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DETERMINANTS OF THE CHOICE OF STUDIES IN THE FIELD OF COMMODITY SCIENCES

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Abstract. Since the natural environment is being increasingly overexploited by man, it requires a change in the approach towards the use of its resources. The question arises whether or not the problems of sustainable economy, taking into account the environment, are present in the consciousness of the modern society to a sufficient level, so that young people, while choosing a future career, are well aware of the enormity of the areas of scientific and practical research, which create demand for specialists in the field of commodity sciences. The article reviews the actions taken in recent decades concerning sustainable development with particular emphasis on sustainable food production and consumption. Next, the review of the results of different studies regarding motivation for undertaking studies by young people is made.

The aim of the research conducted among students of the Faculty of Entrepreneurship and Quality Science at Gdynia Maritime University was to show that young people, while taking decisions concerning the type of studies, do not rely on knowledge of the issues that today's economy is facing. The research was based on the results of surveys conducted out on the general sample of the general students of Commodity Sciences (field of studies) at Gdynia Maritime University in 2016. At first, the Pearson correlation coefficient was calculated. Then, the correlation matrix was built and stimulants and destimulants as well as neutral factors affecting the decision making related to education in this field of study were identified.

The results were somewhat surprising – on the one hand, students, like other authors' sources, most appreciated the opportunity to gain a stable job after graduation. On the other hand, they felt that the effort that had to be put in their chosen studies was too high and demotivating.

Key words: sustainable development, sustainable consumption, study choice, commodity science.
JEL code: D62, F64, Q01

Introduction

Environment is increasingly overexploited by human beings and a change is required in the approach to the use of its resources. Due to generation of high external costs, food production, its structure, the quality of food, its storage, disposal are important problems, with which the mankind must deal not only in the local community, but also on a global scale. We need specialists who will be able to solve problems that are reflected in the above mentioned areas and those that are currently not observed, but which can become an obstacle to sustainable development soon. The question arises whether or not the problems of the economy connected with the environment are present in the consciousness of the modern society, so that young people while choosing a future career are well aware of the enormity of the areas of scientific and practical of research, which create demand for specialists in the field of commodity sciences. The authors have adopted the hypothesis that prospective students choose studies taking advantage of other opportunities than potential career opportunities (both in practical and scientific sense). In order to verify the adopted hypothesis, the research was conducted on the basis of a questionnaire.

Based on the results of surveys conducted on a general sample of the students of Commodity Sciences at Gdynia Maritime University in 2016, the Pearson correlation coefficient was calculated. Then, the correlation matrix was built and stimulants and destimulants and neutral factors affecting the decision making related to education in this field of study were identified.

The research was carried out among students of Commodity Sciences at Gdynia Maritime University and confirmed the authors' hypothesis that, while choosing studies and careers, the issues related to the growing significance of sustainable development, sustainable production and consumption have no importance for potential Commodity Sciences students.

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1. Sustainable development

Sustainable development is based on the principles of "respect for the environment, recognition of the special role of plants as the only creatures that bind energy, entropy and pollutants that create order, respect to man and human values, use of regenerated resources, understanding that man and nature are bound and interrelated, respect to our roots (heredity), tradition and culture (civilization), social control of production, distribution and management resources" (Lazarides, 2011).

Sustainable development "(...) meets the needs of the present without compromising the ability of future generations to meet their own needs" – this is the most popular definition of sustainable development, which was included in the document entitled "Our Common Future" (1987). The concept of sustainable development was the basis of so-called Earth Summit (1992), which is the United Nations Conference on Environment and Development (UNCED) and its results - Agenda 21.

In Agenda 21 (UNCED, 1992), an action plan at global and local levels in all areas, in which human activity affects the environment, was presented.

In 2000, the UN General Assembly adopted eight Millennium Development Goals that relate to the major problems of mankind - war and peace, health, poverty and improving living conditions, especially in developing countries. Continuation of the Millennium Goals were objectives of Sustainable Development defined at the United Nations Conference in Rio de Janeiro in 2012. In the book "Transforming our world: Agenda for Sustainable Development - 2030", there is a list with 17 Goals for Sustainable Development, which take into account economic, social and environmental sustainable development. There are up to 5 goals related directly to food production and consumption.

- Goal 2. Eliminate hunger, achieve food security and better nutrition and promote sustainable agriculture.
- Goal 12. Ensure sustainable patterns of consumption and production.
- Goal 13. Take urgent action to combat climate change and its effects.
- Goal 14. Protect the oceans, seas and marine resources and use them in a sustainable way.
- Goal 15. Protect, restore and promote the sustainable use of terrestrial ecosystems, sustainable management of forests, combating desertification, prevent, or reverse the process of degradation and halt the loss of biodiversity (Agenda Zrownowazonego Rozwoju, 2017).

Such big emphasis on food production and its consumption is caused by the fact that the impact mark on the global economy has the following sectors: food, transportation and construction (Sustainable consumption, 2017). For production of food, the most severe effects of the large-scale production are: greenhouse gas emissions, loss of soil fertility, loss of biodiversity, water scarcity, the changes in ecosystem quality by nutrients (McMichael et al., 2007).

Therefore, the objectives of sustainable development require changes in the approach towards production and consumption of goods.

2. Sustainable consumption in the light of the theory of sustainable development

The process of food production is one of the most basic and most important processes associated with a man and his/her evolution (Diamond, 2002). Due to the increasing number of consumers, demand for food is growing too, which in the absence of changes in the patterns of production and consumption will help to increase production by more than 60 % over the next 30 years (FAO, 2015). Increasing the volume of food production significantly affects the growth of external costs of agriculture (Notarnicola et al., 2017).

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To prevent accumulation of negative phenomena associated with food production changes should take place both:

1) in food production:
- sustainable intensification of European agriculture;
- optimization of agriculture by setting the boundary conditions related to: greenhouse gases, energy, biodiversity, contaminates;
- improvement the ability to adjust to changing climatic conditions for agriculture and food systems;

2) and in its consumption:
- higher and higher demands towards the sector - requirements of healthy, high-quality, safe food;
- identification of determinants of a healthy diet accompanying physical activity;
- prevention of diseases associated with the diet (Soussana, 2014).

In Europe, the consumption model is slightly different due to slow population growth, which results in slow growth in consumption. In addition, an increase in income leads to changes in the population structure and lifestyle. Europeans are beginning to pay more attention to using healthy and ethical food sourcing (e.g. breeding and slaughter of animals). The worldwide phenomenon, including globalization and removal of barriers to trade, opens new markets, but at the same time increases competition between products offered in Europe. The development of technology (especially IT and biotechnology) has a positive effect on efficiency of the use of natural resources and innovations, so as a result there is high differentiation of products and services as well as a variety of supply chains of these goods (Wijnands, Van der Meulen and Poppe, 2007).

Sustainable consumption is seen by many researchers as a process, in which consumers satisfy their individual needs while not reducing a possibility of meeting the needs of future generations (Mont and Bleischwitz, 2007). This means that "each person consumes their only 'earthshare' equivalent to 2.1 gha" (Peattie and Collins, 2009, p.108). This means that consumers satisfy their needs with products and services that improve their quality of life, while striving to minimize consumption of natural resources or toxic materials and low emission of waste and pollutants over the life cycle, so as not to pose risks to the needs of next generations (Hornibrook et al., 2015). Lorek and Fuchs (2013) expanded the definition of organizations and institutions "sustainable resource consumption involves the consumption patterns of industries, Governments, households and individuals". A slightly wider group of beneficiaries of sustainable consumption is shown by Lee (2014): it includes a group of consumers, in addition to people, and also organizations and institutions as well as animals.

The need to educate the public on the issue of sustainable consumption was pointed out by Alvarez-Suarez et al. (2011). According to the definition, "sustainable consumption within the framework of education can be defined as the way the consumers behave, thus redefining the model of society as one that contributes to sustainability by reducing consumption, in which education has a major role to play in this regard".

Therefore, there is a need for professionals who have technical and economic knowledge and will be able to construct/ develop and optimize processes related to production of consumer goods and supervise and control their quality.

3. Rationale for selection of studies

The issues related to university education, career choice, the essence of the process of lifelong learning are the subject of many studies. As Vaideanu (1988) stated: "There is no development without education. Actions of economic and social development cannot be launched, before reaching educational levels and skills training that are required by the desired and pursued progress".

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The choice of studies can be, in some sense identified with the choice of a career - as recognized by UNESCO (2012). This is a process of covering and proper use of their abilities, skills, interests, in accordance with their own aspirations and values.

Determinants of choice of studies generally can be attributed to internal factors, external factors and interpersonal factors (the others' expectations) (Korkmaz, 2015; Mishkin et al., 2016) claimed that among the most frequently cited determinants of students' choice are: prior experience, interest and enjoyment, influence of others, prestige, family and financial considerations, limitations (failure in the application/ studying at another university). Pekkaya and Colak (2013) listed additional family factors – parents' jobs, family traditions (Pekkaya, 2015). The uniformed schools preparing for work, where the uniform is an inherent attribute of the institution, constitute a sufficient reason for their choice of studies (Skrzeszewska, Milic Beran, 2016).

In view of the growing interest in the issues of sustainable development, including sustainable consumption commodity science, there is an area of studies with great career prospects for graduates of that field of studies. In Poland, only three public universities (among 134) have departments of commodity science: Cracow University of Economics, Gdynia Maritime University, Poznan University of Economics and Business. The research carried out among students of the Faculty of Entrepreneurship and Quality Science at Gdynia Maritime University demonstrated what decisions students made when they chose studies in this field. Particularly important was to find out whether some of the most crucial issues for the mankind, such as: sustainable development, sustainable consumption and areas related to them, are known to students.

The results of the research on the motivation choice of studies or careers, pointed out to three main paths:

1) in accordance with the beliefs and professed values (Dumitru, 1988);
2) according to education (Crisana, 2015; Grobelna and Marciszewska, 2016);
3) giving a sense of stability (Martinez and Danalache 2008; Pavelea, 2013).

It follows that the most important thing is to match students' capabilities and skills with the job. Yet, not always young people are exploring possibilities to use their strengths. They check the social media and do not look into professional networking portals. Moreover, they do not look for the most promising areas of studies. Their choice of a future career is based on common and widespread opinions (Crisana et al., 2015).

4. Research results and discussion

In May 2016, the survey was carried out among full-time students of Commodity Sciences of the second cycle at Gdynia Maritime University regarding their preferences related to the choice of studies.

The survey examined the general population of these students. In total, the survey sheet was completed by 105 students. They answered six questions, five of which were multiple choice questions.

The first question concerned the students' knowledge of the field of studies of commodity sciences offered by Gdynia Maritime University. In total, students had a choice of six answers. In total, 112 responses were obtained. They are presented in Table 1.

Then the respondents were asked to answer the question related to the decision concerning the type of studies at the university. In total, 258 responses were obtained. The detailed distribution of responses is shown in Table 2.

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Table 1

The decision related to the selection of the field of Commodity Sciences

No	Feature	number
Q1	Looking for information about different universities on their own	54
Q2	Education fairs	3
Q3	Presentation of the university and its educational offer in high schools	2
Q4	Friends studying at Gdynia Maritime University	32
Q5	Family	17
Q6	Internet forums	4

Source: author's research

Table 2

The decision to study

No	Feature	number
Q7	The conviction of a secure job after graduating from Gdynia Maritime University	43
Q8	The conviction of high earnings after graduating from Gdynia Maritime University	27
Q9	Prestige of the university	54
Q10	The unique character (one of the two maritime universities in the country)	53
Q11	The proximity of the place of residence	57
Q12	The large distance from the place of residence	15
Q13	The opportunity to live in a dorm in the college campus	9

Source: author's research

Students could also include their comments in the response. In this case, the answer was usually appended to the field of studies, which is commodity services and to related specializations (20 respondents). Students also emphasized the importance of the university in the state education system in Poland. They put emphasis in their response on the free-of-charge character of education (3 respondents). Also in the case of two students, the decision related to education resulted of the factor that the family lived nearby.

Students were also asked to provide information on who had the greatest influence on their decisions. Noteworthy is the awareness of students of the significance of their decision and the effects it can have on their professional life. Among the 105 respondents, up to 62 people highlighted the fact they took independent decisions. In the case of 22 students, the decision was taken as a result of family influence. The decision of 11 people was influenced by friends. In individual cases, the decision was influenced by the teacher (2 replies), the job undertaken (1 student), the field of studies (1 person), the information posted on the Internet (1 reply), the person met while traveling (1 student). The other students did not respond.

Another question concerned the labour market and the consciousness of studies related to employment opportunities in the future in accordance with the field of the completed studies. In this case, students had an opportunity to select their answers (243 responses were given), as detailed in Table 3.

Then, the respondents were asked to give the type of school they graduated from before studies. There were two answers: high comprehensive school (89 respondents) and technical schools (16 respondents). Students were also asked to enter the region they come from. The largest group of students live in the Pomorskie Region (71 people), where Gdynia Maritime University is based and which is adjacent from the east to the Warmia-Mazuria Region (18 people). The other regions are: the Podlaskie - 4 people, the Masovia Voivodship and the Kujawia-Pomerania Voivodship - 3 people, 2 persons from the West Pomerania, from Lublin and Silesia.

The majority of students (60 persons) were born in 1993, and the others respectively in 1992 - 26 people; in 1991 - 9 persons; in 1990 - 3 persons and one person in 1989 and in 1987.

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In the case of 5 students, the year of birth was not stated.

Table 3

The possibility of future employment

No	Feature	Number
Q14	I relied on the advice of family and friends who studied here	39
Q15	I relied on the advice of family and friends, even though no one is a graduated of Gdynia Maritime University	27
Q16	I relied on the information provided during the presentation of the university	23
Q17	I consulted a person familiar with the realities of the labour market	32
Q18	I checked university rankings / fields/ specializations most desired by employers	21
Q19	I read reports devoted to university graduates in the labour market	28
Q20	I was not interested in it	13
Q21	I did not pay attention to it, because the labour market can be quite different when I graduate.	41
Q22	It did not occur to me to check what is employability of graduates of Gdynia Maritime University	19

Source: author's research

The results obtained in the survey sheets were then analysed using the correlation coefficient of Pearson correlation (Aczel, 1989).

In the first stage of the analysis, the values of the arithmetic average of responses were calculated with the corresponding to them standard deviations. In the second stage, the coefficients of variation for the analysed characteristics were calculated. The value of the critical value of the coefficient of variation was adapted to be 20 %, as the small, non-significant magnitude.

On this basis, a further analysis of three variables was eliminated: Q1, Q2 and Q6. This was followed by calculation of the Pearson correlation. Then the matrix of correlation between variables was built. As a result of the analysis of the matrix, it was found out that the choice of studies in the field of commodity sciences among the analysed groups of respondents was mostly influenced by factors shown in Table 4.

Table 4

Relationships between variables

No	Relationships
Q7 Q8	+0.706
Q8 Q9	+0.528
Q7 Q16	+0.449
Q1 Q4	-0.474
Q11 Q12	-0.336
Q14 Q21	-0.300
Q17 Q22	-0.257

Source: author's research

Conclusions

On the basis of the research, stimulants in the choice of studies on the field of commodity sciences were identified. They included:

- conviction of a secure job after graduation;
- belief in high income after graduation;
- prestige of the university;
- good information about the field of studies;
- unique character.

The largest destimulants related to the analysed field of studies were:

- information on commodity sciences usually has to be looked for on your own;
- students of this field will find it difficult, requiring great commitment on the side of students.

The analysis also allowed determining the factors that are inert (do not matter) for people deciding to undertake this field of studies. These include:

- families' help when deciding about studying commodity sciences, despite the fact that with open question, students emphasized great influence of the family;
- distance from their residence as several students stressed the importance of the distance for their decision;

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- changes that may occur in the labour market after graduation.

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