Changing attitudes of Hungarian business students towards Corporate Social Responsibility

László Berényi, Nikolett Deutsch

Abstract—There is a growing attention to corporate social responsibility (CSR) over the past decades. The level of corporate responsibility, from the economic interest to the philanthropy has an impact on solving the global environmental and social problems. From a business aspect, social responsibility became a strategic issue. Due to this fact, higher education shall intensify the education of the field. The authors did run a survey in 2014 and in 2016 about business students' perceptions and attitudes to sustainable development and CSR. There is an experience that the order of the most important global problems marked by the respondents changed remarkably, social issues are appreciated. The paper investigates whether the changes of attitudes towards CSR show a similar pattern. The statistical analysis uses ANOVA; the sample consists business students in Hungarian Higher education (various universities, n=100 from each year, random sampling). The results show that there are significant differences between the years by gender and the level of CSR knowledge, but the pattern is scattered, the confidence in CSR did not increase clearly. Fewer respondents believe that CSR can help to solve the global problems; however, the ratio is reduced who think that CSR implementation is expensive or it can only be successful in the case of large companies. It must be noted that the attitudes by gender have moved closer and respondents with superficial CSR knowledge show the highest change. We found that the began changes open new opportunities for CSR. The appreciation of social issues may broaden both the target audience and the development of CSR tools. Popularity can boost up the number and level of applications; in the meanwhile, it is a warning sign if the increasing awareness is temporary or fragile.

Keywords—Corporate social responsibility, CSR, sustainability, environmental attitudes, perception of global problems, business students, ANOVA.

I. INTRODUCTION

THERE is an enhancing interest in solving the global environmental and social problems over the past several decades. International forums made many efforts to explore the most important ecological and societal issues in order to assign the adequate goals and action plans including the

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required resources. However, the break-through fails due to the conflict among the various interests, primarily economic ones (see e.g. Laudal, 2011). Sustainable development (WCED, 1987) offered a comprehensive framework, but the coequal relevance between ecological, social and economic components may lead to excusing from responsible interventions (Ekins, 1993). In our approach sustainable development designates the goals to be achieved, but it is insufficient to settle and coordinate the proper actions. We believe that corporate social responsibility (CSR) could be the answer on a corporate level since it incorporates stakeholder values and interests in business (Braun, 2013). Behringer and Szegedi (2016) highlight that the focus of the responsibility in achieving sustainable development was shifted from states' responsibility toward multi-players' responsibility.

In the relevant literature, there is a conceptual diversity about defining CSR (Carroll, 1999) but a common core is to discover:

- Bowen (1953) stated that CSR "refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society".
- Friedman's approach to responsibility, from profit-maximization to following the wishes of stakeholders (see Carson, 1993) determine the thinking about the topic even nowadays.
- European Commission defines CSR as "a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment" (EC, 2001, p.4.).
- The definition of 'social responsibility' in the ISO 26000 standard embraces the essentials: "responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behavior…" (ISO 26000, p.3.). The definition includes a contribution to sustainable development, health and the welfare of society, stakeholder-oriented thinking and compliance with law and other norms. The scope of application covers both internal and external relations.

Carroll's (1979) model of corporate social responsibility (CSR) shows the feasible levels beyond economic interest. A

review of the model (Carroll, 2016) confirms that ethics permeates these levels. Economical and legal levels are marked 'required by the society'. Ethical responsibilities are marked as expected and philanthropic level as desired. The conceptual diversity also appears in the tools of meeting the requirements and expectations.

The practical and scientific interest led to various conceptual possibilities and industrial differences. Beyond critical industries (e.g. chemical or automotive industry) the banking sector must be highlighted (see e.g. Pérez & del Bosque, 2015, Lentner et al., 2015; Pintér & Deutsch, 2016; Polychronidoua et al., 2014; Mocan et. al, 2015) because it has a mediated effect on CSR activities by influencing the investments of other industries. Obviously, large and critical corporations' performance can have a great impact, but solving the global problems requires a wider range of adopters.

Tóth (2007) pointed out that changes and a new approach in business strategy is necessary, or CSR is only a spectacular mask for influencing the consumer behavior. Beyond the direct corporate responsibility, there is an increased pressure on education because its output determines the opinions and attitudes of the future decision makers. Education challenge covers both giving a methodological training and showing the possibilities of implementing truly responsible actions. Wang and Juslin (2012) explored the poor knowledge of CSR in China and urge targeted CSR education programs that meet the expectations of students. We also feel certain that CSR must be a core element of business higher education. In order to achieve it in an appropriate way, the characteristics of the target audience must be investigated thoroughly.

Recent researches on CSR attitudes explored differences by gender. Females are usually sensitive to environmental and social problems. Schmidt and Cracau (2015) found that economic side of sustainability is less important for females. Lämsä et al. (2008) highlights that females place more emphasis on corporate ethical, environmental, and societal responsibilities.

Kaya et al (2014) did not find significant differences in attitudes by the level of CSR studies in Turkey, but Zsóka et al. (2013) found that education has impact on environmental behavior in Hungary.

Studies in this field, especially those that working with international comparison (e.g. Bageac et al., 2011; Schmidt and Cracau, 2015) denote significant differences by nationalities that confirms the need for development with regard to the local characteristics.

Jablonkai (2016) shows a detailed analysis of national and institutional background affecting the educational context of CSR in Hungary. According to her findings, despite of the fact that there has been a slow but steady increase in the number of companies active in CSR, and several awards have been established, the general public in Hungary is not well-informed about CSR and citizens' perceptions of companies' social responsibility can be characterized by higher skepticism than in the EU in general.

This paper was initiated by the experience that there is a visibly change in business students' attitudes to the order of the most important global problems. Investigating the reasons behind this process is currently out of the scope of our research activity, we handle the change as a fact. We examined the attitudes to the content of CSR among business students in Hungarian higher education in 2014 and 2016. The research goal is to explore whether the attitudes to CSR changed significantly.

The paper presents the comparative data on the issues above. Grouping factors are gender and level of CSR knowledge. The analysis includes the significance test of the results.

II. PROBLEM FORMULATION

A. *Perception of the most important global problems*

CSR can be presented as the answer to the global problems. Considering the possible changes in the perception of the global problems, the continuous refinement of CSR is necessary. The recent survey of the authors points out that the judgement of business students on the most important global problems changed greatly between 2014 and 2016. The survey includes a list about some environmental and global problems and asks the respondents to mark a maximum three of them as the most important ones. Figure 1 summarizes the ratio of markings. Climate change retains its leading position. Otherwise, social issues seem to overtake environmental problems. Particularly starvation and crime is appreciated while worrying about emissions, water or air pollution fell back.
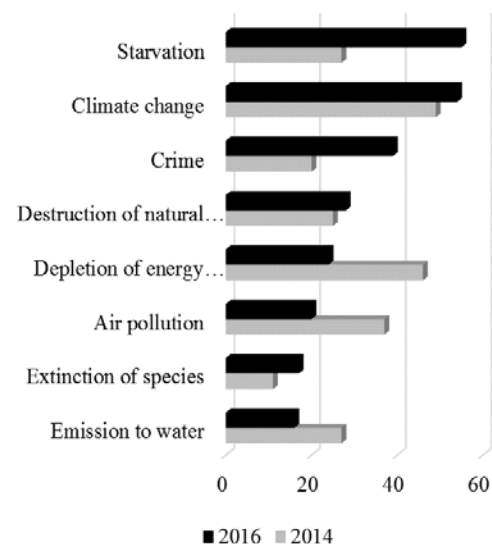

Fig. 1: The most important global problems (marked by % of the sample)

The recent political changes, including e.g. Brexit, US presidential election, growing terrorism probably have an impact on students' thinking, the available data-sources of the authors and the short time elapsed do not allow the analysis of

these effects and their significance in details.

Regarding to this research the fact of the change is highlighted. Giving quick responses to problems of the present interest may pursuit the corporate initiatives and improve the acceptance of the CSR tools. The main educational challenge is to respond quickly to the relevant elements in order to strengthen the students' confidence in the usefulness of CSR.

Perception of the global problems among Hungarian business students changed between 2014 and 2016, social issues come up. The purpose of this paper is to reveal whether the attitudes to the content of CSR were also to change. Assuming that business students will become corporate decision makers, it is important to monitor their opinion in order to develop the management toolset and education focus in a targeted way.

Former results (e.g. Schmidt & Cracau, 2015; Lämsä et al., 2008; Begeac et al., 2011) highlight that females are more sensitive to CSR issues and have a higher confidence in CSR usefulness. The sample is ready to investigate the state and changes of this assumption among Hungarian business students. Furthermore, the grouping factors allow to observe the results by the knowledge level about CSR.

There are the following hypotheses formulated considering to the scope and limitations of the research:
- H1a: Attitudes to CSR changed between 2014 and 2016.
- H1b: Attitudes to CSR changed in a favorable direction.
- H2a: Females have a higher confidence in the usefulness of CSR than males.
- H2b: Females have a more strengthening confidence in the usefulness of CSR than males.

B. Research sample and limitations

The research sample is based on a survey involving Hungarian higher education institutions. The data collection period is 2014 (n=713) and 2016 (n=1322). Business students are filtered for the research. The representativeness of the institutions or the faculties is not available. The sample of the analysis consists 100-100 responses, randomly selected from both years. General characteristics of the sample are summarized in Table 1.

Year:	2014	2016
Gender:		
Male	37	22
Female	63	78
CSR knowledge:		
Did not learn about CSR	54	59
Superficial CSR knowledge	30	33
Detailed CSR knowledge	16	8

Table 1: Sample characteristics (n)

C. Research methods

The survey includes statements about CSR and asks the respondents to mark the level of agreement on a Likert-scale:
- CSR can help to achieve the goals of sustainable development (Helps achieving sustainability)
- Another tool for companies to generate profit (Increases profit)
- These actions represent only greenwashing and main problems are hidden (Tool of greenwashing)
- Excellent marketing communication tool (Marketing communication tool)
- CSR can help companies to coordinate and bring together various initiations (Coordination tool)
- CSR can only be successful in the case of large companies (Only for large companies)
- CSR implementation is expensive (Expensive implementation)

It is important to note that there are some differences in data collection method but comparison is feasible:
- The 2014 survey did allow to skip some answers so the number of cases for the analysis in this sample is lower than 100 (n>30 in all cases).
- The 2014 survey used a 6-point Likert-scale, and the 2016 survey a 5-point Liker-scale in turn. Before data processing, the individual answers were transformed to a 0-100 scale to allow the comparison.

The research uses the year of data collection, the gender of respondents and the level of CSR knowledge (did not learn, superficial knowledge, detailed knowledge) as grouping factors.

We conducted ANOVA tests by using SPSS 22.0 for checking the changes and their significance including the Levene-test of homogeneity of variances (Field, 2013). The objects of the analysis were the sub-samples by grouping factors and by year. If the test of homogeneity of variances failed, Welch-test was applied.

III. PROBLEM SOLUTION

A. Perception of the most important global problems

Since the ratios by gender visibly differs from each other in the 2014 and 2016 samples, it is important to examine whether the change in the perception of the most important global problems is caused by the sample characteristic. Table 2 shows that the changes have similar trends in all sub-samples.

The comparison between female and male respondents is summarized in Figures 2 and 3. The results show that in 2014 the responses are more balanced between genders except the issues of climate change and energy resources (male keep those more important). The 2016 sample shows a different picture. Female judgement on the importance of climate change as a global problem has visibly increased and in case of energy sources the order has turned. The importance of crime is increased in the female's opinion.

	2014		2016	
	Female	**Male**	**Female**	**Male**
Starvation	27.0	27.0	55.1	54.5
Climate change	44.4	56.8	52.6	59.1
Crime	20.6	18.9	43.6	22.7
Destruction of	25.4	24.3	30.8	18.2

natural values				
Depletion of energy resources	41.3	54.1	24.4	22.7
Air pollution	38.1	35.1	16.7	31.8
Extinction of species	12.7	8.1	16.7	18.2
Emission to water	27.0	27.0	16.7	13.6

Table 2: The most important global problems by year and gender (marked by % of the sample)
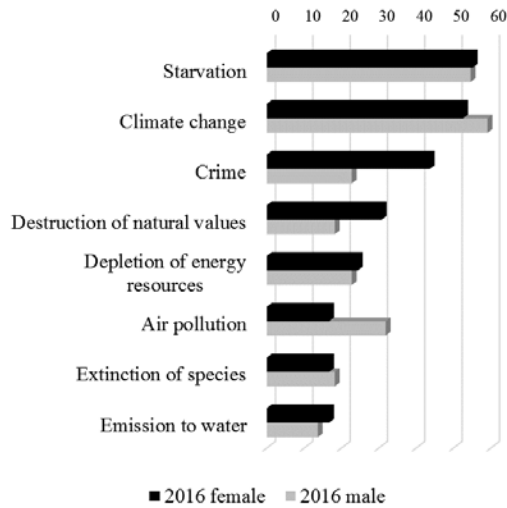

Fig. 2: The most important global problems in 2016 by gender (marked by % of the sample)
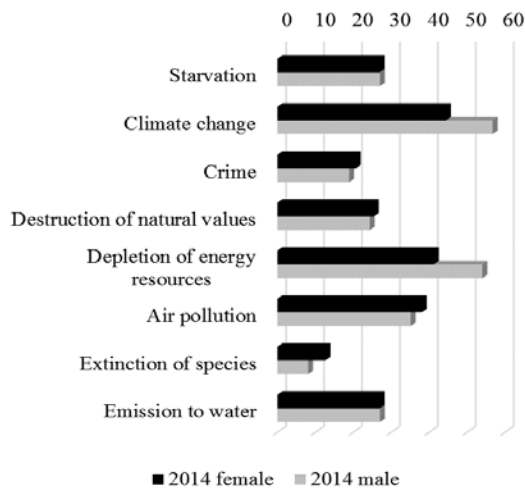

Fig. 3: The most important global problems in 2014 by gender (marked by % of the sample)

Table 3 summarizes the result of respondents without or superficial CSR knowledge.

Figure 4 shows the changes between 2014 and 2016 in percentage points. Positive values mean that the importance of the global problem is judged more important in 2016 than in 2014.

Among respondents with superficial CSR knowledge the restructuration is more conspicuous both in positive and negative changes.

However, the sub-sample of respondents with detailed CSR knowledge is far less than the others, it is worth to compare the results because their judgement represents the middle way. Respondents with a superficial CSR knowledge show the most extreme changes in attitudes.

	Did not learn		Superficial knowledge	
	2014	**2016**	**2014**	**2016**
Starvation	31.5	50.8	23.3	63.6
Climate change	51.9	49.2	36.7	57.6
Crime	25.9	44.1	10.0	33.3
Destruction of natural values	20.4	30.5	33.3	27.3
Depletion of energy resources	40.7	23.7	66.7	27.3
Air pollution	33.3	23.7	43.3	12.1
Extinction of species	13.0	18.6	6.7	15.2
Emission to water	25.9	10.2	26.7	24.2

Table 3: The most important global problems by CSR knowledge level and year (marked by % of the sample)
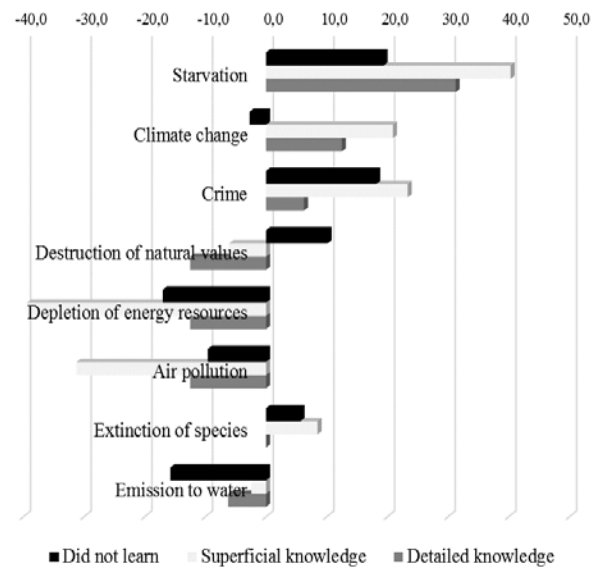

Fig. 4: Changes in perception of global problems between 2014 and 2016 (%point)

B. Judgement on CSR

Our hypothesis (H1a, H1b) states that the judgment on the content and acceptance of CSR is changed (in a favorable direction) between 2014 and 2016.

The changes are presented in Figure 5, based on the total sample mean values; the values are lower in 2016 than in 2014 in case of any questions. The interpretation of these results indicates that the growing confidence in CSR cannot be observed:

• however, the respondents think less that CSR is only a tool for increasing corporate profit, the confidence in the contribution to achieve the sustainability goals is also decreased,

- the respondents think less in 2016 that CSR is an excellent marketing communication tool as well as it helps to coordinate activities,
- it is encouraging that in 2016 the respondents keep the CSR less expensive and the number of disagreeing respondents is increased related to the statement that CSR can only be successful for large companies

Fig. 5: Judgement on the content of CSR (total sample, 0-100 scale)

The changes of attitudes by gender and by CSR related knowledge show a scattered picture. Next chapters focus on the changes in attitudes by these grouping variables.

C. Changing attitudes by gender

The mean values of male responses are usually lower in 2016 than in 2014 and the judgement by gender seems to converge in time. Appendix 1 contains the detailed results with sub-sample size, mean and standard deviation.

Beside the mean values it is interesting to examine the distribution of the responses. Table 4 highlights the ratio of 'agree' and 'strongly agree' answers.

It is to note that the ratio of disagree and strongly disagree responses (Appendix 3) related to the statement about the corporate size. The ratio moved from 34.5% to 54.5% among males and from 32.1% to 44.9% among females. The judgement on CSR as a greenwashing tool shows similar change among the male respondents (21.9% to 31.8%).

	2014		2016	
	Male	**Female**	**Male**	**Female**
Helps achieving sustainability	41.4	41.7	51.3	50
Increases profit	22.6	36.7	27.3	38.5
Tool of greenwashing	31.3	22	35.9	34
Marketing communication tool	54.8	52.5	63.6	66.7
Coordination tool	37.9	36.2	36.4	47.4
Only for large	27.6	35.9	36.3	21.8

	2014		2016	
companies				
Expensive implementation	37.9	54.9	43.1	49.6

Table 4: Ratio of high agreement answers by gender (%)

D. Changing attitudes by knowledge level

Appendix 2 summarizes the detailed results on sub-sample size, mean and standard deviation by the knowledge level about CSR. Comparing the mean values, it can be stated that the opinions have converged during the analyzed period.

Comparing the data both in time and between the sub-samples, the respondents with detailed knowledge show a pessimistic picture. They believe the least in that CSR can help to achieve the goals of sustainable development or can coordinate related initiations; and keep CSR a greenwashing and profit-boosting tool. However, they think that CSR implementation is not expensive, this attitude is weakened.
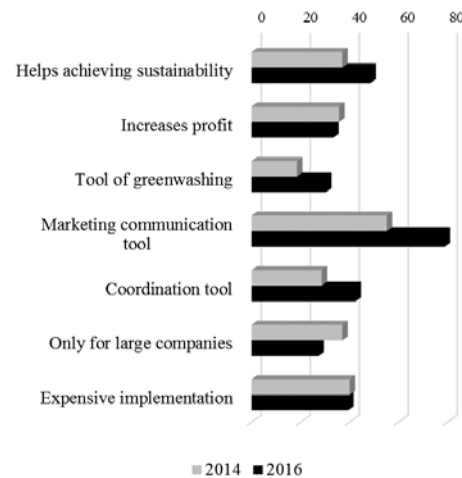

Fig. 6: Ratio of high agreement answers among respondents with superficial CSR knowledge (%)

Highlighting the ratio of 'agree' and 'strongly agree' answers in 2014 and 2016, the respondents with superficial CSR knowledge show the most optimistic changes (Figure 6), excluding the communication role.

Examining the ratio of 'disagree' and 'strongly disagree' responses (Appendix 3), there are more who refuse the statement that CSR is a greenwashing tool or the advantages are only available for companies.

E. Changing attitudes by knowledge level

Based on the test of homogeneity of variances (Levene-test) it can be concluded that the ANOVA test is feasible for analyzing the changes between 2104 and 2016 in most cases because variances do not differ significantly (the exceptions will be highlighted below).

The mean values do not differ significantly in most cases, except the statement 'CSR can help to achieve the goals of sustainable development' ($F=4.186$; sig=.042). For the other statements the changes of attitudes are to conclude.

In the sub-sample of male respondents, the opinions

changed significantly in all cases. However, for 'Another tool for companies to generate profit', the test of homogeneity of variances is failed (sig=.044), the significant difference is confirmed by the Welch-test (t=-0.287; df=50.756; sig=.775).

The sub-sample of female respondents show significant changes between 2014 and 2016 for all statements.

The statistical analysis shows significant changes of attitudes in each sub-sample formed by CSR knowledge level. The Levene-test shows missing homogeneity of variances in the sub-sample of respondents without CSR knowledge about the statement 'Excellent marketing communication tool' (sig=.0,47); the Welch-test (t=.571; df =101.992; sig=.569) shows the change. The statement 'CSR implementation is expensive' also fails the Levene-test (sig=.023); the Welch-test (t=2.377; df =98.869; sig=.019) does not show significant changes in opinions.

According to the H2a and H2b hypotheses we conducted ANOVA analysis in both years separately by gender. The statement 'CSR implementation is expensive' fails the Levene-test (sig=.025) in 2014; the Welch-test confirms the significant differences of the mean values (t=-0.210; df =74.074; sig=.834). In connection with the statement 'Another tool for companies to generate profit' the ANOVA analysis explores equality in means in 2014. Other results show significant differences.

IV. Units

A. Evaluation of the results

However, the opinions about the role and possibilities did change between 2014 and 2016 significantly in most factors involved the investigation, the impacts seem to lag behind the changes of opinions about the most important global problems. The results open up an encouraging vision:

- the overall picture shows a slightly increasing confidence of CSR,
- the attitudes of females and males seem to converge,
- respondent with superficial knowledge about CSR show an increasing confidence in its usefulness.

A general experience is that respondent with detailed knowledge show the greatest changes, the confidence in the usefulness of CSR in their sub-sample decreased the most.

Nevertheless, the analysis shows a scattered picture, therefore an overview per questions is worth.

Lower ratio of the respondents agreed that CSR is the proper tool for achieving sustainability in 2016. Male respondents had a higher confidence in this statement in 2014 and females in 2016, but both sub-sample show a decrease. Based on the ratio of 'agree/strongly agree' and 'disagree/strongly disagree' answers the opinions are more extreme in 2016 than in 2014, both groups show an increase.

There is no essential change in the case of the statement 'Another tools for companies to generate profit' in the total sample and the difference by gender also remains in time. Checking the agreement level, it is to note that male respondents are more willing to agree that CSR is not only a tool for generating profit. Based on the CSR knowledge level, the proportion of both consenting and dissenting opinions increased.

About the greenwashing role of CSR, the mean values do not show a great change of attitudes, but the variance within the groups is remarkable. Female respondents' mean value shows an increase and males' a decrease which is in harmony with the changes of the ratio of consenting and dissenting opinions. The confidence-loss (increasing ratio of agreeing) is the most important among respondents with a superficial CSR knowledge.

CSR is useful if it can coordinate various actions and initiations related to greening or solving social problems. Sadly, respondents less believe in it in 2016 than in 2014, primarily the loss of confidence of female respondents determine the results. According to the CSR knowledge level the tendency is similar among respondent without or superficial knowledge.

It is a common assumption that CSR implementation is expensive and can be a useful tool for large organizations. We consider, that impressive and transparent results require huge investment including financial background, organizational tasks, communication etc. It is encouraging that more respondents see the wider possibilities of applications in 2016 than in 2014.

B. Checking the hypotheses

The H1a and H1b hypotheses have raised that attitudes to CSR changed in a favorable direction. The fact of the change is significantly proved, but the favorable direction is unclear. The results are favorable in case of attitudes about the feasibility of CSR, but the faith in its true efficiency is questionable.

In connection with the hypotheses about females' attitudes it can be concluded that females usually represent higher values. Both H2a and H2b hypotheses must be rejected because the increase of some values related to the survey questions suggests loss of confidence in CSR. However, dynamics of changes is more remarkable among female respondents.

C. Further challenges

In sum, business students' attitudes towards CSR changed between 2014 and 2016 remarkably. The mean values foreshadow the convergence of opinions between the sub-samples, the direction of changes by changes is scattered. There are more extreme judgements that may lead to uncertainty. Feasibility of CSR is evaluated better in 2016 than in 2014; but the confidence in its authenticity did not increase. Therefore, a special attention should be paid to ensuring that people understand the possibilities.

We find that these changes open new opportunities for CSR. The growing importance of social issues may broaden both the target audience and the development of CSR tools. Popularity can boost up the number and level of applications; on the other hand, it is a warning sign if the increasing awareness is temporary or fragile. Continuous monitoring of the changes

can give a satisfactory answer to this challenge.

Among others, based on a Hungarian investigation Jablonkai (2016) finds that CSR education has a positive effect on behavior and attitude towards CSR of students. For teachers, the results of the survey point out that an enhanced attention must be given to the topic including the ability for adapting the changes. Considering that the respondents are business students, a special attention should be paid for building up a stable conceptual framework which allows the adaptation to the either dynamically changing environment.

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APPENDIX

Appendix 1.
Descriptive statistics of sub-samples by gender (mean values on 0-100 scale)

Year	Gender		Helps achieving sustainability	Increases profit	Tool of greenwashing	Marketing communication tool	Coordination tool	Only for large companies	Expensive implementation
2014	Male	Mean	66.9	44.52	51.88	72.9	62.07	45.52	63.45
		N	29	31	32	31	29	29	29
		Std. Deviation	17.135	31.711	29.12	20.362	24.695	31.576	22.084
	Female	Mean	66.33	58	48.81	71.53	62.41	51.7	63.08
		N	60	60	59	59	58	53	52
		Std. Deviation	18.592	25.432	26.851	20.411	22.502	31.485	32.991
	Total	Mean	66.52	53.41	49.89	72	62.3	49.51	63.21
		N	89	91	91	90	87	82	81
		Std. Deviation	18.034	28.293	27.548	20.29	23.113	31.462	29.404
2016	Male	Mean	60.23	46.59	47.73	67.05	54.55	43.18	59.09
		N	22	22	22	22	22	22	22
		Std. Deviation	14.758	20.839	21.697	20.968	21.32	32.898	30.419
	Female	Mean	61.22	54.81	50	71.47	59.29	42.63	56.73
		N	78	78	78	78	78	78	78
		Std. Deviation	20.003	26.438	28.774	25.394	23.184	27.946	26.32
	Total	Mean	61	53	49.5	70.5	58.25	42.75	57.25
		N	100	100	100	100	100	100	100
		Std. Deviation	18.91	25.446	27.289	24.459	22.768	28.932	27.13

Appendix 2.
Descriptive statistics of sub-samples by CSR knowledge level (mean values on 0-100 scale)

Year	CSR studies		Helps achieving sustainability	Increases profit	Tool of greenwashing	Marketing communication tool	Coordination tool	Only for large companies	Expensive implementation
2014	A	Mean	67.39	55.74	55.83	71.56	61.4	52.5	71.9
		N	46	47	48	45	43	40	42
		Std. Deviation	19.937	26.682	26.404	19.301	23.662	30.613	20.271
	B	Mean	65.93	52.14	47.41	73.1	59.29	49.63	60
		N	27	28	27	29	28	27	26
		Std. Deviation	15.507	29.484	22.97	18.728	19.231	34.36	34.409
	C	Mean	65	48.75	36.25	71.25	70	41.33	41.54
		N	16	16	16	16	16	15	13
		Std. Deviation	17.127	31.807	33.64	26.3	27.325	28.752	33.128
	Total	Mean	66.52	53.41	49.89	72	62.3	49.51	63.21
		N	89	91	91	90	87	82	81
		Std. Deviation	18.034	28.293	27.548	20.29	23.113	31.462	29.404
2016	A	Mean	61.86	52.54	47.88	69.07	58.47	44.92	60.59
		N	59	59	59	59	59	59	59
		Std. Deviation	19.89	25.72	29.467	25.146	23.03	28.534	27.544
	B	Mean	60.61	52.27	50	75	57.58	40.15	52.27
		N	33	33	33	33	33	33	33
		Std. Deviation	17.711	26.044	24.206	23.385	22.084	29.934	26.783
	C	Mean	56.25	59.38	59.38	62.5	59.38	37.5	53.13
		N	8	8	8	8	8	8	8
		Std. Deviation	17.678	22.903	22.903	23.146	26.517	29.881	24.776
	Total	Mean	61	53	49.5	70.5	58.25	42.75	57.25
		N	100	100	100	100	100	100	100
		Std. Deviation	18.91	25.446	27.289	24.459	22.768	28.932	27.13

Note:
A: students without CSR knowledge
B: students with superficial CSR knowledge
C: students with detailed CSR knowledge

Appendix 3.
Distribution of responses about the content of CSR (data in percentage of the concerned sub-sample)

Year	Grouping factor	Helps achieving sustainability	Increases profit	Tool of greenwashing	Marketing communication tool	Coordination tool	Only for large companies	Expensive implementation
Ratio of highest marking (agree and strongly agree) by the level of CSR knowledge								
2014	A	43.5	29.8	31.3	51.1	37.2	35.0	59.5
	B	37.0	35.7	18.5	55.2	28.6	37.0	40.0
	C	43.8	31.3	18.8	56.3	50.0	20.0	30.8
2016	A	52.5	37.3	32.2	61.0	45.8	25.4	52.5
	B	48.5	33.3	30.3	78.8	42.4	27.3	39.4
	C	37.5	37.5	62.5	50.0	50.0	12.5	37.5
Ratio of lowest marking (disagree and strongly disagree) by the level of CSR knowledge								
2014	A	4.3	19.1	20.8	4.4	11.6	27.5	4.8
	B	3.7	28.6	25.9	0.0	7.1	33.3	12.0
	C	6.3	37.5	50.0	6.3	12.5	46.7	46.2
2016	A	6.8	32.2	33.9	10.2	18.6	40.7	18.6
	B	9.1	27.3	33.3	6.1	15.2	54.5	27.3
	C	12.5	12.5	25.0	12.5	25.0	62.5	12.5
Ratio of highest marking (agree and strongly agree) by gender								
2014	Male	41.4	22.6	31.3	54.8	37.9	27.6	37.9
	Female	41.7	36.7	22	52.5	36.2	35.9	54.9
2016	Male	51.3	27.3	35.9	63.6	36.4	36.3	43.1
	Female	50	38.5	34	66.7	47.4	21.8	49.6
Ratio of lowest marking (disagree and strongly disagree) by gender								
2014	Male	3.4	38.7	21.9	3.2	13.8	34.5	10.3
	Female	5	18.3	30.5	3.4	8.6	32.1	15.7
2016	Male	4.5	40.9	31.8	9.1	22.7	54.5	22.7
	Female	9	25.6	33.3	9	16.7	44.9	20.5

Note:
A: students without CSR knowledge
B: students with superficial CSR knowledge
C: students with detailed CSR knowledge