

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ
«САМАРСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ
УНИВЕРСИТЕТ ИМЕНИ АКАДЕМИКА С.П. КОРОЛЕВА»
(САМАРСКИЙ УНИВЕРСИТЕТ)

HIGH-TECHNOLOGY BUSINESS TREND-SEARCHING

Master's program «High-Technology
Business Management»

Рекомендовано редакционно-издательским советом федерального государственного автономного образовательного учреждения высшего образования «Самарский национальный исследовательский университет имени академика С.П. Королева» в качестве методических рекомендаций для студентов Самарского университета, обучающихся по основной образовательной программе высшего образования по направлению подготовки 38.04.02 Менеджмент

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«High-Technology Business Trend-Searching» master's course meets the requirements of the federal educational standard of master's program in the field of 38.04.02 Management. The study guide consists of the objectives, course content, reporting forms, instructions for lecturers as well as guidelines for students. The study guide is intended for master's degree students of Institute of Economics and Management. The study guide is prepared at the Social Systems and Law Department.

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1. SUMMARY AND GENERAL PROVISIONS OF THE METHODIC RECOMMENDATIONS

These methodic recommendations aim to describe the work on the course of trend-searching process in the high technology business. The guidelines offer a methodic approach to work over the course of high technology business trend-searching. It concerns the strategies to search, analyze and interpret the trends found at informational online-platforms. Particularly, it relates the ways in which modern trends can be distinguished and categorized within the huge volumes of information presented online. The methodic recommendations were developed in accordance with the requirements of The State educational standards for higher professional education. The recommendations express the procedure of trend-searching and trend-analysis that might be implemented as an independent research as well as a preparatory part of a research project.

2. ACTUALITY OF THE METHODIC APPROACH

Today in the world of fast-paced social changes, development of digital technologies and intense media communications it is complicated to deal with large amounts of information that people regularly receive. As for the everyday routine as well as for the research it is necessary to filter and select relevant messages and issues. So there is a need for an approach to deal with informational messages and to define and determine main topics, ideas and values. That's why the offered methodic approach aims to demonstrate the way to analyze modern trends. The approach is significant for studies due its orientation to the modern situation with trends and tendencies

that cover particularly the area of high technologies, digital communication, management and business strategies.

3. SIGNIFICANCE OF THE METHODIC APPROACH

This approach, firstly, is suitable for students and their research projects. It facilitates the studying process by showing the practical keys for investigating the data. It allows students to independently work with the data and fosters the development of such important skills as critical thinking and creativity.

Secondly, this approach might be useful for the researchers. On the one hand, it may become a preparatory part for the complex investigation, at the level of collecting data, researching the problem field. On the other hand, this approach can become a base for an independent research project where it is needed to search and study modern trends in a certain research field.

Finally, there is a need in the education system to develop and provide the ways and strategies for students to deal with informational databases, to define main tendencies and trends and to know how to interpret it. That's why an approach might be also useful for lecturers as a part of teaching methodology applied to the various scope of university disciplines.

4. PURPOSES AND OBJECTIVES OF THE APPROACH

The methodic recommendations describe a complex of strategies and skills. The goal is to offer basic knowledge in trend researching and to propose a research strategy for trend searching and trend interpretation. The particular focus goes to the trends at the market of the high-technology business.

The successful implementation of the approach will allow to advance skills in critical thinking, logical reasoning, creativity. Moreover, it will help to work with different research topics and disciplines and maintain the main research idea till the successful results. Furthermore, this approach will facilitate the ability for an independent work and expression of research ideas.

The main objectives are:

- to understand and to use the methodic scheme for defining main achievements, current trends, global and local tendencies of the high-technology business sector;
- to obtain the knowledge regarding the most popular trend databases presented online;
- to learn how to deal with various information and how to analyze the relevant structures.

5. EXPECTED RESULTS

The expected results from the use of this methodological recommendations can be expressed in training and advancing the following skills:

- the ability to search and find the information online and off the internet;
- the ability to differentiate significant trends in the huge volumes of information;
- the ability to define and interpret the trends in a specific field, to build suitable arguments;

- the ability to effectively work with various online-sources and databases in the process of trend-searching;
- the ability to analyze the information from scientific and non-scientific sources;
- the ability to proceed the critical analysis;
- the ability to work with the forecasting and predictive methods in social research.

6. BASIC GUIDELINES FOR TREND-SEARCHING

Media sources, particularly online, transmit the messages today regarding the modern trends. In order to deal with modern trends it is necessary to have an access to large amounts of information, for example, to news platforms. As far as these methodic recommendations are created especially for the master students of the program “High Technology Business Management”, it makes sense to consider the online new platforms with the topics related to high technology business. Otherwise, the recommendations can be used for other specific fields and for trends in social, cultural, economic sectors of human life.

7. TREND DEFINITION

The process of trend-searching today relates to the scientific research and also can be considered as a part of business strategies. The *trend* can be defined as a tendency affecting the lifestyle of society, the ways of social interaction, the scientific and technological progress, the political and economic life. There are two

significant moments regarding the ideas of a trend that have to mentioned here.

Firstly, there are 3 types of trends relating to its coverage. So, it is possible to talk about:

- ***microtrend*** as a small characteristic changes affecting one person or a small social group;

- ***macrotrend*** as a complex of microtrends relevant for a long period of time and affecting the whole society;

- ***megatrend*** as a large-scale long-term changes at the global community level, they are also macrotrends that have reached the global level by the degree of influence on society.

Secondly, any trend concerns the ***time line***: it may refer to the past, to the future or the present. It is significant to mention by searching and interpreting. If the trend of the past is studied then it is necessary to analyze whether its value is still relevant and obtains the representation at the present moment. If the trend of the future is analyzed it is necessary to know how to predict and forecast the development of the current situation. If the trend of today is under consideration then it makes sense to search the analogues in the past and to construct the potential development for the future.

8. ORIGINAL SCHEME FOR TREND-SEARCHING

These methodic recommendations are based on the original scheme of trend- searching and trend-analysis. The main idea is to define from the huge scopes of information available the relevant trends and tendencies. The strategy is to apply for any kind of textual information, primarily for the online-resources that describe or

perform modern trends in different areas of social, cultural, economic etc. life. (databases, informational platform, news platform etc.).

The original scheme consists of 4 main elements:

- **problem** – any informational source describes the “problem” existing in a certain area of life, in other words, the problematic situation (not necessarily negative) that needs a solution. The resource performs it as a need in a society to solve the existing issue, to fill the gap with a statement, to develop the weakness in a field. For example, the problem is the negative impact of industries on the ecological situation worldwide (air quality deterioration, water quality deterioration, ecosystem disruption etc.). Various online-sources may describe it as a news of today, as a comparison with the situation of the past (deterioration) or as a forecast for the future regarding the current conditions of ecological situation.

- **answer** – any informational source may also proposes or describes possible “answer” or solution to such a problem. For instance, (continuing the above-mentioned case with ecology and industries), the solution might be some high technologies that aim to decrease the negative environmental impact by the use of modern technological achievements (clean energy production as solar or wind energy, reduction of energy consumption through more efficient devices, stormwater management etc.). This solution can be presented as an advertising, a narrative, a story of success, a business case, an interview with a developer etc. Moreover, it can be the advantages and disadvantages of the solution analyzed, its potential and difficulties at the market defined or predicted.

- **trend** – by such messages it is possible to define the “trend”, the tendency, existing in the society. Such trend expresses the need

for some changes, innovations, challenges and proposes possible development, improvement or solution for the audience. Some trends can be temporal and exist very short time, others relate the long-term perspective; some can influence on the local level, others obtain the potential to become the worldwide significance. At the example of environmental impact of industries it is possible to define the trend of new high technologies. They use the alternative instruments and sources to replace the traditional ones in order to complete the task and to improve the necessary characteristics, to decrease the negative impact.

- *value* – the most significant idea here is that any trend expresses some values that are relevant for the moment at certain circumstances. A *value* here is understood as the importance or worth of something for someone. For instance, the development of high technologies used in the connection with the environmental impact expresses the value of changing the perspective in treating natural resources. As far as human beings are dependent on the natural resources it is important in the situation of global ecological problems to use them consciously and not uncontrolled.

So for the trend-searching process it is supposed to have two obvious points (as problem and answer) and two indefinite points to name and clarify them (as trend and value).

9. ADDITIONAL QUESTIONS BY USING THE APPROACH

During the trend-searching process it might be necessary to have some additional help by choosing relevant problem situations, by defining answers and values. In order to deepen the practice and

not get lost with all the data under revision, it makes sense to use some additional questions by applying the approach as, for instance:

- Which instruments describe the news as a problem?
- Does the situation in the news needs a solution?
- Which character has a description of the news?
- Does the answer fulfills the requirements of the problem situation?
- Which instruments describe the answer?
- Which character has a description of the answer? Does it provide arguments, judgments, perspectives?
- Is it clear and concrete to define the trend in the news?
- What is the time reference of the trend?
- Which kind of trend it is supposed to be (microtrend, macrotrend, megatrend)
- Does the trend pretend to be significant at the local or at the global levels?
- Is the value of a trend clear and concrete to define?
- Which areas/fields/disciplines/spheres of life covers the value of a trend?
- How is it possible to express the value of a trend?
- Does the common combination of 4 components represent the original scheme of trend-searching?

10. AREAS OF USE FOR THE ORIGINAL SCHEME

As it was already mentioned before, the approach might be relevant as for students as well as for researchers and lecturers. Here it is more specified for students to apply. So this original scheme might be used by students in 2 research cases. Firstly, as a preparatory stage of social research when it is needed to collect the data, to select the relevant for the study information, to monitor the existing situation in the researched field. Secondly, it might be used as an independent research when it is needed to proceed the trend search and trend analysis. Such scheme simplifies the searching process and specifies the trend selection due to the division of a search for several significant steps and additional questions to answer.

The areas of thematic application cover, on the one hand, the field of high technology business solutions as, for instance, software, aerospace, electrical machinery and certain scientific instruments. On the other hand, it may be applied to the areas of ecological challenges, social, cultural, economic sectors. Such a universal approach covers any informational messages describing problems and solutions in the modern world.

11. SKILLS TO TRAIN FOR STUDENTS

This approach can be used as at the level of theoretical investigation as well as for the practical issues. It helps to analyze the data, to interpret trends, to construct predictions and forecasts for the relevant area and for the relevant time period. Moreover, it is useful for students to train their ability to work with big amounts of information that we face everyday as within the studies as well as

within the everyday reality. So trained skills by applying the scheme will be useful for students during the studies and research and also later at work and at everyday communication.

Regarding the studying process it is possible:

- to train analytical skills
- to learn and practice sociological methods of research
- to work with various types of data
- to deepen critical thinking
- to express own opinion to the relevant topic
- to express the researcher position to the question

12. AREAS OF USE FOR THE TRAINED SKILLS

It is important not only to practice the skills within one single task but to be able to use it for further research activities. So, the experience with the use of an original scheme might help to:

- to develop the research plan (research problem, object, subject, objectives, research tasks, methods and methodology, hypotheses);

- to conduct the research by using theoretical and practical information regarding the development of the research plan;

- to collect the data form different sources, to coordinate the research plan within the collected information;

- to interpret the results of a research and be able to define its advantages and disadvantages;
- to use communication skills for expressing ideas, opinions, critics and be able to reply for questions and comments;
- to present results of the study in the form of a scientific report, article, presentation, scientific review, comparative analysis etc.

13. EXAMPLE FOR THE USE OF THE ORIGINAL SCHEME

It is possible to use an original scheme for trend-searching in various topics and disciplines. The following example demonstrates the ways of its use at the High Technology Business trend-searching course.

Samples of lectures and the ways to use the scheme:

- *High Technologies in Business: tendencies, industries, development and perspectives under the scope of trend-analytics.* The topic aims to present the broad perspective of high technology business with particular focus to relevant industries, experiences, achievements. The original scheme may be used to categorize business cases, to highlight main directions of industrial development, main problems and main challenges in the area.

- *Modern technological trends and the trend-searching process: key actors, key strategies, expected results and cases.* The topic aims to specify high technology achievements and emphasize main strategies in the development of the industry. It is possible to use the original scheme here in order to allocate significant trends to

the categories, to define the types of key actors, to mark main messages and ideas.

- *Sociological methods of trend-searching and trend-analysis: the potential and the perspectives of the foresight strategies.* The methodical part of the course aims to perform the possibilities of researching trends, particularly with the foresight methods. The original scheme is here to apply as a structural part of the research process to compose a research database; the above-mentioned categories become here the main definitions and directions to use the foresight method.

- *Trend monitoring and the visionary leadership: a scientific way to the future trends prediction and the managerial future-oriented skills.* The topic reveals the predictive methods in social research and further discusses the opportunities of the foresight strategies. The original scheme is possible to use as a practice to monitor trends in a certain field and to construct the predictions/forecasts based on the defined value of a trend.

- *How to present the information today: analytical discussion about a scientific report, a scientific review and a scientific presentation.* The topic discloses the ways of presenting scientific data and analyzes the possibilities of its use. The original scheme is possible to apply here as a part of research strategy: firstly, to search for the news, secondly, to analyze and apply the scheme, thirdly, to transform the results into a scientific text.

Samples of practical work and the use of an original scheme:

- *Trend-searching and interpretation; ways of dealing with the scientific data (scientific commentary, comparative analysis).*

Training the application of the original scheme and transformation the results into the scientific text (analytical skills).

- *Trend analysis and interpretation; ways of presenting scientific information (case study, essay).* Training the application of the original scheme on the research cases and transformation the results into the essay (analytical skills, creative thinking).

- *Studying the possibilities and the methods of a scientific trend research: foresight technologies and methods, the forecasts.* Training the application of the original scheme to the research methods, constructing forecasts based on the analysis of trend values.

- *Practice of presenting the results of a research, training for writing a scientific article and report, preparing a presentation.* Training of the writing skills within the application of the original scheme into the research format writing based on the trend analysis.

Samples for the test work and the use of an original scheme

- *Strengthening the skills in the data interpretation by writing a scientific article.* Testing analytical skills and critical thinking by application the original scheme.

- *Strengthening the skills in the data interpretation by writing a scientific review.* Testing analytical skills, critical thinking, the skills to express the research opinion by application the original scheme.

Samples for the self-study work and the use of an original scheme:

- *Trend-searching at the market of high-technologies: main principles and ideas.* Self-training for trend-searching in the concrete field.

- *Study of main methods in the social research.* Self-training for the use of social research methods at the field of trend-searching in the high technology business.

- *Practice in writing a scientific article based on the results of trend-searching.* (Further) Self-training in writing scientific texts based on the trend analysis with the use of the original scheme.

- *Practice in preparing a scientific presentation based on the results of trend-searching.* Self-training in preparing the results of trend analysis and trend interpretation in the form of scientific presentation.

14. DIFFICULTIES

The use of the above-mentioned original scheme has definitely some complicated questions and potential difficulties. Firstly, big volumes of information available online. It is literally complicated to choose reliable source of information and to differentiate the quality of the content, besides, it sometimes takes much time to select relevant sources. So the recommendation here might be the organization of researcher database for reliable sources and particular topics.

Secondly, the subjectivity of a researcher that is one of the main problems in any social research. In order to define the value of a trend it is necessary to be aware of such a problem, a trend and possible solutions, to understand its relevance and the potential. The recommendation here might be to read specific literature in the researched field and ask for an advice or comment from the professional in the researched field.

Finally, it is possible to give the wrong trend interpretation and construct a wrong forecast for the trend development (sometimes due to the first or to the second problem mentioned here). So it is necessary to provide an analysis of own forecast and interpretation and to observe the trend potential within the time perspective.

15. CONCLUSION

The results of the use of methodical recommendations and particularly the original scheme for trend-searching and trend analysis is the acquisition of knowledge and skills in working with high technology business cases. The educational activity is implemented in the analysis of real business cases that provides not only theoretical knowledge but practical awareness of the high-tech market for students. In addition, it offers students the instrument for research and investigations in many research disciplines as well as to use in the further working experience.

The lectures format provides necessary theoretical basis for students, besides, the explanation of the original scheme and the ways to apply it. The practical exercises facilitate the assimilation of the theoretical material and offers the cases for training. Furthermore, the possibilities to test the skills provides necessary information in which points students should pay more attention, practice often and regularly. Last but not least, the possibility to carry self-studying opens for students further possibilities to advance the knowledge and skills regarding trend-searching, trend analysis and trend interpretation.

16. GLOSSARY

The list of terms students have to know to stand on the master's course High Technology Business trend-searching, to understand their meaning and know how they relate to each other.

High Technology Business – organizations/ companies engaged in securing the growth and the profits from industries characterized by new and fast-paced changing technologies.

Macrotrend - a complex of microtrends relevant for a long period of time and affecting the whole society.

Megatrend - large-scale long-term changes at the global community level, they are also macrotrends that have reached the global level by the degree of influence on society.

Microtrend - small characteristic changes affecting one person or a small social group.

Trend - a tendency affecting the lifestyle of society, the ways of social interaction, the scientific and technological progress, the political and economic life.

Trend-searching - search for trends and tendencies in the specific field that have a high potential or are already significant related to certain factors, values, challenges.

17. RECOMMENDED LITERATURE AND ONLINE-SOURCES

Main literature:

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<https://foresight-journal.hse.ru/>

2. IDEAS: the largest bibliographic database:
<https://ideas.repec.org/s/hig/fsight.html>

3. Database of global trends: <https://www.trendhunter.com/>

Методические материалы

HIGH TECHNOLOGY BUSINESS TREND-SEARCHING

Master's program «High-Technology Business Management»

Методические рекомендации

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