Attitude toward Ethics, Environment and Profitability in Business – Results of an International Study
(Part I. – Focus on the Environmental Issues)

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Abstract: "Combining Ethics, Environment and Profitability in Business (CEEP)" is an intensive program (IP) within the frame of Erasmus Program – with the participation of 5 higher education institutions: Centria University of Applied Science (Finland), Hochschule Niederrhein and Westfälische Hochschule (Germany), Poznan University of Technology (Poland) and Obuda University (Hungary). The aim of this 3-year project was to train students' entrepreneurial competences by showing basic dependencies between business, society, state and ecology in a multicultural environment.
One important outcome of the IP is a questionnaire which measured the attitude of students toward the main topics of the IP. In 2014 the sample of students from the 5 higher education institutions was asked and the responses were analyzed by teachers of the IP. In this article we would like to focus mainly on the environmental issues highlighted in the questionnaire – but as the main target of the IP was to handle these topics in their interrelatedness, some ethical and profitability questions are also included.

1 Research Background

One important challenge of the first century in the new millennium is to find a balance between economic and environmental protection goals. Economy itself is a very complicated system with many interdependencies among its variables and if we add environmental aspects to these decisions it really make the task of decision-makers much harder. Moreover, taking ethical issues into consideration while making a business decision means a much more difficult task.

The amount of knowledge which has been accumulated in the past few centuries has led to a separation of educational programs – nowadays it is impossible to be polimath like Leonardo da Vinci was in his own time. That's why science needs multidisciplinary and interdisciplinary research in order to improve the efficiency, reliability and usability of scientific work.

But – of course - not only scientific life demands transparency and understanding of how things work, but students also have this aim: to understand the real world in its complexity. The aim of the intensive Erasmus program titled "Combining Ethics, Environment and Profitability in Business"[1] was to highlight the relationship between the company and its stakeholders in more details.

One part of this program was to design a questionnaire to understand students attitude toward ethics, environment and profitability in general. In this 3-year long project, different steps of this research has been made. The first version of the questionnaire was originally created at the first stage of the IP in 2012 with the contribution of teachers and students participated in the IP from each university. In the next year the questionnaire was revised and pilot-tested and in the last round (in 2014) the sample of students from the 5 higher education institutions was asked and the responses were analyzed by the teachers of the IP.

In this article I'm going to analyze the questions focused more on the environmental issues, and in another article you can find the analysis of the questions related on the ethical issues – taking into consideration the limited length of this article.

1.1 The questionnaire

The original questions in the questionnaire were formulated by students and then were revised by teachers. The following topics were included in the questionnaire: ethics, corporate social responsibility, green marketing, environmental management systems and profitability. We agreed that the questionnaire we've got was too long and types of questions and answers showed a great variety – making the filling in more difficult and time-consuming for the potential respondents. Therefore we melted some questions together and when we identified some overlaps, we deleted some of these questions.

In connection with attitude questions we used 7 point Likert-scale for measuring agreement with the statements – including value 0. We used it because we wanted to be sure to get reliable data taking into consideration that in Germany usually 1 means the best mark and 6 means the worst what is very different from what e.g. Hungarians use in schools to evaluate students (1-worst mark, 5 is the best). The Stapel-scale would have been too wide with its 10 categories and we wanted to include 0 on the list in order not to force students to decide if they don't have real opinion on the given item. So we measured the level of agreement on a 7 point scale where -3 means: totally disagree, 3 means totally agree, and 0 was also the part of the scale.

[1] The application for this Intensive Program was submitted by Central Ostrobothnia University of Applied Science for a 3-year long program started in 2011.

During the pre-test of the questionnaire in 2013 we realized that the low response rates were due to the English language of the questionnaire. Therefore we decided to translate the questionnaire to native languages in order to get higher response rates. Only the German colleagues reported they don't need this translation because their students' English knowledge is a must.

The final questionnaire was available on the Internet between 1. February - 31. March, 2014. (in English) at:

https://www.webropolsurveys.com/Answer/SurveyParticipation.aspx?SDID=Fin743104&SID=26e8b7e8-073e-4dbc-b2cd-afcb66d0f789&dy=291500461

1.2 Sample description

We had altogether the answers of 448 students from Webropol database, but after data cleaning and checking process, 418 usable questionnaires have remained for the analysis.

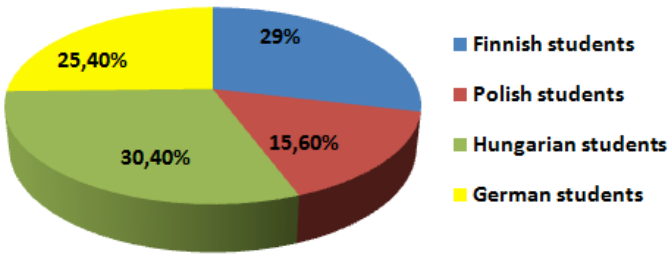

Figure 1
Distribution of the total sample by nationalities (total sample n=418)

As it can be seen, the Polish sample is the smallest one with 65 elements, and we've got the highest number of usable questionnaires form Hungary. As both BSc and MSc students were asked to fill in the questionnaires, the mean of age in the total sample is 24,01 years with 4,27 years standard deviation. The difference among the average age is statistically significant ($F=5,807$, $df=3$, $p<0,01$), so Polish students were the youngest and Hungarians are the oldest respondents.

Gender distibution showed also significant difference in our sample: female students were relatively overrepresented in the German sample and relatively underrepresented in the Hungarian sample (Chi-square: 27,509; $df=3$, contingency coeff.=0,248 $p<0,01$). However this fact is directly connected to the faculty distribution: majority of Hungarian students were (electric or mechanic) engineers, while great majority of the German sample were students at faculty of business administration and management or information technology.

Nationalities	Age (year)		Gender (%)		Faculty (%)		
	Mean	St.D.	Male	Female	Engi-neer	Business and man./ IT	Textile / other
Finnish students	23,47	3,69	59,20	40,80	86,70	2,50	10,80
Hungarian students	25,26	5,08	74,00	26,00	77,20	15,70	7,10
Polish students	22,98	1,51	52,30	47,70	58,50	21,50	20,00
German students	23,75	3,52	40,60	59,40	1,90	91,50	6,60
TOTAL SAMPLE	24,01	4,27	57,90	42,10	57,90	32,10	10,10

Table 1
Sample description – by age, gender and faculty (total sample n=418)

2 Students' attitude toward McDonald's

We have chosen McDonald's as a company to test the attitude of students toward ethics, environment and profitability in connection with a real company - based on many reasons: (1) it has fast food restaurants in all the countries involved in this study, (2) it is well-known among the young generation and students probably have visited it at least once in their lives, (3) McDonald's employs students as part-time workers, so students or their friends can gain experience as employees at this firm easily, and finally, (4) McDonald's has got lot of media attention in the last decade – based on heavy criticisms on its unethical behaviour and environmentally harmful activity.

McDonald's is the leading global foodservice retailer with more than 35,000 local restaurants serving nearly 70 million people in more than 100 countries each day[2]. They have altogether 1.8 million employees around the world and 80% of their stores are franchised – which gives the chance for entrepreneurs to join a successful firm – minimizing the risk of the new partner and sharing knowledge through the system.

[2] http://www.aboutmcdonalds.com/mcd/our_company.html (download 04.28 2014.)

According to their homepage, their mission and values are the following[3]:

- We place the customer experience at the core of all we do.
- We are committed to our people.
- We believe in the McDonald's System.
- We operate our business ethically.
- We give back to our communities.
- We grow our business profitably.
- We strive continually to improve.

As you can see, the three areas of the topic of the IP (ethics, environment and profitability) are obviously mentioned as a part of McDonald's values. Moreover, McDonald's has been publishing its 'Sustainability and CSR report' for many years which gives the chance for the public to know more about company's efforts.

2.1 Attitude toward McDonald's - from environmental point of view

From the 80's McDonald's has been facing up with heavy criticism on its environmental effects. For example in the late 80's McDonald's was facing environmental protests in the form of demonstrations, letters, and customers mailing their polystyrene clamshells back to the company. Realizing that young people, traditionally loyal McDonald's customers, were demanding "greener" practices, McDonald's stepped up its recycling efforts.[4]

In the 90's their environmental policy had four elements: 1. source reduction 2. reuse 3. recycle and 4. composting.[5] Nowadays McDonald's has a detailed, comprehensive environmental policy, which focuses on three dimensions [6]

"1.Sustainable Packaging and Waste Management – Continue exploring ways to reduce the environmental impacts of our consumer packaging and waste in our restaurant operations

2.Energy Conservation – Find further ways to increase energy efficiency in our restaurants in order to save money and reduce our environmental impacts

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3 http://www.aboutmcdonalds.com/mcd/our_company/mission_and_values.html (download: 04.28. 2014.)

4 Susan Svoboda: McDonald's Environmental Strategy – case study, National Pollution Prevention Center for Higher Education, University of Michigan, March, 1995 http://www.umich.edu/~nppcpub/resources/compendia/CORPpdfs/CORPcaseA.pdf

5 Svoboda: McDonald's Environmental Strategy

6 http://www.aboutmcdonalds.com/mcd/sustainability/our_focus_areas/environmental_responsibility.html

3.Green Restaurant Design – Enhance our strict building standards to incorporate further opportunities for environmental efficiencies and innovation in the design and construction of our restaurants"

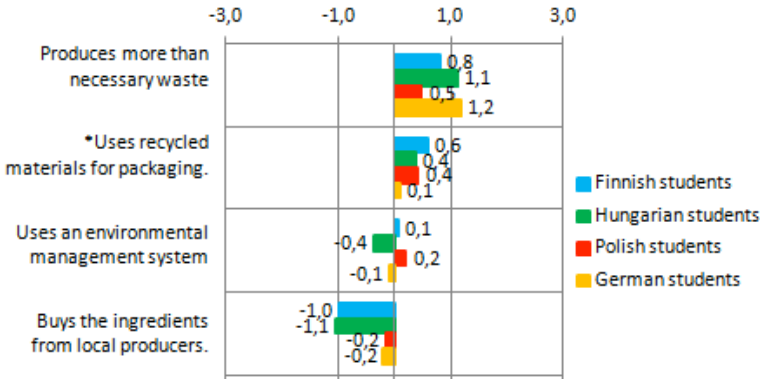

Figure 2

Perceived environmental image of McDonald's - means of agreement with the statements on a 7 point Likert scale (* no significant difference)[7]

However here the question is: how visible this effort is for a regular customer of McDonald's – that is what we tried to understand from the answers of students in this study.

The amount of packaging and waste perceived more than necessary for each group of students; however, Polish students have significantly lower level of agreement with this negatively formulated statement. On the other hand, German students showed higher dissatisfaction with the waste-policy of McDonald's and they were also not convinced that the company uses broad range of recycled packaging. Perhaps here we can experience the effect of the different histories of waste-handling in general. Germans have a very efficient recycling system and people get used to it in the past decades, so it is a part of their everyday life and younger generations has been socialized on that way. In Hungary the situation is different: centrally organized selective waste collection directly at households has been introduced in the past few years and we are in the learning phase: households have to be educated on the method of selection.

From an environmental point of view, preference of local producers is better for the environment, because ingredients don't have to be transported on a long way, therefore environmental pollution can decrease. On the other hand, suppliers don't have to use chemicals or other, more expensive packaging or storage-methods to keep their products artificially fresh, what is also an advantage. Prioritizing local

7 Sample size: Finnish students n=120, Hungarian students n=127, Polish students n=65, German students n=106 (self reported data) (* no significant difference)

producers has ethical aspects as well – in this way we can create market - and as a consequence: workplaces – for national farmers and workers. Finnish and Hungarian students were less convinced on this policy, although e.g. on the Hungarian homepage of McDonald's a conscious consumer can find some pieces of information on it: between 1996-2012 the rate of ingredients bought from Hungary and from abroad is 97/82 billion HUF in value and 230/205 in thousand tonnes, respectively. Local producers supply e.g. chicken meat, cucumber, onion, honey, tomato, cheese, yoghurt, mineral water and also packaging.[8] However, we have to agree that most relevant, flagship products - such as the burger-meat or the potato - were not on the list.

Means of groups were close to zero in connection with the knowledge on the environmental system used by McDonald's – it highlights the need for more intensive communication of the commitment toward environment.

2.2 Attitude toward McDonald's - from ethical point of view

At the beginning of this part we have already shown the values explicitly important for McDonald's, and as a part of this list we could recognize that the company tries to be ethical to its consumers, to its community and to its employees.

According to their homepage: „We hold ourselves and conduct our business to high standards of fairness, honesty, and integrity. We are individually accountable and collectively responsible (….) We take seriously the responsibilities that come with being a leader. We help our customers build better communities, support Ronald McDonald House Charities, and leverage our size, scope and resources to help make the world a better place (...) We provide opportunity, nurture talent, develop leaders and reward achievement. We believe that a team of well-trained individuals with diverse backgrounds and experiences, working together in an environment that fosters respect and drives high levels of engagement, is essential to our continued success.[9]

From the point of view of the students, McDonald's as an employer is also relevant: e.g. in Hungary in 2013 McDonald's had approximately 4400 workers and 41% of them were students.[10]

8 http://www.mcdonalds.hu/frontend/static/SocialResponsibilityEconomy (download: 04. 29. 2014.)

9 http://www.aboutmcdonalds.com/mcd/our_company/mission_and_values.html (download 28.04.2014.)

10 http://www.mcdonalds.hu/tarsadalmi-felelossegvallalas/munkaado 13.04.2014.

In our questionnaire we tried to include each aspect of ethical behaviour: the core business (healthy and delicious food), treatment of workers, supporting and initiating social programs and treatment of business partners (fair trade).

Figure 3
Perceived ethical image of McDonald's - means of agreement with the statements on a 7 point Likert-scale (* no significant difference)

In connection to the core business we could detect somewhat surprising results: it seems food and drinks available at McDonald's are not really delicious – although the sales numbers and frequency of buying at this franchise chain would not support these low numbers. We suppose that it should not be separated to the question of healthiness, as probably the latter has negative effect on perceived deliciousness of its products. We also have to point out that McDonald's offer other advantages: warm, very quickly served food at relatively low price at standard quality and at lots of places in towns so it is easy to access. Therefore deliciousness is not the only factor taken into consideration when consumers decide on visiting McDonald's over other possibilities.

It is quite obvious, that the heavy criticism in the media on the nutrition facts of their products has influenced the perceived image of McDonald's. Each student group shows definitely negative opinion on the healthiness of the products available in their stores. However, we don't have any data from the previous years from these students, so it is not clear how the perceived healthy image of their food has changed in the past few years.

But taking into consideration the fact, that McDonald's has reacted to the criticisms by increasing the variety of products (with salads, mineral water, 100% orange juice) and changing the ingredients of Happy Meal menu (adding bio

apple, bio milk, garden salad and carrot chips to it), we have to admit the efforts of the company to adapt the expectations of consumers.

McDonald's has to face up with criticisms on its wage-policy almost continuously. Recently the Forbes published an article on how higher minimum wage would affect prices at McDonald's'[11]. The potentially earned income at McDonald's has definite effect on the image of the company.

Treatment of workers has been judged worst by Hungarian students. We suppose that it is based on the different level of wages and on the fact that McDonald's products are relatively expensive in Hungary - compared it with the other 3 countries involved in this study. It also can be the consequence of their personal experiences as workers there.

According to our results, students know almost nothing about the origin of the coffee McDonald's sell in its stores – independently of the country. Although buying certified coffee is one part of their sustainability action-plan, it is not widely known among consumers. **"**Globally in 2012, about 25% of our total coffee bean purchases were from Rainforest Alliance Certified™, Fair Trade USA or UTZ Certified farms.(...) McDonald's markets in Europe source 100% of their coffee - with the exception of decaf - from farms that are Rainforest Alliance Certified, UTZ Certified, or Fair Trade International." [12] McDonald's should put more emphasis on that in advertising, because it may improve the trustworthiness of the company as it shows real commitment and existence of an integrated policy of social responsibility.

3 Students' environmentally friendly behaviour

Taking into consideration that not only companies are responsible for environmental problems but consumers, too - their buying habits, consumption patterns and not appropriate waste disposal can also influence the state of the environment -, it is also important to analyze at least shortly the behaviour of students.

In the green marketing literature we still don't have a widely shared and accepted definition of environmentally friendly behaviour. Complex and one-dimension definitions exist side by side. The most complex description of environmentally friendly behaviour originated from Stern. Stern (2000) differentiates four different types of environmentally significant behaviour: (a) environmental activism, (b)

[11] http://www.forbes.com/sites/laurashin/2013/07/18/will-the-mcdonalds-employee-budget-help-get-the-minimum-wage-raised/

[12] http://www.aboutmcdonalds.com/mcd/sustainability/signature_programs/coffee_story.html 13.04.2014.

non-activist behaviour in the public sphere, (c) private-sphere environmentalism, and (d) other environmentally significant behaviours such as decisions as an employee at workplace which can also influence the state of the environment. Environmental activism means membership and active involvement in green organizations e.g. in Greenpeace or in local ones like Levegő Munkacsoport (Air Working Group). Non-activist behaviour refers to petitioning on environmental issues and support of public policies (environmental acts or higher taxes). Private sphere behaviour consists of buying behaviour, lifestyle, waste disposal, maintenance of household equipment and so on. [1]

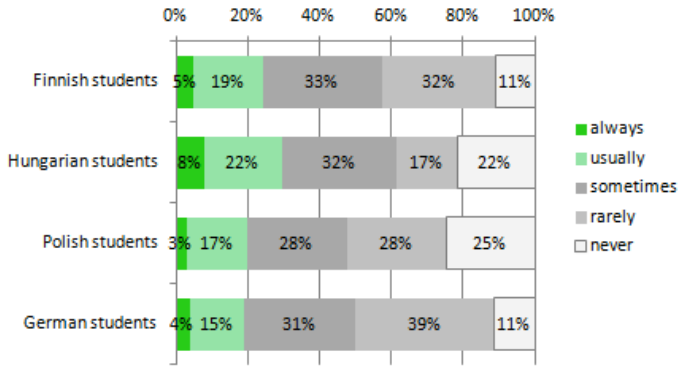

Figure 4
Frequency distribution of buying bio-fruits of bio-vegetables of students (self-reported data) [13]

As it can be seen, our questionnaire measured some elements of the private sphere behaviour: buying behaviour, selective waste collection, transportation, consumption habits, and some forms of the non-activist behaviour (doing voluntary work and donating civil organizations).

Health in general is a very strong value in the European culture. Moreover, healthy lifestyle is in fashion, which is favourable for those green products which serve directly the health of the consumer. Therefore demand for bio-fruits and bio-vegetables has been increasing. Among students, the proportion of those who buy bio products regularly is only approximately 20-25%. The slightly higher proportion of the Hungarian students should be handled by scepticism. Farmer's markets are more and more frequent in big towns so perhaps people think what they buy here is really bio - but it doesn't mean that by all means. There are also regular and controlled Öko-markets in bigger cities in Hungary which have real, certified bio-suppliers. In Hungary the bio-origin of the agricultural product has to

[13] Sample size: Finnish students n=120, Hungarian students n=127, Polish students n=65, German students n=106 (self reported data)

be certified by Biokontroll Hungária Nonprofit Kft. or by international organizations.

Collecting waste selectively is almost the first activity comes into people's minds when they are asked to mention environmentally friendly activities in their private sphere. Two-third of the students in the sample separating waste (proportion of doing that usually or always are G: 69,2 %, H: 62,7%, P: 73,9%, F: 43,2%), however the Finnish students show significantly lower proportion.

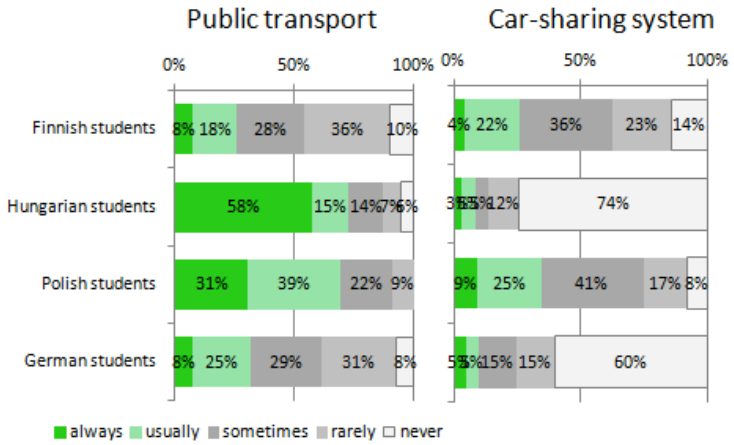

Figure 5
Frequency distribution of using public transport and car-sharing by students (self-reported data) [14]

Another aspect of environmentally friendly behaviour is the type of transportation used by the consumer. Different transportation methods have very different ecological impacts – walking is of course the most environmental friendly way, biking is also good because it causes no direct air pollution, local public transport is efficient in time and in air pollution /person, but using car is relatively less environmental friendly (even if it is an electric car we should focus on the whole product lifecycle)[15].

The significant difference among students from different countries of the frequency of using public transport is highly depends on where the university situated and – of course – on the penetration of car owners in this young group in general. For Hungarian students using public transport is very cheap and as the university buildings are situated in the city centre, traffic jams and parking difficulties make it really rational to use public transport to get to the university.

[14] Sample size: Finnish students n=120, Hungarian students n=127, Polish students n=65, German students n=106 (self reported data)

[15] Transportation methods for long-distance trips, like train, ship and airplanes are not included in this study.

Frequency of taking part in car-sharing system is more popular among Finnish and Polish students, and least frequent among Hungarians.

Behaviour	Pearson Chi-square	df	Asymp. sign. (2 sided)	Contin-gency Coeff.
Buying bio-fruits or bio-vegetables	23,729	12	0,022	0,232
Collecting waste selectively	38,111	12	0,000	0,291
Bringing a bag with you for purchase[16]	70,421	12	0,000	0,382
Eating meat[17]	90,781	12	0,000	0,424
Borrowing things (e.g. books, ski, machines)	87,947	12	0,000	0,418
Using running water for tooth brushing	82,817	12	0,000	0,408
Using public transport	135,228	12	0,000	0,495
Giving money for green civil organizations/ foundations[18]	26,428	12	0,009	0,245
Doing voluntary work[19]	12,715	12	0,390	0,172
Using car-sharing solution	148,38	12	0,000	0,515

Table 2
Relationship between environmentally friendly behaviours and students groups – test of significance [20]

Bringing bag with themselves for purchasing assumes the conscious behaviour of consumers, because they have to think about it before buying anything. Decision-makers have realised that the amount of plastic bags offered by super- and hypermarkets have a significant environmental impact. Therefore new legislations have been announced in lot of countries – also in Hungary – to minimize this effect by paying extra tax for non-biodegradable bags. Asking extra fee for bags from the customer instead of giving them it for free also motivate customers to use their own bags. We have experienced significant difference in the frequency of

16 Chi square statistic cannot be used: 2 cells have expected count less than 5
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19 Chi square statistic cannot be used: 4 cells have expected count less than 5
20 Sample size: Finnish students n=120, Hungarian students n=127, Polish students n=65, German students n=106 (self reported data)

this behaviour: the proportions of students bringing bag with themselves usually or always are the following: G: 66,9%, F: 43,7%, H: 81,3% , P: 63,1%.

Theoretically, eating meat is not environmentally friendly because for satisfying the need of consumers the economy has to use a lot of resources to produce one kg meat – animals have to be fed by fodder, water consumption also has to be added to it and meat itself needs further processing to become a product available on the shelves. However, eating meat in Europe is a part of our everyday life - determined also on a cultural basis - e.g. traditional meals in Hungary and in Germany also contain different meat-types, therefore great majority of students in the sample eat meat usually or always (percentages are: G: 72,6%, P: 84,4% , H: 91,1% , F: 85,8%).

According to the responses, doing voluntary work is not typical at all. 10% of the Finnish respondents do it usually or always, the same proportion for Hungarians is 11,9%; 12,4% for the Polish students, and 11,5% for the Germans, respectively. However, the nature of voluntary work itself is mostly not regular and perhaps students have time for this kind of work during summer holiday which can partly explain these numbers. Another possibility is that students try to focus primarily on earning money to pay the tuition fee and earn a living, so they prefer paid job over voluntary work.

4 Attitude towards ethics, environment and profitability

The questionnaire also included some attitude statements to highlight potential differences in opinion of student groups. Widely shared view among the respondents, that collecting waste selectively has a positive effect on the environment. As we experienced in the previous part, majority of students take care of the environment on this way – although motivation can be financial as well – removal of sorted waste is free of charge or less expensive. Moreover, e.g. for bringing back the empty pet-bottles we can get some money at special shops. The relatively high means in connection with this statement shows that students think it is a useful activity to take care of our surrounding.

The prejudice/preconception of the higher price of environmentally friendly products exists among students as well – although it is not always the case: e.g. products made of recycled paper, products made by energy efficient technologies can be even cheaper than traditional products.

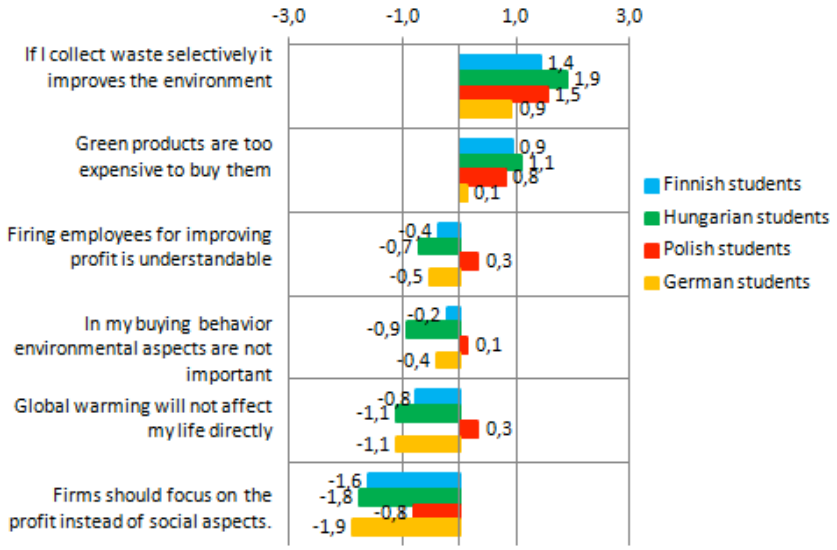

Figure 6
Means of agreement with attitude statements toward environment, ethics and profitability measured on a 7 point Likert-scale[21]

The other two statements related to the environment are connected to buying behaviour and global warming. Marketing managers have been asking potential customers since the early 80's, how important for them the green product attribute in their buying decisions. But in these cases social desirability bias may mislead the researcher. Majority of our respondents disagreed with the negatively formulated statement, so they pay some - but not too much – attention to this product attribute.

In connection with the potential effect of global warming on the respondents' lives, we can say that most of the students know the consequences of global warming. However, the Polish sample showed the different attitudes (not only for this aspect but for almost all of these attitude statements). Unfortunately, to some extent these results are questioning the reliability of these data – e.g. global warming and their consequences on our everyday life has got so intensive media attention in the last decade that it is hard to imagine that university students don't believe it will affect their lives.

The other two statements on the list focused on ethical issues at companies: whether profit may overcome social aspects or not. Till students at this stage of

21 Sample size: Finnish students n=120, Hungarian students n=127, Polish students n=65, German students n=106 (self reported data)

their lives view this question from the employee side – (they are not managers or owners of a company), they strongly share the view that companies' social responsibility should restrict the possible trade-offs between profit goals and ethical aspects.

Conclusions

The "Combining Ethics, Environment and Profitability in Business" intensive Erasmus program has set the target to form the attitude of students from different faculties (electrical and mechanical engineering, business and management, textile) and from different countries toward corporate social responsibility.

The results of this international study show that students' minds are open to the ethical and social aspects of business. The information shared in mass media on environmental and ethical topics and the subjects students learn at the university give good input for them to realize the complexity of the business world. We found no extraordinary differences in the attitudes of Polish, Finnish, German and Hungarian students – however slight differences do exist and there is still scope for improving their knowledge on CSR and changing their approach.

However, we should take into consideration the tendency that self-reported data in connection with ethical questions and environmentally friendly behaviour is probably misled by social desirability bias. It is always a challenge for market researchers to avoid the overestimation of changes in attitude and real openness of respondents toward ethical and green aspects of their everyday lives. Therefore we should use these results only as indicators for further investigation.

References

[1] Stern, P. C. (2000): Toward a coherent theory of environmentally significant behaviour - Journal of Social Issues, 56. pp. 407-424.

[2] Susan Svoboda: McDonald's Environmental Strategy – case study, National Pollution Prevention Centre for Higher Education, University of Michigan, March, 1995 . http://www.umich.edu/~nppcpub/resources/compendia/CORPpdfs/CORPcaseA.pdf

[3] http://www.aboutmcdonalds.com/mcd/sustainability (last download: 28. 04.2014)

[4] http://www.mcdonalds.hu/tarsadalmi-felelossegvallalas/munkaado (last download: 28.04.2014.)