G. Kasnauskienė

METHODOLOGICAL GUIDELINES TO RESEARCH PAPER WRITING

MASTER DEGREE PROGRAMME

Vilnius, 2009

Reviewer:
Prof. Dr. Sigita Urbonavičius
Vilniaus universiteto Tarptautinio verslo mokykla

Editor:
Danutė Rasimavičienė
Vilnius University International Business School at

Author:
Doc. dr. Gindra Kasnauskienė
International Business School at Vilnius University

© Gindra Kasnauskienė, 2009

Content

Introduction.................................................................................................................. 3
1. The aim of the research paper.................................................................................. 5
2. Research stages........................................................................................................ 6
3. The structure of the paper........................................................................................ 14
4. The design of the paper........................................................................................... 18
5. The defense of the paper.......................................................................................... 21
5.1 Preparation of the presentation.............................................................................. 21
5.2 Presentation.......................................................................................................... 22
Appendices.................................................................................................................. 25
Introduction

The purpose of these methodological guidelines is to present the basic requirements of Research Paper (hereinafter – RP) for Master degree students of International Business School at Vilnius University (hereinafter - VU IBS).

According to the provisions of Master degree programmes of VU IBS, students have to deliver written work of different complexity:

**Essay.** This is the smallest scale, well-structured, consistent, easy-to-read written work, where the student can clearly express his/her approach, analysis and solutions to different claims and problems presented in scientific literature.

**Descriptive or synoptic paper.** This pattern of work is greater in volume than the essay, it presents scientifically valid opinions and their critical evaluation in a consistent way and the assessment of this type of written work usually makes up a solid part of accumulative mark.

**Research paper.** It is written in frequent consultation with supervisors. Its goal is to deepen the knowledge acquired during lectures and practical seminars, to develop students’ critical thinking skills, their ability to raise issues competently and provide solutions under the chosen topic. The empirical nature of the research paper requires to collect data independently, present and analyze them properly and to use the results of the analysis in other decision making processes - not only discussing about new theories or models, but complementing them as well.

**Master paper (thesis).** This is the most important work of the largest scale, written in the second year of Master studies, with the application of all the knowledge gained during the studies. Students demonstrate wider and deeper knowledge and understanding than the undergraduate level as well as the ability to apply it in the original way and make reasonable decisions.

Students work on Master papers (theses) independently during the semesters provided for in the relevant study programmes under the guidance of their supervisors. Each kind of the above mentioned written work has its special requirements. Research papers and Master papers (theses) are written following the necessary design and documentation procedures.

Research paper writing is a complicated integral part of Master programmes, with a provision of a significant number of credits in each of them. VU IBS Master students’ research paper writing is a 40-50-page written work per semester on the particular subjects of the relevant study programme (International Business Finance, International Business and Law, or International Trade and Marketing):

- *in the first* (with the exception of International Business and Law programme) and the second semesters students prepare and defend their written work on the topics of subjects taught in these semesters. These are written in groups (each consisting of 2 to 4 students). With the supervisor’s consent, the work can be written individually;

- *at the beginning of the third semester* each Master programme student selects the Master paper (thesis) topic and goes into deep theoretical analysis of which as well as plans the research directions. In the third semester the theoretical part of the Master paper (thesis) is prepared by the student alone. In the fourth semester Master paper (thesis) is continued. Master paper (thesis) is written, defended and assessed according to VU IBS "Final Paper Writing

While preparing these methodological guidelines there has been a lot of literature analyzed about the process of social research, methodological norms and many detailed recommendations for the written discourse. In the preparation process of these guidelines „Dublin descriptors“1, the document enacted in 2004 was followed, which presents qualification requirements for Master degree studies. Final papers fall into the category of applied social sciences, therefore the author of these guidelines referred to research recommendations2 of the Ministry of Education and Science of Lithuania. The latter recommendations were based on publication manual3 of authoritative organization – American Psychological Association (APA), which provide the explanation how to write and format reports of empirical and experimental research.

It has been also attempted to coordinate the methodological guidelines for students of VU IBS with the requirements of other Lithuanian and foreign educational institutions of an appropriate level and to pay attention to the useful experience in this area of other departments of Vilnius University.

Before writing FP students are strongly recommended to familiarize themselves with the documents of VU IBS - „Requirements of Bachelor Degree Papers“(further – BDP requirements) and „Requirements of Master Degree Papers“(further – MDP requirements), with the requirements for FP writing, FP defense procedure, their evaluation criteria, storage procedure, significant appendixes and other important things that students writing FPs should be aware of.

Read carefully the following methodological guidelines, pay special attention to suggestions, the most commonly occurring mistakes that are pointed out. If you have any questions, feel free to enquire your supervisor or any other VU IBS professor about that. The supervisor – is your main advisor, whose duty is to consult a student in different paper writing stages: starting with the choice of the theme and drafting a FP writing calendar, he/she should constantly follow FP writing process and having reviewed a part of it or all the paper, should comment on its improvement. The skills gained during research paper writing (familiarity with the methodology of scientific research work, searching for sources, the


application of the requirements for the format and layout of research paper) is a useful experience valuable for further successful writing process and defense of the thesis.

1. The aim of the research paper

FP writing and defense is an individual scientific research study showing the student’s ability to research into topical and significant practical and/or scientific theoretical problems, to apply suitable methods for their identification and solution, to formulate conclusions and recommendations as well as further research trends on the basis of the results of empirical research. Research paper writing as a teaching method aims at developing students’ ability to adapt their gained knowledge to the solution of practical problems in business. Research paper should combine both theoretical and practical aspects of the research problem.

In the process of preparation and defense of the Research paper students should develop and demonstrate several generic interrelated competencies:

- To reveal the relevance of the research problem (topic), its significance to an appropriate scientific or business theory or practice;
- To set objectives and tasks of the Research paper clearly;
- To evaluate the situation of the research problem (topic), surveying the main theoretical models and the most important research carried out into the problem in Lithuania and abroad;
- To choose problem-matched research methods and be able to apply them in a suitable way;
- To skillfully combine the accumulated secondary information and primary research material and data allowing for a suitable investigation of a chosen topic;
- To interpret and generalize the results of theoretical and empirical analysis, to draw well-grounded conclusions, suggest solutions and forecasts or new ideas and research trends;
- To meet the requirements presented in these guidelines concerning the content, size, writing process, formatting, and appropriate way of making the list of references of the Research paper.

„Dublin descriptors“ (see chapter “Qualifications that signify completion of the second cycle”) define these qualification requirements for Master Degree Paper (MDP):

- Students demonstrate more extensive and/or deeper knowledge than founded upon and associated with Bachelor’s level knowledge and understanding that provide the basis or opportunity for originality in developing and/or applying ideas and solutions within further research context;
- Can apply their knowledge and understanding and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
• Have the ability to integrate knowledge and handle complexity and formulate judgments with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments;
• Can communicate their research conclusions and the knowledge and rationale underpinning these to specialist and non-specialist audiences clearly and unambiguously;
• Demonstrate the ability to generalize, present and publicize their research results in scientific, popular science and application publications in an appropriate manner;
• Have learning skills to allow them to continue their studies in self-directed or autonomous a manner.

Master Degree Paper writing and defense develop a very important ability for managers and entrepreneurs - to analyze business problems independently, creatively, diversely, thoroughly, paying attention to different kinds of limitations (information, time and other) to achieve the main goal – to make a suitable decision. Apart from the previously mentioned things, the author of Master Degree Paper (MDP) has to demonstrate the knowledge of management that has been gained during the studies and to show the ability to recognize and interpret business realia.

The international aspect of FP is considered to be appropriate if one or several of these conditions are met:

• Manifestation of the research phenomenon (problem) in different countries is compared;
• The analysis of the topic is based on the experience of an international company (or several companies), even if the object of the research is only in Lithuanian market;
• Particularities of the performance of one or several Lithuanian enterprises (groups, branches) are analyzed and they are compared with the performance of similar enterprises in another country (or countries);
• The performance of Lithuanian company in Lithuanian market is analyzed, it is compared with the performance of the same company in foreign markets;
• The topic is analyzed on the basis of the data gathered in Lithuanian market, but this is compared with the results of similar research carried out in other countries and/or using the research methods tested in other countries.

Master Degree Paper should be logical, matter-of-fact, laconic, concise, consistent and reasoned, written in a grammatically correct language, covering only topic-related questions.

The student writing a MDP is responsible for fulfilling all the tasks related with paper writing in time: choosing the theme and a supervisor, the paper being properly written, presented and defended. The supervisor should be constantly kept in touch with and informed about MDP writing process according to a timely prepared MDP writing schedule.

The student is allowed to defend MDP only in case if he/she does not have academic or financial debts at VU IBS, the MDP is prepared in accordance with „The Guidelines“ and in compliance with and without violations to the Students’ Code of Ethics.

MDPs are not allowed to be defended if they do not meet the general requirements of MDP, are inappropriately, incorrectly written, if they describe only textbook truth or the data are only presented but are not analyzed, research results are not interpreted, conclusions are not
grounded. Students’ dishonesty, plagiarism, conscious distortion of factual material is impermissible.

2. Stages of scientific research

The main stages of scientific research are as follows:

1. Topic selection.
2. The analysis of scientific literature
3. Preparation and organization of research design
4. Collection of the empirical data
5. Presentation and analysis of data and interpretation of research results
6. Practical application of research results or research report

It should be pointed out that the stages of research are applicable to both Research paper (RP) and Master Degree Paper (MDP) as well.

1. Topic selection.

The selected topic of MDP has a considerable impact on the success and evaluation of the paper. Students select topics on the basis of the list of the topics presented by the professors of VU IBS. In certain cases students themselves can offer the topic that must be in agreement with the content of study programme subjects of the particular semester when RP is written. In the process of MDP writing the topic might be adjusted, therefore at the beginning it might be only preliminary.

The title of the topic should reveal the main object of the research, subordination of key words. You should select a topic that is in accordance not only with your knowledge and abilities, but that is more interesting to you than to your supervisor. Pay attention to the relevance of the topic, its significance to the theory of science and practice, the level of the analysis from the point of view of an enterprise or a company, Lithuanian or world economy, one's ability or bent to get the necessary information (it might be the student’s job place).

It is advisable that the topic concerning a certain theoretical and business problem should not be very wide (then the paper will not embrace all the aspects and the work will appear to be superficial, the objective will not be reached). Unacceptable are totally synoptical and descriptive topics as they do not leave any space for clarification, analysis and solution of theoretical as well as practical problems.

The most common mistakes made in title formulation:

- Very long and detailed;
- Incomplete and uninformative;
- Obscure research object;
- Incongruous with the content of the study programme;
- Incongruous with the content of the paper and does not reveal research material.
It is very important to stick to the paper preparation schedule that is agreed with the supervisor and to finish all its stages in time.

2. **The analysis of scientific literature**

It continues during all the MDP research period, starting with the selection of the topic and finishing with the interpretation of the research results. The newest research material is published in scientific journals and conference proceedings (much of such material can be found on the Internet), a little older - in monographs. Textbooks and especially lecture notes are only suitable at the beginning stages in order to get acquainted with the research problem.

The aims of literature survey:

- To define the analyzed problem clearly;
- To position one’s own research in the general context of other similar research;
- To avoid duplication;
- To assess the applied research methods;
- To relate one’s own conclusions with the previous research results and to anticipate further trends of the research.

The survey of the literature – is a multifaceted analysis of research results in a selected area, making it possible to define the terminology used in the paper, to plan the structure of the paper and to set its boundaries. Usually most students are not very well acquainted with the research area, therefore literature survey enables them not only to formulate the main ideas to be developed in the theoretical part of the paper, but to raise questions and to search for answers as well. It should be understood that it is not enough only to overview what other scientists investigated and wrote in the area of your research. You have to present the critical analysis of their work. The overview will be well-written if you pay attention to the following suggestions:

- Compare and contrast the thoughts of the scientists of your research area.
- Group the authors according to their thoughts, viewpoints.
- Point out the critical aspects of the methodology.
- Pay attention to those aspects where different authors disagree among themselves.
- Highlight well-done, exemplary research.
- Point out gaps in the research.
- Show how your research is related with the previous research in your field of study.
- At the end of the survey formulate a short conclusion about the outcome of literature analysis.

Having a critical approach to the analysis of literature, do not forget the aim of the research and assess if you really need to read the whole book or an article. If you are looking for specific information you do not have to write the summary of the whole article or a book.

---

4 CAULLEY, D. N. *Writing a critical review of the literature*. La Trobe University: Bundoora, 1992.
Careful attention should be paid to vast amount of information on the internet, which is not so attentively evaluated in comparison with the published scientific articles and monographs. While reading the information presented on the internet try to answer these questions:

- Who are the authors of the article and what is known about them?
- Is the material new?
- Are the arguments presented logical?
- Is the empirical evidence on which the author builds his/her conclusions appropriate?
- Is the citation of other authors' work and presented sources of data accurate?

Answers to these questions and clear notes made in your own words as well as critical comments will be of great help and facilitate the writing process. Making notes takes a lot of time, but they will be very useful in the further writing stages.

It is most advisable to start with the search for the newest sources making use of not only Vilnius University library funds, but the integral information system of Lithuanian libraries LIBRIS (internet address: http://www.libis.lt). Most of Lithuanian publications of social sciences published in the journals: „Ekonomika“ („Economics“), „Inžinerinė ekonomika“ („Engineering Economics“), „Organizacijų vadyba“ („Organizational Management“), „Socialiniai mokslai“ („Social Sciences“), „Informacijos mokslai“ („Information Sciences“), „Vadyba“ („Management“) and others can be found on the internet.

The newest articles of foreign scientists could be found in international databases, many of which Vilnius University Library subscribes to. The titles and internet websites of these databases are provided on VU Library webpage under the section “Subscribed databases”. Especially valuable is the database EMERALD (emeraldinsight), which provides several hundreds of full text journals of economics and management. Pay attention to the fact that the majority of databases are available free of charge only if you use VU computer net.

Most common mistakes made in literature survey:

- The student’s critical attitude towards the theories, concepts, separate authors’ ideas is not provided;
- The main new research in the field of study is not highlighted;
- The paper is overloaded with citations;
- The analysis of outdated literature and popular science articles are presented;
- Lecture notes and textbook truths are retold and systematized;
- The survey and other parts of the paper are presented in the first person singular;
- Inappropriate presentation of references in the paper.

3. Preparation and organization of research design

In this stage the aim and the tasks of the research are set, research strategy (plan) is prepared, theories, scientific schools, concepts are thought of, on which the research is going to be built on, research methods are chosen and the order of their use is planned. It is once again considered what information you need, if the research problem, hypothesis is clear, the target research/ study audience is defined; known facts about it are identified. It is also advisable to anticipate the results.
Quantitative methodology attempts at universal generalizations, objectivity and clarification of phenomena, whereas qualitative methodology – comprehension of the phenomenon as a whole, understanding the subject, interpretation of its/ his/her activity as a unique case. The work can employ triangulation (research procedure, which can combine quantitative and qualitative research methods). The other methodology which is used in business research – action research, when organizations or individuals are being researched in the process of their becoming and construction, when the object of the study is aware of it and even takes an active part in it. If the most commonly used in MDP sample research is planned, it is important to set its size statistically, to choose suitable sample methods and ways of data collection. To answer the question “How many cases should be taken into the sample, that its results could be used to assess the parameters of the population?” i.e. sample calculation formulae can be found in inductive statistics (it is advisable to go through the textbooks of inductive statistics). In this way you prepare for the further study stages - data collection and analysis.

There are many methods for sample selection from the general population. Probabilistic samples are carefully, methodically selected paying attention to particular features of the target population, making use of statistical formulae. Only in this case the sample will be representative, i.e. it will have common features of the population. According to probabilistic methods every case of population can have the same probability to be taken into the sample. There are four main probabilistic sample methods: simple random, systematic, group and nest. Each of them has its specific application, features of their formation, advantages and disadvantages. Research also employs improbability sample methods, which can be very useful as well. Usually improbability sample is cheaper and their selection is less complicated. The main drawback of improbability sample is that their results cannot be extrapolated to the general population.

If the method of questionnaires is going to be used, the survey will depend on such factors as speed, reliability, research tools, cost and others.

It should be decided in this stage what measures/ parameters will be used to evaluate the results of the future survey. It is also advisable to anticipate the results.

Most common mistakes made in this stage:
- Rambling and confusing structure of the paper;
- Poorly formulated research objectives;
- Research tasks are insufficient to reach the aim of the research;
- Research problem is not clearly defined;
- Parameters of research methodology are not sufficiently revealed;
- It is not made clear on what basis the research sample includes the particular number of cases (the sample size is not calculated by statistical formulae, therefore authors cannot prove that the sample is representative);
- Possible errors are not anticipated, for instance, respondents’ failure to provide answers and its influence on the research results.
4. Collection of the empirical data

Data can be collected from different sources. Data sources – the means of information dissemination about the study object. There are primary and secondary data sources. It is unavoidable to combine secondary sources with the primary ones. While gathering data for MDP it is advisable to start with the collection of secondary sources, because some research questions can be answered only on the basis of secondary sources. Data of secondary sources are gathered by others for their own purposes, which may not necessarily coincide with the aims of your MDP. These are books, other different publications, and articles in journals, websites and catalogues of state enterprises, companies and international organizations. Secondary sources save money, time and are easily accessible. They can help formulate the problem and tasks of the MDP, segmenting and defining target study group, choosing appropriate research instruments, interpreting the results of the MDP.

It should be pointed out that majority of data gathered from international and governmental organizations – are of high quality, reliable and can be comparable. The main official source of statistics in Lithuania - Department of Statistics at the Government of the Republic of Lithuania (www.stat.gov.lt), where one can find data from different spheres. It is useful to know that there is a possibility to have publications sent free of charge, to generate information at different levels making use of various databases, to learn about calculation methods of indexes, to overview the newest press releases. „Eurostat“databases provide the necessary information about various indicators of EU countries (www.europa.eu.int/comm/eurostat/). However, it should not be forgotten that making use of secondary data sources in your MDP you are responsible for their reliability. The websites of some of the institutions mind be biased, trying to attract clients. For example, the website of the enterprise N claims that the enterprise is the market leader. How can this be checked? It is advisable to refer to several sources of information related with the same research object.

While using secondary sources of information pay attention to the quality of data, if it is possible to compare them, if the same terminology, units of measurements are used, if the data is processed by the use of the same methods. If there are quality or comparability problems this should be pointed out at the beginning of the paper, explaining the reasons of the low quality of data. The shortage of the secondary sources of information could be the fact that they might be gathered for different reasons which might not coincide with the aims of your paper.

Primary sources – are original data gathered by you, necessary for the achievement of the aims of MDP. They enable to get specific information, which is not provided in secondary sources (for example, social and demographic characteristics, people’s viewpoints, attitudes, buying habits).

Before gathering primary sources it is necessary to decide what the unit/element of your analysis will be – a human being, a group or an enterprise, then the questionnaire of the survey should be compiled accurately according to the necessary requirements. The following shortcomings of primary sources should be pointed out:

- The research carried out by you usually takes long and can be expensive;
- It is difficult to persuade respondents to answer your questions;
- The researcher himself/herself has to choose suitable methods of survey and analysis;
- The researcher cannot fully and can only partially control data gathering process;
• The researcher is totally dependable upon the respondents’ goodwill and possibilities to fill in you questionnaire by answering questions.

Data collection is the most important stage of receiving information, as having made mistakes in this stage; the further processing of information becomes impossible. Therefore, it is important to the evaluator of your work to understand how it was gathered and to know how to assess its reliability.

Most common mistakes are as follows:

• Data is gathered offhandedly paying insufficient attention to methodology;
• The research in fact employs quota, convenient, expert sample, i.e. improbability methods, whereas authors claim to have used probabilistic;
• Survey method is inappropriately chosen, which determines poor level of response;
• The questionnaire is erroneously compiled;
• The research questions will not be answered because the content of the compiled questionnaire is in disagreement with the aims of the research.

5. Presentation and analysis of data and interpretation of research results

In order to analyze the collected data appropriately they should firstly be organized according to certain criteria and presented visually. Only organized data will reflect the information and enable to formulate well-grounded conclusions. Usually data should be presented in tables and pictures only if there is a sufficient number of cases, i.e. if there are at least 20 cases in the research sample.

There are two types of data analysis: qualitative and quantitative. In qualitative analysis the data are not statistically processed and are not represented by numbers. This involves systematization, clustering, and classifying, interpreting, identification of causal, functional, structural and other links.

Quantitative analysis is based on absolute and relative frequency distributions, dynamic series of indices and other statistical indicators, correlative and regressive analysis, estimates, corroboration of hypotheses and others. Data should be statistically processed and graphically presented using „MS Excel“ and statistical programming packages (SPSS, „Minitab“ or others).

There are three ways of data presentation: tables, references in the text and graphs. Which way to choose? The decision will depend on the fact how precisely you want your data to be presented. If the graph is sufficient to present the most important information, then you should choose it. If you have some additional but less important data you should provide it in an additional table in the text of the paper in appendices. In order the data in the tables should be easily understandable and evaluated, it is necessary to clearly indicate the date and the time period as well as sources and units of measurement. Tables represent large scale information precisely, however, they lack visual attraction of graphs. To make the work more vivid it is necessary to use illustrations – charts, diagrams, cartography, - which are all generally referred to as pictures. It is generally assumed that graphic representation of material means a partial loss of information. However, it is not true: if graphs represent data with the required accuracy the information is not lost and a well-designed graph makes understanding of the information quicker and easier.
If you still think that part of information is “hidden” by graphs, you can present tables with data in appendices. Graphs highlight the general structure, frequency distributions, interdependence of statistical indicators, general developmental trends of processes etc. Sometimes only graphs allow for making conclusions, which otherwise could be difficult to be made on the basis of complicated statistical tables.

Before making graphs it is very important to decide, which type of graph is most suitable to represent the collected data. Besides, it is necessary to know how to make a graph correctly. In the opposite case, even having the best variant of graphic representation, a distorted image of the studied population will be received.

Table 1 presents the purpose and examples of each of the most frequently used graphs in business analysis.

<table>
<thead>
<tr>
<th>Type of graph</th>
<th>Purpose</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pie chart</strong></td>
<td>To depict the whole structure.</td>
<td>The percentage distribution of respondents by gender.</td>
</tr>
<tr>
<td><strong>Bar charts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linear</td>
<td>To compare values when it is more convenient to represent them horizontally and when it is easier to read the written titles of the categories.</td>
<td>Categories, whose long titles can be easier read in lines, e.g. countries, groups of products, titles of products and services</td>
</tr>
<tr>
<td>Vertical bars</td>
<td>To compare the values of variables, especially interrelationships of quantities or values</td>
<td>The number of students at the faculties of VU each year at the 1st of September. Students’ number – Y axis, year – X axis.</td>
</tr>
<tr>
<td>Multiple columns</td>
<td>To compare interrelations of two or more sets of values, when the titles of values are the same but populations are different.</td>
<td>The number of business students in Lithuania, Latvia and Estonia in five year period (on the 1st of September each year). Students’ number – Y axis, year – X axis.</td>
</tr>
<tr>
<td>Component column</td>
<td>To show evolution of the whole structure in time. The main variable is represented by the vertical column; it is subdivided into two or more parts of different colors or shades, representing the value of the other variable.</td>
<td>GDP structure at a particular year</td>
</tr>
<tr>
<td>Paret’s diagram</td>
<td>Special bar diagram (bars are presented from the highest to the lowest) for visual presentation of one variable values of</td>
<td>Distribution of master students according to specialty.</td>
</tr>
</tbody>
</table>
nominal scale. Besides the curve of accumulated percentage is drawn as well.

<table>
<thead>
<tr>
<th><strong>Histogram</strong></th>
<th>To represent continuous data bars without gaps are drawn. (X) axis represents interval boundaries (strips), whereas (Y) – case number or percentage.</th>
<th>Distribution of students by arrival time from their home to Sauletekio av.</th>
</tr>
</thead>
</table>

**Linear graphs**

<table>
<thead>
<tr>
<th><strong>One line graphs</strong></th>
<th>To show how one variable changes according to (X) axis. Usually (X) axis represents time.</th>
<th>A company’s yearly production over ten-year period.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Several-line graph</strong></td>
<td>To show how several variables change according to (X) axis.</td>
<td>Lithuanian men and women’s suicidal rate per 100 000 of population since the restoration of independence.</td>
</tr>
<tr>
<td><strong>Frequency polygon</strong></td>
<td>The purpose is the same as in the histogram. (X) axis represents average interval points, whereas (Y) – case number or percentage. On one coordinate system several frequency polygons can be drawn. can</td>
<td>Distribution of students by arrival time from their home to Sauletekio av.; distribution of men and women’s annual income.</td>
</tr>
<tr>
<td><strong>Sphere graphs</strong></td>
<td>To emphasize spheres in a line graph and to compare them among themselves.</td>
<td>The number of emigrants according to countries and by time.</td>
</tr>
<tr>
<td><strong>Lorentz curve</strong></td>
<td>This is a useful method of representation of equality (inequality) percentage. Horizontal axis shows the proportion of the distribution of accumulated values, vertical - accumulated percentage of another variable.</td>
<td>Income distribution of a country’s citizens to represent inequality, to show wealth distribution among world citizens.</td>
</tr>
</tbody>
</table>

**Other types of graphs**

<table>
<thead>
<tr>
<th><strong>Multiplication chart</strong></th>
<th>To evaluate the link between quantitative variables. This is a special statistical method of regression analysis – „dispersed“ dots on both sides of coordinate system</th>
<th>The link between a student’s study time and the exam result; the link between advertising expenses and sales volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cartogram</strong></td>
<td>To show variable values according to territories. Maps are matched with charts, symbols and pie charts. They reflect different data; special attention is paid to the geographical aspect.</td>
<td>Direct foreign investment per capita in Lithuanian cities and regions.</td>
</tr>
<tr>
<td><strong>Pictograms</strong></td>
<td>Pictures are used for graphical representation of data. Visual influence is rather strong, therefore only simple and limited amounts of data can be</td>
<td>The number of cows in Lithuanian farms on the 1st of January each year.</td>
</tr>
<tr>
<td>Chart „Tree“</td>
<td>It is used when it is desirable to evaluate distribution form and to make decision.</td>
<td>N product consumer distribution by age, decision making in different business situations. The number of calories in poultry, pork and beef sausages.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Chi-Square chart (five number summary or „a box with moustache“)</td>
<td>To compare characteristics of two or more data series deferring for five values: min, Q1, Me, Q3 and max. Identification of isolations is possible.</td>
<td>Quantity of calories in poultry, pork and beef sausages.</td>
</tr>
</tbody>
</table>

The figures presented (in the text, tables or pictures) should be documented, i.e. it is necessary to make references. If calculations, visual aids are prepared by the author, this should be pointed out in the text or in the footnotes and explanation should be provided what sources have been referred to make these calculations.

The next stage of the paper (if the empirical research has been made) – calculations of descriptive measurements (position, the dispersion of the form, where appropriate - concentration) is calculated.

While investigating the dependence among values, it is necessary to answer three questions: 1) Could there be logical link between values? 2) What is the strength of this link? 3) What is the direction of this link? Only having answered these questions, it is possible to make regressive and correlative analysis.

The worth of the paper will increase if MDP authors will apply methods of inductive statistics appropriately. It is useful to calculate interval estimates, and verify the hypotheses consistently in certain set stages, to apply multivariate methods (factorial analysis, multivariate regressive, discriminatory, dispersive analyses, ANOVA etc.). It is important that students should be able to explain every figure presented in the paper (in the opposite case they should not be presented), for example, reliability of correlation coefficient, which is marked by asterisk in the correlation matrix of the statistical package. It shows the possibility that the determined correlative coefficient is equal to zero. The smaller the possibility is, the more reliable empirically determined correlative coefficient is depicted in the matrix. This means that the more asterisk are at the coefficient, the more reliable it is. One asterisk shows the maximum allowed 5 percent measurement error, i.e. shows error possibility lower than 0,05. If modular meaning of the coefficient varies between 0 and 1, zero is not written.

Technical data processing can be made easier by the use of „MS Excel“. Most frequently used commands are as follows:

- For descriptive statistics: Tools/Data Analysis/Descriptive Statistics
- Peer and multiple correlations to calculate regression results: Tools/Data Analysis/Regression
- To make „Pivot“ tables and charts (then it is possible to calculate correlations among qualitative variables): Data/Pivot Table and Pivot Chart.
- By the use of „MS Excel“ calculations of the list of all indicators organized in alphabetical order: Insert/fx/Function category/Statistical.
To make Trend analysis (to show past tendencies and forecasts of indicators): Tools/Data Analysis/Regression.

Statistical analysis and its interpretation should start with the description of digital indicators, coefficients, pictures and finish with theoretical generalizations and conclusions.

The most common mistakes made in the analysis stage:

- Unnecessary details;
- The text being overloaded with unprocessed “raw” statistical data;
- Very short, uninformative presentation of the material;
- Very exaggerated, pretentious and overly academic presentation of the material, making use of various graphic accessories and aesthetic improvisations;
- Clarification of well-known basics (MDP – is not a manual for beginners!);
- Inability to have an insight into the problem (do not ignore the main problems and do not pretend that they do not exist);
- Instead of making a thorough interpretation in the MDP only the content of tables and pictures is retold (in this way the table or the figure only duplicate the existing information presented in the text format);
- The content of presented tables and pictures is not described;
- Incorrectly finished tables or graphs;
- The table presents a copy of „MS Excel“ or standard statistical programme output (such table will be in the English language and will be overloaded with detailed information);
- Unsuitable selection of the type of the graph;
- Unsuitable presentation of graphic elements;
- Having a small number of cases (up to 20), percentages are used instead of absolute values;
- Monotony of tables and pictures (a selection of pie charts, presenting only percentages and averages);
- The importance of data type (scales of measurement: titles, ranges, intervals, ratios) is underestimated in the choice of suitable analysis methods;
- Inability to explain reliability of correlation coefficients;
- Incorrect formulation of conclusions for verification of hypotheses (the hypothesis is either rejected or not at a chosen significance level; such word combinations as „the hypothesis was proved“, „the hypothesis is correct“, „the hypothesis was incorrect“– are not used).

Having written the paper it is recommended to check if there are no grammatical or stylistic mistakes, if all the tables and pictures are appropriately finished and presented. In the opposite case during the defense of MDP members of the commission ALWAYS pay attention to that and the author of the paper can consequently expect a lower mark of evaluation.
6. Practical application of research results or research report

This finalizing part of MDP presents original conclusions and recommendations; the link between the set objective and research results is established. In other words, the following questions are answered:

- What is the scale of the achievement of MDP research objectives?
- If the research tasks defined in the introductory part of the paper have been solved?
- If the hypotheses formulated at the beginning stage of MDP writing are rejected or proved (if there were hypotheses at all)?
- What did the research results reveal?
- What drawbacks of the research or research methods have emerged?
- If the research results have anything in common with similar research results of other authors etc.?

The recommendations (measures, models, suggestions, problem solving ways, generalizations, etc.) are formulated; the application of MDP research results and possibilities of their publication, the possible economic, social and other impact is defined. This part can also contain discussion, i.e. forecast of new research trends, perspectives of research continuity.

This very precisely written part should be very clear and simple. Formulation of conclusions and recommendations – is a repeated process. They will be many times discussed with the supervisor of your work.

The most common mistakes of this stage are:

- Formulation of trivial conclusions and recommendations, which are lacking in originality and practical usefulness;
- Conclusions and suggestions are not consistent with theoretical and practical parts of the work;
- Conclusions and evaluations are too categorical (social research findings are always only relative and are subject to reservations);
- New information, which was not described in previous parts, is presented.

3. The structure of the paper

MDP contain the following constituent parts:

<table>
<thead>
<tr>
<th>Part of the Paper</th>
<th>Number of pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title page</td>
<td>1</td>
</tr>
<tr>
<td>Content</td>
<td>1</td>
</tr>
<tr>
<td>List of contractions (if necessary)</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>1-2</td>
</tr>
<tr>
<td>The main part (presentation)</td>
<td>Up to 40</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Conclusions and recommendations</td>
<td>2-3</td>
</tr>
<tr>
<td>Literature and reference list</td>
<td>Without limitation</td>
</tr>
<tr>
<td>Appendixes</td>
<td>Without limitation</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40-50</strong></td>
</tr>
</tbody>
</table>

The title page is meant to carry the name of VU IBS, the author’s name and the title of MDP. As several papers are written during the semesters there should be the number (I ), (II) or (III) indicated on the title page next to the title SCIENTIFIC RESEARCH PAPER. The example of the title page of MDP presented in the appendix 1.

**Content.** The content describes the structure of the paper, i.e. the parts, subdivisions; subsections of the paper are presented. Arabic numerals are used for enumeration. Pages of structural parts of the paper are also presented in the content. The list of abbreviations (if necessary), introduction, conclusions, the list of references and appendixes are not enumerated in the content because they are presented as separate structural parts of MDP. The content example is provided in the appendix 2.

If there is a need the list of abbreviations (vocabulary) is presented in the paper. It is necessary in the case when specific terms and abbreviations are widely used in the paper or when Lithuanian terminology is not finally specified and it would be more convenient for the reader to know their equivalents in foreign languages. The abbreviation list is not necessary when it does not exceed the total number of 20 and every one of them is used in the text less than three times. The list (vocabulary) may be presented in several parts of the paper: after the content, before appendices or it may be presented as an appendix itself. It is recommended to provide it after the content.

**Introduction.** It is a very important element of the paper and it is usually given insufficient attention by students. The introduction should briefly and specifically describe the following:

- The motives of selecting the topic of MDP (e.g.: the problem is topical for the enterprise where the student and the author of MDP works);
- The object of the research;
- The relevance, novelty of the topic and its importance both generally to the theory and practice as well as to the object of the research (enterprise, organization), social and meaningful context of the research;
- The aim of the research should coincide with the title of the topic and tasks (from three to five);
- The intended ways and methods to carry out the tasks of the research (observation, survey, analysis etc.);
- The structure of the paper;
• Difficulties (if any) the author encountered in writing the paper.
It should be remembered that the introduction is not a summary of the research.
In the introductory part the author should not:
• Assess the results of the research;
• Use quotations, footnotes, formulas;
• Use graphic elements, tables;
• Present critical arguments, develop theories;
• Present long chains of reasoning.
The introductory part should be 2-3 pages in length.

The main part (presentation). The structure of this part depends on the nature of the topic and the chosen methodology. The main part is divided into parts, subdivisions, subsections in accordance with the type of the topic. Usually MDP contains two-three parts, with 2-3 subdivisions and (if necessary) smaller subsections. In any case, while writing the MDP the material is analyzed consistently with suitable implementation of methods and in this way revealing the chosen topic through the analysis of the material.

Depending on the type of the topic analyzed, the consistency and the structure of the presentation of the material may differ very much. Traditionally the presentation consists of three or two (then the second and the third parts will be joined into one) major parts:

1. **Theoretical part.** The essential theoretical positions, on which MDP is grounded are presented, the work of other authors in the similar field are analyzed, different scientists’ opinions are systematized, revealing one’s personal critical views on other opinions and models, conception of the terminology to be used in the paper is presented as well. The theoretical part should not repeat textbook truths or define well-known concepts. This part should not take up more than 1/4 or 1/3 of all FP without appendixes.

2. **Methodological part** (does not necessarily have to be a separate part, may be their first subdivision of the first part). This part provides the ground for and detailed description of the variables (features) of MDP, their reliability, suitability, correlations. Methods, ways, techniques, procedures, their specifics and suitability for the collection of primary information necessary to meet the set objectives of MDP are provided as well as. The secondary sources of information are also identified; their completeness and reliability are also assessed. Procedures for the processing of primary information are grounded (quantitative research – statistical, qualitative - categorization, the description of phenomena). If one of the methods is a survey by means of questionnaires, the questionnaire should be presented in the appendixes. While analyzing the chosen topic and solving the problematic issues it is necessary to choose such methods which should be suitable for the topic and which should meet the objective possibilities of students. The size of methodological part should be 1/5 – 1/4 of FP, without appendixes.

3. **Research (analytical) part.** It presents the most important information: the background for the solution of the chosen problem, analysis of empirical statistical data, financial reports, surveys and observations, presentation of various calculations. The results of the analysis are provided in aggregate (frequency), contingency tables, correlation matrixes, suitably chosen graphs, charts and tables. To integrate theoretical and practical knowledge it is advisable to present solution of problems raised by the topic and pointed out in the introductory part. In certain cases this part may also contain action plans and
their general guidelines. In other cases – experience of different countries’ situations and actions is presented.

The number of parts is not essential to the main part of MDP. Depending on the specifics of MDP they might range from two to six. As it has been mentioned the presentation part may consist of only two major parts, i.e. it is allowed that the first and the second parts (methodological and research) should be joined into one. Then methodological part will be presented in the first subdivision of the first practical part. It is also possible to subdivide the second part into several subdivisions according to the content specifics. For example, after the first theoretical part there can be two – three analytical and creative parts about enterprise strategies in different markets. Whatever the structure of the paper is, its essence is determined not by the form, but by the content, revealing the level of the student’s knowledge and abilities.

It should be pointed out that it is not allowed to call the part of MDP „Theoretical part“, „Practical part“, „Literature review“ etc.

The main (presentation) part is the biggest in size: more than 2/3 of FP, without appendixes.

Conclusions and recommendation. There the most important original conclusions, recommendations, suggestions, further research areas of the paper are presented. Again one could choose among several options of the presentation of the material, however, it is much more convenient to present all the conclusions and after that all the recommendation. A rarer and a more difficult form is also common - when a conclusion is succeeded by an appropriate recommendation. Conclusions and recommendation should have a clear structure of precisely formulated theses, which have to be numerated. If the author thinks that some figures should be presented there should be only a few of them and the most significant ones. There the presentation of graphs and tables is not allowed.

MDP conclusions should take up no more than 2–3 pages, whereas MP – about 5 percent of the content of the whole paper.

The list of literature and references. This part presents the literature and reference list, arranged according to the standards of bibliographic documents: the elements of bibliographic references are presented, the order of their presentation and regulations are determined how to rewrite and present information obtained from the original source. It should be pointed out that only those literary sources should be included which were directly used providing their quotations or citing them indirectly (by paraphrasing) or making use of the information, such as: numbers, models, pictures, etc. presented in them. The list of bibliographic references is recommended to be compiled according to LST ISO 690, LST ISO 690–2 and other requirements of Lithuanian standards.

Examples of references are presented in the 2nd appendix.

It is essential to know the main things related with the list of literature and references:

- The sources referred to and cited in MDP are presented in alphabetical order.
- Documents presented in Cyrillic alphabet are not transliterated (are not transferred into Latin alphabet). They are presented at the end of the list in Latin according to the order of Cyrillic alphabet
- Every list contains obligatory and optional elements. That means that they can be written slightly differently (as far as the standard allows). Besides, the author of MDP making
references all the time should follow the principle: the reference should be clear and suitable to the format of the work.

- The list of MDP should contain the reference of the exact pages, but not the whole source, of the author's work, which was cited. Exception – when different parts of the same source are cited. Then the total number of pages should be presented in the list of references, but in the text - the page of the quotation should be provided.

- MDP literature list should include the number of pages of the sources of references precisely that the author used in the paper, but not the whole source. Exception – when several parts of the same source of reference are cited. Then the total number of pages is given in the literature list and the exact pages are provided in the text next to the quotation.

- There are differences in the rules of bibliographic notation of monographs, articles and other documents. Pay attention to the Appendix 3 where the bibliographic notation of unpublished internal company documents, internet websites, electronic files of published sources are described.

- MDP literature list should not include articles of popular newspapers or magazines or lecture notes.

- Spelling should be suitable to the set rules of the language that the reference is presented in.

- Authors', editors' and other names comprising a part of their personal names can be replaced by their initials, but only in the case if that does not make the identification of the author more difficult.

- When the author's double name is hyphenated, the hyphen should be used between the initial letters of the name in the abbreviated form too.

- When there are more than three authors, only the names of the first three authors are written, further adding "et al".

- After the surname before the name or an initial a comma is written. After each personal name a semicolon is placed.

- When the publishers of the piece of writing are not individual authors but associations or organizations, then instead of an author a publisher is indicated writing its full title. Corporate author is commonly used to refer to official documents (statutes, regulations etc.), for example, Vilnius university, Statistical Department at the Government of the Republic of Lithuania etc.

- If the author of the book is not indicated, then the title of the book should be written first before the year of publication. For example, The Title of the Book (x-th – publ.). Place: Publisher, year, x p.

- If the author of the book is not indicated, then the editor's name is indicated instead of an author's and after the chapter all the editors of the publication are enumerated; after their names the contraction (ed.) in the brackets should be used to indicate one person and (Ed.) if there are several editors.

- Italics are used to highlight the title of the reference source.
Media types in electronic versions\(^5\) are presented in square brackets, e.g. [CD-ROM].

To describe internet sources the author’s name is indicated, the title, exact address of the internet website (to identify the position of the internet website is written „Internet access“). Before the address a colon is written. The address is put in the brackets (<…>). Square brackets are used to indicate the date when the document was viewed, e.g. [viewed March 23, 2008].

Edition – is a necessary element. It may be presented in the following format: 3\(^{rd}\) ed.

The place, where the document was published, is written in the original language. If the source contains several places of publication, the one that is highlighted should be written. If publication places are presented in the same manner, then the first is indicated in the reference list. If the publication place is not indicated, then a phrase „sine loco“ or an appropriate abbreviation (for example, „s. l. “, „b. v. “) should be written. After the place of publication a colon is written.

Publisher’s title may be written in a contracted form. This is not necessary element of the reference. If there are several publishers, the one that is highlighted is written. If all the publishers are presented in the same font, the first one is written. A comma is written after the publisher’s name.

A full-stop is used after the book publication (having noted all the bibliographic points of the book) or after the date when electronic documents were viewed, in other cases – commas are used.

It is allowed to modify the presentation of references without diverging from the boundaries of the set standard. For example, if it is not possible to identify the year of publication of the source, it should be written „b. m. “(without a year), if there are many authors of the source – it is enough to write the names of the first three and to add „et al“ (others).

The amount is indicated by the number of pages, paragraphs etc.

If the document contains a standard number, it is necessarily written in the reference list. A full stop is used after it. The standard number (ISBN or other) identifies a state, a publisher and a particular document.

Appendixes. It presents additional material of secondary importance, whose aim is to illustrate the statements of the main part more clearly (larger tables, illustrations etc.). Usually it contains an example of the questionnaire which was used as a research tool, additional information about respondents, interesting research results, which could be interesting to the reader, are also presented in a less generalized manner as well as formulae, some intermediary calculations, schemes of data processing and any other material reflecting the process and the results of the research. Each appendix should have a title. Appendixes are enumerated but are presented by one line in the content of the paper. The number of appendixes is not limited.

As it has been already mentioned the approximate size of MDP – 40–50 pages without appendixes.

\(^5\) Electronic media types – internet sources, electronic websites or webpages, electronic data bases, interent information exchange or chat groups, e-mails.
4. Design of the Paper

MDP should be written in correct state language under the existing Lithuanian Language Commission rules and the text should be of high-quality printing. Students who study in English should write and defend MDP in the English language.

The work is printed on one side of A4 format paper *Times New Roman* black 12 pt font with 1.5 intervals between lines. The pages are stapled in a file or bound.

The recommended margins are: *left side* – 25 mm, *right* – 10 mm, *upper* – 20 mm, *lower* – 20 mm.

For certain information to be more emphatic *italic*, *bold*, or *underline* text formatting may be used. It is possible to use letter *spacing* function.

 Especially important information is written in *Times New Roman* 10 pt. Font, intending the text from the left margin by eight symbols. In this way outstanding authors in the area are most frequently cited or previously conducted and acknowledged research is referred to.

Pages are *numbered* in Arabic numbers at the right lower corner of the paper without any dots or hyphens. The title page and content pages are not numbered, but are included into the total number of pages of MDP. The numbering of pages usually starts with the 3rd page and is continuous, including the appendixes.

The material of the MDP is presented dividing it into an appropriate number of *parts*, *subdivisions*, *subsections*. All the structural parts are numbered in Arabic numbers. Each smaller part (subdivision, subsection) should have the number of the appropriate larger part extended by adding additional number which is separated by a dot. (See Appendix 3).

The theoretical and empirical parts as well as words *CONTENT*, *LIST OF ABBREVIATIONS*, *CONCLUSIONS AND RECOMMENDATIONS*, and *LITERATURE AND REFERENCES LIST* should be always started on a *new page* and are written one line lower on a new page field. If there are smaller parts, this requirement is not applicable, but it is necessary to stick to the principles of clarity and aesthetics. The title of the part and the text should be on the same, but not on a separate page. The same requirement is valid for tables and pictures, i.e. the title of the table (or a picture) and the table (or the picture) should be on the same page.

**THE TITLES OF PARTS** as well as words: *CONTENT*, *LIST OF ABBREVIATIONS*, *CONCLUSIONS AND RECOMMENDATIONS*, *LITERATURE AND REFERENCES LIST* should be written in bold and in capital letters *Times New Roman Normal 14 pt bold* font. The titles are positioned in the middle of the page or started from the left side of the page. The text of the part is written one line below the title and indenting the first line by eight symbols from the left margin. It is not allowed to separate words in titles.

*Subdivisions* are started immediately after the previous text omitting one interval. Titles of subdivisions usually are in *Times New Roman Normal 12 pt bold font*, in lowercase letters, the first letter being capital.

After the titles of parts and subdivisions any separation marks are not written.

It is not allowed to write the title on one page and continue with the text on the other page.
Referring to *less frequently* used terminology it is necessary to explain the meaning of it. It is especially important when several interpretations are possible and it is necessary to point out which of them is the author of the paper refers to. Some explanations of terminology or abbreviations can be explained at the bottom of the page. More important terminology and abbreviations are presented in the brackets after the explanation when they are presented for the first time.

It is usually convenient to provide the terminology in the original language of the source from which the terminology was taken from (usually English). This is necessary to be done when the author translates the terminology himself/herself (there is no Lithuanian equivalent or it is not known to the author).

**Abbreviations** should be used at a minimum. Suitable are only those abbreviations which are widely used and universally known or only those contractions of words, which are very frequently used in the paper. In both cases having used an abbreviation in the text for the first time, the full interpretation of it should be presented in the brackets next to it.

**Tables** are numbered continuously or separately in each part. If the tables are numbered continuously and their number does not depend on the number of the part of the paper, every table is given the number in a sequential order. The number of the table is written in Arabic numbers and having made one symbol gap the word „table“ is written (e.g. 1 table). The number is written above the table title in the right corner. If the paper contains only one table, only the word „Table“ is written in the right corner. If the paper presents two logically interrelated tables one going after the other, then in order to highlight the continuity of the data presented in them, it is possible to enumerate them by adding a letter next to the number of the table (e.g. 1 table, 1 a table, and 1 b table). When the tables are numbered by parts of the paper, then the table number in the new part consist of the number of the part of the paper and a table number. The number of the part of the paper and table number should be separated by a dot (e.g. 2.4 table).

The title of the table is written in the same font as the main text (lowercase letters starting with the capital one) *above* the table and positioned in the centre. The title should include key words joined in a meaningful sentence. In this way the content of the table will be revealed.

In designing the table it is necessary to explain all the abbreviations (except universally acknowledged ones) and to present the units of measurement (see 1 table example).

While formatting tables it is recommended to use fewer lines, dots, hyphens or colors. Attempt should be made not to divide the table.

If necessary the table can be moved to another page by adding the words „1 table continued“

---

6 The place for explanation of less important terminology and abbreviations.
Greenhouse emission released into the atmosphere in thousands of tons by CO₂ equivalent

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Industry</th>
<th>Energy</th>
<th>Transport</th>
<th>Other activities</th>
<th>Thousand t CO₂ equivalent/ mln. Lt GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2001</td>
<td>2002</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
</tr>
<tr>
<td>Total</td>
<td>18712</td>
<td>19579</td>
<td>19837</td>
<td>20053</td>
<td>21050</td>
<td>19350</td>
</tr>
<tr>
<td>Industry</td>
<td>3832</td>
<td>3997</td>
<td>4237</td>
<td>4284</td>
<td>4486</td>
<td>4500</td>
</tr>
<tr>
<td>Energy</td>
<td>6828</td>
<td>7302</td>
<td>7179</td>
<td>7142</td>
<td>7331</td>
<td>5000</td>
</tr>
<tr>
<td>Transport</td>
<td>3175</td>
<td>3449</td>
<td>3559</td>
<td>3625</td>
<td>3967</td>
<td>4350</td>
</tr>
<tr>
<td>Other activities</td>
<td>4878</td>
<td>4831</td>
<td>4862</td>
<td>5002</td>
<td>5266</td>
<td>5500</td>
</tr>
<tr>
<td>Thousand t CO₂ equivalent/ mln. Lt GDP</td>
<td>0,4</td>
<td>0,4</td>
<td>0,4</td>
<td>0,4</td>
<td>0,3</td>
<td>0,3</td>
</tr>
</tbody>
</table>


_Pictures_ include graphic materials of different nature: graphs representing statistical quantitative processes, drawings, sketches, photographs etc. Therefore, all the mentioned graphic material can be refereed to as _pictures_ in the MDP. This is international norm. Any other titles, such as „graph“, „diagram“„scheme“ etc. are not allowed.

*The number of a picture* is written in Arabic numbers with one symbol gap a contraction in a lowercase letter „pict.“(e.g. 3 pict.). If the text contains only one picture, a contraction without a number is written “Pict. “Several interrelated pictures can be numbered: _1 pict., 1 a pict., ir 1 b pict._ Pictures as well as tables are _numbered continuously_ (maintaining the sequence of numbering within the text) or _separately in each part_ (the number of the picture in each part consists of two parts: the number of the part of the paper and the sequential number of a picture. The part number and the picture number should be separated by a dot (e.g. 2.13 pict.).

*The title of the picture* is written in the same font as the text in lowercase letters starting with a capital below the picture. It is written in the centre of the page. The title of the picture should show the content of the picture clearly (see picture example).
Pict. Total birth rate and average age of women giving the first birth in Lithuania 1990–2004


Pay attention to the fact that bellows each table and below each picture the full title of the source is provided, giving the exact number of pages.

Larger tables are recommended to be provided at the end of the MDP, i.e. in the appendixes and in the presentation part to give only the major indicators or the conclusions of the analysis. It is recommended that after each table or picture there should be some text.

If the text does not provide any references, it is considered to be the original thoughts of the author. If other author’s thoughts are cited, an appropriate reference should necessarily be made. This is done in two major ways:

- Direct quotation - literally quoting another author's material (the text can be translated from the other language);
- Secondary citation – describing other authors’ ideas or modifying the model (scheme, graph, etc.).

Direct quotation in the text is separated by inverted commas according to the rules of the English language. The reference is provided at once at the end of the citation. In case of secondary citation any separation marks are not needed to be used, however it is necessary to provide reference to the original material. It is given at the end of the cited ideas and thoughts.

Quotations may be integrated in the text ingeniously, in suitable places. They should not be too long (1 page and longer). This is a kind of plagiarism, because citation is related with legal (author’s copyright) as well as confidentiality aspects.

Two kinds of references are possible:

1. References are integrated into the text in round brackets, pointing out the author of a quotation and the year of publication. For example, (Weeks, 2008). If the book or any other literary source was prepared by more than one author, then in the brackets the first name of the author is written and et al is added, a comma is placed and the year of publication is written, e.g.
(Merkys et al, 2004). When the authors of the publication are not individuals, but associations or organizations then instead the author's name a publisher is indicated, e.g. (Statistical Department at the Government of the Republic of Lithuania, 2008).

2. In square brackets the number of the cited work in the reference (literature) list is indicated, where the references are organized in alphabetical order and the cited page is indicated as well, e.g. [8, p. 19].

For convenience and simplicity matters it is recommended in MDP of business related areas to apply the second type of citation. If it is impossible to provide the page number (the cited work is in the internet, the source consist of only one page etc.) then in the square brackets only the reference number is indicated, e.g. [4].

5. The defense of the paper

The final version is prepared only after the paper supervisor has read the first draft of the paper has presented his/her comments, these comments are then discussed with the author of the paper and only then the permission is granted to print the work.

The title page of the paper should be signed by the supervisor, which is to confirm that the supervisor has read the paper.

The final evaluation of the paper takes place during the process of public defense and is the expression of the opinion of all the defense committee.

MDP defense consists of the presentation of the results of the research paper and the author's (authors') answers to questions. Therefore, the work cannot be evaluated if the author(s) of the paper cannot take part at the defense due to some circumstances.

5.1. Preparation of the presentation

A very important part of the paper defense is the presentation prepared by the help of „MS Power Point“, the duration of which should not exceed more than 10 minutes (the same applies if the paper is defended by a team - two or more people, who have prepared the paper together). A thoroughly prepared presentation significantly improves the impression of the paper under defense.

If the paper is written in English, the presentation also should be prepared in English as well.

The presentation should highlight the following:

- The topicality, relevance, main objective of the research (up to two minutes);
- Research methods (1–2 minutes);
- The main results (5–6 minutes);
- Conclusions and recommendations (up to 2 minutes).
While preparing the presentation do not forget that your aim is – the innovative presentation of MDP results and conclusions. The presentation would be completely different if you presented information for politicians that could allow them to make decisions, or your aim was to sell a product or a service. Do not forget that the audience is very specific – competent FP defense committee members who will decide if your work deserves positive evaluation and a university diploma. Pay attention to what the audience, but not you, wants to know. Think about how the commission could react to your presentation and forecast the possible questions.

Choose a transparent background and colors, suitable for the audience and for you as well. The choice of the background of slides is determined by the environment of the presentation:

- In a dark room dark background with the text in light colors is recommended.
- In a light room – the text in dark colors on a light color background.
- Avoid the match of green and red as well as yellow and blue colors (it will not be suitable for color-blind).

Each slide should contain the same style, it is advisable to use the standard of VU IBS presentation template (standartinės VU TVM prezentacijos šabloną), which could be found at VU IBS internet web page. If the template is not suitable and it is complicated to present all the information elements, use at least the title slide of the template.

If you want to highlight the idea or a word instead of underlining, highlight the text by italic.

The text in the slides should be written in 18, 24 or even 36 pt font, should not be more than 6 words in one line and no more than 6 lines in one slide (without the title). It is advisable to use only short words and expressions, clearly formulated statements. By no means should you present in the slides the copied text from the paper.

You should present only the main ideas in the slides – you will develop them more while commenting on them during the presentation.

Round off the numbers in pictures and tables except those cases when exact decimal numbers are very important, for example, unemployment rate, total birth rate indicator etc.

Special effects such as animation should be used with limitations. Too many special effects can overload the main ideas of MDP.

The final slide should announce the end of the presentation and invite questions and comments. Now it is not necessary to present new information which was not used in the presentation. Use the possibility to show your sense of innovation and insight, for example, by saying what might be the consequences if the necessary measures are not taken into consideration.

At the end of the presentation you should thank the audience for their attention.

While preparing the slides do not forget the importance of imagery:
- Decide which information presentation manner (text, diagram, table) is the best.
- Assess if presentation is consistent. During the whole presentation use the same letter size and font, the same background and text colors.

Frequently students ask how many slides they should prepare. You can rely on the general rule: one slide per minute. However the number of slides can be various as they can be
presented in a different tempo. Therefore, it is useful to rehearse and to time your presentation testing it according to 1 slide per minute rule to see if you do not exceed the presentation time (10-minute-limit).

The most common *mistakes* made during the presentation:

- *Slides are illegible.* Very small letters, overloaded slides, poor match of colors make reading difficult. Check, if the audience sitting at the back of the room can easily read the information presented in the slides.
- *Unclear structure of the presentation* from the very beginning. An effective presentation is the one which start with the slide presenting the content of the whole presentation, i.e. presenting all tits parts: aims, research methods, the main results, conclusions and recommendations.
- There are *consistency gaps.* Students usually are so involved into their MDP material that they forget about the basic relationships, especially presenting too much information over a very short period of time.
- There is a divergence into *unimportant details* when everything what the presenter knows is presented without concentrating on the most important things.
- *Research methodology is too widely presented.* It is enough to present only the main methods.

It is useful to ask someone to evaluate your slides. In this way you will know, if „a stranger“ understands your arguments, data, the logical consistency of your presentation.

5.2. **Presentation**

It is necessary to prepare for the defense of the paper seriously; you should be ready to answer any question related with the topic of your research. During a short presentation it is not necessary to retell all the content of your work; it is necessary to reveal if the aims of the FP have been reached, if MDP objectives, which were set at the beginning, have been realized, and to present the main result of the research.

Rehearse aloud all the presentation, time it and make sure that it does not exceed the time limit of 10 minutes.

The most memorable parts of the delivery of the presentation are the *beginning* and the *end*, therefore:

- Clearly announce the title of the presentation.
- Present the aim at the very beginning.
- In the introductory part give the outline of the presentation.
- Each part of the presentation should start with joining sentences. You should mention what have you just covered and how it relates with the next part of your presentation.
- At the end thank politely for attention.
Try not to read the presentation text or the content of the slides. You can read from the screen only the essential things, or if you want to emphasize something or to be especially precise:

- citing something;
- presenting numbers or exact details;
- presenting complicated concepts or models:
- relating the thoughts/ ideas with the previous text.

Other valuable tips guaranteeing a successful presentation:

- Do not exceed the time limit. In the opposite case the chairperson of the commission will remind you that your presentation should go to the end and the student will get lost and will not be able to present the most important part of the presentation – the main results of the research.
- While reading from the screen, do not turn your back to the audience.
- While presenting the work keep eye contact with the audience and do not look only at the screen or computer monitor. Visualize the audience divided into four parts and from time to time keep your eye contact with each of these parts of the audience.
- The voice should sound pleasantly, lively, powerfully and at the same time naturally. Non monotonous and emotional voice will be clearly audible due to suitable loudness and articulation. Speak slowly and try to reduce stress in your voice.
- If you want to emphasize the idea, make a pause, but avoid pauses lasting longer than 4 seconds.
- Avoid gestures, such as swinging or clenching your hands, which might distract attention.
- Do not toy with your jewelry; do not keep your hands in your pockets.
- If it is more convenient - use a pointing stick.
- Do not pay the audience’s attention to badly prepared slides.
- Use grammatically and stylistically correct language.

Listen to the question and comments given by the commission politely without interrupting them. Thank them for giving you a good question or an interesting comment or a view. If you do not know how to answer the question, acknowledge that but do not try to answer it in a hit-or-miss manner. You can present other information that you know well, which is closely related with the question.

Having made the presentation, students answer the opponent’s questions. If the reviewer does not take part at the meeting of the commission (his/ her presence is not compulsory), the review and the questions might be read by the opponent who later leads the discussion among the members of the commission and the student. If the supervisor takes part at the meeting, he/ she pronounces his/ her opinion about the paper, if he/ she is absent – the opponent reads the supervisors review of the work.
Answers to questions should be short and to the point.

The defense commission of MDP evaluates the paper on a ten point scale, paying attention to the particular evaluation criteria (see „Regulations“). It should be remembered that it is the work written by the student or students, their abilities and knowledge, which were revealed during the paper preparation stage and defense that are evaluated, but not a person (persons). Therefore, the final evaluation reveals the validity of statements, the ability to provide arguments for them, to prove and to communicate main ideas, to answer questions.
CONTENT

INTRODUCTION

1. TITLE OF THE FIRST PART (OVERVIEW OF THE THEORY UNDER DISCUSSION) OF THE PAPER
   1.1. Title of the subdivision of the partial overview of issue A of the first part
       1.1.1. Title of the subsection of the partial overview of the issue....
       1.1.2. Title of the subsection of the partial overview of the issue....
   1.2. Title of the subdivision of the partial overview of issue B of the first part
       1.2.1. Title of the subsection of the partial overview of the issue....
       1.2.2. Title of the subsection of the partial overview of the issue....

2. TITLE OF THE SECOND PART (RESEARCH METHODOLOGY) (Remark: the second and the third part can be joined into one (RESEARCH METHODOLOGY AND RESULTS)
   2.1. Title of the first subdivision of the second part
       2.1.1. Title of the subsection of the partial issue...
       2.1.2. Title of the subsection of the partial issue...
   2.2. Title of the second subdivision of the second part
       2.2.1. Title of the subsection of the partial issue...
       2.2.2. Title of the subsection of the partial issue...
       2.2.3. Title of the subsection of the partial issue...
   2.3. Title of the third subdivision of the second part
       2.3.1. Title of the subsection of the partial issue...
       2.3.2. Title of the subsection of the partial issue.....

3. TITLE OF THE THIRD PART (RESULTS)
   3.1. Title of the first subdivision of the third part
       3.1.1. Title of the subsection of the partial issue...
       3.1.2. Title of the subsection of the partial issue...
   3.2. Title of the second subdivision of the third part
       3.2.1. Title of the subsection of the partial issue...
       3.2.2. Title of the subsection of the partial issue...
   3.3. Title of the third subdivision of the third part

CONCLUSIONS AND RECOMMENDATIONS
LITERATURE AND REFERENCES LIST
LIST OF TERMINOLOGY (if not presented after the content)
APPENDIXES

1 appendix

2 appendixes
INTERNATIONAL BUSINESS PROGRAMME (or the other title of the programme is written)

Student’s name and surname

Student’s name and surname (if the work is written by several students)

Student’s name and surname (if the work is written by several students)

RESEARCH PAPER (I) (or II, or III)

TITLE

Student ______________

(signature)

Student ______________

(signature)

Supervisor’s scientific name, scientific degree, name, surname

_______________________________

Vilnius, 200_
Different cases of the forms of references of the final paper:

1) one author’s book:


If only part of the material of the cited book is made use of:

2) Several author’s book (if there are more than three authors, usually only the first three authors’ names are written and „et al“ is added)


3) Articles from printed monographs:


4) Articles from journals and other printed serial publications:


5) Articles, conference materials and other sources in the internet or other electronic databases:


SLAVENS, Roger. Big bucks spent in consumer media to reach b-to-b execs. London, b. m. [žiūrėta 2003 m. rugpjūčio 25 d.]. Prieiga per internetą <http://www.businessmarketing.com/bToB100/index.html>.

6) Officially unpublished information sources (manuscripts or comparable to):


**7) TV or radio programme:**
Tapinas, Andrius (laidos aut. ir ved.). *Pinigų karta* [Televizijos laidą]. Vilnius: Lietuvos nacionalinis radijas ir televizija, (2008 m. kovo 17 d.).