
Corporate Social Responsibility in Industry 4.0 – From the Project to the Curricula

Professor, PhD (Ecs) Andrey ZAHARIEV (a.zahariev@uni-svishtov.bg)

D. A. Tsenov Academy of Economics

Head Assist. Professor, PhD (Ecs)

Petko ANGELOV (p.angelov@uni-svishtov.bg)

D. A. Tsenov Academy of Economics

Sen. Lecturer, PhD (Ecs) Margarita Mihaylova (m.mihaylova@uni-svishtov.bg)

D. A. Tsenov Academy of Economics

Project Researcher Slaveyko SLAVKOV (slaveykoslavkov@gmail.com)

National Federation of Employers of Disabled People

Abstract

The project “Adaptation of strategies for corporate social responsibility to address the implications of the Industry 4.0” is currently in the second year of its implementation. It is executed within the ERASMUS + Program, a key activity “Strategic Partnerships in Higher Education” and is coordinated by a team of the “D. A. Tsenov” Academy of Economics (Svishtov) in partnership with the National Federation of Employers of Disabled People (Sofia), the Accreditation Council for Entrepreneurial and Engaged Universities (Münster, Germany), the Catholic University of Murcia (Spain) and the University of Nis (Serbia). The project is focused on current challenges of corporate social responsibility as an expression of the impact of organizational activities on society and the environment. Currently, corporate social responsibility is an extremely important factor influencing the development of companies, the formation of their profits and maintaining the image of product brands. Along with their main activity, socially responsible enterprises also perform activities of social significance, such as offering donations, supporting charitable actions, social events, etc. Such companies also award grants and scholarships, provide support to disaster-affected areas and support other aid causes.

Key words: *CSR, Industry 4.0, Erasmus+, Curricula*

JEL Classification: *M12; Q56; Z13*

Introduction

The new technologies, which are at the heart of the **Fourth Industrial Revolution**, bring unseen challenges to society, business and people’s daily lives. These challenges require different approaches to address them, which have not been known and implemented so far. The viable solutions cannot be

found solely through government mechanisms for managing, stimulating and developing the economy: business must also be actively involved in change management. The new realities of the Fourth Industrial Revolution have been unfolding much more rapidly and exponentially compared to the changes in the previous industrial revolutions. This sets new social expectations for socially responsible behaviour of business entities. The implications of **Industry 4.0**, such as changing the employment profile, replacing the workforce with robots, the emergence of new occupations and new skills demanded by the labour market, remote work and reduction in working hours, will impact significantly corporate social responsibility in terms of generating social results and improving productivity. In view of the above, the project focuses on the training of future managers and economists to acquire knowledge and skills important for maintaining the social goals of business in a new environment and new challenges.

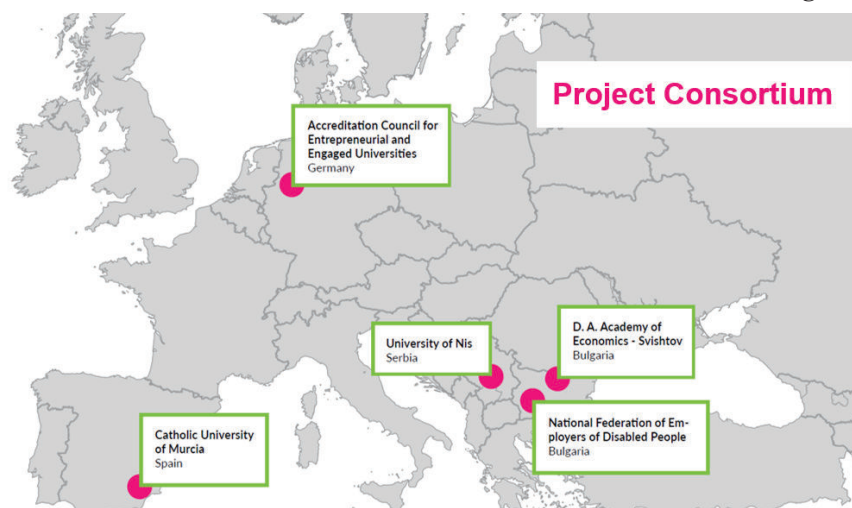
1. Project design and research method

The history of the project is based on intergovernmental meetings and agreements as follows:

- The main goal of the project is to develop a training course for higher education students in economics on the consequences of Industry 4.0 and the emerging challenges in the overall performance of enterprises and the social impact of business activities.
- The study material is focused on applying interdisciplinary links, further developing the understanding of the constituent elements of Industry 4.0 and filling existing gaps in preparing students for the main areas of benefits from Industry 4.0.

The network of the project consortium

Figure 1



Source: Project materials

The project has the following specific objectives:

- To identify gaps in existing programs regarding corporate social responsibility in the era of Industry 4.0.
- To select teaching materials, pedagogical approaches and aids;
- To develop a training course and a relayed teacher's manual;
- Creating a kit to support teaching and learning.

The project is aimed at the following target groups:

- Higher education students in economics;
- Academic staff in higher education institutions working on the topic of Industry 4.0 and its social dimensions;
- Business practitioners;
- Experts in corporate governance, corporate responsibility and economic development.

The project aims to achieve the following results:

- To outline areas of complementarity with the topic of corporate social responsibility in the context of Industry 4.0 in specific subjects taught according to existing curricula.
- To provide for country-specific information on the extent, level of coverage and implementation of the EU approach to corporate social responsibility on the changing economic environment due to Industry 4.0 in the field of student knowledge development.

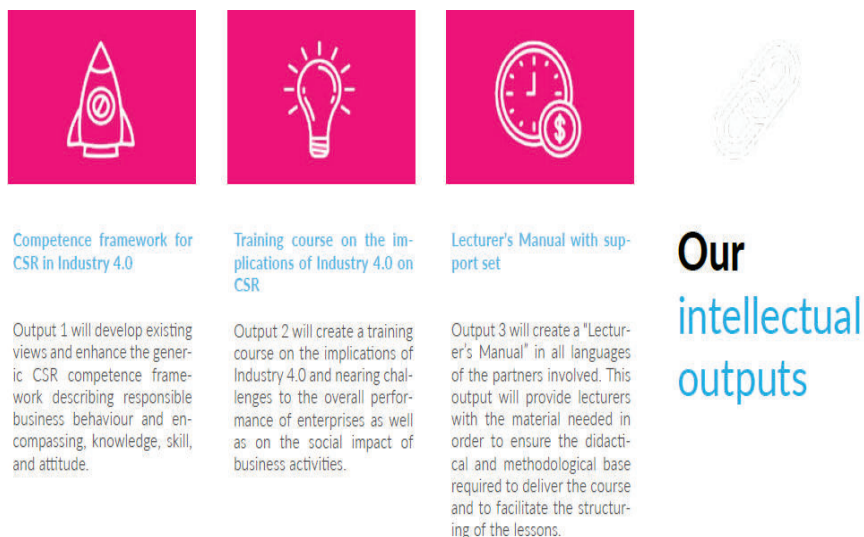
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- To identify shortfalls in current business and management programmes at universities regarding the challenges to corporate social responsibility.
 - To expand the base for understanding and coping with the reality of the trends in internationalization, globalization and digitalization in the national and world economy.
 - To simulate the entry of the academic staff and students into contacts with various business entities.
 - To provide for support by specialists in corporate social responsibility to strengthen the prospects for setting social goals for businesses and transfer these ideas to graduates.
 - To increase the attractiveness of dealing with the social economy and social entrepreneurship in parallel to achieving the main business goals.
 - To provide for a practical support tool for university professors working on corporate economics to improve their understanding of the need to introduce emerging aspects of corporate social responsibility and further develop students' knowledge in order to prepare them for the complexity of the globalizing economy.
 - To encourage the exchange of views on obstacles to the further integration of the topic of corporate social responsibility in the context of Industry 4.0 and on the improvement of training programs.
 - To develop a multilingual online platform for the exchange of knowledge, advice and feedback.
 - To expand learners' understanding and skills in areas such as digitalisation, successful employment, active citizenship, social inclusion, equal opportunities and personal change management.

The overall implementation of the project is designed in the following three main phases:

- Phase 1. Competence framework and curriculum
- Phase 2. Training course on the impact of Industry 4.0 on CSR
- Phase 3. Lecturer's manual with support set

Project's intellectual outputs

Figure 2



Source: Authors interpretation

Each of these phases comprises a package of activities for the development of methodological material or training content related to its name.

The implementation of the first phase of the competence framework ended with the execution of the following activities: - Review of the available methodology; - Question sets creation (3 packages); - Survey among lecturers; - Survey among students; - Survey among business experts; - Data analysis; - Development of the competences framework; - Development of the curriculum; - Adaptation of the national versions of the partner organizations; - Consultation and collecting feedback.

During the implementation of the actual activities for the preparation of educational content, the project team also performed such activities for management and for ensuring awareness and publicity of the results and the funding received from the EC. For example, online and face-to-face partnership meetings were organized (one each in Nis and Munster, with forthcoming meetings in Murcia and Sofia), meetings to introduce and promote the project (over 15 meetings with local representatives and 4 in international format) and contacts with a number of large companies (over 20). The project has its own

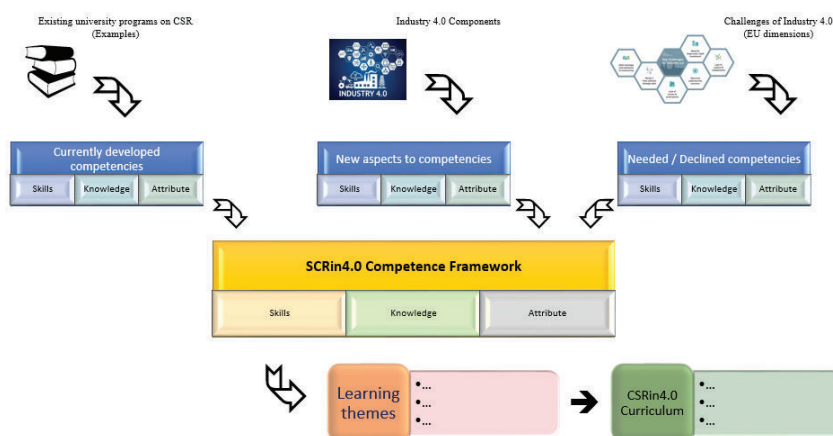
website (<https://csr-project.eu>) and a Facebook page (<https://www.facebook.com/CSRin4.0>).

2. Curriculum concept and content

The next phase in the development of the training course is to be completed in January 2022 and its implementation goes through the following stages: - Designing the sections of the course; - Analysis of educational needs; - Selection of materials for introductory training; - Development of detailed structure of the topics and lessons; - Adaptation of learning excerpts; - Development of educational content on relevant topics; - Adaptation and final edit work.

Intellectual output 1 development concept

Figure 3

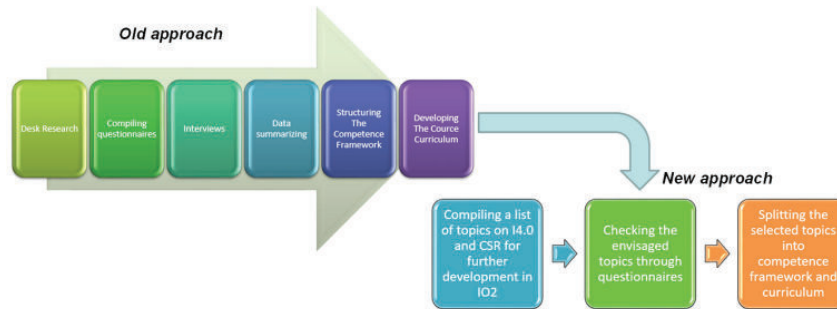


Source: Authors interpretation

The CSR in Industry 4.0 curricula is divided in two major parts: theoretical and case-study orientated. The content and responsible partners of the curricula as IO1 output and the textbook as IO2 output are as follows:

The intellectual output 2 concept: the new approach v/s the old

Figure 4



Source: Authors interpretation

Part one. Theoretical developments of CSR in Industry 4.0

Topic 1. Evolution of corporate social responsibility (CSR)

[University of Nish, Serbia]

- 1.1. The nature of corporate social responsibility
- 1.2. Determining the elements of corporate social responsibility
- 1.3. The concept of corporate social responsibility adopted by the European Union
 - 1.3.1. Internal dimension of corporate social responsibility
 - 1.3.2. External dimension of corporate social responsibility (Zahariev, et al., 2020a)
- 1.4. Ethics and socially responsible behaviour of the company towards stakeholders
 - 1.4.1. Ethical and responsible behaviour of the company towards employees
 - 1.4.2. Measures of socially responsible behaviour towards employees
 - 1.4.3. Ethical and responsible behaviour of companies towards consumers
 - 1.4.4. Socially responsible behaviour of the company towards the social community
 - 1.4.5. Ethical and socially responsible behaviour of companies towards suppliers
 - 1.4.6. Non-ethical practices of the company towards the social community

Chapter 2. Financial and managerial dimensions of CSR [D. A. Tsenov Academy of Economics, Svishtov, Bulgaria]

2.1. The CSR model for human capital investments (Zahariev, Mihaylova, Money, & Dikov, 2021b)

2.2. The accounting issue for funding CSR initiatives

2.3. Budgeting framework for CSR implementation cost (Zahariev A., et al., 2020c)

2.4. Marketing approach for involvement of corporate financing and social initiatives support.

2.4.1. Management framework for promoting corporate causes

2.4.2. CSR and cause-related marketing

2.4.3. Dimensions of socially responsible measures of the company - volunteering for the community, philanthropy, accepting social goals

2.4.4. Corporate social marketing – brand, trade name and label

2.5. Standards for CSR

2.5.1. Measurement and proofing of CSR

2.5.2. International standards for CSR

2.5.3. CSR standards in HR management

2.5.4. Quality standards for CSR

2.5.5. Ecological standards for CSR

2.5.6. CSR standards for safety and health workplace conditions

Chapter 3. Emerging social challenges with Industry 4.0 [D. A. Tsenov Academy of Economics, Svishtov, Bulgaria and National Federation of Employers of Disabled People, Sofia, Bulgaria]

3.1 Vulnerability of systems (Sabitova, Shavaleyeva, Lizunova, Khairullova, & Zahariev, 2020b)

3.2. European fiscal harmonization and taxation treatment of CSR initiatives. Shadow economy and tax evasion. (Belev, Schneider, Djankov, Zahariev, & others, 2003)

3.3. Profound changes in education and generation Z challenges.

3.4. CSR in Industry 4.0 project management – step-by-step approach.

3.5. CSR and Covid-19 pandemic. (Adamov, Kolev, Vrachovski, Zahariev, & Marcheva, 2010)

Chapter 4. Strategic approach to corporate social responsibility [University of Nish, Republic of Serbia]

4.1. Advantages of strategic approach to corporate social responsibility

4.2. Formulation of corporate social responsibility strategy

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- 4.2.1. Environmental analysis
 - 4.2.2. Choice of area of company engagement in society
 - 4.2.3. Formulation of vision, social goals and strategic guidelines
 - 4.3. Implementation of corporate social responsibility strategy
 - 4.3.1. Communication of socially responsible initiatives
 - 4.3.2. Monitoring and control of the execution of activities and collection of feedback
 - 4.3.3. Possible errors in the application of CSR activities
 - 4.4. CSR organizational aspects
 - 4.4.1. Actions versus intentions
 - 4.4.2. Corporate commitment
 - 4.4.3. Voluntary versus mandatory
 - 4.4.4. Stakeholder activism
 - 4.5. CSR business aspects (diversity, sustainability, fair trade, wages) (Zahariev, Financial Management of Human Resources, 2012)

Part II. Case studies of CSR in Industry 4.0

Chapter 5. National evidences for implementation of the concept of CSR

- 5.1. Development of corporate social responsibility in Bulgaria [National Federation of Employers of Disabled People, Sofia, Bulgaria]
 - 5.1.1. Institutional environment
 - 5.1.2. Level of population awareness or importance of corporate social responsibility (Zahariev A. , et al., 2020d)
 - 5.1.3. Socially responsible company practice (Zahariev, Simeonov, & Zaharieva, 2021c)
- 5.2. Development of corporate social responsibility in Germany [the Accreditation Council for Entrepreneurial and Engaged Universities, Münster, Germany]
 - 5.2.1. Institutional environment
 - 5.2.2. Level of population awareness or importance of corporate social responsibility
 - 5.2.3. Socially responsible company practice
- 5.3. Development of corporate social responsibility in Spain [the Catholic University of Murcia, Spain]
 - 5.3.1. Institutional environment
 - 5.3.2. Level of population awareness or importance of corporate social responsibility
 - 5.3.3. Socially responsible company practice in Spain

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- 5.4. Development of corporate social responsibility in Serbia [University of Nish, Serbia]
 - 5.4.1. Institutional environment
 - 5.4.2. Level of population awareness or importance of corporate social responsibility
 - 5.4.3. Socially responsible company practice

Chapter 6. CSR and Industry 4.0 - evidences from Spain [the Catholic University of Murcia, Spain]

- 6.1. Unemployment caused by the new technologies – case study from Spain (Zaharieva & Sylqa, 2020)
- 6.1. Social and legal aspects of CSR (outsourcing, corruption, human rights, patents) - case study from Spain

Chapter 7. CSR and Industry 4.0 - evidences from Germany [the Accreditation Council for Entrepreneurially Engaged Universities, Münster, Germany]

- 7.1. Emerging Information technologies coming with the Industry 4.0 (case study from Germany)
 - 7.1.1. CSR and Internet of Things
 - 7.1.2. CSR and Artificial Intelligence
 - 7.1.3. CSR and Cloud Computing (Zahariev, Mihaylova, Monev, & Dikov, 2021b)
 - 7.1.4. CSR and Big data
 - 7.1.5. CSR and 3D printing
 - 7.1.6. CSR and Blockchain
 - 7.1.7. CSR and Robotics
 - 7.1.8. CSR and Virtual reality and augmented reality
- 7.2. Emerging manufacturing technologies coming with the Industry 4.0 (case study from Germany):
 - 7.2.1. CSR and Robotics, unmanned systems, autonomous vehicles
 - 7.2.2. CSR and adding manufacturing (Laktionova, Dobrovolskyi, Karpova, & Zahariev, 2019)

Chapter 8. CSR and Industry 4.0 - evidences from Bulgaria [National Federation of Employers of Persons with Disabilities, Sofia, Bulgaria]

- 8.1. CSR and social legitimacy (case study from Bulgaria) (Zahariev, Radulova, Aleksandrova, & Petrova, 2021a)
- 8.2. CSR and employment of disabled people (case study from Bulgaria) (Zahariev & Zaharieva, 2003)

3. Dissemination of intellectual output

With regard to the relationship of CSR and the global COVID-19 pandemic the following scientific reports have been presented in the second half of 2021 as a part of international scientific conferences in Ukraine, Serbia and Bulgaria:

First. International scientific-practical conference “Transformation of socio-economic systems in the context of the challenges faced by global economic development”, Faculty of Economics at Vasyl’ Stus Donetsk National University, 7-8 October 2021, Vinnytsia with report “Corporate social responsibility under Covid-19 circumstances: Bulgarian business attitude”, (Zahariev A. , 2021d);

Second. International Scientific Conference “Emerging trends in global and national economy” organised by the Faculty of Economics, University of Nish, 14 October 2021 with report “Corporate social responsibility in Covid-19 environment: evidence from Serbia and Bulgaria”, (Ivanović-Đukić, Zahariev, & Lepojević, 2021e);

Third. International scientific and practical conference “Sustainable development and socioeconomic cohesion in the 21st century: trends and challenges”, Svishtov, 8th - 9th November 2021, dedicated to the 85th anniversary since the establishment of D. A. Tsenov Academy of Economics, with report (in Bulgarian language): “Measuring the impact of the Covid-19 pandemic on corporate social responsibility policies in Bulgaria” (Zahariev A. , 2021f).

Conclusion

The project “Adaptation of strategies for corporate social responsibility to address the implications of the Industry 4.0” with reference number: 2020-1-BG01-KA203-079025 is a good opportunity to create added value through international partnership under the Erasmus + program. The achievements as of the middle of the 24-month period of the project implementation give grounds to expect its successful completion and achievement of all set goals and objectives.

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