Finally, the positive impact of bank size, time and savings deposits to total deposits ratio and the devaluation can not be emphasized. [65]

Keywords: Market structure, Monopoly power, Portfolio theory, Bank profit rate.

Generalization. Commercial banks should play an important role in the economic development of the country. Monetary policy could only be felt in the economy through commercial banks. These banks are faced with chronic financial crisis. In spite of their role, there is no work for the banks performance. The goal is to provide empirical evidence on the profitability performance of commercial banks with the collusion hypothesis tested at the center of factors.

In the study of the article were used cross-sectional data on the three dominant commercial banks in Denmark. Three models were used: first which determines banks' performance gained on capital (ROC), the second according to assets (ROA) and third that defined the measure of net income and shareholders' equity ratio (ROE).

According the collusion hypothesis there is a positive relationship between market structure and bank profitability in the institutional context of the banking system. Market concentration in the determination of the role of bank profitability is very important. In addition, the overall results show that bank size, loan-deposit ratio and devaluation directly contributes to the banking profit rate when the loan-asset ratio of operating costs and operational expenses affects banks' profitability. [69]

The results confirm the reported findings of some of the studies in other articles. However, looking at the summary statistics, one notices is not suitable for the average. For this reason, further research is needed to get virtually all the banks' profit rate factors.

3.7.2. Case 2. The case of Austrian insurance industry

The main purpose is to study market structure, conduct and profitability performance in the insurance industry in Austria. There are many studies on the banking sector. However, the insurance industry is still relatively unexplored. Increasingly, the Austrian insurance institutions are increasingly important as financial intermediaries in the domestic market, and - according to the advantage of proximity - as well as Central and Eastern European markets. This analysis relates to SCP approach to the 52 Austrian insurance companies selected. [66]

Keywords: Insurance industry, market structure, conduct and performance, industrial organisation.

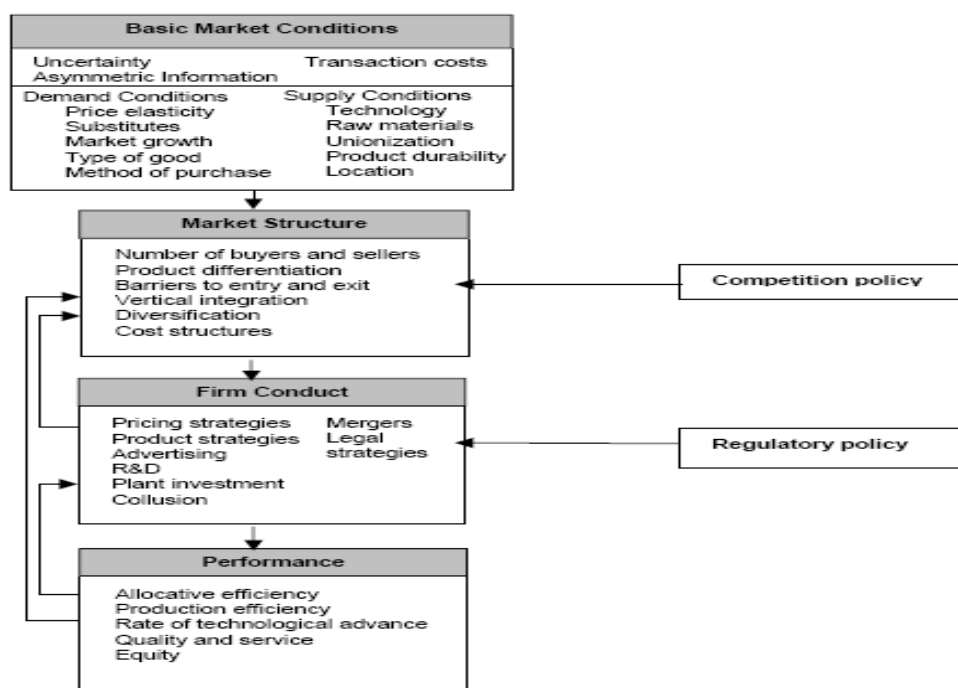


Figure 21. The SCP paradigm in insurance industry [66]

Generalization. The main conclusion is that the standard SCP hypothesis for highly concentrated markets, which would have created incentives for collusion, which in turn leads to higher industry profit rates can not be supported by the Austrian insurance industry. Of course, companies face competitive pressure from domestic industry to policyholders and an additional competitive pressure on industry to find investment outlets.

The primary contributions of an SCP study are grouped into three cases:

- to inform government policy;
- to address general research issues and;
- to improve managerial performance.

According to SCP paradigm, higher market share leads to higher market value taking into account the ability to raise prices and thus eventually result in higher returns. Theory predicts a positive relationship between market concentration and profitability. The Austrian life insurance industry shows no sign of such a causal link: it is a mature and competitive industry. [66]

The non-life insurance industry indicates a high market concentration, but did not reveal any secret agreement. In addition, there is a little sign of performance level. There are few parties that can demonstrate interest in the current study. First, there are two important regulatory bodies in Austria surveying business conduct within the industry. The Federal

Competition Authority is responsible for detecting violations of the restrictions on competition. In addition, the Federal Cartel Prosecutor represents the interests of the public, such as the industrial court cases. Both agencies are interested in determining whether anti-competitive rules have been violated, and may be the beneficiaries of the study. [66]

Managers of the firms surveyed constitute a second group to which this study might be of interest. It provides a useful comparison in terms of profitability across firms. Executives might find it interesting to analyse the aggregated results and set their business policy in terms of, for example, mergers and acquisition in order to benefit from economies of scale and thereby improve their profit situations. This refers especially to the life insurance industry that suffered from very low returns.

Summing up the cases of the SCP model application:

- The results confirm the reported findings of some of the studies in other articles. There is a positive relationship between market structure and bank profitability in the institutional context of the banking system. Bank size, loan-deposit ratio and devaluation directly contribute to the banking profit rate when the loan-asset ratio of operating costs and operational expenses affects banks' profitability (Case 1).
- The main findings is that the standard SCP hypothesis for high concentrated markets, which would have created incentives for collusion and in turn leads to higher industry profit rates can not be supported by the Austrian insurance industry (Case 2).

3.8. Correlation regression analysis regarding soft drinks profitability factors

For my analysis I used ANOVA, which stands for analysis of variance. ANOVA is a broad class of techniques for identifying and measuring the various sources of variation within a collection of data [45]. It is closely related to regression analysis but with the following difference: the analysis of variance technique as testing hypotheses about the presence of relationships between predictor and criterion variables, regression analysis as describing the nature of those relationships, and r^2 as measuring the strength of the relationship. ANOVA tests whether the means of y differ across categories of x [45]. ANOVA analysis provides three main tables: summary output table (regression statistic), ANOVA table and the table of regression coefficient. I took into consideration only significant results from these tables and described them below (see Table 17).

Purpose of the correlation regression analysis:

The purpose of submitting the data to correlation analysis is to get insight into the correlation between the variables, taken in pairs, in order to conclude if there exist relationships between the variables, as measured by the coefficient of correlation.

The tasks of correlation regression analysis:

- To check three hypothesis about soft drinks sectors determining the strength of relationship between the sector's concentration and the main factors of financial results, GDP of the industry and equity.

Hypothesis:

H-1 - As sector is more concentrated in the industry the higher profits of sector are gained.

H-2 - As sector is more concentrated in the industry the more equity of sector is gained.

H-3 - As sector is more concentrated in the industry the bigger amount of the GDP of the food and drink industry sector is gained.

- Describe the results and to introduce conclusions and recommendations.

Introduction. Soft drinks sector in Lithuania consists of five main companies producing soft drinks. These companies are the biggest and have well known brands: Druskininku Rasa, Birstono mineraliniai vandenys, Selita, Neptuno Vandenys, Vaisiu sultys. According scientific theories analyzed above it is believed, that sector should concentrate industry and there exist close relationship between concentration and companies' financial and equity results or GDP of the industry.

Since in the purposes of the study is the identification of determining factors of the soft drinks companies concentration, the correlation analysis can be a first step to detecting strong inter-relations between the variables involved.

Correlation regression analysis within ANOVA model I used to analyze the factors which affect the concentration and profits in soft drinks industry. Regression coefficient significance checked by the Fisher criterion (F) [45]. It is derived from the EXCEL program operations through the Tools - Data Analysis - Regression. For the correlation regression analysis concentration, financial results such as Net profit margin, ROA, ROE, GDP of the industry and sources of equity (sector equity and liabilities) were chosen because they are relevant to find out which factors influence the profit and concentration in soft drinks industry.

Y – Soft drinks sector's concentration;

X1 - Net profit;
X2 - Net profit margin;
X3 - Return on assets (ROA);
X4 - Return on equity (ROE);
X5 – Equity;
X6 – Liabilities;
X7 – GDP.

Research limitations:

- Restriction of the number of the analysis years (data was only available from 2004 till 2010).
- Restriction of the GDP data (calculations of total amount was only available including food and drink sectors together).
- Excel standard errors and t-statistics and p-values are based on the assumption that the error is independent with constant variance (homoskedastic).
- Excel does not provide alternatives, such as heteroskedastic-robust or autocorrelation-robust standard errors and t-statistics and p-values.
- The definition of the concentration ratio does not use the market shares of all the firms in the industry and does not provide the distribution of firm size. It also does not provide a lot of detail about competitiveness of the industry.
- Soft drinks sector concentration indexes are not big size, so there could be no strong relationships among variables.
- In statistical investigation important parameters as the prevailing situation in the soft drink market as a whole, the national and the international economic conjuncture are not taken into consideration. But these parameters are closely related with the concentration and performance of the sector.

3.8.1. Literature and other researches overview

Concentration. Other researches told about the analysis of some aspects of the Lithuanian soft drinks sector pertaining to the performance and the degree of concentration and eventually their relation. The soft drinks industry, like many others today, is a multi-product industry that provides various related but differentiated products. In recent years, the industry has undergone a number of changes that have influenced both its structure and the nature of competition within, which has forced soft drinks companies to change their competitive strategy. Specifically, they have become less focused on producing more products

and more focused on customers, quality and relationships health less focused on the cheap products and more focused on the healthier.

Bain's original concern with market concentration was based on an intuitive relationship between high concentration and collusion. There are game theoretic models of market interaction (e.g. among oligopolies) that predict that an increase in market concentration will result in higher prices and lower consumer welfare even when collusion in the sense of cartelization (i.e. explicit collusion) is absent. [23]

Empirical tests. Empirical studies that are designed to test the relationship between market concentration and prices are collectively known as price-concentration studies [27]. Typically, any study that claims to test the relationship between many factors and the level of market concentration is also (jointly, that is, simultaneously) testing whether the market definition (according to which market concentration is being calculated) is relevant, that is, whether the boundaries of each market is not being determined either too narrowly or too broadly so as to make the defined market meaningless from the point of the competitive interactions of the firms that it includes or is made of.

Concentration levels. Concentration Ratios range from 0 to 100 percent. The levels reach from no, total, low or medium to high concentration.

- No concentration: 0% means perfect competition or at the very least monopolistic competition. If for example $CR_4=0\%$, the 4 largest firm in the industry would not have any significant market share.
- Total concentration: 100% means an extremely concentrated oligopoly. If for example $CR_1=100\%$, it is a monopoly.
- Low concentration: 0% to 50% this category ranges from perfect competition to oligopoly.
- Medium concentration: 50% to 80% an industry in this range is likely an oligopoly.
- High concentration: 80% to 100% this category ranges from oligopoly to monopoly. [70]

Theory tells us that there is a relationship between all variable factors of the companies and firms concentration in the industry. Namely market structures of a large number of firms will be expected to perform differently than markets with a small number of firms, especially markets controlled by a few large firms or one dominant firm. The market structure can be measured in three ways: by the number of firms in the market; by the distribution of the firms market share; and by various concentration measures. [23]

Gross Domestic Product. GDP are among the most comprehensive measures of the overall amount of economic production taking place in a national economy. Nevertheless, the available statistics produced by government agencies are always far from perfect estimates of what they purport to measure. They are measured in money value terms to get around the problem of adding up total output of many different goods and services that are normally expressed in many different kinds of incomparable physical units. [26]

Microeconomic theory gives us lots of reasons for believing that the relative prices at which products trade on a free market represent reasonably unbiased estimates of the relative values consumers put upon the various kinds of goods and services traded at least where there are no large problems with externalities or public goods. But not all the final goods and services produced in a society are traded on the free market, and the relative contributions of these untraded goods and services to the consumers' material living standards are therefore awfully difficult to estimate very well. [7]

Due to the strength of relationship between GDP and sector profits, the increased consumption of buyers and investment from companies contributed to an increase in GDP. The measure of aggregate output in the national income accounts is GDP according to Blanchard. He stated that there are three ways of thinking about an economy's GDP. These are that [3]:

- GDP is the value of the final goods and services produced in the economy during a given period.
- GDP is the sum of value added in the economy during a given period.
- GDP is the sum of incomes in the economy during a given period.

Nominal GDP is simply the sum of the quantities of final goods produced times their current price. Economists use nominal for variables expressed in units of the currency of the relevant country. Nominal GDP increases over time for two reasons. The first is that the production of most goods increases over time. The second is that the naira price of most goods increases over time [4]. In order to measure production and its change over time, the effect of increasing prices need to be eliminated. Hence, focus is on real GDP rather than nominal.

3.8.2. Initial data and regression analysis

The analysis of the data (information taken Lithuanian Department of Statistic and Records Centre: balance sheets of the companies) of 2004 – 2010 years is made (Table 16), which examines which variable factors have an effect on the gained profit, GDP, concentration and equity in the soft drinks sector.

Table 17. Initial correlation regression analysis data in Lithuania (created by author)

Serial number (years)	Y - Concentration of the Soft drinks sector (%)	X1 - Net profit (LTL)	X2 - Net profit margin (%)	X3 - ROA (%)	X4 - ROE (%)	X5 - Equity (LTL)	X6 - Liabilities (LTL)	X7 - GDP (thousands LTL)
2004	9%	1,345,627	2%	4%	6%	21,456,657	20,002,368	626,979
2005	16%	1,336,627	2%	3%	5%	24,318,371	23,061,960	72,060
2006	18%	3,558,126	4%	6%	12%	30,670,840	33,211,967	82,793
2007	10%	7,026,773	14%	9%	19%	37,618,513	36,075,783	98,669
2008	18%	3,573,074	4%	5%	10%	35,383,170	32,454,855	111,483
2009	12%	5,714,908	9%	9%	4%	134,340,108	25,566,541	91,526
2010	16%	6,545,653	11%	12%	5%	130,788,326	30,522,301	89,149

Correlation using ANOVA model with each X1, X2, ..., X7

1. Average in soft drinks sector

	Y	X1	X2	X3	X4	X5	X6	X7
average	14%	4,157,255	7%	7%	9%	59,225,141	200,895,775	76,911

2. Dispersion in soft drinks sector

	Y	X1	X2	X3	X4	X5	X6	X7
dispertion	4%	2,342,587	5%	3%	5%	50,430,022	5,908,110	202,974

Dispersion statistical variability or variation is variability or spread in a variable or a probability distribution. Common examples of measures of statistical dispersion are the variance, standard deviation and interquartile range. Dispersion is contrasted with location or central tendency, and together they are the most used properties of distributions. [45]

3. Standard deviation (standard error) in soft drinks sector

	X1	X2	X3	X4	X5	X6	X7
Standard deviation	0,04	0,04	0,04	0,04	0,04	0,04	0.63

The standard error or deviation refers to the estimated standard deviation of the error term. It is called the standard error of the regression. It is not to be confused with the standard error of y itself (from descriptive statistics) or with the standard errors of the regression coefficients given below. [45]

4. Determination coefficient

	X1	X2	X3	X4	X5	X6	X7
Multiple R	0.007	0.081	0.005	0.019	0.001	0.128	0.692

Determination coefficient shows how well the chosen model describes the data. Coefficient of determination may take the following values: $0 \leq R^2 \leq 1$. The R^2 is close to 1, the selected model better describes the data. [70]

5. Significance F (P - value) in soft drinks sector

	X1	X2	X3	X4	X5	X6	X7
Significance F (P-value)	0.86	0.54	0.88	0.77	0.95	0.43	0.02

The column labelled significance F has the associated P-value. Since significance $F < \alpha$ ($F < 0.05$), we do not reject hypothesis at significance level 0.05. Significance F in general = $FINV(F, k-1, n-k)$ where k is the number of repressors including the intercept. This shows whether there is some sort of relationship chosen variables. As a general rule, a p-value with greater than 0.05 means the following factors may be insignificant of the investigation and only factors with p-value less than 0.05 may be right in the ANOVA's assumption. [70]

6. F – test statistic (F) in soft drinks sector

	X1	X2	X3	X4	X5	X6	X7
F test statistic	0.04	0.44	0.02	0.1	0	0.73	11.2

F – Test statistic is a distribution. It is the ratio of two variances.

7. T – statistic (t – stat) in soft drinks sector

	X1	X2	X3	X4	X5	X6	X7
T - statistic	-0.19	-66	-15	-0.31	0.06	0.85	3.35

T – Statistic is the coefficient divided by the standard error.

8. Correlation coefficient in the soft drinks sector

	X1	X2	X3	X4	X5	X6	X7
Correlation coefficient	0,09	0.28	0,07	0,14	0,36	0,03	0.83

Very strong relationship 0,90 – 1,00;

Strong relationship 0,70 – 0,89;

Moderate relationship 0,40 – 0,69;

Weak relationship 0,20 – 0,39;

Very weak relationship 0,00 – 0,19.

3.8.3. Conclusions and overall test hypothesis of ANOVA statistical significance and regression parameters:

- Correlation coefficient is the most important indicator for my analysis and it shows the strength of relationship between the variable factors and concentration in the soft drinks sector. It can be seen that there is very weak and weak relationship between the sector's concentration and the main factors of financial results and sources of equity. Here I tested whether financial results and equity sources of soft drinks sector has coefficient = 1
- After analyzing the data the conclusion can be made if all the variables will fall down the same will not be the same with the concentration in the soft drinks sector. It is important to focus only for the equity and net profit margin because the relationship between these factors is little bit stronger than others.
- According regression coefficient there is strong relationship between industry concentration and GDP of the sector.
- Determination coefficient shows that only model of sector concentration and GDP the best describes the data and depends on each other when other factors are insignificant with concentration.
- Significance $F < \alpha$ (< 0.05), shows that only one repressor (GDP) is significant. The following factors with bigger significant F than 0,05 may be throwing away from the investigation.
- Significance P – value shows that only GDP is significant in correlation regression analysis and according of the regression coefficient GDP is directly related with industry concentration.
- To conclude, the results of correlation analysis showed that almost each variable doesn't influence the concentration of the soft drinks sector in the industry and first two hypotheses are rejected. Only hypothesis No.3 is supported, because of the biggest regression coefficient.

All the calculations of correlation regression analysis (ANOVA) and the main tables can be found in the Appendix A.

3.8.4. *Further hypothesis and recommendations:*

This finding could be attributed to the long tradition of the Lithuanian governments to keep the food and drinks companies under immediate through a complex and rigid regulations concerning taxes to components, low of creating new enterprises and all politics causing companies activities.

Since all drinks and food companies are vitally interested in offering every day using products, it is necessary to identify the customers' expectations and requirements as well as the level of customer satisfaction. The concentration analysis reveal intrinsic weaknesses of the Lithuanian food and drinks industry: low degree of performance and competitiveness should be eliminated.

Solving soft drinks industry problems would be to sustain or increase the global market share. It is very important to sustain because it is the source of the majority of their profits. If lose global market share, profits will decline dramatically. To maintain and try to increase their brand loyalty is important because it will allow soft drinks companies to sustain profits and maintain their market share. All these recommendations and problems solving solutions could be achieved only by improving companies' strategies entering in to international, global niches, communicating with all the world countries and exchanging products, services, experience and knowledge.

4. PROPOSALS FOR SOFT DRINKS SECTOR DEVELOPMENT

Looking towards the future, the most important proposals to soft drinks sector is continuing product innovation and expansion of their product line. The soft-drinks industry is full with competitors. The industry is no longer expanding, and market share is actually decreasing as more consumers are looking to healthier options. By continually introducing new products, soft drinks companies will be able to increase their profits and allow continuing to grow. Also, having a diverse product line will make the corporations very stable, which is appealing to investors and creditors.

Summing up the overview of the main conclusions of secondary and primary data, theoretical aspects, SCP analyze correlation regression analysis of soft drinks in Lithuania and the cases study the model how to be the most profit company in the global contest is introduced below in the Figure 22 and Figure 23.

Figure 22 explains that to reach the vision to be the most admired company in global contest first of all it is necessary to deal with problems appeared locally (communal factors). After analyzing communal factors and its effects to companies' regional factors influencing sector should be analysed. When the company is strong enough in local and regional contest it

is easy to be on top in international market. Communal, regional and global factors are the same as: social, legal, economic, political and technological. The difference is only the scale of these factors and influence of the responsible bodies having power to control.

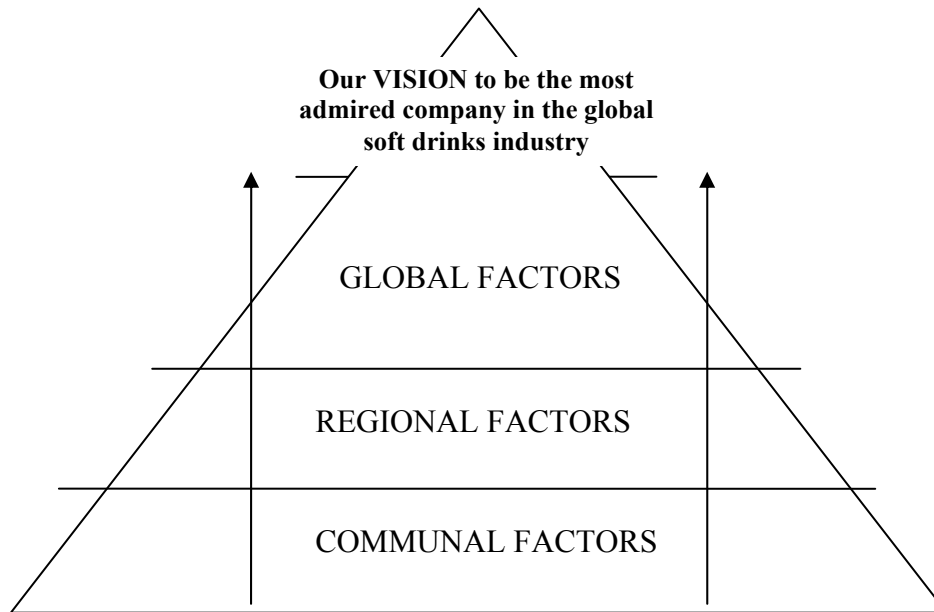


Figure 22. Vision of the soft drinks company's development perspectives (created by author)

4.1. The most relevant suggestions for expanding soft drinks sector

Based on primary and secondary data projected model (see Figure 23) can be explained in more detail:

International expansion. It can be managed and influenced by market entry strategies, organisational structure, recruitment, incentives and franchising. International expansion helps not only to expand the business by more stores, but gain contacts in each relevant subsector and geography. It might be new partnerships, recruiting opportunities, site selection, working with local authorities and vendors. [53]

The company should choose the best countries for expansion regarding its activities, goals and possibilities. Usually, the country in which company tends to expand is chosen by its stable government, favourable business climate, unburdened tax structure, lower labour costs and consumers' behaviour [54]. For soft drinks companies it is recommended to look for expansion in East of the world countries, such as China, India, Iran and Africa too. In India water management is a big issue. Scarcity of water is a real challenge. And for soft drinks industry this is big opportunity to explore business. It is very important to sustain or increase the global market share. Companies which is very well-established globally, and are the global soft-drinks leaders like Coca – Cola is very important to sustain because it is the source

of the majority of their profits. If they lose global market share, their profits will decline dramatically.

Online growth. Many types of soft drinks companies can expect to gather far-reaching benefits from a well-planned online network development addressing to their businesses challenges and goals. Soft drinks industry company which wants to become a leader and work profitably in the international platform should know how to manage growth of the online channel. Growth can be achieved by IT platforms, competencies, customer acquisition, analytics and multi-channel integration. Moreover, it is important to contact with relevant partners and vendors, for example, consultants, IT vendors and online media agencies. [50]

Internet soft drinks marketing require customers to use newer technologies rather than traditional media. Low-speed Internet connections are barriers which should be solved. If soft drinks companies build large or overly-complicated websites, individuals connected to the Internet via dial-up connections or mobile devices experience significant delays in content delivery. From a buyer's perspective to see, touch, smell, taste or "try on" non-alcoholic beverages, before making the internet shopping can be limited. However, there is the industry standard for e-commerce vendors to reassure customers that a liberal return policy, as well as store pick-up service are available providing security for the buyers on the internet.

Developing brand value. It is widely accepted that brands provide economic and social value. Proposal for soft drinks companies is to maintain and try to increase their brand loyalty. Diet drinks has high brand loyalty of all the soft-drink competitors' brands, and solid advertising campaigns will help maintain the brand loyalty. They can also strive to obtain higher brand loyalty in all other brands, not solely diet drinks like tea drinks, carbonated drinks, fruit and vegetable juices, coffee drinks, sports drinks, functional drinks, and other drinks. The brand loyalty is important because it will allow soft drinks companies to sustain profits and maintain their market share. The price is also an important factor, because without a strong consumer brand preference they choose the product with a lower price. [57]

Sourcing. International soft drink company should expertise on how to manage global sourcing. The objective of global sourcing is to develop global efficiencies in the delivery of a product or service for the firms achieving a sustainable competitive advantage. It might be done by evaluating capabilities, processes, organisational structure. Effective sourcing can help for a company to save time and money, acquire new technologies at competitive prices or even access to emerging technologies. [63]

Success in the carbonated soft drinks could be based on the establishment of an effective (good distribution across stores) portfolio of brands across most of the product attributes. Small firms co-exist by specialising into these dimensions. The issue for anti-trust

is whether portfolios effects are an outcome of anti-competitive forces. Taking a bottom-up approach shows that short-run strategic interactions between brands should be localised within vertical segments and competition.[6] While individual segments host many forms of firm sales distributions, as an outcome of brand competition within segments, this does not lead to a violation lower bound or determine to a great extent the firm size distribution observed for carbonated soft drinks.

Strong supply chain. Well managed supply chain management helps for a company achieve better service, lower costs, lower inventory, and ultimately competitive advantage. Moreover, the supply chain should not have too many intermediaries. Typical supply chain is like that: soft drinks manufacturer - national soft drinks distributor - regional soft drinks distributor - local wholesaler - retailer –soft drinks consumer. Moreover, transportation system is also important. It should be organised in such a way that damages during shipping could be avoided.

There could be distinguished a few steps how supply chain could be made stronger. First of all, supply chain strategy for soft drinks should be aligned with the corporate strategy and all the colleagues from the seller to the senior managers should understand the supply chain strategy and how it works. Secondly, in order to balance productivity, flexibility and delivering risks, the leading soft drinks company must create a top-down and forward-looking vision of it's overall supply network [11]. Furthermore, it should be used disciplined integrated planning processes to ensure the organization executes in synchronization, without the need for 'heroes'. Finally, it is very important that the right people would be on board. All the mentioned steps are important in order to create strong supply chain and help a company to work profitably.

The Networking. Large distributors have the opportunity to negotiate with the stadiums, universities and school systems, making them the exclusive supplier for a specified period of time. In addition, they have the opportunity to commit mass procurement in order to significantly reduce their costs. They must implement an effective distribution channels in order to remain competitive.

Merchandising. It is one of the biggest challenges that any soft drinks company faces. The aim of a company must be to supply the right mix of products for customers. Merchandising helps to achieve the similar advantages as sales promotions. Moreover, it might stimulate purchases and higher per capita spending as well as support advertising campaigns. The company's brands with meals website should provide customers with suggested food and beverage pairings, and a tool to develop specialty beverages with chefs from the Culinary Institute. [46]

It is necessary to deal with the tastes of the buyers their need. Customers want innovative products they buy. In today's globalized society to be simple is not good enough. Companies are already differentiated by taste. Firms must be able to recognize their concerns and needs in maintaining the ability to adapt changing market conditions. They must keep up with changing trends and to diversify the range of their products.

Demand conditions. In addition, soft drinks companies should continue to develop beverages, programs and promotions to meet specific customer needs, such as the successful custom milkshake, crew training and marketing materials created for one of customers. That's why innovation will keep soft drinks companies moving toward undisputed beverage leadership and customers ahead of the competition. Companies should expand their offerings, through alliances (Coke and Nestea), acquisitions (Coke and Minute Maid), and internal product innovation (Pepsi creating Orange Slice), capturing the value of increasingly popular substitutes internally by increasing capital investment, and development of special management skills for more complex manufacturing operations and distribution. [49]

Technological development. Innovation in the soft drink company is a new way of doing something new that could be helpful. A video vendor with integrated touch screen in front of the machine, large-format display, flash technology, motion graphics, high-definition video, and Bluetooth capability for mobile download create a unique immersive experience for all users. Furthermore, consumers expected to pay less through ordering channels, so prices should be lower. [6]

Innovation in the marketplace. New beverage dispenser should allow consumers to choose from many brands and multiple flavour shot options, totalling more different drink combinations, in the same footprint as the existing legacy dispenser. Soft drinks system should enable foodservice operators to serve hot, fresh cups of drinks on demand. Companies should deliver healthy beverage choices throughout the day, such as orange juice at breakfast and lemonade in the afternoon. Soft drinks marketers must attend and respond to a number of significant developments, societal forces that have created new behaviours, new opportunities, and new challenges.

Psychical distance. It is perception across international markets and determinant for expansion in the internationalization process towards foreign markets. The soft drinks business origin of the psychical distance explains the factors preventing or disturbing the flow of information between potential or actual suppliers and customers. These factors are associated with country-based diversities and dissimilarities and can be grouped into four clear areas [64]:

1. Linguistic differences – all soft drinks products should be easy to understand for any kind of people: right design, attractive colour, easy to open.
2. Cultural Factors – societal norms, level of individualism or collectivism, values and customs – attention to specific events, sports festivals, schools and universities participations.
3. Economic Situation – existing trading links, infrastructure, local conditions, competition and investor confidence. Technological advances in transportation, shipping, and communication should made it easier for soft drinks companies to market in other countries and easier for consumers to buy products from marketers in other countries.
4. Political and Legal System – government stability and risk of instability, import tariffs, legal protection and taxation levels. Countries can deregulate drinks industries to create greater competition and growth opportunities. The laws restricting financial services, telecommunications, and electric utilities can all be loosen in the spirit of greater soft drinks companies' competition. [36]

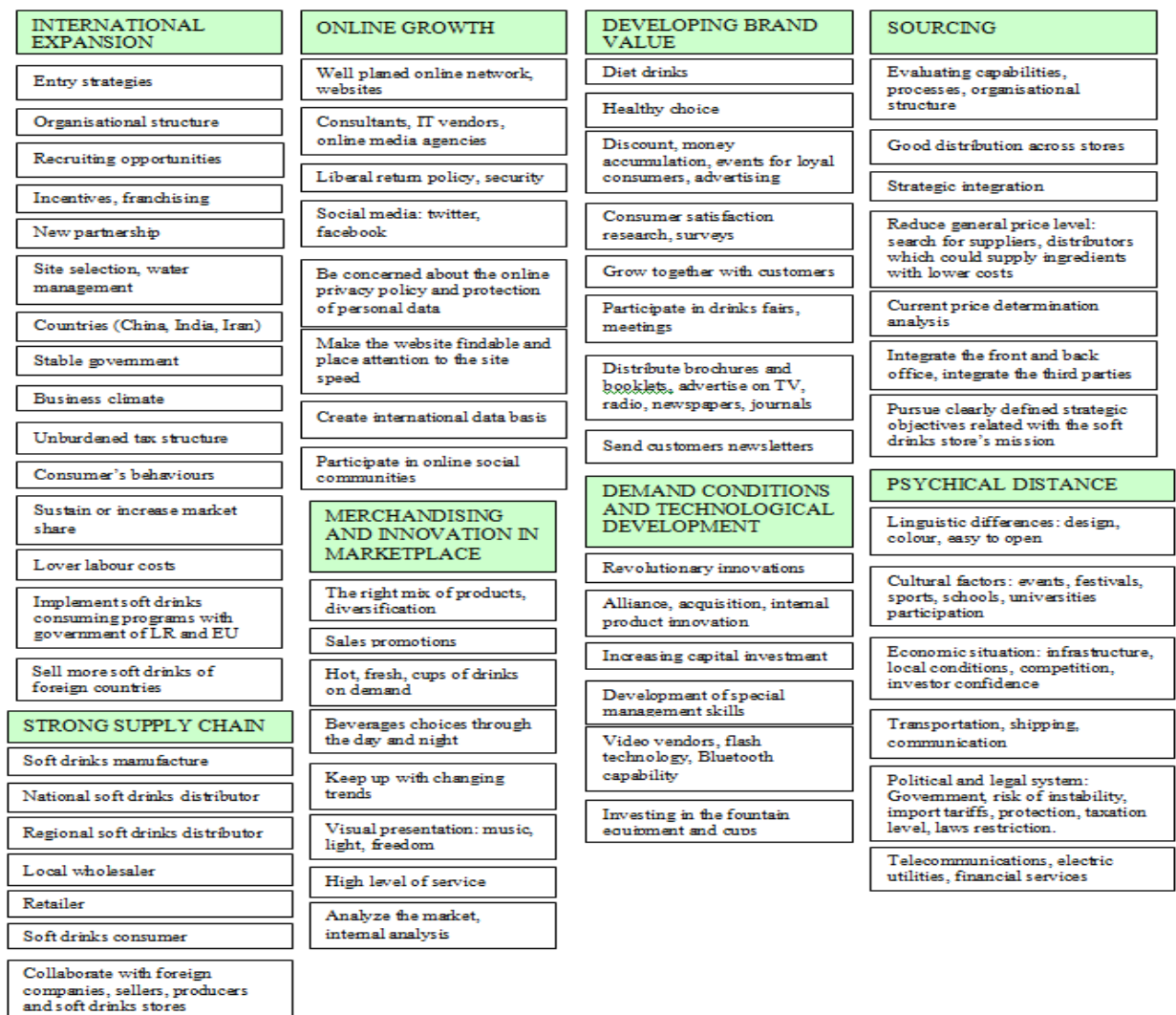


Figure 23. Projected model for improving soft drinks companies profitability (created by author)

After analyzing the theoretical and practical parts of soft drinks sector in Lithuania the main accent should be the senses of all countries actions towards companies and soft drinks companies chosen strategy. Soft drinks retailers mostly should pay attention to such senses as innovation, diversification, tax system, import and export, consumers demand. Also increasing the profit the companies should carefully analyze market and the brand positions, in order to find out the best way to present their products. That is why products differentiation, merchandising mix, supply chain management and competition are such an important thing for companies. Creation points which can support the speed in the growth of international soft drinks companies like demand conditions, technological development, psychic distance and organizational learning should be also taken into consideration.

CONCLUSIONS

1. After presenting soft drinks industry in the world and in Lithuania:

The carbonated beverage industry is highly competitive global industry. Coca-Cola is the number one brand, Pepsi follows second and the Cadbury holds third place. North America, Europe and Japan are the most mature markets for global soft drinks. The industry also includes the bottlers and various raw material suppliers.

In Lithuania there are main five big soft drink companies, which we can refer as soft drink sector: Druskininku Rasa UAB, Selita ir Ko UAB, Birstono mineraliniai vandenys ir Ko UAB, Vaisiu sultys kooperatine bendrove and Neptuno vandens pristatymas UAB. Soft drink sector is different from other manufacturing industry with its big direct consumer influence in specific products.

2. After defending vulnerability of the sector:

The main problems of the soft drinks sector are: health aspects, competition, marketing, innovation, management and environment vulnerability. These problems may affect the role of financial soft drinks sector profitability and may change sector's structure, conduct and performance.

3. After analysing scientific literature:

According to Bo and Shuqin one the main problem for firms to enter foreign market is the choice of the foreign market entry mode, which depends on degree of enter risk, economic return and control right of newly established enterprise. Buckley and Casson suggested a prediction model for choosing the entry mode, depending on the entering the foreign market factors.[52]

Byeongyong and Weiss tested the traditional structure-conduct-performance model and the efficiency structure hypothesis. The results found that efficient firms charged lower prices than competitors causing them to capture larger market shares which lead to increased concentration. [27]

According to P. Kotler and Kapferer brand management nowadays does not only consist through name, logo and symbol. Strong brands should have value, communicate particular image to the customers and position themselves in the market.[58]

4. After SCP analysis:

SCP analysis for Lithuanian soft drinks sector (2005 – 2009) of structure was evaluated from turnover side. In 2005 the biggest companies Druskininku Rasa and Birstono mineraliniai vandenys comprised more than a half market share and in 2009 the leader became Druskininku Rasa. Concentration of the sector has changed. In 2005 the biggest three

companies possessed equal 30 % of market share, when others were smaller. In 2009 dominant company became Druskininku Rasa holding 40% of market share. The main transformation here is that at first market controlled by three owners or shareholder was literally replaced by one owner and investing actively increased company's assets.

The main result of the sector's performance study gave clear evidence about crisis influence for small and big companies. According ROA and ROE changes small companies managed they performance better than big, because of high ROA and ROE in 2008, 2009. Both ROA and ROE of total sector (not by the company) increased from 2005 till 2007, because of Lithuanians economy stabilization and growth. After 2007 the situation changed: ROA and ROE decreased. This action could be influenced by global economic crisis causing investors to turn away from soft drinks companies.

All sector companies tend to have their behaviour strategies and sector conduct analysis was influenced by investment and borrowing, innovation and development, market dominance and concentration strategies. From 2005 all companies invested in their equipment, assets and they tend to lend more money. In 2007 the companies changed their strategies. They invested more in production than in assets or equipment. The dominant soft drink company UAB Druskininku Rasa during analysed period has defended its current market share continuing innovation.

5. After analyzing the case studies of SCP approach:

The case study of the banking system confirms the reported findings of some of the studies in scientific articles that here is a positive relationship between market structure and bank profitability in the institutional context of the banking system. The main findings of the Austrian insurance industry case study states that the standard SCP hypothesis for high concentrated markets, which would have created incentives for collusion and in turn leads to higher industry profit rates can not be supported.

6. After correlation regression analysis:

The correlation regression analysis of the soft drinks sector in Lithuania (2004 – 2010) showed that almost each variable (Net profit, Net profit margin, ROA, ROE, equity, liabilities) doesn't influence the concentration of the soft drinks sector in the industry and first two hypotheses are rejected. According regression coefficient there is strong relationship between industry concentration and GDP and only hypothesis No.3 is supported: bigger GDP higher concentration.

An empirical investigation of the relationship between market concentration and performance in the soft drink sector shows that market concentration has a weak effect on soft drinks sector profitability.

7. After analyzing the theoretical and practical parts of soft drinks sector:

In Lithuania the main accent should be the senses of all countries actions towards soft drinks companies chosen strategies. That is why products differentiation, merchandising mix, supply chain management and competition are such an important things for companies. There are few value creation points which can support the speed in the growth of international soft drinks companies like demand conditions, technological development, psychic distance and organizational learning, which are presented in two models for companies development.

REFERENCES

1. Gaytan A., Ranciere R. Liquidity, Financial intermediation and Growth. New York: New York University, 2001. 32 p.
2. Zsolt B., Ping W. The Financial Development and Growth. New York: FRB, 2000.
3. Levine R. Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*, 1997, p. 688–726.
4. Heather K. The Economics of Industries and Firms. London: Prentice Hall, 2002, p.256.
5. Vasiliauskas A. Strateginis valdymas [Strategic management]. Kaunas: Technologija, 2006.
6. Mossa I. A. Foreign Direct Investment – Theory, Evidence and Practice. Chippenham: Palgrave, 2002, 329.
7. Melnikas B., Chlivickas E., Jakubavičius A., Lobanova L., Pipirienė V., Burinskienė A. Tarpatautinis verslas/Tarptautinis vadybos įvadas. Vilnius: Technika, 2008.
8. News of soft drinks. Retrieved from: http://www.naturalnews.com/soft_drinks.html [Accessed: 29 December, 2009].
9. Consumer Lifestyle – Lithuania. Eurobaromonitor, 2009. Retrieved from: <http://www.euromonitor.com/> [Accessed: November 5, 2010].
10. Daniels J. D., Radebaugh L. H. International business – environment and operations. Pearson/Prentice Hall, 2006, 792 p.
11. Value Chain. Retrieved from: <http://globotrends.pbworks.com/w/page/14809275/Value-Chain> [Accessed: December 15, 2010].
12. Coca-cola company. Retrieved from: <http://www.thecoca-colacompany.com/> [Accessed: 29 December, 2009].
13. Pepsi company. Retrieved from: <http://www.pepsi.com/> [Accessed: 29 December, 2009].
14. Lithuanian food and drink industry. Retrieved from: http://www.reportbuyer.com/food_drink/country_overviews_food/lithuania_food_drink.html. [Accessed: 10 March, 2011].
15. Food and drinks market research reports. Retrieved from: http://www.reportbuyer.com/food_drink/country_overviews_food/lithuania_food_drink.html [Accessed: 10 March, 2011].
16. The main social and economic development indicators 2005 – 2011. Retrieved from: <http://www.stat.gov.lt/lt/pages/view/?id=2621> [Accessed: 10 March, 2011].
17. Lithuanian Department of Statistics. Retrieved from: <http://www.stat.gov.lt/lt/> [Accessed: 10, November, 2010].

18. Industry, trade and service. Retrieved from: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database [Accessed: 5 November, 2010].
19. External trade statistics by enterprise characteristics. Retrieved from: <http://epp.eurostat.ec.europa.eu/newxtweb/> [Accessed: 1 March, 2011].
20. Register of legal entities. Retrieved from: <http://www.registrucentras.lt/jar/> [Accessed: 10 9 September, 2010].
21. Inovations and technologies. Retrieved from: <http://www.ukmin.lt/en/innovations/> [Accessed: 9 September, 2010].
22. General economic situation in Lithuania. Retrieved from: http://www.eurolexis.lt/lt/straipsniai/lietuvos_ukio_situacija [Accessed: 10 March, 2011].
23. Gilligan, T. W. Industrial Concentration. The Concise Encyclopaedia of Economics, 2006. Retrieved from: <http://www.econlib.org/library/Enc/IndustrialConcentration.html> [Accessed: 14 March, 2011].
24. Concentration strategies. Retrieved from: <http://www.thefreelibrary.com/The+influence+of+market+concentration+on+the+results+of+enterprise...-a0239451808> [Accessed: 3 April, 2011].
25. Ginevicius R. Cirba S. Additive measurement of market concentration. Journal of Business Economics and Management Vol.10 No.3, 2009, p. 191-198.
26. Glossary of Economics Terms. Retrieved from: http://economics.about.com/od/economicsglossary/Glossary_of_Economics_Terms_Economics_Dictionary.htm [Accessed: 10 March, 2011].
27. Weiss L. W. Concentration and price. Cambridge, Mass.: MIT Press, 2002.
28. Ginevicius R. Imoniu veiklos diversifikacija [Diversification of Enterprises Activities]. Vilnius: Technika, 12-36, 1998.
29. Teece, D. Capturing value from knowledge assets: the new economy, markets for know-how, and intangible assets, California Management Review, No 40, 1998, p. 55-79.
30. Subodh K. Market Concentration. Firm Size and In-novative Activity. Retrieved from: http://www.wider.unu.edu/publications/workingpapers/discussion-papers/2002/en_GB/dp2002108/_files/78091804849014853/default/dp2002-108.pdf [Accessed: 19 December, 2010].
31. Vartanian L.R., Schwartz M.B., Brownell K.D. Effects of soft drink consumption on nutrition and health: a systematic review and meta-analysis. American Journal of Public Health Vol. 97 No.4,2007, p. 667–675.

32. Arena U, Mastellone M, Perugini F. Life cycle assessment of a plastic packaging recycling system. *Int J Life Cycle Assess* Vol.8 No.2, 2003, p. 92–98.
33. Ward P.T., Duray R. Manufacturing strategy in context: environment, competitive strategy and manufacturing strategy. *J Oper Manag.* 2000, p.123–138.
34. James J, Thomas P, Cavan D, Kerr D. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomized trial. *British Med J*, 2004.
35. Schnettler B., Ruiz D., Sepulveda O., Sepulveda N. Importance of the country-of-origin in food consumption in a developing country. *Food Quality and Preference.* 2005, 19, 372–382.
36. The law of competition in Lithuania. Retrieved from: http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=111197 [Accessed: 1 December, 2010].
37. Teece, D. Firm organization, industrial structure, and technological innovation, *Journal of Economic Behavior and Organization*, No 31, 1996, p. 193-224.
38. Porter M. E. *Competitive Strategy. Techniques for Analyzing Industries and Competitors.* New York: The Free Press, 2006.
39. Competition Bureau. Retrieved from: <http://competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/01797.html> [Accessed: January 17, 2010].
40. Bain J. *Barriers to New Competition.* Cambridge, Mass.: Harvard Univ. Press, 2002.
41. Beverages news. Retrieved from: <http://www3.interscience.wiley.com/search/allsearch?mode=quicksearch&WISindexid1=WISall&WISsearch1=beverages> [Accessed: 20 December, 2009].
42. Caves E.R. *American Industry: Structure, Conduct and Performance.* Harvard University: Prentice Hall, 2002.
43. Panagiotou G. The impact of managerial cognitions on the structure-conduct-performance (SCP) paradigm: A strategic group perspective. *Management Decision*, Vol. 44, No. 3, 2006, pp.423 – 441.
44. Friedman J.W. *Oligopoly Theory.* Cambridge: Cambridge University Press MA, 2002.
45. Fisher I. On Mathematical economics. *Quarterly Journal of Economics* Vol.12, 2000, p.119-132.
46. Gaudet G.and Salant S.W. Increasing the profits of a subset of firms in oligopoly models with strategic substitutes. *American Economic review* Vol.81, p.658-665.
47. Market structure – conduct – performance hypothesis. Retrieved from: <http://www.docstoc.com/docs/10381823/Market-Structure-Conduct-Performance->

%28SCP%29-Hypothesis-Revisited-using-Stochastic-Frontier-Efficiency-Analysis
[Accessed: 10 March, 2011].

48. Alexander N. International Retailing 1st Edition. Blackwell Publishers Ltd, Oxford, 1997.
49. Ashworth A. Pre-contract studies: development economics, tendering and estimating 2nd Edition. Cornwall: Blackwell Publishing, 2005, 376 p.
50. Berger A. A. Media and society – a critical perspective 2nd Edition. Plymouth: Rowman & Littlefield, 2007, 258 p.
51. Kotler P., Keller K.L. Marketing management. United States of America, 2006. p. 43-63, 87,101, 135, 292.
52. Bo L., Shuqin C., Biao L. Application of Grey Target Theory to Foreign Market Entry Mode Selection. The Journal of Grey System, No. 4, 2004, pp.397-400.
53. Luo Y. Entry and cooperative strategies in international business expansion. Westport: Greenwood Publishing Group, 1999, 318 p.
54. Doherty A.M. The Internationalization of Retailing – Factors Influencing the Choice of Franchising as a Market Entry Strategy. International Journal of Service Industry Management Vol. 18 No. 2, 2007, p. 184-205.
55. Gutterman A. A short course in international joint ventures. Novato: World Trade Press, 2002, 186 p.
56. Nelson C. A. Exporting – a manager's guide to the world market. Andover: Thomson Learning, 1999, 256 p.
57. Chernatony L. Creating powerful brands. Burlington: Elsevier/Butterworth-Heinemann, 2003, 467 p.
58. Kapferer, J.N. The new strategic brand management – creating and sustaining brand equity long term 4th Edition. London: Kogan Page, 2008, 560 p.
59. Clark K., Wheelwright S.C. Managing New Products and Process Development: text cases. Boston: Harvard Business School Publishing, 1993, 896 p.
60. Keller, K. L. Strategic brand management: building, measuring, and managing brand equity 2nd Edition. New Jersey: Prentice Hall, 2003, 784 p.
61. Lindstrom M. Brand sense: how to build powerful brands through touch, taste, smell, sight & sound. London: Kogan Page Publishers, 2005 - 237 p.
62. Kotler P., Kartajaya H., Setiawan I. Marketing 3.0. From Products to Customers to Human Spirit, 1st Edition. New Jersey: John Wiley and Sons, 2010, 188 p.
63. Tirole J. The Theory of Industrial Organization. Cambridge, Mass.: MIT Press, 2000.
64. International journal of physical distribution and logistics management. Retrieved from: <http://www.emeraldinsight.com/0960-0035.htm> [Accessed: 10 March, 2011].

65. SCP case of the banking system. Retrieved from: http://www.jsd-denmark.com/Jsda/Summer_2006/PDF/ARC_MarketStructureProfitabilityPerformace.pdf [Accessed: 10 March, 2011].
66. SCP case of the insurance industry in Austria. Retrieved from: <http://pdfcast.org/pdf/the-austrian-insurance-industry-a-structure-conduct-and-performance-analysis> [Accessed: 10 March, 2011].
67. Soft drinks international reports. Retrieved from: <http://softdrinksreport2010.britvic.com/> [Accessed: 12 May, 2011].
68. Klyvienė V. Baltic Outlook: Growth might show positive surprise. Reports presentation of Dankse Markets, Vilnius, 2011.
69. Ferrier, D., Lovell A. K., 1990. Measuring Cost Efficiency in Banking: Econometric and Linear Programming Evidence. *Journal of Econometrics*, No. 46, p. 229-245.
70. Muralidhar, A. S., 2000. Risk-Adjusted Performance: The Correlation Correction. *Financial Analysts Journal*, No. 5, p. 63-71.
71. Osvaldas Stripeikis – Entrepreneurship formation in Lithuanian small and medium – sized firms, summary of doctoral dissertation, Kaunas 2008, Vytautas Magnus University.
72. Bennett, M.; Donnelly, R. The determinants of capital structure: some UK evidence, *British Accounting Review*, 1993, p. 43-59.
73. Deshpande, R.; Farley, J. Organizational culture, market orientation, innovativeness, and firm performance: an international research odyssey, *International Journal of Research in Marketing*, No 21, 2004, p. 3-22.

APPENDIXES

APPENDIX A

The main results of calculations of the correlation regression analysis

Serial number (years)	Y - Concentration of the Soft drinks sector (%)	X1 - Net profit (LTL)	X2 - Net profit margin (%)	X3 - ROA (%)	X4 - ROE (%)	X5 - Equity (LTL)	X6 - Liabilities (LTL)	X7 - GDP (thousands LTL)
2004	9%	1.345.627	2%	4%	6%	21.456.657	20.002.368	626.979
2005	16%	1.336.627	2%	3%	5%	24.318.371	23.061.960	72.060
2006	18%	3.558.126	4%	6%	12%	30.670.840	33.211.967	82.793
2007	10%	7.026.773	14%	9%	19%	37.618.513	36.075.783	98.669
2008	18%	3.573.074	4%	5%	10%	35.383.170	32.454.855	111.483
2009	12%	5.714.908	9%	9%	4%	134.340.108	25.566.541	91.526
2010	16%	6.545.653	11%	12%	5%	130.788.326	30.522.301	89.149

	Y	X1	X2	X3	X4	X5	X6	X7
average	14%	4.157.255	7%	7%	9%	59.225.141	200.895.775	76.911
dispersion	4%	2.342.587	5%	3%	5%	50.430.022	5.908.110	202.974
Correlation coefficient		0,09	0,28	0,07	0,14	0,36	0,03	0,83
Standard deviation		0,04	0,04	0,04	0,04	0,04	0,04	0,63
Significance F (P-value)		0,86	0,54	0,88	0,77	0,95	0,43	0,02
F test statistic		0,04	0,44	0,02	0,1	0	0,73	11,2
T - statistic		-0,19	-66	-15	-0,31	0,06	0,85	3,35
Multiple R		0,007	0,08	0,005	0,019	0,001	0,128	0,692

Results of the correlation regression analysis (concentration and liabilities)

Liabilities

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,357595312
R Square	0,127874407
Adjusted R Square	-0,046550712
Standard Error	0,0364892
Observations	7

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0,00097612	0,00097612	0,73311922	0,430985584
Residual	5	0,006657308	0,001331462		
Total	6	0,007633429			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0,080898744	0,073664943	1,098198681	0,322165326	-0,108463022	0,270260509	-0,108463022	0,270260509
X Variable 1	2,15887E-09	2,52139E-09	0,856223814	0,430985584	-4,32257E-09	8,64032E-09	-4,32257E-09	8,64032E-09

Results of the correlation regression analysis (concentration and gross domestic product)

GDP

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,83192141
R Square	0,69209324
Adjusted R Square	0,63051189
Standard Error	9901,70952
Observations	7

ANOVA

	df	SS	MS	F	Significance F
Regression	1	1101883672	1101883672	11,238682	0,02027524
Residual	5	490219257	98043851,4		
Total	6	1592102929			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	16317,2216	21387,6076	0,76292879	0,47993268	-38661,374	71295,8171	-38661,374	71295,8171
X Variable 1	0,88373014	0,26361006	3,35241436	0,02027524	0,20609892	1,56136136	0,20609892	1,56136136

Results of the correlation regression analysis (concentration and Net profit margin)

NPM

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,28
R Square	0,08051987
Adjusted R Square	-0,1033762
Standard Error	0,03746675
Observations	7

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0,00061464	0,00061464	0,4378554	0,5374314
Residual	5	0,00701879	0,00140376		
Total	6	0,00763343			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	0,15671774	0,02528445	6,19818789	0,00159549	0,09172201	0,22171348	0,09172201	0,22171348
X Variable 1	-0,2081253	0,31452813	-0,6617064	0,5374314	-1,0166456	0,60039501	-1,0166456	0,60039501

Results of the correlation regression analysis (concentration and Return On Assets)

ROA

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,07
R Square	0,00462347
Adjusted R Square	-0,1944518

Standard Error	0,0389824
Observations	7

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	3,5293E-05	3,5293E-05	0,02322474	0,88483286
Residual	5	0,00759814	0,00151963		
Total	6	0,00763343			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0,14803436	0,0370295	3,99774109	0,01034659	0,05284699	0,24322172
X Variable 1	-0,0773751	0,50772166	-0,1523967	0,88483286	-1,3825152	1,22776498

Results of the correlation regression analysis (concentration and Return On Equity)

ROE

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,14
R Square	0,01936805
Adjusted R Square	-0,1767583
Standard Error	0,03869259
Observations	7

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0,00014784	0,00014784	0,09875292	0,7660204
Residual	5	0,00748558	0,00149712		
Total	6	0,00763343			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0,15130272	0,03059673	4,9450622	0,00430323	0,07265133	0,22995412	0,07265133	0,22995412
X Variable 1	-0,0962776	0,3063727	-0,3142498	0,7660204	-0,8838337	0,69127855	-0,8838337	0,69127855

Results of the correlation regression analysis (concentration and Net profit)

Net profit

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,085349
R Square	0,00728445
Adjusted R Square	-0,1912587
Standard Error	0,03893025
Observations	7

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5,5605E-05	5,5605E-05	0,03668952	0,85563419
Residual	5	0,00757782	0,00151556		
Total	6	0,00763343			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0,14825963	0,03181224	4,66045895	0,00552981	0,06648367	0,23003559	0,06648367	0,23003559
X Variable 1	-1,3E-09	6,7845E-09	-0,1915451	0,85563419	-1,874E-08	1,6141E-08	-1,874E-08	1,6141E-08

Results of the correlation regression analysis (concentration and equity)

Equity

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,02663859
R Square	0,00070961
Adjusted R Square	-0,1991485
Standard Error	0,03905896
Observations	7

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	5,4168E-06	5,4168E-06	0,00355059	0,95479297
Residual	5	0,00762801	0,0015256		
Total	6	0,00763343			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	0,14174128	0,02384604	5,94401708	0,00192516	0,08044308	0,20303948	0,08044308	0,20303948
X Variable 1	1,8841E-11	3,162E-10	0,05958684	0,95479297	-7,94E-10	8,3165E-10	-7,94E-10	8,3165E-10

APPENDIX B

SOFT DRINK AVAILABILITY AND CONSUMPTION IN SCHOOL-AGED CHILDREN

Joana Vasiliauskaitė

Vilnius Gediminas Technical University, Saulėtekio al. 11, 10223 Vilnius, Lithuania

E-mail: joana.vasiliauskaite@yahoo.com

Abstract. Soft drink consumption becomes an important social and health problem among youth in many countries. Analysis of data from the internet on soft drinks consumption behaviour and availability from World Health Organization Cross-National Study on Health Behaviour in School-aged Children (HBSC) is presented in the article. This survey is carried out in majority of European countries including Lithuania. Another resource for data is taken from articles of American Journal of Preventive Medicine, 2008.

Aim of this study was to analyze features, availability and trends of soft drinks consumption among representative sample of school children and to make conclusions about the most popular soft drink, availability in schools and consumptions among children.

Keywords: school – aged children, soft drink consumption, availability.

Introduction

Soft drinks have been widely available in the nation's schools for some years, but recently, in response to rising concern about the epidemic of obesity among youth, concerns have been raised as to whether they should be available, and if so, under what circumstances.

It was established that soft drinks has an evident impact on health from three most common causes of health problems in adolescent age (overweight, weak memory and depression). Increasingly, the appropriateness of the beverage and food industries' commercial presence in schools is being questioned and scrutinized, due largely to concern over the obesity epidemic affecting youth and the potential contribution of soft drink consumption by students in schools. Results of a recent meta-analysis of studies that have examined the effects of soft drink consumption on children's health provide health-damaging effects of these products.

The beverage and food industries' commercial presence commonly includes the sale of beverage and food items, advertisements in school classrooms and gyms and during school events, training of teachers, and, in some schools, having access to the student population to conduct

market research. Transitional period toward the market economy in the Central and Eastern European countries became the period of remarkable attitude and behaviour changes of the young people. The groups of youth very often become easy and susceptible target of the commercial structures such as tobacco, alcohol producers, mass media, which are advertising only positive and even "magic" sides of these substances.

Soft drink consumption is systematically monitored, when the project Health Behaviour in School-Age Children have started: World Health Organization Cross-National Survey (HBSC). The results from already conducted previous surveys indicate on the increase of soft drink consumption in 20 from 24 countries including Lithuania during period 2004–2008 (12). The aim of this research paper was to analyze the features of soft drinks use and the availability in school children aged during period 2004–2008. The current study extends the work done by the Centres for Disease Control and Prevention (CDC) School Health Policies and Programs Study (SHPPS) in several ways. It is conducted annually, rather than every 6 years. Can link school information gathered on schools to student outcome measures and focuses on the percent of students characteristics rather than the number of schools having them.

Study Area

Samples and Survey Methods

Nationally representative samples of schools and students from the 2006 and 2008 study, funded by the Robert Wood Johnson Foundation (RWJF), and the Monitoring the Future (MTF) study, funded by the National Institute of Drug Abuse (NIDA) were used. Data were analyzed in 2008. Both studies were conducted at the University of Michigan's Institute for Social Research. The schools selected to be surveyed from the national samples of schools in grades 8, 10, and 12, cycling out of the student surveys conducted in 2006 and 2008. At each grade, an independent sample of schools, drawn with probability proportionate to school size, originally had been selected to participate for 2 years in the study. The design and methods are summarized briefly, a detailed description is available elsewhere. At each of the three grade levels, a multistage sampling design was used to obtain nationally representative samples of students in both public and private schools. Data have been collected annually. The stratified random sampling procedure involved three stages: (1) geographic regions were selected; (2) schools were selected within region with probability proportional to the estimated number of students in the target grade (3) students were selected within schools, usually by means of randomly selecting whole classrooms. Sample weights were assigned to each student to take into account variations in selection probabilities. The half-samples being recruited for the first time each year, as well as the half samples participating in their second year were nationally representative replicate samples. School administrator data for the current

study came from questionnaires in schools studied in the 2006 and 2008. Students in the same schools completed a self-administered, machine-readable questionnaire during a normal class period. School administrator response rates averaged 85%, while student response rates averaged 90%, 86%, and 84% for grades 8, 10, and 12, respectively (5). Absence on the day of data collection was the primary reason that students were missed; it is estimated that less than 1% of students refused to complete the questionnaire.

Samples of school children aged in 2004, 2006 and 2008. International HBSC research protocol was followed. The sample of the respondents was randomly selected by school and by class. In the surveys of 2004, 2006 and 2008, there were 255, 248 and 297 classes involved. Response rate was more than 95% in the each cross-sectional survey. Respondents have filled in the classroom anonymously the questionnaire forms developed by international HBSC research network. Questions on different health behaviours and health issues were included into questionnaire. Also questionnaire has covered 3–4 questions about soft drink consumption and availability. The analysis of questions on soft drink, which formulation did not change from survey to survey, are described and discussed in this research article:

Question 1. At present, how often do you drink anything of soft drinks, such as Coca cola, Sprite, Fanta, energy drinks or diet drinks. Following answer categories were included for this question: a) every day; b) every week; c) every month; d) rarely; e) never. The respondents were attributed to the following categories of the soft drinks consumption according to question 1: a) not users of soft drinks (answered as “never used”); b) irregular users (used soft drinks “every month” or less frequently); and c) regular users (used soft drinks “every week” or more often).

Question 2. What kind of soft drinks do you like and use most? Answers: a) Coca cola; b) Sprite; c) Fanta.

Question 3. Availability in schools: regular soft drinks, diet soft drinks, milk, juice, water.

The frequency of answers among respondents was calculated and statistical hypotheses were evaluated.

Table1. Percentage of regular and irregular users of soft drinks by age and gender in 2004,2006 and 2008

Gender. age	Regularity of soft drinks use								
	regular use			irregular use			total		
	2004	2006	2008	2004	2006	2008	2004	2006	2008
Boys	9.4	12.2	13.6	69.6	63.1	60.7	79.0	75.3	74.0
11-year-old	6.2	6.2	3.8	62.3	57.0	55.2	68.5	63.2	59.0
13-year-old	8.0	12.9	8.8	73.6	65.4	66.9	71.6	78.3	75.7
15-year-old	14.0	18.1	27.6	72.7	67.6	60.1	86.7	85.7	87.7
Girls	4.2	6.0	6.5	72.3	68.4	63.8	76.5	74.4	70.3
11-year-old	3.0	2.8	1.1	61.8	59.9	48.6	64.8	62.7	49.7
13-year-old	3.7	4.5	5.4	73.3	68.5	67.1	77.0	73.0	72.5
15-year-old	6.1	10.5	13.0	81.9	76.2	75.5	88.0	86.7	88.5

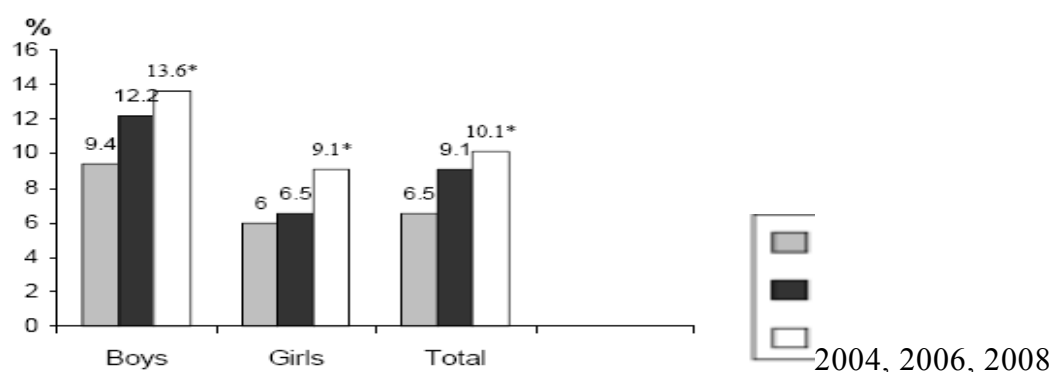


Fig1. Change of percentage of respondents, who used soft drinks regularly during period 2004-2008.

Results

Distribution of soft drinks use by gender, age and intensity during 2004–2008. Table 1 presents distribution of answers to the question “At present, how often do you drink anything soft drink, such as Coca cola, energy drinks or diet drinks?” by gender, age and different categories of users (regular use, irregular use, total use) in article surveys of 2004, 2006 and 2008.

Total percentage of respondents, who reported “regular” and “irregular” use of soft drinks decreased among boys from 79.0% to 74.0%, and in girls from 76.5 to 70.3 during 2004–2008. However, this

mentioned decrease is confusing, because “regular” use of soft drinks increased from 9.4% to 13.6% in boys and from 4.2 to 6.5% in girls (Fig 1). The most evident elevation of percentage of “regular” users of soft drinks was observed in 15-year-olds. Use of soft drinks was compared between boys and girls. Total percentage in boys and girls, who reported current use of soft drinks (both “regular” and “irregular”) was higher only by 0.9–5.7% in boys in different surveys. However, “regular” use of soft drinks was 2 and more times higher in boys. Increase of soft drinks consumption with age was observed in all three cross-sectional surveys. Soft drinks consumption has decreased in age group of 11-year-olds, but increased among 15-year-olds during 2004–2006. This has

resulted in bigger gap (respectively 3.8% and 27.6%) between use of soft drinks in 11-year-olds and 15-year-olds in 2006.

Table 2 presents distribution of answers of students about use of different soft drinks (Coca cola,

Sprite, Fanta) during 2004–2008. It is evident that Coca cola was the most popular soft drink used. Respectively 8.9%, 10.2% and 12.7% of boys, 3.4%, 4.6% and 5.4% of girls have reported the regular use of Coca cola in 2004, 2006 and 2008.

Table 2. Percentage of school-aged children, who were using Coca cola, Sprite and Fanta regularly in 2004, 2006 and 2008

Type of soft drinks	Boys			Girls		
	2004	2006	2008	2004	2006	2008
Coca cola	8.9	10.2	12.7	3.4	4.6	5.4
Sprite	0.6	1.6	2.0	0.6	1.3	1.7
Fanta	1.4	0.9	2.4	0.6	0.1	0.7

Data statistically significant increase of Coca cola consumption during eight years of observation. Proportion of students, who have reported regular use of soft drinks, was not big in 2004. However, significant increase of number of

Availability in schools

Because of the considerable amount of information reported in the following tables (Table 2 and Table3), and because of their parallel structure, the results in each table are divided into the sections: (C) Advertising/promotion in schools, (D) Availability of beverages, and (E) Attempts to improve school environment.

Advertising/promotion in schools. A significantly higher percentage of high school students (21%) than middle school students (7%) attend schools that allow the soft drink bottler to advertise in the school building, school grounds, or school buses, although even the great majority of high schools do not allow such advertising. (Table 2C). Of course, a soft drink vending machine is itself usually a highly visible ad. School administrators were asked whether soft drinks or meals from fast-food restaurants are advertised or promoted by several means. The majority of students are not exposed

Sprite and Fanta users was observed during 2004–2008. In general, regular consumption of soft drinks was increasing more rapidly during first sub-period of observation 2004–2006 (from 6.5% to 9.1%) than in the second sub period – 2006–2008 (from 9.1% to 10.1%).

to most of them. Sponsorship of school events is the most common (23% of high school students and 15% of middle school students; difference not significant) (Table 2C). Advertising through other means (coupons, posters, or ads on textbook covers) reaches only a small minority of students.

Availability of beverages. The great majority of secondary school students attend schools that have soft drinks sold in vending machines—65% of middle school students and 88% of high school students.

(Figure 2). However, relatively few schools have completely unrestricted access throughout the day to regular soft drinks in vending machines—only 10% of middle school students and 23% of high school students are in schools that do (Table 2D). The corresponding numbers for diet soft drinks are similar (6% and 22%, respectively), likely because both classes of soft drink are located in the same vending machines.

Bottled water, on the other hand, is accessible throughout the day through vending machines to only 18% of middle school students but to about half of high

school students (47%). All of the beverage classes are significantly less available throughout the day to middle school students compared to high school students, including 1% or skim milk (3% - 12%, respectively), whole or 2% milk or flavoured milk (4% - 16%), and 100% fruit or vegetable juice (6% - 25%).

As shown in Table 2D, at lunchtime, when many students make beverage choices, the majority of secondary school students have access to soft drinks in the carte offerings in the cafeteria (48% in middle school and 59% in high school), as well as to whole or 2% milk or flavoured milk (78% and 83%). Of the various beverages, the lowest availability measured was for diet soft drinks, with middle schools having significantly less access (8% and 24%). Modestly higher percentages are observed in high schools for all these classes of beverages, although only fruit and vegetable juices and diet soft drinks reach statistical significance. (No question was included on the availability of bottled water in the cafeteria.)

Table 3 shows the percentages of students who are in schools offering beverages through vending machines, and more detail on when during the day the different beverages are available. About two thirds (65%) of middle school students attend schools that have vending machines that dispense regular soft drinks versus 88% of high school students. Significant proportions attend schools that dispense diet soft drinks (49% and 83%). Bottled water is the most widely available beverage from vending machines (83% - 97% of students have access) and 100% fruit or vegetable juice is also widely available (61% - 83%). Whole milk (58% - 64%) and skim milk (52% - 56%) are slightly less available (differences by grade not significant).

All beverages have lower reported availability in middle schools than in high schools. Only a minority of students have access to each of these beverages during school hours when meals are not being served (with the one exception of bottled water in high schools, to which nearly two thirds (64%) of students have access) (Table 3). Among high school students, 42% have access to soft drinks in vending machines during this time, and 41% to diet soft drinks, versus only 16% and 10% of middle school students, respectively. During the school day, when meals are not being served, is the period of lowest availability for soft drinks, bottled water, and fruit and vegetable juices (3). The period of greatest accessibility to soft drinks (55% and 76%) and diet soft drinks (45% and 73%) is after school, again with significantly higher proportions of high school students having access to all beverages.

Table 2. Food and beverage availability in grade 8 and in grades 10 and 12 combined: 2004–2008

C. Advertising/promotion in schools			
Percent of students in schools that allow the soft drink bottler to advertise in the school building, school grounds, or school buses	7.3	21.0	***
Percent of students in schools that advertise or promote meals from fast-food restaurants or soft drinks with:			
Posters or other materials on display in the school	2.2	7.4	*
Ads on textbook covers or school food service menus	5.0	3.8	
Coupons for free or reduced-price products	11.1	17.1	
Sponsorship of school events	14.9	23.4	
D. Availability of beverages			
Percent of students in schools that offer the following beverages in vending machines throughout the day: ^b			
Diet soft drinks ^c	6.1	21.8	***
Bottled water	17.7	47.1	***
1% or skim milk	2.7	12.3	**
100% fruit or vegetable juice	5.5	25.1	***
Regular soft drinks ^d	9.5	22.0	**
Whole or 2% milk, or flavored milk	4.4	15.8	**
Percent of students in schools that offer the following beverages à la carte in the cafeteria at lunch:			
Diet soft drinks ^c	8.0	23.7	***
1% or skim milk	71.9	79.3	
100% fruit or vegetable juice	68.6	78.2	**
Regular soft drinks ^d	48.1	59.4	
Whole or 2% milk, or flavored milk	78.3	82.8	
E. Attempts to promote healthier habits			
Mean score on serious/real effort the school has made to promote healthy eating and drinking habits among students ^e	3.1	2.9	
Mean score on serious/real effort the school district has made to promote healthy eating and drinking habits among students ^e	3.2	2.9	**

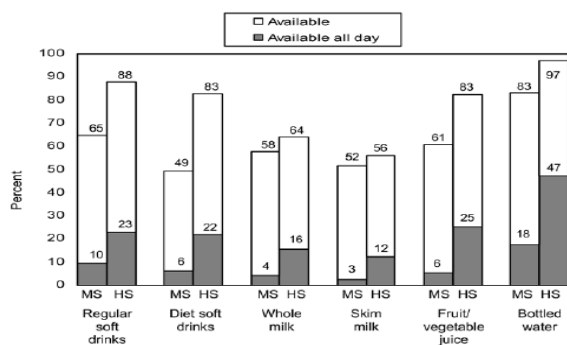


Figure 2. Percent of students who attend schools with different types of beverages available in vending machines at any time, and throughout the day, by grade level. Note: Percentages are rounded off. HS, high school; MS, middle school.

Table 3. Percentage of students exposed to various beverages by time of day these beverages are made available to students in schools: 2004–2008

Beverage availability	Regular soft drinks	Diet soft drinks	Whole milk	Skim milk	Fruit and/or vegetable juice	Bottled water
Percentage of students in schools that offer various beverages in vending machines						
8th	64.9	49.4	57.7	51.7	60.8	83.0
10th & 12th	87.9***	82.9***	64.0	56.2	82.6***	97.2***
Percentage of students in schools that offer these beverages in vending machines at these times:						
Before classes begin in the morning						
8th	25.3	18.0	30.7	24.1	28.2	40.8
10th & 12th	59.6***	56.8***	42.3	36.4	61.2***	79.1***
During school hours when meals are not being served						
8th	15.7	10.4	6.7	4.1	9.5	25.8
10th & 12th	49.4***	40.9***	21.7***	16.3**	38.3***	63.6***
During school lunch periods						
8th	30.8	16.4	55.7	50.0	54.3	64.5
10th & 12th	47.9**	45.6***	61.1	54.7	69.7**	82.5**
After school						
8th	55.2	45.1	15.3	9.3	19.8	57.3
10th & 12th	76.4***	72.6***	23.8*	18.4**	47.7***	77.4***

Asterisks indicate significant differences by grade level: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Discussion

Soft drinks were widely available to students in their schools in the 2004 and 2008 school years—more so in high schools than in middle schools. Principals of the schools attended by about half of the students studied report that their schools or districts have “significant activities” underway to promote healthier eating and drinking practices among their students. This encouraging finding suggests that this is a time of “unfreezing” traditional ways of viewing the food and beverage offerings in schools, and that reform is beginning to occur. Indeed, these recently collected data may well reflect some of that change, but they also make clear that there remains a

great deal of room for improving the environmental influences of schools on their students when it comes to developing healthy behaviours in beverage consumption. Perhaps the industry’s new agreement with the Alliance for a Healthier Generation will bring about the major changes outlined in the agreement, despite possible resistance from bottling companies and even school districts who may not want to give up the revenues generated under current contracts. Future surveys in this series should speak to the progress being made. Indeed, the questionnaire for the 2008 survey of school administrators includes a section that asks respondents if they are aware of the agreement and whether they have implemented, or are planning to implement, in their school the school beverage guidelines adopted under the agreement. It is quite possible, of course, that the financial losses to both the industry and the schools will not be as large as is commonly assumed if students switch to buying beverages such as water, skim milk, and 100% fruit or vegetable juice that could be made increasingly available to them through vending machines. That would be a win-win-win situation for the students, their schools, and the industry.

Conclusions

1. Soft drinks was used more frequently among boys in comparison with girls in Lithuania. Regular use of soft drinks among school-aged children has increased significantly from 9.4% to 13.6% in boys and from 4.2 to 6.5 in girls during 2004–2008.

2. The most popular soft drink among school-aged children was Coca cola. Regular use of Coca cola (at least once per week) has increased from 5.8% to 9.1% during 2004–2008.

3. Soft drink use behaviours in Lithuanian school-aged children are becoming closer to the habits of their peers in West European and the Nordic countries, where soft drinks consumption in school-age students is high.

4. Soft drinks were widely available to Lithuanian students in their schools in the 2006 and 2008 school years— more so in high schools than in middle schools.

5. There are some disparities in the environmental influences that students face with regard to soft drinks—disparities that would tend to encourage those most at risk for overweight and obesity to drink more soft drinks.

References

- Preventing childhood obesity: Health in the balance.* Institute of Medicine. Washington DC: The National Academy Press, 2005.
- James, J; Thomas, P; Cavan, D; Kerr, D. 2004. Preventing childhood obesity by reducing consumption of carbonated drinks: cluster randomized trial. *British Med J* 328:1237.
- Kranz, S; Smiciklas-Wright, H; Siega-Riz, A; Mitchell, D. 2005. Adverse effect of high added sugar consumption on dietary intake in American preschoolers. *J Pediatr* 146:105–11.
- Ludwig, D; Peterson, JKE; Fortmaker, SL. 2001. Relation between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis. *Lancet* 357:505– 8.
- Nielsen, SJ; Popkin, BM. 2006. Changes in beverage intake between 2004 and 2006. *Am J Prev Med* 27:205–10.
- Weber-Cullen, K; Zakeri, I. 2004. Fruits, vegetables, milk, and sweetened beverages consumption and access to à la carte/snack bar meals at school. *Am J Public Health* 94:463–7.
- Vartanian, LR; Schwartz, MB; Brownell, KD. 2007. Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *Am J Public Health* 97:667–75.
- General Accounting Office, 2004. Commercial activities in schools. Washington, DC: General Accounting Office. Available from internet: <<http://www.gao.gov/archive/2000/he00156.pdf>> GAO/HEHS-00-156
- Wechsler, H; Brener, ND; Kuester, S; Miller, C. 2001. Food service and foods and beverages available at school: results from the School Health Policies and Programs Study 2000. *J Sch Health* 71:313–24.
- Blanding, M. 2005. Hard on soft drinks. *Boston Globe* 30 October 2005. Available from the internet: <http://www.boston.com/yourlife/health/children/articles/2005/10/30/hard_on_soft_drinks/>.
- Sicher, J. 2006. Special issue: top-10 CSD results for Beverage Digest 2007 Mar 8; Vol. 50 (no. 5). Available from the internet: <http://www.beveragedigest.com/pdf/top-10_2007.pdf>.
- A WHO Cross- National Study. Research Protocol for the 2004/2008 Survey. Health Behaviour in School-Aged Children. Available from internet <http://www.hbsc.org/overview_studydesign.html#dcs>
- Moksleivių gaiviųjų gėrimų vartojimas pagal lytį ir amžių, gėrimų platinimas mokyklose**
- J. Vasiliauskaitė**
- Santrauka
- Gaiviųjų gėrimų, ypač gazuotų, vartojimas tarp jaunų žmonių šiuo metu tampa vis didesne socialine bei sveikatos problema. Straipsnyje pateikti 2004, 2006 ir 2008 m. Tarptautinio Pasaulio sveikatos organizacijos koordinuojamo moksleivių sveikatos ir elgesio tyrimo, vykdomo daugelyje Europos šalių, tarp jų ir Lietuvoje apibendrinti ir išanalizuoti rezultatai. Straipsnyje daug informacijos gauta iš Amerikos sveikatos žurnalo „American Journal of Preventive Medicine“ 2008. Tyrimo tikslas - šanalizuoti straipsnius ir duomenis apie gaiviųjų gėrimų vartojimo ypatybes bei pokyčius priklausomai nuo lyties, tarp moksleivių per 2004–2008 metus, išsiaiškinti koks populiariausias gėrimas tarp moksleivių, koks gėrimų tikslingumas mokyklose.
- Reikšmingi žodžiai:** moksleiviai, gaiviųjų gėrimų vartojimas, paplitimas.

