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***Changes in Social and
Business Environment***

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Foreword

The 8th International Scientific Conference Changes in Social and Business Environment – CISABE’2020 was organized as an integral part of the 3rd Forum on Innovative Technologies and Management for Sustainability that hosted two conferences: 8th International Scientific Conference Changes in Social and Business Environment – CISABE’2020 and 13th International Scientific Conference Intelligent Technologies in Logistics and Mechatronics Systems – ITELMS’2020.

The aim of this 3rd Forum on Innovative Technologies and Management for Sustainability is to provide a worldwide Forum, where the international participants can share their research knowledge and ideas on the recent and latest research and map out the directions for future researchers and collaborations.

The main idea of this joint event was to stimulate interdisciplinary approach on sustainability issues since the most advanced, innovative solutions are created by close cooperation between social and technological sciences.

The importance of sustainable development is undeniable, but its implementation into corporate activities is often faced with the problems. Undoubtedly, business can become more sustainable from the perspective of people, planet and profit. However, for many marketers the pursuit of sustainability is considered an uncharted territory with many new and contradictory questions. What are the benefits of incorporating social, ethical and environmental issues into day-to-day decisions making? How can business identify and make the most of the opportunities arising from the new agenda? Striving for sustainability often implies reconsideration of conventional management and marketing principles, stakeholder relationships, the needs for clearer accountability and openness, and higher levels of innovation and co-operation.

The focus of the Forum is on various aspects of contemporary economic, social and technological environments for international business practice(s) and their target market(s). The Forum provided a platform for new forms of cooperation, identification of emerging obstacles and provision of solutions to overcome them.

International Scientific Conference Changes in Social and Business Environment – CISABE’2020 included the following themes:

- Business and Management Trends in Changing Environment;
- Contemporary Marketing Dynamics Capabilities;
- Challenges and Opportunities of Finance and Economics from Regional and Global Context;
- Sustainable Development: Social, Political, Economical / Business Setting;
- Knowledge Management and Organizational Learning;

- New Approaches to Human Resource Management;
- Innovations and New Technologies in Business and Management;
- Identification and Interpretation of Social Phenomena;
- Changing Models of Economic Development;
- Modern Aspects of Socio-Linguistic Development.

This conference emerged as the result of collective efforts and here, we take the opportunity to express our recognition of the efforts and hard work of all the people who have made CISABE'2020 possible, who have done the hard work in preparation and organization. Through these lines of welcome we would like to especially pay tribute to the Scientific Committee which has assured the quality of the pool of accepted papers, and to the members of the Organizing Committee for their strong motivation and volunteer work, and eventually, to all the people who have directly or indirectly influenced the smooth progress towards the conference. Unfortunately, this is an unusual situation for all scientific community, since covid-19 has adjusted the ways the Forum is organized. We could not shake hands with each other, but thanks to technology, we could maintain relationship and proceed with discussions. Finally, we would like to express our gratitude to all the authors for contributing their papers to this volume.

Daiva ŽOSTAUTIENĖ

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International Scientific Conference Changes in Social and Business Environment –
CISABE'2020, 1st October, 2020, Panevėžys, Lithuania

Country's Macroeconomic Determinants Predicting the Non-performing Loans in Commercial Banking System

Ričardas Mileris^{a*}

^aKaunas University of Technology, Panevėžys Faculty of Technologies and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania

Abstract

The research was directed towards the problem of non-performing loans in commercial banking systems of EU-28 countries. Analyzing the period of 2008–2017 years different stages of business cycle were involved of EU countries and their relative differences of economic development were considered. The EU-28 countries were grouped into four clusters analyzing the impact of macroeconomic indicators on the non-performing loans in banking systems. The set of macroeconomic variables was compound that are important determinants of non-performing loans in commercial banks. The statistical classification models were developed that are able determine the low, high or very high non-performing loans class of a country considering its macroeconomic condition with 85.71–100 % accuracy. Using the results of this research, the commercial banks can evaluate the relative riskiness of EU countries to have high proportion of non-performing loans financing its private sector. The implemented statistical analysis and modelling allow understand the typical macroeconomic peculiarities of high debtors' insolvency and the exceptions. Together with the estimated general consistent patterns, the individual features of every country that in current decade met the problem of high non-performing loans were characterized.

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Keywords: commercial banks; macroeconomics; non-performing loans; statistical modelling.

Introduction

European Central Bank defines the non-performing loans (NPLs) as commercial banks' loans when more than 90 days pass without the borrower paying the agreed instalments or interest. Islam, Aktar, Hossen and Islam [8] characterize NPLs as financial assets from which banks no longer receive interest or instalment payments according

* Corresponding author. Tel.: + 370 45 434247.
E-mail address: ricardas.mileris@ktu.lt

to schedules. Non-performing loans are also called “bad debts” in banking system. As the commercial banks play the crucial role in countries’ economic development and financial stability, the overall financial health of banking system is the concern of not only the banks’ managers, but also of central banks and policy makers. The performance of banks is often associated with the quality of loans in their books. High level of NPLs restricts the possibilities of commercial banks to lend even for loan applicant having the low credit risk, what slows economic development, especially the economic recovery during the post-crisis periods. The restricted lending adversely affects the level of private investments and consequently reduces banks’ ability to grant further credit facilities to customers what is the important reason of consumption decline. Hence, the critically high amount of non-performing loans in banking system generally consequences bank failure. The banking sector may lose the confidence of depositors and this may escalate into a banking crisis. In turn, this can be the reason of country’s economic stagnation.

So, the low proportion of NPLs in commercial banks’ loan portfolios is very important factor of banks profitability and financial stability, as well as an obligatory condition for improving the country’s economic growth. Understanding the main determinants of non-performing loans is the practically important research field for the economists.

1. Literature review

The commercial banks classify loans as non-performing when they stop generate income and thus cease to be in accordance with the loan agreement. If a bank does not receive a timely partial or full payment of a loan, it should consider this as a problem loan and the value of the loan on the bank’s financial statements should be adjusted to reflect this. By recording them in this way stakeholders, management, regulators and other individuals will have a clearer picture of the true value of NPLs and the overall strength of banking system [12]. Thus, all bank loans falling within the classes “substandard”, “doubtful” and “loss” are included into the NPLs category. This presumes, therefore, incorporating three levels of non-performance and non-quality of bank lending, corresponding to the NPLs which are differentiated on the three mentioned classes [6]. According to Mensah, Marbuah and Marbuah [13], the NPLs may justify the establishment of provisions which would reduce the balance of loans on the balance sheet and cause a reduction in net income as a result of the potential loss being expensed. Based on the definition from Basel Capital Accord, the capital adequacy ratio (CAR) is a measure of the amount of a bank's core capital expressed as a percentage of its risk-weighted asset. The capital adequacy ratio management of commercial banks is the core of risk asset management. Therefore, it is obvious that the CAR has a strong effect to the bank’s profitability as a basic restraining factor [3]. CAR and other regulatory instruments are necessary to ensure the financial system stability, which according to Morgan and Pontines [15] is stable whenever it is capable to facilitate the performance of an economy, and of dissipating financial imbalances that arise endogenously or as a result of significant adverse and unanticipated events.

Several studies examined the determinants of NPLs at bank, country, and aggregate banking system level. The results reveal valuable insights about the quality of loan portfolios and generally the fragility of banks [11]. Kuzucu and Kuzucu [10] the factors related to NPLs in banking system classify into two groups:

- bank level factors;
- macroeconomic factors.

The bank-level factors are mainly bank capital, bank size, loan quality, and cost efficiency or profitability. The macroeconomic factors that were examined by these researchers are mainly GDP growth, unemployment, inflation, interest rates, and exchange rates. Amin, Imam & Malik [1] maintain that on the macro level, the role of adverse economic conditions, lax underwriting standards during the preceding lending booms, weak banking regulation and supervision, inadequate corporate governance, and poor incentives for market monitoring are major determinants of NPLs. On the bank level, the NPLs accumulation can be explained by such factors as bank ownership structure, management quality, previous growth in loan portfolios, and bank capital position. Filipovic, Vejzovic, Buric and Vujosevic [7] recognized key macroeconomic variables that influence growth in NPLs: GDP growth, unemployment rate, exchange rate, inflation, interest rate, stock prices and house prices. They found the problem loans vary negatively with the growth rate of GDP, the profitability of banks’ assets and positively with the unemployment rate, the loan loss reserves to total loans and the real interest rate. The improvement in the real economy usually translates into lower non-performing loans. They also found that banks, which charge relatively higher interest rates and lend excessively are likely to incur higher levels of non-performing loans. Peric and Konjusak [17] also focused on

macroeconomic determinants and bank-specific variables of NPLs. The general conclusion of their investigation is that various macroeconomic variables have a significant impact on rise of NPLs, but the main determinant is GDP growth. Other macroeconomic determinants such as unemployment, interest rate, inflation and exchange rate also show a significant influence. The bank-specific variables such as profitability, capital ratio and bank size also have a significant influence on the NPLs ratios. The results of Zikovic, Zikovic and Blechic [23] showed that the NPLs ratio is strongly affected by the economic slowdown measured by the real GDP and industrial production index. This confirms the significant effect of economic cycles on households' and companies' ability to service their liabilities, especially during recession. During downturns economic agents have more difficulties in fulfilling their obligations and firms are more likely to experience financial distress [14].

Rehman [20] identified the moral hazard hypothesis. Researcher pointed out low capital banks respond to moral hazard encouragements by boosting the riskiness of their loan-portfolio, which consequently resulting higher NPLs on average in future. Researcher contended that additional loss rates were protuberant among banks that had comparatively low capital ratio. Kjosevski and Petkovski [9] analysing the NPLs and macroeconomic of Baltic States found that domestic credit boom to the private sector and irresponsible borrowing during pre-crisis period caused rapid growth of GDP, inflation and further had the strongest effect on NPLs. After short boom period Lithuania, Latvia and Estonia were amongst the countries with the biggest declines in terms of GDP growth in Europe, as well as in the world, during the financial crisis. The drop in the value of collateral for housing loans after credit boom period usually negatively affects the loan quality of consumer loans with respect to corporate loans [2]. The over-indebtedness of private sector of a country can be measured by loans to GDP ratio (depth of the financial sector), which shows how much the banking sector contributes to economic growth. Usually, the increase of banks' loans leads to an increase in GDP growth [18]. Škarica [21] proved that the rapid credit growth results in lower credit standards and, eventually in higher levels of problem loans. The significant credit growth was before the financial crisis. This was largely to the deregulation of financial markets and the development of information technologies in the banking industry. Since the financial crisis, the trend has been reversed and banks are now less willing to lend [5].

Cifter [4] found that lower competition and high bank concentration tend to reduce NPLs in some Central and Eastern Europe countries. The banks with a higher degree of market power, which occurs in concentrated banking systems, have less overall risk exposure. However, the credit portfolio concentration at the business cycle sensitive sectors can increase NPLs significantly. Polodoo, Seetanah, Sannassee, Seetah and Padachi [19] analysed a higher credit concentration in construction sector and found that a risk migration from good credit to bad credit significantly inflated NPLs. Conversely, according to Morgan and Zhang [16], the change in the share of housing loans in total credit is negatively related with changes in NPLs.

According to Vouldis and Louzis [22], NPLs can be used to mark the onset of banking crises. NPLs represent ex ante credit risk at an aggregate level and signal future losses for the banking system. Consequently, forecasting NPLs is of primary interest for the quantitative analysis of financial stability and the design of macro-prudential policy. An investigation aiming to identify a set of leading indicators of NPLs, based on their forecasting performance, is, therefore, an important task in order to enable policy makers to have a forward-looking view of the developments in the financial stability dimension.

2. Methodology

The statistics of NPLs will be analyzed to assess the differences between EU-28 countries and classify them into four groups according to the structural averages (median, 1st and 3rd quartiles). The EU-28 countries with the highest NPLs in their banking systems will be highlighted. The bank capital to assets ratio will be analyzed to evaluate the riskiness of banking system meeting the problem of high NPLs. The economic differences of EU-28 countries in formed NPLs groups will be evaluated considering three main criterions:

- indebtedness and savings of private sector;
- industry, consumption and other gross domestic product (GDP) aggregates;
- public finance.

The impact of economic deterioration on NPLs growth in commercial banks will be analysed comparing the country's real GDP decline with NPLs change. The most common time lag after economic deterioration of a country and maximal NPLs amount in banking system will be revealed. The exceptions and their causes also will be described.

The typical differences of inflation and unemployment rates in four NPLs groups of EU-28 countries will be explained.

According to the comparative analysis results the set of macroeconomic predictors will be compound as the main determinants of NPLs in banking system. The statistical models will be developed for the classification of EU-28 countries when predicting the NPLs level regarding to the EU-28 structural averages. The classification accuracy of developed models will be estimated, and the data analysis process scheme will be drawn.

The methods of the empirical research consist of structural averages (median, quartiles), percentage change rates, indices, survival analysis, decision trees, logistic regression, classification matrix, business process modelling notation (BPMN) diagram. The official statistical data of EUROSTAT and World Bank was used in this research.

3. Empirical study

The aggregated NPLs statistics of EU-28 countries' commercial banks in period of 2008–2017 was visualized using the box-whisker diagram (Fig. 1). The top and bottom points of each element have the meaning of maximal and minimal NPLs values during the analyzed period. The middle line of elements is the median. The bottom and top horizontal lines of boxes are the 1st and 3rd quartiles accordingly.

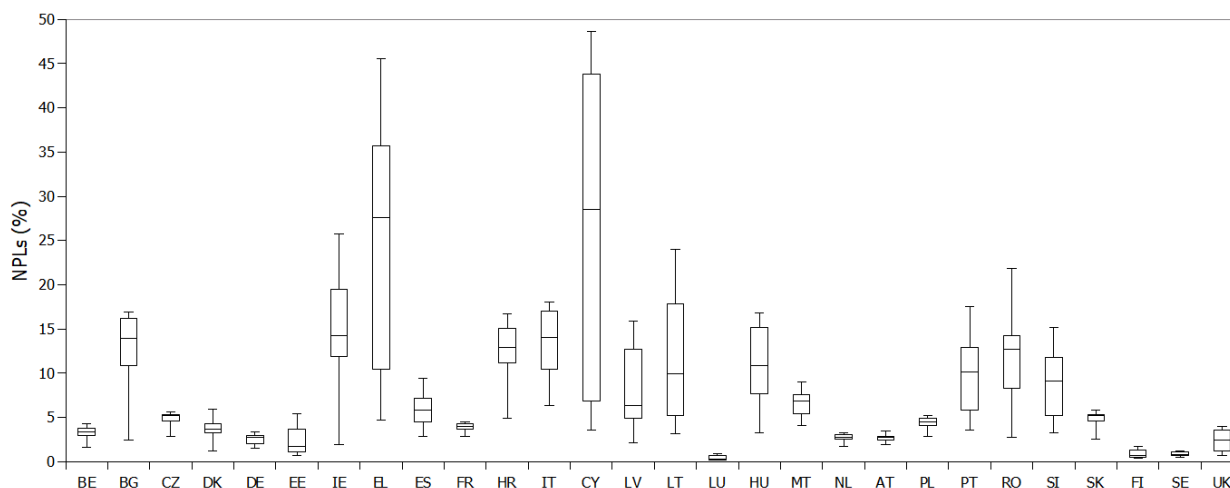


Fig. 1. Statistics of non-performing loans in EU-28 of period 2008–2017 (World Bank, 2019)

The outstandingly high values of NPLs had Cyprus and Greece. The other EU-28 countries met the lower problems of NPLs in their banking systems. However, the differences between these countries are quite significant, so these countries were classified into 4 groups according to these criterions:

- low NPLs: $A_{VC} \leq Q1_{EU-28}$;
- intermediate NPLs: $A_{VC} \in (Q1_{EU-28}; Me_{EU-28}]$;
- high NPLs: $A_{VC} \in (Me_{EU-28}; Q3_{EU-28}]$;
- very high NPLs: $A_{VC} > Q3_{EU-28}$.

Each country's NPLs average values (A_{VC}) were calculated of period 2008–2017 and they were compared to the overall EU-28 median ($Me_{EU-28} = 5.36\%$), 1st quartile ($Q1_{EU-28} = 2.73\%$), and 3rd quartile ($Q3_{EU-28} = 12.00\%$) values. These structural averages allowed highlight the similarities and differences of EU-28 countries according to the proportion of NPLs in their commercial banks (Table 1).

Table 1. Classification of EU-28 countries

Group	NPLs	Countries	Average NPLs (%)
1	Low	DE, EE, LU, NL, FI, SE, UK	1.76
2	Intermediate	BE, CZ, DK, FR, AT, PL, SK	3.93
3	High	ES, LV, LT, HU, MT, PT, SI	8.92
4	Very high	BG, IE, EL, HR, IT, CY, RO	16.57

The low NPLs group consists of 25 % analyzed countries where the 10 years’ average of NPLs is only 1.76 %. The intermediate NPLs group includes the next 25 % of countries where the average of NPLs is 3.93 %. The groups of high and very high NPLs have the rest 50 % of countries and average NPLs values of 8.92 % and 16.57 %.

The left diagram of Figure 2 indicates the top 15 countries of EU-28 region that had the highest proportion of NPLs in commercial banks during 2008–2017. The worst situation was in Cyprus and Greece where since 2012 the NPLs values were from 23.27 % to 48.68 %. The outstanding NPLs also for the short period had Ireland in 2012–2013 and Lithuania in 2009–2010. The peak values in these countries reached from 23.33 % to 25.71 %.

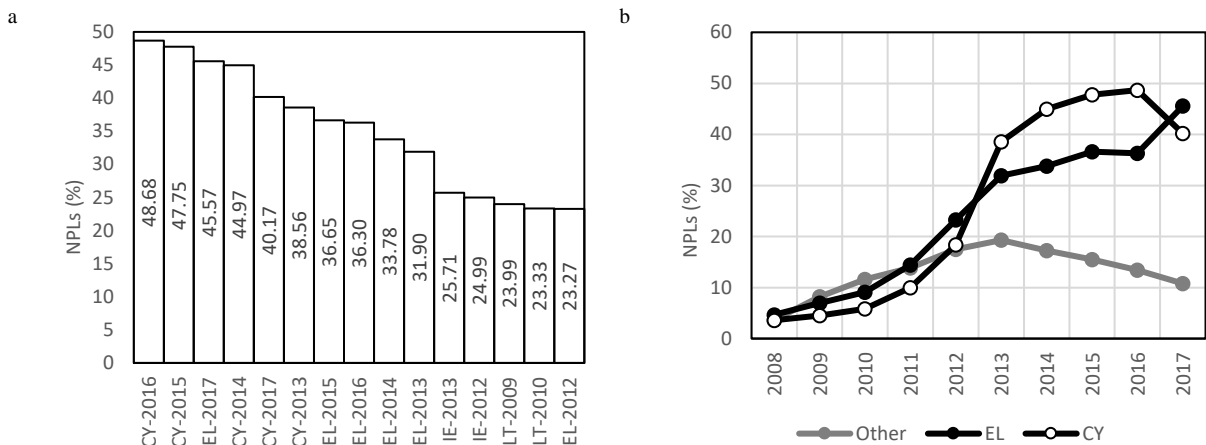


Fig. 2. (a) Highest NPLs in EU-28 (2008–2017); (b) NPLs of countries in group 4 (World Bank, 2019)

The right diagram of Figure 2 shows that Cyprus and Greece have significantly higher proportion of NPLs since 2013 compared to the average of other countries in group 4 (Bulgaria, Ireland, Croatia, Italy, and Romania). The average NPLs value in these countries from 19.29 % in 2013 constantly declined to 10.78 % in 2017, while NPLs in Cyprus and Greece continued growing. Only in 2017 the NPLs in Cyprus declined from 48.68 % (the 10 years highest value in EU-28) to 40.17 %.

These differences in group 4 between Cyprus and Greece to other countries caused the necessity in further analysis to divide this group into two sub-groups:

- sub-group 4-A of very high NPLs: Bulgaria, Ireland, Croatia, Italy, and Romania (10 years average NPLs – 13.10 %);
- sub-group 4-B of critically high NPLs: Cyprus and Greece (10 years average NPLs – 25.25 %).

In relation with NPLs the bank capital to assets ratio (CAR) was analyzed which is the capital and reserves to total assets in the bank’s balance-sheet. Capital and reserves include funds contributed by owners, retained earnings, general and special reserves, provisions, and valuation adjustments. Capital includes tier 1 capital (paid-up shares and common stock) and total regulatory capital, which includes several specified types of subordinated debt instruments that need not be repaid if the funds are required to maintain minimum capital levels (these comprise tier 2 and tier 3 capital). The statistics of period 2008–2017 was available of 25 EU countries except Hungary, Slovenia, and Sweden. The 10

years averages were calculated of this indicator (Fig. 3). 71.4 % of countries from the group 4 of very high NPLs (Table 1) had the average capital to assets ratio higher than 8 % (except Cyprus and Italy). In the group 3 of high NPLs Lithuania and Latvia had the highest CAR with the average values of 10.17 % and 9.78 %, whereas the least value was in Portugal (6.1 %). The highest CAR in the group 1 of low NPLs had Estonia (10.22 %).

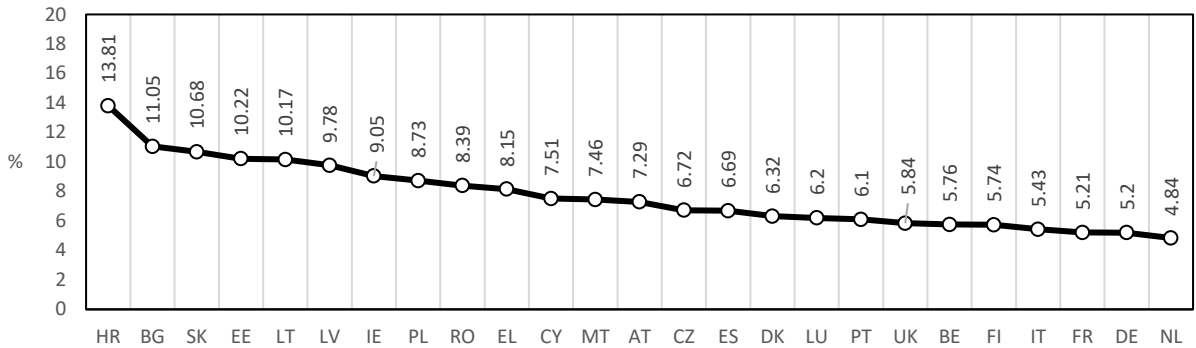


Fig. 3. The average bank capital to assets ratio (%) in 2008–2017 (World Bank, 2019)

The domestic credit to private sector and gross domestic savings (percent of GDP) were analyzed to ascertain the hypothesis whether the private sector in countries having the highest NPLs in their banking systems is mostly indebted and has low savings (Fig. 4).

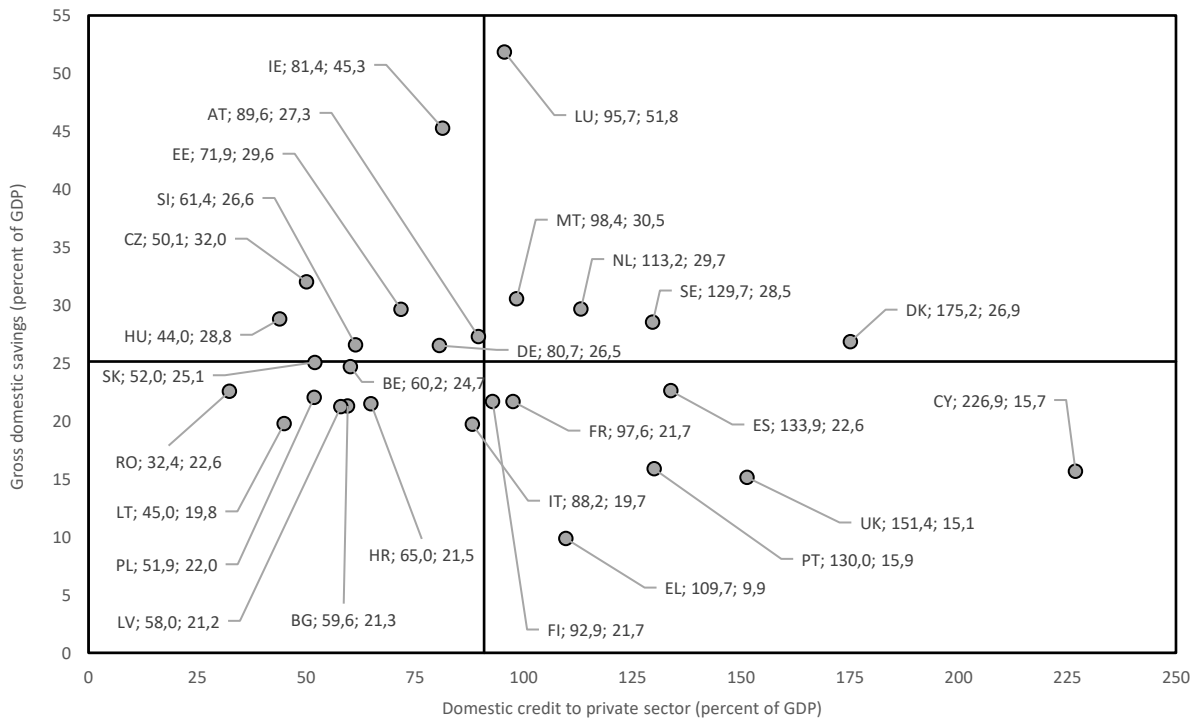


Fig. 4. Average credit to private sector and savings of EU-28 in 2008–2017 (World Bank, 2019)

The gross domestic savings are calculated as GDP less final consumption expenditure (total consumption). The analysis confirmed the hypothesis because the countries having the critically high NPLs (Cyprus and Greece) are in the high credit and low savings quarter of Figure 4. The highest average domestic credit to private sector was in Cyprus (226.92 % of GDP) what is higher than EU-28 average (vertical line in scatterplot – 90.93 %) by 2.5 times. The least gross domestic savings were in Greece (9.86 % of GDP) when the EU-28 average in analyzed period was 25.14 % (horizontal line in Fig. 4). For the most countries of sub-group 4-A (high NPLs) the low credits and savings to GDP is typical. Only Ireland is exclusively near to Luxembourg, which is the first in EU-28 according to gross domestic savings.

Analyzing the macroeconomic differences in four groups of EU-28 countries GDP per capita (purchasing power parity (PPP) constant 2011 USD) and final consumption expenditure of households per capita (constant 2010 USD) were denoted in scatterplot (Fig. 5). This graph was also divided into four sectors according to average values of mentioned macroeconomic indicators in 2008–2017 (GDP per capita is 34 612 USD and the final expenditure of households is 16 901 USD). Cyprus and Greece having the highest NPLs are in the quarter of low GDP and high household expenditure, together with Spain, which belongs to the group 3 of high NPLs. Three countries (Bulgaria, Romania, and Croatia) having the very high NPLs are in the sector of low GDP and low household expenditure. Conversely, Italy and Ireland in the same group of NPLs have high GDP and high household expenditure. Almost all countries of group 3 with high NPLs (Latvia, Lithuania, Hungary, Malta, Portugal, and Slovenia) are in the quarter of relatively low GDP and household expenditure in overall EU-28. That allows conclude that high and very high NPLs in banking systems are typical for countries with low GDP and low consumption. 85.7 % of countries in high and very high NPLs groups have relatively low GDP per capita (below the EU-28 average). Increasing the consumption in low GDP countries by high indebtedness (as in Cyprus and Greece) leads to critically high NPLs in commercial banks.

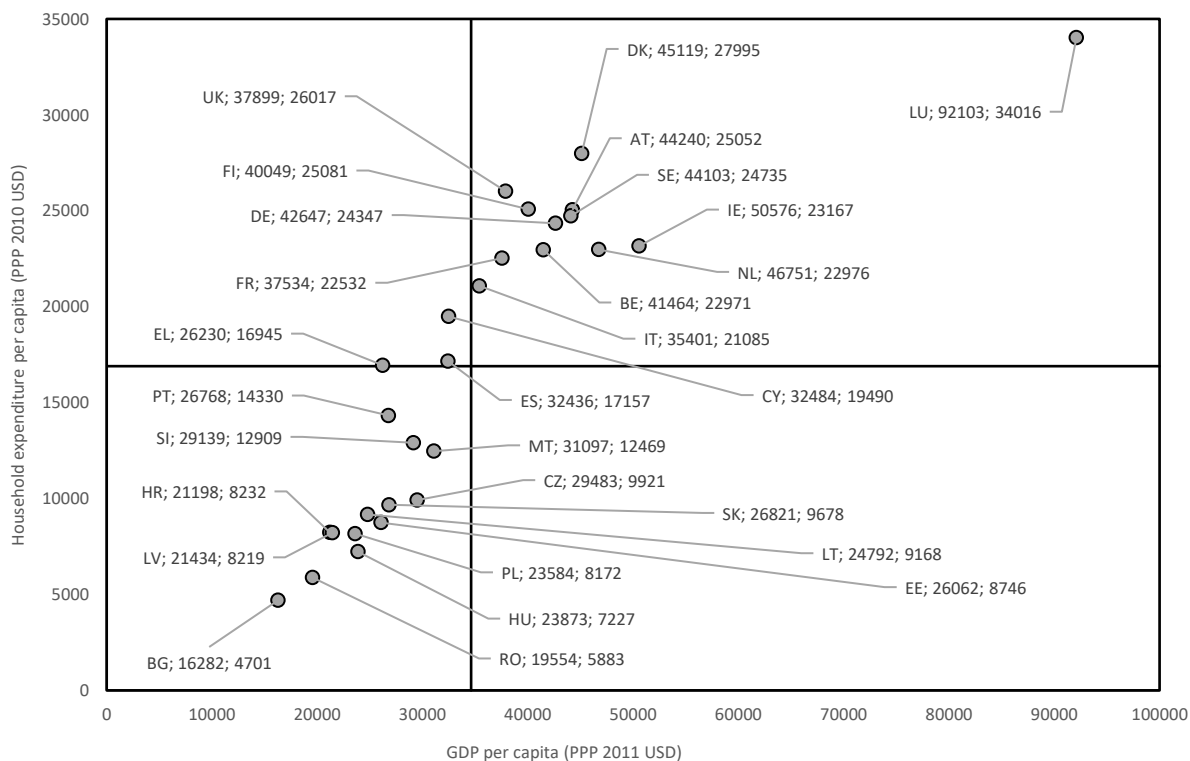


Fig. 5. GDP and households' expenditure per capita of EU-28 in 2008–2017 (World Bank, 2019)

The public finance also reflects the country’s macroeconomic condition, so the government budget balance (net lending (+) or net borrowing (-)) to GDP and government consolidated gross debt were analyzed to interrelate these indicators with the NPLs in commercial banks. In similar way to the previous analysis, the 10 years averages (2009–2018) were calculated for the EU-28 countries (Fig. 6). The graph was also divided into four sectors according to EU-28 averages of government debt (67.2 % of GDP) and budget balance (-3.1 % of GDP). Greece having the critically high NPLs in banks also has the highest government debt (167.3 % of GDP) and the 3rd highest average negative budget balance (-6.6 % of GDP) after Ireland and Spain. Cyprus is also in the quarter of relatively high government debt and net borrowing (similarly to Croatia). however these countries are quite near to EU-28 averages. Italy and Ireland as two exceptions in group of very high NPLs that have high GDP and consumption expenditure of households demonstrate imperfect public finance indicators. Italy is the EU country after Greece having the second highest government debt (125.5 % of GDP), whereas Ireland is the leader of 10 years average government net borrowing rate (-8.0 % of GDP). Bulgaria and Romania in the group of very high NPLs have relatively low public indebtedness (20.9 and 34.5 % of GDP). 85.7 % of countries with low NPLs have lower than EU-28 average negative budget balance and for the 71.4 % of these countries the lower public debt is typical. These interrelations allow maintain that public finance indicators are also economic determinants of NPLs in commercial banks.

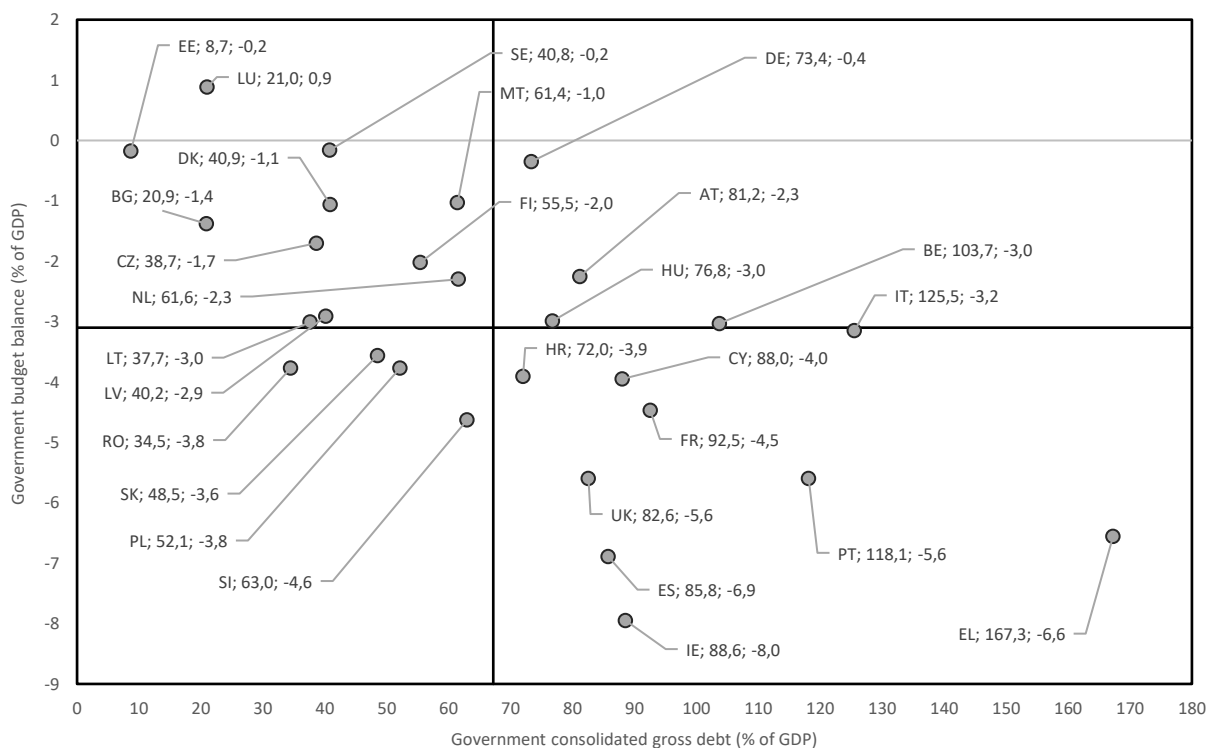


Fig. 6. Government budget balance and debt of EU-28 in 2009–2018 (EUROSTAT, 2019)

How the dynamics of country’s macroeconomics impacts the NPLs in commercial banks shows the graphical interrelation between maximal real GDP decline in period of 2007–2018 and maximal NPLs values in each EU-28 country (Fig. 7). In 85.7 % of EU-28 countries, the most significant GDP decline was during 2009, except Greece (2011), Portugal (2012), and Cyprus (2013). Only Poland during analyzed period did not meet the real GDP decline. The EU-28 countries in Fig. 7 are sorted according to these maximal GDP decline values, where can be seen that three Baltic States (Lithuania, Estonia, and Latvia) mostly suffered from economic deterioration in 2009. The polynomial regression trendline with some exceptions shows the declining NPLs trend when the GDP of a country deteriorates

less. One of the exceptions in general trend is Estonia, which was the second according to GDP decline in 2009. However, as a country having the least government gross debt and the least negative budget balance similarly to Sweden (Fig. 6), and being in the sector of countries with relatively low domestic credit to private sector and high gross domestic savings (Fig. 4) Estonia was able to keep the NPLs at the low level. At the end of the NPLs trendline in Figure 7 the exceptional increase of NPLs was caused by Bulgaria and Portugal. The weakness of Bulgaria is the least GDP per capita and household consumption (Fig. 5) what undoubtedly reduce the possibilities for its inhabitants to repay credits for banks. However, the strengths of this country that allowed keep the economy growing with tenuous decline in 2009 are healthy public finance (Fig. 6) and low indebtedness of private sector (Fig. 4). Portugal belongs to the group 3 of high NPLs but the GDP decline (-4 % in 2012) was not so significant in this country too. The shortcoming of Portugal high government debt (118.1 %) and budget deficit (Fig. 6), lower than EU-28 average GDP per capita and households' expenditures (Fig. 5), relatively high domestic credit to private sector and low savings (Fig. 4).

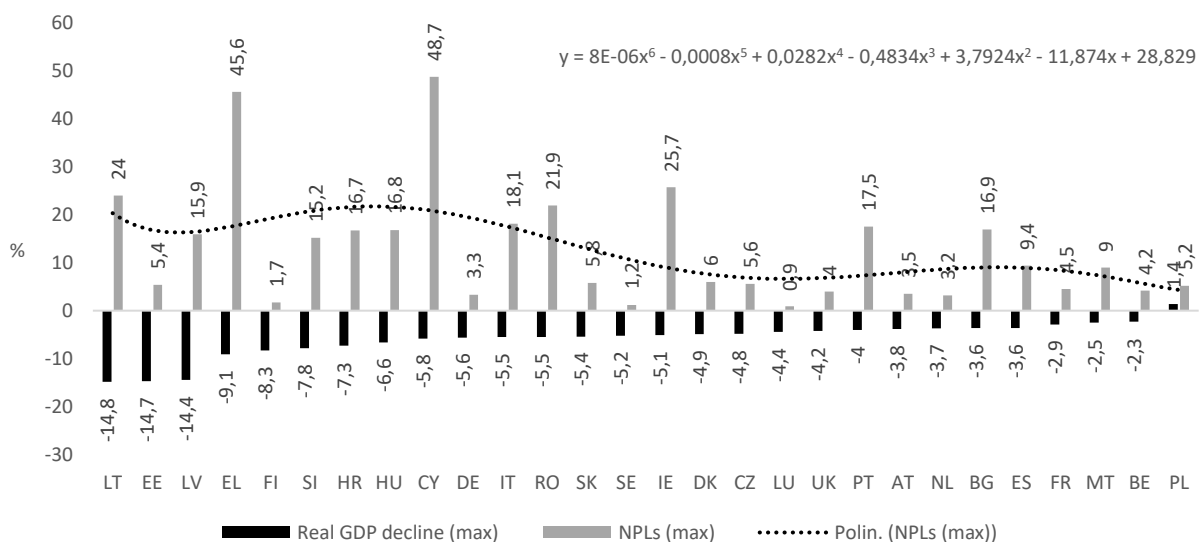


Fig. 7. Real GDP decline and NPLs (max) of EU-28 in 2007–2018 (EUROSTAT and World Bank, 2019)

The survival analysis was implemented to reveal the most frequent time lag between the year of maximal real GDP decline and the year of maximal NPLs level in country's banking system. In 17 countries (60.7 %) the maximal NPLs were reached after 3–5 years compared to the most decline of real GDP (Fig. 8). In 6 countries (21.4 %) the duration of this lag was 0–2 years and in 4 countries (14.3 %) it was 6–8 years. One country (Poland) was excluded from survival analysis (censored) because it had not the real GDP deterioration during the analyzed period. The Y axis in Figure 8 denotes probabilities for the EU countries not to reach the maximal NPLs after the most significant GDP decline (economic recession) for the certain number of future years.

The sudden rise of NPLs in 0–1 year when GDP declined more than 14 % (Fig. 7) was in Lithuania, Latvia, and Estonia. Such huge economic recession immediately caused the insolvency of debtors in commercial banks. The same short lag was in Germany and Slovakia; however, these countries belong to the low and intermediate NPLs groups (Table 1), so it cannot be considered as a problem of banking system. The 2 years lag was observed in United Kingdom, which is also in low NPLs group.

The long lag of 6 years was observed in Greece where NPLs constantly grew entire analyzed period (2008–2017), and Italy where the peak of NPLs was reached in 2015 (18.06 %). These both countries belong to very high NPLs group. The more elongated lag of 7 and 8 years was in Luxembourg and Finland that are countries with low NPLs, so this phenomenon cannot be considered as a problem of banks.

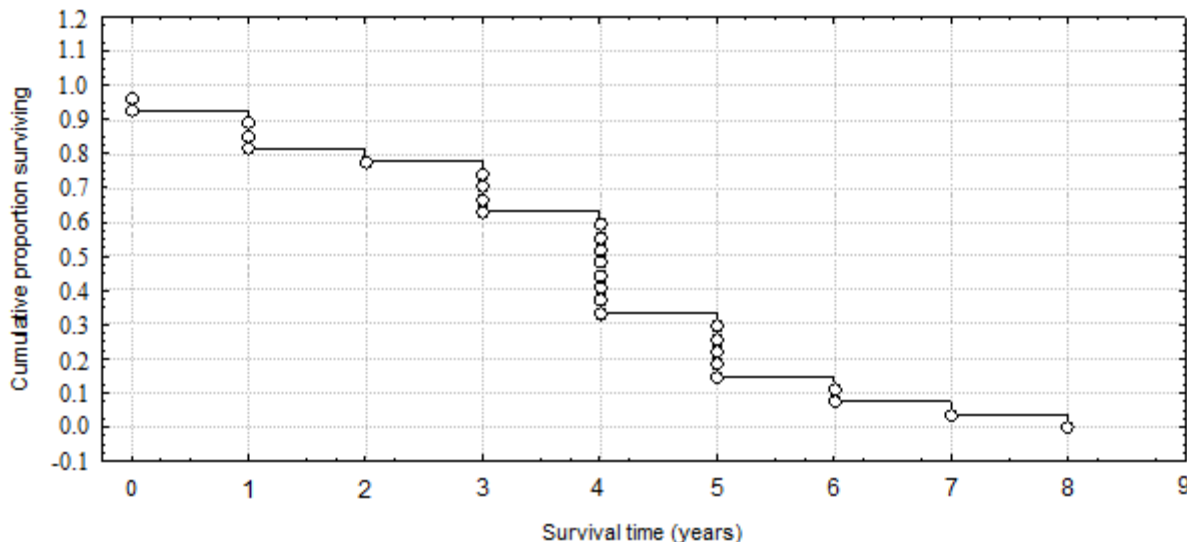


Fig. 8. Survival analysis results of GDP decline and NPLs (max)

The structural averages of GDP decline and NPLs (max) lag are shown in Figure 9. The commercial banks, when maximal GDP decline is observed, in 25 % of countries reach the peak value of NPLs after 2.75 years, in 50 % of countries after 4 years, and in 75 % of countries after 5 years.

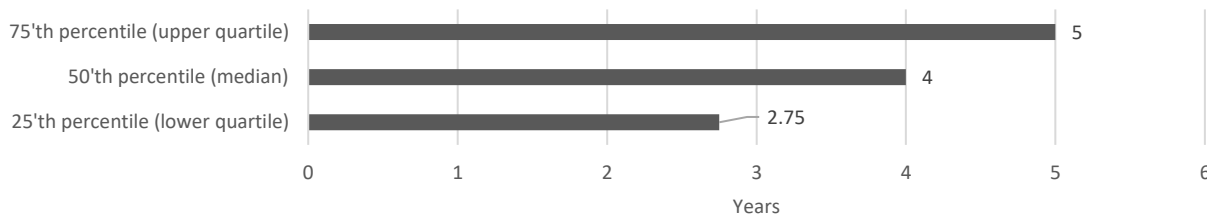


Fig. 9. Structural averages of GDP decline and NPLs (max)

The maximal inflation and unemployment rate (as percentage of active population) values in period of 2007 – 2018 were analyzed in different NPLs groups of EU-28 countries raising the hypothesis that credit boom and irresponsible borrowing cause the high inflation at the peak of business cycle. When the economy deteriorates the high unemployment rate and high NPLs in commercial banks should occur. The scatterplots of maximal inflation and unemployment rates values in four groups of EU countries according to Table 1 classification are given in Figure 10. The maximal inflation of most countries in group 1 is in range [2.8 %; 4.5 %] and maximal unemployment rate is in range [6.5 %; 9.4 %], except Estonia which can be considered as an outlier in group 1 having the maximal inflation of 10.6 % and maximal unemployment rate of 16.7 %. In group 2 the values of inflation and unemployment rate are concentrated at low levels. The most countries in this group had the maximal inflation in range [3.2 %; 4.5] and unemployment rate [6.0 %; 10.4 %]. The most far value of inflation in this group had Czech (6.3 %) and the highest unemployment was observed in France (10.4 %).

The maximal inflation and unemployment rates in groups 3 and 4 have significantly higher variance (Fig. 10) and the most values of these macroeconomic indicators are higher than in previous groups. The outstanding value of inflation in group 3 had Latvia (15.3 %), while the highest unemployment was in Spain (26.1 %). In group 4 the most values of inflation are concentrated in range [4.1 %; 7.9 %] and unemployment rates [13.0 %; 17.4 %].

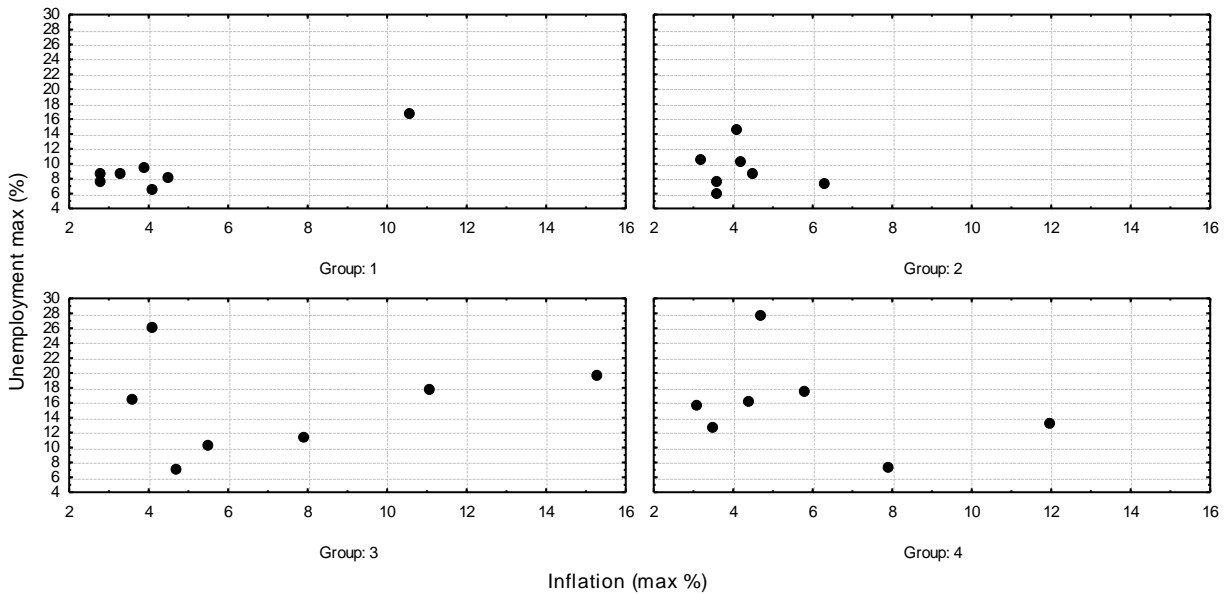


Fig. 10. Inflation and unemployment rates (max) in groups of EU-28 countries

As in Figure 10 can be seen the evident similarities of analyzed indicators in groups 1–2 and groups 3–4, in following graphical analysis these pairs of groups were merged to highlight the differences of maximal inflation and unemployment rates between these merged groups (Fig. 11). The dot above low and intermediate NPLs groups' elements indicates Estonia, which was excluded as an outlier concerning its extremely high inflation in 2008 and unemployment in 2010. The cross signs in Figure 11 indicate average values and the middle lines have the meaning of medians. The average maximal inflation in groups of low and intermediate NPLs is 4.4 %; median of inflation is 4.0 %. The average maximal unemployment in these groups is 9.3 %, while the median is 8.5 %. The average maximal inflation in groups of high and very high NPLs is 6.7 % and the median is 5.1%. The average maximal unemployment in these groups is 15.5 % and the median is 15.8 %. The bottom and top lines of boxes in Figure 11 indicate the 1st and 3rd quartiles, while the vertical lines reflect the range of most typical values (except outliers) in analyzed groups of EU-28 countries.

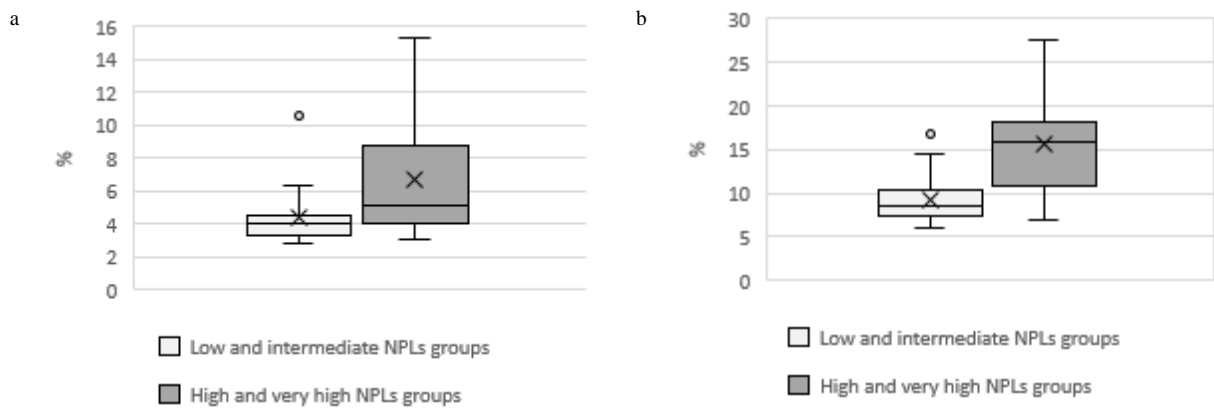


Fig. 11. (a) Ranges of inflation (max in 2007–2018); (b) Ranges of unemployment rates (max in 2008–2017)

As the differences of macroeconomic indicators in four NPLs groups of EU-28 countries were revealed, the following statistical modeling aims to find the consistent patterns of countries' macroeconomics condition, which will be considered predicting the NPLs in commercial banks.

The decision tree method was applied to classify the EU countries into two groups:

- low NPLs (below EU-28 median) where the statistical data of group 1 and group 2 countries were included;
- high NPLs (above EU-28 median) where the statistical data of group 3 and group 4 countries were included.

As the predictors of NPLs category (low or high) nine macroeconomic indicators from previous analysis were used:

- domestic credit to private sector (percent of GDP) in 2010–2018 (DCR);
- gross domestic savings (percent of GDP) in 2010–2018 (GDS);
- government budget balance (percent of GDP) in 2009–2018 (GGB);
- government consolidated gross debt (percent of GDP) in 2009–2018 (GGD);
- real GDP growth rate (percent compared to previous year) in 2007–2018 (RGG);
- inflation (percent) in 2007–2018 (INF);
- unemployment rate (percentage of active population) in 2007–2018 (UNE);
- GDP per capita (EURO) in 2007–2017 (GDP);
- final consumption expenditure of households (EURO per capita) in 2009–2017 (CEH).

To make the macroeconomic indicators comparative in different countries, the relative indices were calculated following three steps:

- the average values of macroeconomic indicators were calculated for every country in previously mentioned years (C_i);
- the EU-28 averages were calculated from the individual averages of every country (C_{EU-28});
- dividing the individual average of each country by the EU-28 average the relative indices were obtained ($I_i = C_i / C_{EU-28}$).

The workflow diagram of decision tree modelling process is shown in Figure 12.

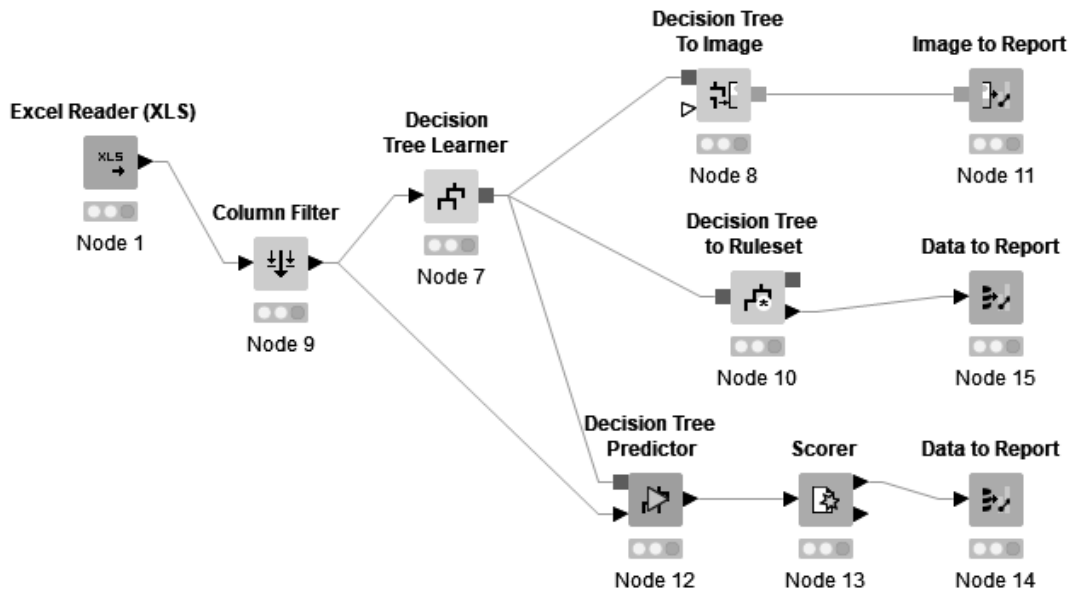


Fig. 12. Decision tree modelling workflow diagram

The classification rules are:

- row 1: If $INF \leq 1.1652515$, and $CEH \leq 0.5205335$, and $GGD \leq 0.8454805$, and $CEH \leq 1.346966$, then NPLs are “Low”;
- row 2: If $INF > 1.1652515$, and $CEH \leq 0.5205335$, and $GGD \leq 0.8454805$, and $CEH \leq 1.346966$, then NPLs are “High”;
- row 3: If $CEH > 0.5205335$, and $GGD \leq 0.8454805$, and $CEH \leq 1.346966$, then NPLs are “Low”;
- row 4: If $GGD > 0.8454805$, and $CEH \leq 1.346966$, then NPLs are “High”;
- row 5: If $CEH > 1.346966$, then NPLs are “Low”.

The graphical visualization of decision tree is shown in Figure 13. The number of EU-28 countries that were classified according to a certain rule and the classification accuracy of each rule are given in Table 2.

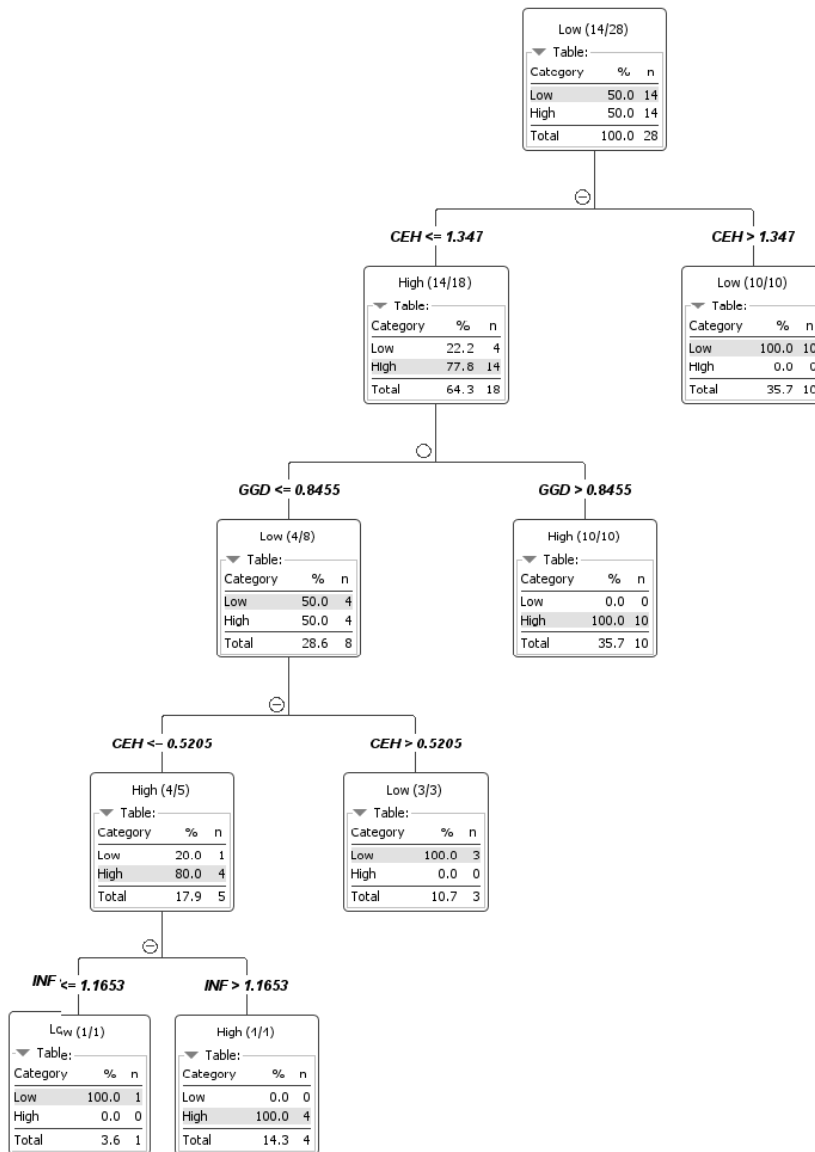


Fig. 13. Decision tree for the classification of EU countries

Table 2. Classification of EU-28 countries by decision tree rules

Row ID	Record count	Number of correct	Row ID	Record count	Number of correct
Row 1	1	1	Row 4	10	10
Row 2	4	4	Row 5	10	10
Row 3	3	3			

All rules classified the EU-28 countries into low (below EU-28 median) and high (above EU-28 median) NPLs groups correctly. Commercial banks calculating the indices of macroeconomic variables from the statistical data of several current years and applying the decision tree model can determine in what country according to the risk level of NPLs they operate with 100 % accuracy. The classification matrix of decision tree model is given in Table 3.

Table 3. Classification matrix of decision tree model

Observed NPLs	Predicted low NPLs	Predicted high NPLs
Low	14	0
High	0	14

Further, the logistic regression model was developed to separate the countries of high NPLs group (classified by decision tree) into two sub-groups:

- $Y = 0$ for high NPLs;
- $Y = 1$ for very high NPLs.

The logistic regression model is:

$$Y = -0.04 \times \text{DCR} - 39.2 \times \text{GDS} - 5.099 \times \text{GGB} + 1,784 \times \text{GGD} - 1.627 \times \text{INF} + 159.371 \times \text{GDP} - 151.273 \times \text{CEH} + 42.943; \quad (1)$$

$$P(Y) = e^Y / (1 + e^Y). \quad (2)$$

The $P(Y)$ values are in range of $[0; 1]$. The classification results of groups 3 and 4 countries (according to Table 1) into high (0) and very high (1) NPLs sub-groups is shown in Figure 14.

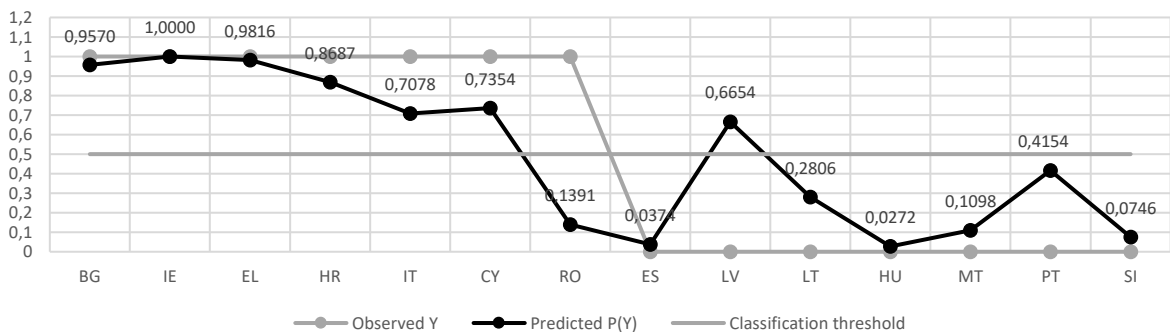


Fig. 14. Classification results of logistic regression model

The classification threshold in logistic regression model was equal to 0.5. The misclassification occurred in two cases of 14 analyzed countries. Romania as a country with very high NPLs obtained the $P(Y)$ value of 0.1391, so it was classified into high NPLs group. Conversely, Latvia as a country of high NPLs was misclassified into the very high NPLs group, because its $P(Y)$ value is 0.6654 (Fig. 14). The overall classification accuracy of logistic regression model is 85.71 % (Table 4).

Table 4. Classification matrix of logistic regression model

Observed NPLs	Predicted very high NPLs	Predicted high NPLs	Percent correct
Very high	6	1	85.71
High	1	6	85.71

When for a commercial bank the necessity to assess the possible NPLs level in a country occurs, it should follow the analysis process depicted in Figure 15. The thresholds in this analysis are median, 1st and 3rd quartiles of NPLs in EU-28.

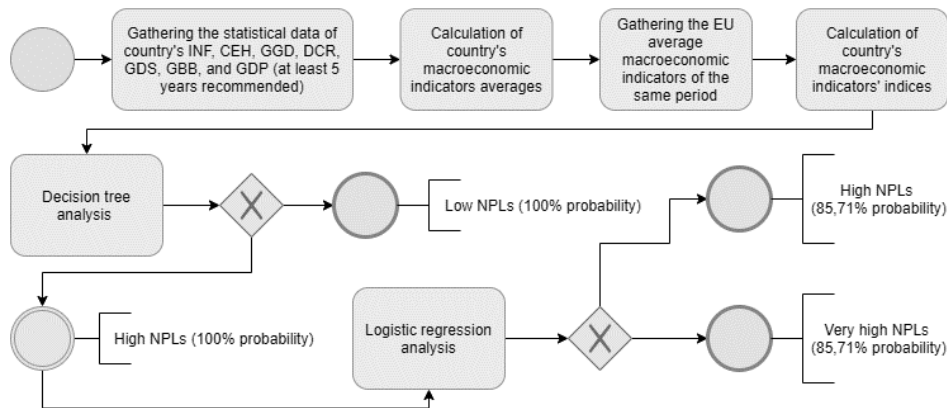


Fig. 15. The prediction process of country's NPLs group

Whereas in implemented analysis the macroeconomic indices as NPLs predictors were calculated using 9–12 years period, at least 5 years statistical data usage is recommended. Analysis of the prolonged data period (up to 9–12 years) ensures the higher NPLs group prediction accuracy.

Conclusions

This research affirmed that non-performing loans in commercial banks depend on country's macroeconomic environment and relative economic differences between EU-28 countries. Three main criterions that allowed reveal this interrelation are indebtedness and savings of private sector, macroeconomic indicators of industry and consumption, and public finance of a country.

Formation of four groups of EU-28 countries according to 10 years NPLs allowed highlight the economic differences between these groups and find the similarities of their members inside the composed classes. The main peculiarities of low and intermediate NPLs countries are their higher than EU average GDP and household expenditure per capita. These perfect macroeconomic rates allow to have higher indebtedness of private sector and not meet serious problems of NPLs in banking systems. The public finance indicators also emerged as very important factors of NPLs, because for the low NPLs countries the relatively low public indebtedness and government budget deficit are typical. In countries, having the low and stable inflation and unemployment rates the commercial banks can expect less problems with insolvent debtors.

The EU-28 countries with high and very high NPLs (above median) usually are less economically developed, having lower savings and private indebtedness, with worse public finance indicators. The higher inflation and unemployment rates were observed analyzing the data of this group. However, the economic differences are quite significant even inside this cluster of EU countries and each country has its individual features. The outstanding countries are Greece and Cyprus where the NPLs during the analyzed period exceeded 45 % when the EU-28 average was 7.8 %. These countries have very high private indebtedness and low savings, GDP per capita is lower than EU average but the household consumption expenditure is above. The government indebtedness and state's net borrowing

as the percent of GDP are extremely high. So, Greece and Cyprus in this research were classified into separate sub-group as countries having the critically high NPLs in overall EU.

Three Baltic states (Lithuania, Latvia, and Estonia) suffered from the most significant real GDP decline (more than 14 %) during the economic crisis in 2009, what caused the sudden growth of insolvent debtors in commercial banks. In other cases, the peak of NPLs is usually reached after 3–5 years from the most GDP decline.

Developing the statistical classifiers, the most significant macroeconomic indicators predicting NPLs were found: Inflation, consumption expenditure of households, government consolidated gross debt, domestic credit to private sector, gross domestic savings, government budget balance, and GDP per capita. To make these rates comparable in different countries, they were transformed into indices as relative indicators to the EU-28 averages. Using the developed decision tree and logistic regression models, the commercial banks can identify the country's NPLs risk level with 85.71–100 % accuracy.

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Population Projections of Lithuanian Regions: How Future Regional Economics Will Depend on Their Human resource?

Ričardas Mileris^{a*}

^aKaunas University of Technology, Panevėžys Faculty of Technologies and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania

Abstract

The population dynamics and future projections of Lithuanian regions were analyzed in this research interrelating them with the development of regional economics. The possible challenges of depopulation for the regional labor markets were characterized considering the quantity and quality of regional human resource. The statistical modelling was implemented to estimate the impact of population changes on the whole economics of Lithuania.

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Keywords: depopulation; emigration; human resource; immigration; regional economics.

Introduction

The national and regional authorities of different countries usually aim to ensure the regional development and reduce the economic inequalities. The economists analyze the regional differences and understanding the main reasons of regional problems try to highlight the core factors of regional development. Often the regional disparities are directly related to their competitiveness. Bronisz, Heijman and Miszczuk [6] summarized the regional competitiveness concepts of international organizations. In the European Competitiveness Report the competitiveness is understood as a sustained rise in the standards of living of a nation or region and a level of involuntary unemployment as low as possible. According to the representatives of the World Economic Forum, the competitiveness concerns adapting state economic institutions and economic structures to produce a growth visible in the international scale. The national economy is competitive in the international scale if its institutions and policy support rapid and stable economic

* Corresponding author. Tel.: + 370 45 434247.
E-mail address: ricardas.mileris@ktu.lt

growth. Organization for Economic Cooperation and Development (OECD) defined a competitive region as a region where the optimal structural relations between production factors, in changing conditions, are used to improve inhabitants' standard of living, attract new investors and encourage multi-purposed development of the area [6]. In European Union the regional development is also being promoted at international level in the multi-annual financial frameworks (MFF) where the European Council prepares the documents with strategic guidelines on reducing economic, social and territorial disparities. These guidelines encompass three priorities: (1) improvement of transport infrastructure, environmental and energy issues, (2) creation of more and better workplaces, and (3) a focus on knowledge transfer and innovation. The special emphasis is put on supporting small and medium-sized enterprises (SME) that often represent the highest source of employment at the regional level [2].

Despite these governmental efforts, Lithuania continuously suffers from the depopulation and inhabitants' ageing processes for 30 years, especially in small regions. The ageing is typical for many EU-28 countries, so EUROSTAT projects a declining working-age population in the long run, when the old-age dependency ratio tends to almost double between 2013 and 2060. Such disadvantageous trend may pose long-run challenges to the labor markets and social security systems, as the demographic burden depends on the workforce of a country [18]. However, the massive emigration, as is being observed in Lithuania, is not common phenomenon even all over the world. Usually the majority movements happen within national borders that are influenced by the differences in wages, unemployment rates of regions, labor demand in industry sectors, the growth of income per capita. The differences between higher valued urban and intermediate regions and the lower valued rural regions appear persistent such that the trend to urbanization is ongoing [15].

In case of international migration, during the first years of population decline the export of labor surplus sending an unskilled workforce abroad reduces the social problems of a country [12]. The temporary work migration appears as the solution of unemployment for rural areas and those distant from urban centers where formal jobs concentrate [11]. The emigrants' remittances are the second well-being consequence of receiving from abroad that are positively associated with life satisfaction in regions through the increase of financial security [21]. The effects of emigration on the labor markets of emigrants' countries depend on a time perspective: (1) in the short term the emigration affects the unemployment; (2) in the medium term emigration leads to pressure on wages, within which structural characteristics of emigration have a crucial role; (3) in the long term, emigration affects the structure of the economy [28]. When the emigration continues under the circumstances of growing economics, the concern about a lack of well-trained workers arises for demographic reasons [18]. It is easier to get emigrants back into the labor market permanently if the regional labor market situation is opportune than in case if it is poor [4]. If a country is unable to establish the attractive conditions for the return of emigrants, the lost part of population lives abroad as non-citizens in the foreign territory, under the authority of immigration states, and beyond the reach of the political authority of emigration states. Yasar [34] the concept of quasi-citizenship proposed for the characterization of such inhabitants.

The emigration and depopulation in Lithuania raise the question: how many people will be available in the regional labor markets? Rees, Clark, Wohland and Kalamandeen [26] maintain that projections of future sub-national populations are needed for public and private sector planning. Sub-national population projections are used for allocation of public finance from central to local government departments, agencies, and are employed in service planning by local governments, social and health agencies. Reliable estimates of properly defined emigration rates are essential for demographic modelling. In population projections most statistical offices use net migration and rely on the inertia of this indicator. When the precise forecasts are needed, the trend extrapolation alone is insufficient method. The migration push and pull factors must be measured as the determinants of population changes [33].

The aim of this research is to estimate the population projections in Lithuanian regions interrelating them with their economic development. The research structure is following. Firstly, the main factors of economic development will be analyzed in the scientific literature, highlighting the role of entrepreneurship, human capital, education, regulatory and other mechanisms. Secondly, the empirical research will be implemented analyzing the Lithuanian demographic and economic indicators. The practical importance of this research is related to the view at future demography of Lithuanian regions if the current depopulation trends remain the same. The statistical modelling will allow foresee the possible positive impact of the hypothetical population increase on growing Lithuanian economy.

1. The main factors of regional economic development

A set of regional economic development factors mostly relates to the determinants of regional competitiveness. Crescenzi, Luca and Milio [10] focus on two main factors: human capital and skills as well as innovation efforts. The accumulation of human capital and the allocation of resources to research and development (R&D) activities are long-term structural characteristics of the regional economy that shape local growth trajectories through two main channels.

First, the human capital of a region and its innovation efforts are crucially linked with the capability of the local economy to generate new knowledge and absorb externally generated new ideas and cognitions. Successful knowledge diffusion depends on the sender's intentions and capacities to communicate as well as on the recipient's ability to recognize and to absorb knowledge [3]. The translation of knowledge into new products and processes are the key drivers of regional economic performance and competitiveness in all phases of the economic cycle [10]. According to Fritsch and Wyrwich [17], the new knowledge is an important source of entrepreneurial opportunities. For this reason, a large and dynamically growing knowledge base should have the potential to provide rich opportunities for many start-ups. This should be especially true for innovative new businesses as they are particularly dependent on knowledge inputs. The relationship between indicators of regional knowledge and new business formation is very strong, particularly with start-ups in innovative and knowledge-intensive industries. The presence of academic institutions and the high level of R&D activities is crucial for the region's development [17]. Zhao, Xu and Liu [35] argued, that the developed regions are inclined to be more dynamic and less consistent because of quickly evolved technologies. The fierce competition force businesses in developed areas to constantly upgrade their technologies and create more innovative business models. The peripheral businesses avoiding or being unable to invest into the technological development are pushed out of the market.

Second, the innovativeness and human capital intensity of the regional economy also have a significant impact on the regional connectivity with the national and global economies, influencing the quantity of external investments localized in the area. Regions investing in innovation and human capital attract the most sophisticated and high-value-added creating multinational firms [10]. Cicerone, McCann and Venhorst [9] also suggest that within the overall global networks of trade, regions with the industries that are oriented towards production and export of global products are more likely to exhibit stronger growth and developments trajectories than regions, which produce and export only peripheral products. For the region's external linkage Fornahl, Schaffer and Siegele [16] point the necessity of transport infrastructure capital which is described by a composite indicator of the region's internal road and rail infrastructure and its external accessibility. Scale economies induce the concentration of workers and firms, each enjoying closer contact with its markets and access to a greater variety of inputs and products. Investment in infrastructure facilitation is considered as one of the financial determinants of regional economic development, improving intraregional and interregional transportation and communication facilities increases the level of market access [19]. Regional infrastructure to the market is one of the determinants of the industrial location [20]. Meanwhile, scholars of cities describe the processes of economic agglomeration as the basis of city economies [29].

In many recent studies, the level of entrepreneurial activity is considered as one of the crucial determinants of regional economic development. Dvoulety, Gordievskaya and Prochazka [13] explained this interrelation by the concept of entrepreneurship capital, which mobilizes the mechanism of new knowledge creation, innovation, formation of business and start-up activity, and increases the competitiveness of a region. Wagner, Schaltegger, Hansen and Fichter [31] accent the necessity of region's entrepreneurial ecosystem, which is defined as a dynamic community of interdependent actors (entrepreneurs, suppliers, buyers, government) in institutional, informational and socioeconomic contexts. The term of entrepreneurial ecosystem was coined to refer to those elements in the entrepreneurs' environment that help them to succeed in their efforts to grow a new venture. Bruns, Bosma, Sanders and Schramm [7] found five groups of regions: (1) industrial districts, (2) periphery, (3) industrial agglomeration, (4) urban agglomeration, and (5) urban periphery. The propensity to start a business is highest in groups 1, 4, and 5, and these types of regions are thus said to have an entrepreneurial regime. Rypestøl [27] defined the process of path dependent regional industrial evolution. The first is a preformation phase, where the creation of new regional paths is based on historically gained knowledge, resources and experiences. In the second phase, new regional paths are created, while phase three is the early stage of path development resulting from increasing returns and network externalities. In phase four, the movement to a stable development state or a dynamic path developing process resulting from a continuing process of improvement and renewals is possible. In second case, according to Andersson, Danley,

Eriksson and Henning [1], regions must realize the reallocation of resources to new, more innovative and more productive activities. In fact, recent contributions in the literature concerned with regional economic resilience argue that recombining partly existing resources is essential to achieve sustained growth. Human capital is a key resource in such processes of transformation.

The production of graduates through educating high skilled individuals improves the overall regional conditions. Beyond that, strong universities promote the entrepreneurial and technological innovation potential of a region. The analysis implemented by Weßling and Bechler [32] of the individualistic aspect of the regional presence of universities has shown that living in a region with a strong university orientation has the attractive impact on young adults. According to Budyldina [8], universities act as institutions attracting human capital and innovative firms to the locale. The positive long-term effects of activities undertaken by universities have been documented in terms of skilled employment, higher average incomes, regional GDP per capita and new firm creation. Thus, not unlike competitive firms, universities accumulate available resources (academic staff, students, financial resources and networks) and employ strategic management tools to commercialize academic knowledge via spinning off companies, selling research results to industrial organizations and undertaking contract research. Koenig, Brenner and Buenstorf [24] also confirmed that the supply of graduates is associated with higher regional growth. The expansion of the German university system in the 1960s–70s was based on the objective to enhance the supply of human capital, taking the form of highly skilled university graduates, in the respective regions.

Tingvall and Videnord [30] argued for two main factors affecting the localization decision of a firm: (1) access to labor and a reasonable maximum commuting distance for workers, (2) input and output links, suggesting that the geographical distribution of innovative activities is interdependent with the distribution of skilled labor. Region's investments in learning-related activities signal additional skills of population to employers that are valued in their created workplaces [25]. The investors make strategic decisions at their own risk. If these decisions concerning human resources are wrong, they must bear the resulting costs by themselves [22].

In addition, Ferrara and Nistico [14] the regional well-being disparities interrelated with government's effectiveness, regulatory quality, rule of law, and corruption. Institutions provide the incentive structure of an economy and shape the direction of economic change towards growth, stagnation, or decline. Furthermore, the importance of region's cultural capital was included by Fornahl, Schaffer and Siegele [16]. Bristow and Healy [5] conclude that a region which exhibits adaptive capacity to internal and external changes, that is critical for its long-term transformation, usually demonstrates the ability to develop new growth paths. The reorientation (the extent to which the region adapts its economic structure) and renewal abilities play a very important role.

2. Research methodology

The research process consists of 5 main stages. At first, the statistical characteristics Lithuanian population dynamics will be analyzed detailing it in 10 districts level, population density and ageing. Secondly, the statistical population projections will be extrapolated in 60 Lithuanian municipalities until 2050. Thirdly, the internal and international migration will be described at the municipalities level, and the costs of emigrants' education for national budget will be calculated. In the fourth stage the quantity and quality of Lithuanian workforce will be analyzed referring to The Global Competitiveness Report (2018) and Lithuanian educational system indicators. Finally, the standards of living indicators will be interrelated with the Lithuanian districts, the statistical dependency between regional population, gross capital formation (investments), and gross domestic product (GDP) per capita will be estimated. The statistical modelling also will be implemented which is based on hypothetical presumptions to reduce the net emigration of Lithuanians from 10 to 100 %, and extrapolation of country's GDP growth as the result of population changes.

The methods of the research include exponential and linear regression, correlation coefficient, weighted averages, and dynamics statistics. The multi-stage techniques will be developed for the distribution of expected population in 60 municipalities until 2050, and country's GDP prediction based on hypothetical population change presumptions. The official statistical data of Statistics Lithuania, The Global Competitiveness Report (2018), EUROSTAT, and World Bank will be used in the following analysis and modelling.

3. Demographic problems of Lithuanian regions and their impact on regional economics

In the context of growing world’s population (in 2019 it exceeded 7.6 billion inhabitants) Lithuania is one of the uncommon countries that has rapidly declining population. The peak-point of Lithuanian population was reached in 1991 when this country had 3.704 million inhabitants but until 2019 this number declined by 24.6 % to 2.793 million. This means that during the current 29 years Lithuania has lost about 911 thousand inhabitants. The official population projections of EUROSTAT show that until 2100 the population in Lithuania is expected to decline to 1.625 million people (Fig. 1). The average annual population decline rate in period of 1991–2019 was 1 %, which is expected to remain until 2030. During the following years the average Lithuanian population decline rate is predicted to be about 0.66 % yearly. The population density in Lithuania since 1996 declined from 55.4 to 42.8 of inhabitant in 1 square kilometer (year 2019). The second demographic problem of Lithuania after its depopulation is population ageing. The demographic old-age coefficient in period of 2001–2019 increased from 71 to 131 (Fig. 1). This coefficient indicates the relative number of old-age people (65 years and more) to 100 of children up to 15 years old.

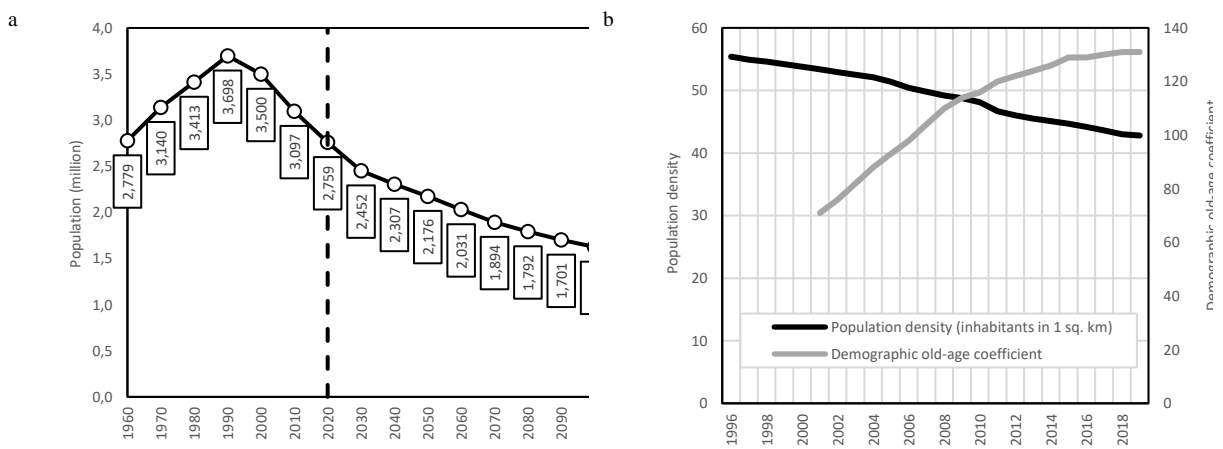


Fig. 1. (a) Population of Lithuania and its official forecasts by EUROSTAT; (b) Lithuanian population density and demographic old-age coefficient (Statistics Lithuania, 2020)

The remaining and lost population in 2019 compared to year 1996 in ten Lithuanian districts is shown in Figure 2. The highest population decline was observed in Utena district (-35.5 %) while the least depopulation was in Vilnius district (only -7.6 %).

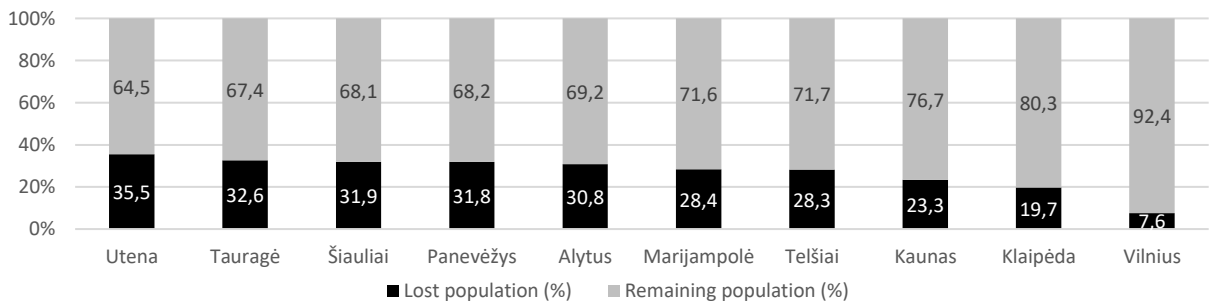


Fig. 2. Remaining and lost population of Lithuanian districts in 1996–2019 (Statistics Lithuania, 2020)

The detailed statistics of the population in every Lithuanian municipality is available since 1996, so their population growth or decline rates were calculated for the period of 1996–2019 (Table 1). The population is growing only in 4

from 60 municipalities: Neringa together with Klaipėda, Kaunas, and Vilnius rural districts (r. d.). In the rest 56 municipalities the population declined from 4.5 % (Vilnius city) to 41.2 % (Visaginas). The expected population changes in period of 1996–2050 also were calculated (Table 1) considering the predicted by EUROSTAT the overall Lithuanian population in 2050 (2 175 738 persons).

Table 1. Actual (1996–2019) and predicted (1996–2050) population changes (%) in Lithuanian municipalities

No.	Municipality	1996–2019 (%)	1996–2050 (%)	No.	Municipality	1996–2019 (%)	1996–2050 (%)
1.	Neringa	+40.5	+71.0	31.	Panevėžys city	-30.9	-54.2
2.	Klaipėda r. d.	+30.9	+54.1	32.	Šakiai	-31.0	-54.4
3.	Kaunas r. d.	+22.6	+39.7	33.	Vilkaviškis	-31.2	-54.7
4.	Vilnius r. d.	+16.4	+28.8	34.	Šilalė	-31.3	-54.9
5.	Vilnius city	-4.5	-7.9	35.	Rietavas	-31.4	-55.0
6.	Trakai	-14.1	-24.7	36.	Šilutė	-32.3	-56.7
7.	Kretinga	-15.5	-27.1	37.	Kėdainiai	-32.4	-56.8
8.	Panevėžys r. d.	-17.0	-29.8	38.	Švenčionys	-32.4	-56.9
9.	Palanga	-17.4	-30.6	39.	Alytus city	-32.7	-57.3
10.	Šiauliai r. d.	-19.0	-33.3	40.	Ukmergė	-32.9	-57.6
11.	Alytus r. d.	-19.9	-34.9	41.	Telšiai	-33.4	-58.5
12.	Jonava	-20.0	-35.1	42.	Molėtai	-34.1	-59.7
13.	Kaišiadorys	-20.8	-36.6	43.	Lazdijai	-34.1	-59.8
14.	Elektrėnai	-22.1	-38.8	44.	Radviliškis	-34.6	-60.7
15.	Šalčininkai	-22.6	-39.6	45.	Kupiškis	-34.8	-61.0
16.	Plungė	-25.1	-44.0	46.	Varėna	-34.9	-61.2
17.	Mažeikiai	-25.6	-44.8	47.	Jurbarkas	-35.7	-62.5
18.	Marijampolė	-25.8	-45.2	48.	Pasvalys	-36.2	-63.4
19.	Kazlų Rūda	-26.1	-45.7	49.	Anykščiai	-36.6	-64.2
20.	Klaipėda city	-26.6	-46.7	50.	Rokiškis	-37.2	-65.2
21.	Širvintos	-27.3	-47.9	51.	Joniškis	-37.5	-65.7
22.	Kalvarija	-27.6	-48.4	52.	Zarasai	-37.5	-65.7
23.	Prienai	-27.8	-48.7	53.	Pakruojis	-37.6	-66.0
24.	Šiauliai city	-29.1	-50.9	54.	Pagėgiai	-38.1	-66.8
25.	Utena	-29.1	-51.0	55.	Biržai	-38.6	-67.6
26.	Birštonas	-29.5	-51.6	56.	Kelmė	-38.7	-67.8
27.	Kaunas city	-29.8	-52.3	57.	Skuodas	-39.1	-68.5
28.	Tauragė	-30.0	-52.6	58.	Akmenė	-39.9	-69.9
29.	Raseiniai	-30.1	-52.8	59.	Ignalina	-40.0	-70.1
30.	Druskininkai	-30.5	-53.5	60.	Visaginas	-41.2	-72.3

The forecasts of population (P) changes in Lithuanian municipalities during the period of 1996–2050 were obtained implementing the following analysis. The population changes (ΔP_i) were calculated in every municipality (i) during the period of 1996–2019:

$$\Delta P_i(1996-2019) = P_i(2019) - P_i(1996). \quad (1)$$

The relative indices (m_i) were obtained dividing the municipality's population change by the overall Lithuanian population change (ΔP_{LT}) in 1996–2019 (-821 028 persons):

$$m_i = \frac{\Delta P_{i(1996-2019)}}{\Delta P_{LT(1996-2019)}} \tag{2}$$

The predicted Lithuanian population change (ΔP_{LT}) in 1996–2050 according to forecast of EUROSTAT for year 2050 (F_{LT}) is:

$$\Delta P_{LT(1996-2050)} = F_{LT(2050)} - P_{LT(1996)} = 2\,175\,738 - 3\,615\,212 = -1\,439\,474 \text{ persons.} \tag{3}$$

The relative indices of every municipality (m_i) were multiplied by the predicted Lithuanian population change obtaining the expected population change of municipalities (i) during 1996–2050:

$$\Delta P_{i(1996-2050)} = m_i \times \Delta P_{LT(1996-2050)}. \tag{4}$$

The predicted population (P_i) of every municipality in 2050:

$$P_i(2050) = P_i(1996) + \Delta P_{i(1996-2050)}. \tag{5}$$

The predicted population changes (ΔP_i (%)) of every municipality during 1996–2050:

$$\Delta P_{i(1996-2050)} (\%) = \left(\frac{P_i(2050)}{P_i(1996)} - 1 \right) \times 100 \%. \tag{6}$$

After the analysis the final sum of $P_i(2050)$ values (2 175 738 persons) were equal to the EUROSTAT’s official forecast of Lithuanian population in 2050 (F_{LT}). This affirms that the proportional statistical extrapolation of 1996–2019 years’ population changes in Lithuanian municipalities allow foresee their expected changes until 2050. The forecasts show that 52 municipalities will have lost more than 30 % and 37 municipalities – more than 50 % of their population compared to year 1996 (Table 1). The worst demographic situation is in Visaginas and Ignalina regions where until 2050 it is expected to lose more than 70 % of inhabitants.

The emigration together with the negative natural increment rate are the main factors of Lithuanian depopulation. The average annual number of Lithuanian emigrants in period 1990–2018 was 34 478, while the average net emigration was 24 484 persons. Until 2018 the country’s net cumulative emigration reached 710 031 persons (Fig. 3). The lack of workforce and growing average wages in recent years attract more immigrants to Lithuania. The immigration peak was reached in 2018 (28 914 persons). This phenomenon reduced the negative net international migration rate to –1.2, while the average annual value of this indicator in 2001–2018 was –8.6 (Fig. 3).

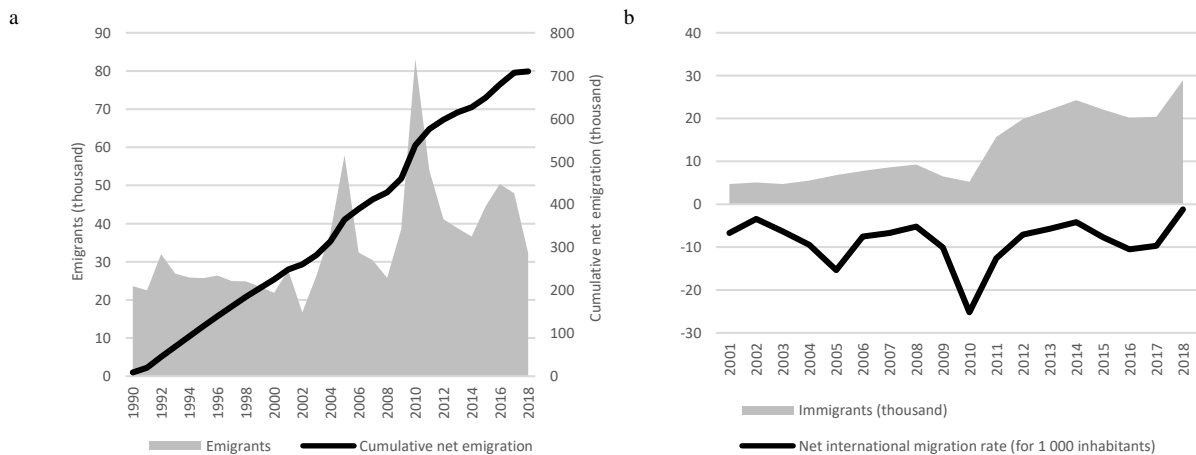


Fig. 3. (a) Emigration of Lithuanians; (b) Immigrants to Lithuania and net international migration rate (Statistics Lithuania, 2020)

Analyzing the internal migration of Lithuanian population, it was revealed that only 16 municipalities had the positive average net internal migration in 2001–2018. In most cases (39 municipalities) the average annual population decrease due to internal migration to other regions reached up to 231 persons. In 5 municipalities this decline was 232

persons or higher (histogram in Fig. 4). The most attractive areas for internal Lithuanian migrants are Vilnius city together with Kaunas, Vilnius, and Klaipėda rural districts (in average 962–2 724 persons per year). The rest 12 municipalities have relatively insignificant positive net internal migration indicators in range of 9–147 persons (Fig. 4).

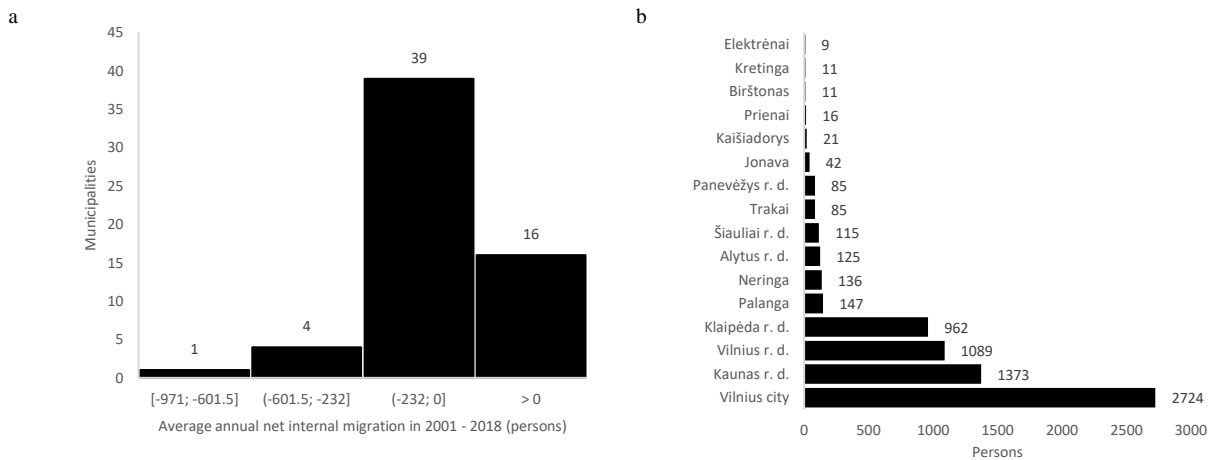


Fig. 4. (a) Histogram of average annual net internal migration in Lithuanian municipalities (2001–2018); (b) Municipalities with positive average annual net internal migration (Statistics Lithuania, 2020)

The depopulation of Lithuania causes the deficit of skilled employees for businessmen and investors in this country. According to The Global Competitiveness Report (2018), the ease of finding skilled employees in Lithuania is in the 123rd place from ranked 140 world countries. In addition, not only the quantity, but also the quality of Lithuanian workforce is in serious concern. The skillset of graduates having the current educational system is in 107th place compared to the estimated 140 countries (Fig. 5).

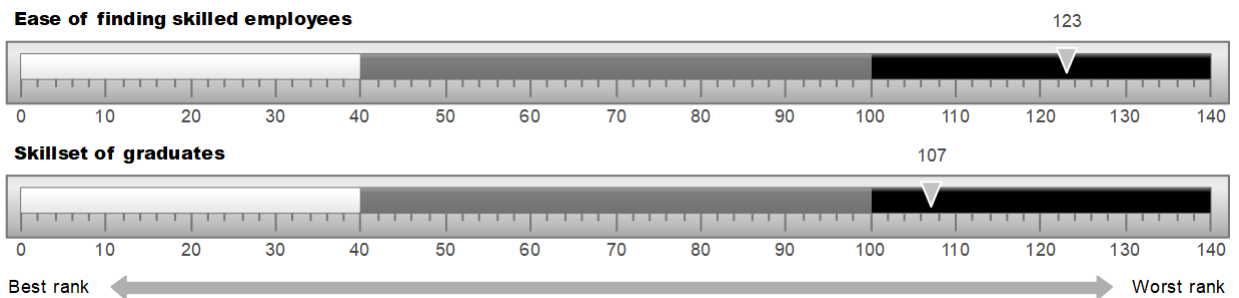


Fig. 5. Ease of finding skilled employees and skillset of graduates in Lithuania (The Global Competitiveness Report, 2018)

The Lithuanian national budget expenditures on education in 1995–2017 increased from 407.3 million to 2.1 billion EURO. However, according to National Audit Office of Lithuania, the efficiency of educational system is insufficient due to declining number of schoolchildren and students in Lithuanian educational institutions. The peak-point of schoolchildren and students was reached in 2003 (810.4 thousand persons) while until 2018 this number declined by 42.3 % to 467.8 thousand persons. The average year’s cost of 1 schoolchild or student for national budget increased from 1 171 EURO in 2003 to 4 253 EURO in 2017 (Fig. 6).

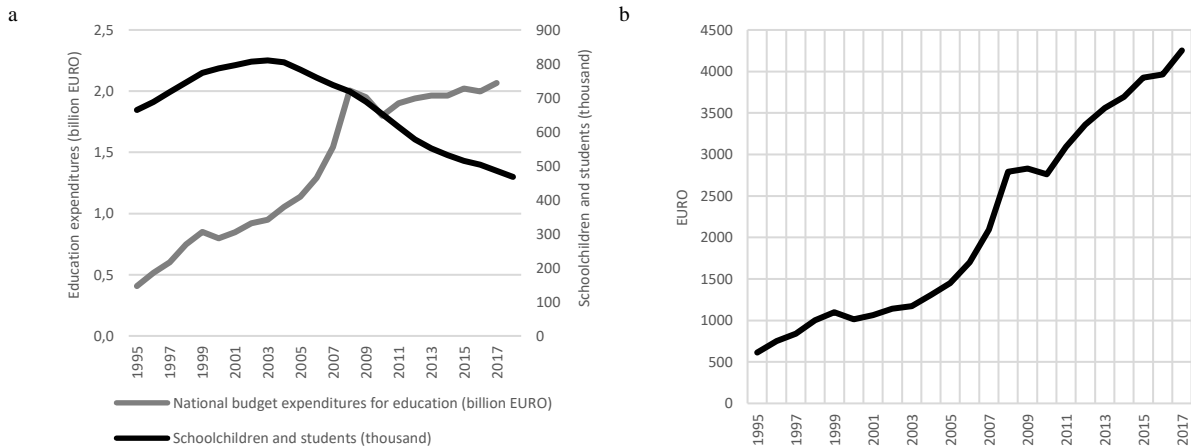


Fig. 6. (a) Lithuanian national budget expenditures for education (1995–2017) and the number of schoolchildren and students in Lithuanian educational institutions (1995–2018); (b) The average 1 year's expenditure for education of 1 schoolchild or student (Statistics Lithuania, 2020)

The problem of huge emigration is related to very high financial losses for Lithuanian national budget educating the human resources for foreign countries. The weighted average of 1 person's 1 year's education in 1995–2017 was calculated adding the products of average year's t expenditure for 1 schoolchild or student (E_t) with the number of schoolchildren and students of a year t (S_t) and dividing the obtained number by the sum of S_t :

$$\bar{E}_{(1995-2017)} = \frac{\sum_{t=1995}^{2017} E_t \times S_t}{\sum_{t=1995}^{2017} S_t} = 1\,932 \text{ EURO.} \quad (7)$$

According to The Global Competitiveness Report (2018), the mean years of Lithuanian inhabitants' schooling is 12.8 ($Y_{Education}$). The cumulative number of net Lithuanian emigrants in 2018 was 710 031 (C_E). The total cost of Lithuanian national budget educating the human resources for foreign countries is:

$$Cost = \bar{E}_{(1995-2017)} \times Y_{Education} \times C_E = 17\,558\,782\,618 \text{ EURO.} \quad (8)$$

So, Lithuania has spent 17.6 billion EURO educating emigrants that generate GDP in other countries. The depopulating regions and the constantly declining number of schoolchildren caused the closedown of 53.7 % secondary schools in 2001–2019. It is evident that highly depopulated Lithuanian regions will meet the problem of workforce in future what will slow the investments and economic development there. According to The Global Competitiveness Report (2018), the ease of hiring foreign labor in Lithuania is only in the 133rd place in the list of 140 world countries while the internal labor mobility is evaluated as 32nd. The hypothesis can be raised that the concentration of educational institutions, workforce and investments in highly populated Lithuanian regions could achieve country's better economic development and reduce the international emigration. The internal migration to more developed regions could be more beneficial for Lithuanian economy rather than emigration that shrinks the country's domestic and labor markets.

The two largest Lithuanian districts (Vilnius and Kaunas) have 49.1 % of total and 51.5 % employed population. However, these districts generate 62.5 % of country's GDP, have higher productivity (124 % of GDP per capita) and standard of living (105.2 % of average salary). The other 8 districts generate 37.5 % of country's GDP, have 68.7 % of country's GDP per capita and 85.4 % of average salaries (Table 2).

The exponential regression model was developed to interrelate the population of Lithuanian districts (P_D) and the average gross capital formation (investments) per capita (INV_C) of period 2014–2018:

$$INV_C = 1\,101 \times \exp(0,0015 \times P_D). \quad (9)$$

The correlation coefficient between interrelated indicators is 0.87, what means the strong positive statistical dependence of investments on district's population. The outstanding investments were in Vilnius (3 601 EURO),

Klaipėda (2 948 EURO), and Kaunas (2 209 EURO) districts. In the rest 7 districts the average investments were in range of 1 102–1 573 EURO (Fig. 7).

Table 2. Contribution of Lithuanian districts to country's aggregated macroeconomic indicators (year 2018)

Indicator	Vilnius and Kaunas districts (%)	Other 8 districts (%)	Lithuania total (%)
Population	49.1	50.9	100.0
Employed population	51.5	48.5	100.0
GDP	62.5	37.5	100.0
Average GDP per capita	124.0	68.7	100.0
Average salary	105.2	85.4	100.0

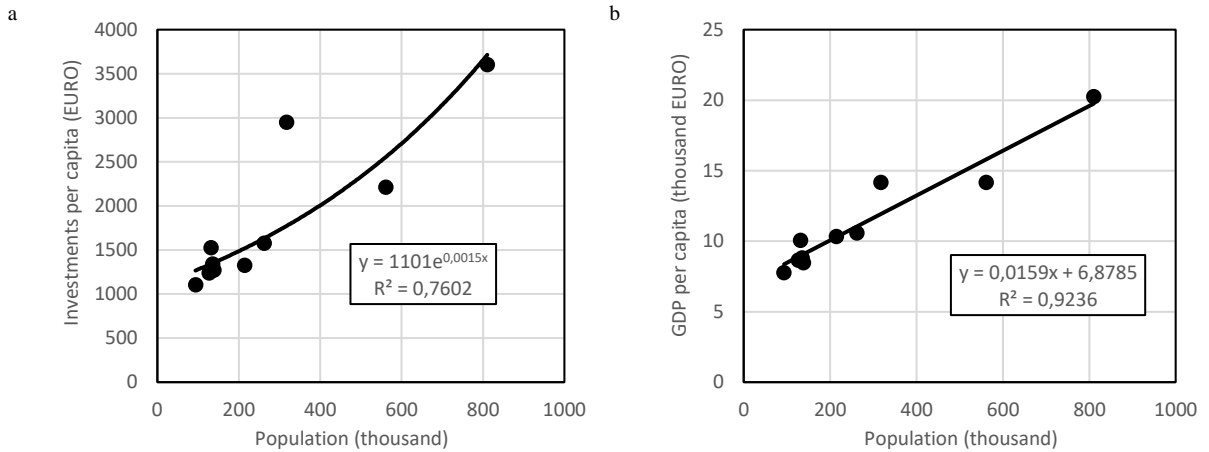


Fig. 7. (a) Population and gross capital formation (investments) in Lithuanian districts; (b) Population and GDP per capita in Lithuanian districts (Statistics Lithuania, 2020)

The linear regression model was developed to interrelate the districts' population (P_D) with the average GDP per capita (GDP_C) of the same 5 years period:

$$GDP_C = 0.0159 \times P_D + 6.8785. \quad (10)$$

This statistical dependence is very strong (the correlation coefficient is 0.96). The highest value of average GDP per capita was in Vilnius district (20.2 thousand EURO). Kaunas and Klaipėda districts had the same value of 14.2 thousand EURO. The rest 7 districts were very close each other with values in range of 7.8–10.6 thousand EURO (Fig. 7).

The statistical modelling of GDP per capita changes in Vilnius and Kaunas districts was implemented making the presumptions that the net emigration of Lithuanians (710 031 persons in 2018) could be reduced from 10 % to 100 %. The distribution of returned emigrants in hypothetical model is equal to 50 % to these both districts. The analysis results applying the developed linear regression model (10) have shown that reducing the net emigration, the GDP per capita could be increased up to 25.5 % in Vilnius and 51.5 % in Kaunas districts (Table 3).

The positive effect of net emigration reduction on overall GDP of Lithuania (GDP_{LT}) was estimated adding the GDP of 8 Lithuanian districts excluding Vilnius and Kaunas (GDP_{8D}) to the products of population (P), GDP per capita (GDP_C) and GDP per capita change indices (ΔGDP_C) in Vilnius (VLN) and Kaunas (KAU) districts:

$$GDP_{LT} = GDP_{8D} + P_{VLN} \times GDP_{C\ VLN} \times \Delta GDP_{C\ VLN} + P_{KAU} \times GDP_{C\ KAU} \times \Delta GDP_{C\ KAU}. \quad (11)$$

The GDP at current prices of Lithuania in 2018 was 45.3 billion EURO. The growth of population in Vilnius and Kaunas districts reducing the net emigration could attract the exponentially growing investments to these leading regions and significantly increase the GDP of overall country.

Table 3. Statistical modelling of GDP per capita in Vilnius and Kaunas districts (average of 2014–2018 years)

Presumption of net emigration change (%)	GDP per capita change in Vilnius district (%)	GDP per capita change in Kaunas district (%)
-10	+0.4	+15.6
-25	+4.6	+21.6
-50	+11.6	+31.6
-75	+18.6	+41.5
-100	+25.5	+51.5

The statistical modelling shows that in 2018 hypothetically having the net emigration change value of -100 % the country’s GDP could be 74.4 billion EURO (Table 4). In this case having zero net emigration Lithuania’s population could be 3 504 215 inhabitants and country’s GDP per capita could reach 21 239 EURO.

Table 4. Statistical modelling of Lithuanian GDP at current prices (2018)

Presumption of net emigration change (%)	0	-10	-25	-50	-75	-100
Hypothetical GDP (billion EURO)	45.3	48.4	52.2	59.0	66.4	74.4

The concentration and education of human resource in leading Vilnius and Kaunas districts can ensure the quantity and quality of workforce to prompt the significant growth of investments and GDP. The orientation towards knowledge-based businesses and high value creation can cause the expansion of highly developed areas. According to statistical model, the resource concentrating and developing economic policy can allow achieve up to 64.2 % higher GDP and in consequence support the suddenly depopulating other regions. The increased standard of living can stop the negative flow of economic migrants from Lithuania as it can be seen in Figure 3, where during 2016–2018 years of economic upturn the emigration declined. The immigration to Lithuania also grows. In 2019 the immigration (19.7 thousand persons) increased by 1.6 times compared to 2018. The most immigrants were from Ukraine (45.1 %) and Belarus (32.5 %). Attracting the Lithuanian emigrants and foreign immigrants to highly developing Vilnius and Kaunas districts, as the statistical modelling has shown, Lithuania according to GDP per capita of year 2018 (16 100 EURO) could ascend from 22nd to 17th position surpassing Slovakia, Greece, Czechia, Estonia, and Portugal.

Conclusions

The analysis results of scientific literature allow conclude that the competitive advantage of a region mainly depends on its supply of production factors. The most arguments are related to the size of the local labor market and its content. The local access to a well-educated labor force is crucial for investments and business development. The typical result of scientific researches is that one of the most important factors determining firms’ localization decisions in a region is the ability to access to qualified workers. The export of country’s workforce through emigration is beneficial only under the circumstances of its surplus, especially during the economic recessions. The remittances of emigrants have the positive impact on savings, consumption, personal investments, and country’s balance of payments. The remittance have the advantage compared to other capital inflows, because their use is not tied to particular investment projects with high import content, bear no interest and do not have to be repaid [23], and they exhibit an anti-cyclical character. However, during the economic growth period the shrinking regional labor markets create the serious challenges for the regional development. The mobilization of entrepreneurship capital becomes crucial consolidating the efforts of organizations, institutions, firms, and individuals among whom the creation, use, and distribution of new knowledge occur. This line of thinking stresses the importance of cooperation and of links between industry, government, and academic institutions.

The current depopulation of Lithuania is a phenomenon which undoubtedly has the impact on country's economic development. The circular effect can be observed, because the population decline is higher in less economically developed regions, and contrary, the lower economic development increases emigration. The 75 % of Lithuanian municipalities have already lost more than 25 % of their population. The official forecasts show the continuously declining population of Lithuania until year 2100. In future the decreasing and ageing population will cause the serious problems in Lithuanian regional labor markets. Even currently the regional free economic zones and industrial parks cannot attract the investments because of shrinking workforce supply in the depopulated areas. The international competitiveness rankings of Lithuania show that business enterprises meet the problem finding skilled employees not only due to the declining quantity of workforce, but also due to its insufficient quality. Because of the decreasing population density in most regions, the Lithuanian educational system becomes very expensive and inefficient. The average costs to educate 1 schoolchild or student for 1 year since 1995 increased by 593.85 % from 613 to 4 253 EURO. The total emigrants' education costs are about 17.6 billion EURO. The strikes of educational system's employees at the end of 2019 requiring increase the salaries can reduce the efficiency of the whole system even more. The joint classes at small regional schools when at the same lesson few schoolchildren of different age are being educated cannot be promoted any more ensuring the lawful interests of youth to obtain the education of high quality.

The statistical modelling confirmed the hypothesis that the concentration of educational institutions, workforce and investments in highly populated Lithuanian regions could achieve country's better economic development and reduce the international emigration. The standards of living in Vilnius, Kaunas, and Klaipėda districts are significantly higher compared to 7 other less developed regions. The growing economy approaching the peak-point of business cycle reduces the emigration and increases the number of immigrants. The growth of investments and GDP per capita highly depends on the population density and quality of human resource. So, the concentration of human resource in the most attractive for inhabitants Vilnius and Kaunas districts could exponentially increase the business investments and reduce the emigration. The internal migration policy towards accumulation of human resource should be promoted instead of observing continuous huge emigration of Lithuanian inhabitants for 3 decades.

The concentration of human resource in the highly developed regions, the increase of education system efficiency and quality should be the recognized as the priorities at national level. The concentration and expansion economic policy should have the positive effect for the whole economy of the country. Even the current financial support of EU funds cannot stop the emigration from less developed regions. The urbanization is typical process for the world's population. Since 1960 the world's urban population increased from 33.6 % to 55.3 %. The striving of inhabitants to have the higher living standards is unstoppable under the current globalization. The forced promotion of settlement in rural and economically undeveloped areas is inefficient and wasting the state's financial resources. Only having the highly developed core of economics in a country can ensure the wealth for the whole population including the smaller regions with outspread agriculture, lower technology industries, and services.

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Maritime Spatial Planning as “Key Enabler” of Blue Growth through “Just Transformations” in the European Union

Leila Neimane^{a*}

^aUniversity of Latvia, Faculty of Law, Institute of Legal Science, 19 Raina blvd., Riga LV-1586, Latvia

Abstract

In the world of the pressures associated with the climate change, population growth and societal challenges, maritime/marine spatial planning underpinned by the ecosystem-based approach is an ocean management governance tool and the new buzzword of the maritime sustainability debates and marine governance system. This paper provides an insight into the interrelationship between the notions of ecosystem-based maritime spatial planning and Blue Economy or Blue Growth. Purpose of the paper is to explore how maritime spatial planning can operate as the key enabler of the Blue Growth in the European Union. In this regard, firstly, sustainability assessment perspective is used. Secondly, it is supplemented by the concept of just transformations. The analysis of chosen perspectives reveals the possibilities to improve the awareness and interpretation of the maritime spatial planning establishment to address social justice concerns.

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Keywords: marine spatial planning; maritime spatial planning; Blue Growth; Blue Economy; ecosystem-based approach; sustainability assessment; just transformations; social justice.

Introduction

Such factors as “[p]opulation growth, technological change and shifting consumer demands are all placing increasing demands on and threats to the marine environment which are compromising future food security, creating adverse human health impacts and increasing the vulnerability of coastal communities to natural and human-induced

* Corresponding author.
E-mail address: leila.neimane@lu.lv

disasters” [1, p. 52]. Against this background, maritime or marine spatial planning (MSP) underpinned by ecosystem-based approach (EBA) is proposed as a comprehensive way of handling the human usage of the environment in a sustainable fashion [2], in the face of ever-increasing demands on marine capital [3], diversifying and intensifying maritime activities worldwide [4] and equilibrium search between environmental protection and economic development in a sustainable way in various parts of the world, e.g., Australia, Canada, China, Mexico, USA [5]. As to date, the European Union (EU) probably is the most dominant and prominent leader in the maritime issues [6] and MSP field, more specifically, considering that approx. 45 % of all maritime spatial plans worldwide come from the EU [7]. Thus, the MSP has gained its popularity and one of the leading roles in marine governance system at global and regional levels. At the same time, the MSP remains a multiple and multilayer concept and intertwined with a number of other notions like “marine conservation”, “fisheries management”, “Blue growth” or “Blue Economy” (both terms used interchangeably), “climate adaptation” and “global ocean governance”. However, MSP’s relationship to other terms of the marine governance system is multifaceted and not yet thoroughly explored [8]. As well as, as the practice in Europe demonstrates, the aims of MSP can be divergent, e.g., in some cases, the effective achievement of the MSP objectives mean progress towards the achievement of the renewable energy targets. In contrast, in other cases, it means progress towards the designation and effective management of marine protected areas [9]. Accordingly, the way in which the EBA is applied at the global and regional level in the marine environment seems to be in a constant state of change as a result of the research work being conducted on the development of its core elements [10].

In particular, the understanding of the MSP has recently been influenced by the mainstream debate of the relatively new policy initiative entitled Blue Economy – “*an emergent and rapidly propagating concept through which the hydrological sphere of the earth is identified as a new economic possibility that is expected to bring both wealth and environmental protection*” [11, p. 37]. Indeed, uncovering the secret riches trapped in the oceans has become a priority for many countries across the globe and is being championed by the most influential organizations [12]. According to estimates of the Organization for Economic Cooperation and Development, the output of the global ocean economy could reach over USD 3 trillion by 2030 which is more than double in comparison to current levels [13]. It is undeniable that Blue Growth has significant potential to stimulate economic activities and thus, many positive effects on overall social well-being. There are known such success stories as “*marine biotechnology in Brittany (France), tourism, health services, wind energy, fish farming and boat building in Ida-Viru (Estonia), and maritime technologies, specialized ship construction, offshore energy, and maritime biotechnology and production facilities in Schleswig-Holstein (Germany)*” [14, p. 8]. Another example is the considerable increase in employment in the offshore wind, which was responsible for 20 000 jobs in 2008, exceeding 210 000 in 2018 in the EU [14]. Still, as the Blue Economy shifts from a mostly discursive concept to concrete implementations, disputes are likely to arise about the legitimacy of particular embodiments of the idea. Since there is no comprehensive picture and accurate description of the ramification of the distributive effects of the marine economy [1; 3], the social challenges and consequences are just starting to arise [15]. The scholars argue “*for a broader, more critical, understanding of the social and distributive impact of MSP, advocating a radical turn in MSP away from a rationalism of science and neoliberal logic towards more equity-based, democratic decision-making and a fairer distribution of our ocean wealth [and] rethinking MSP as a process of cultural co-existence rather than as a tool for managing multiple uses*” [3, p. 121].

In light of the issues mentioned above, the main aim of the paper is to explore how MSP underpinned by the EBA can operate as the key enabler of the Blue Growth in the EU. To that end, two complementary perspectives are used: firstly, sustainability assessment theory and, secondly, just transformations concept. Firstly, the paper provides an overview of the evolution of marine governance elements from a historical perspective that builds the understanding of their application nowadays. Secondly, it describes the main issues of the heterogeneity of the Blue Economy sectors, succinctly characterising phenomena of “blue washing” and “ocean grabbing” as well as sustainable assessment adaptability to deal with these challenges. Thirdly, the paper analyses the role of the MSP in promotion of the Blue Economy, its ability to enable the Blue Growth in a sustainable manner and for this purpose the need to apply the concept of the just transformations to allay the socially adverse spatial and distributive effects of the marine economy. At last, the conclusion part is provided discussing the awareness and interpretation of MSP establishment with the aim to enable Blue Growth.

The paper draws on a comprehensive literature review derived from an international, regional, and national political guidance documentation, legal sources and relevant scientific literature. Traditional legal research methods were applied: monographic, dogmatic, comparative and special analytical techniques, including the analytical perspective

of transnational environmental law. The used techniques refer to a theoretical discussion and the examples of the empirical cases drawn from the scientific literature. Taking into account the general opinion that environmental problems are not fragmentable because the ecological unity of the planet does not fit within political boundaries and legal frameworks [16], the examples of the empirical cases are not limited to the European scale, suggesting the possibilities of the exchange of the best practice and useful experience worldwide.

1. Succinct overview of the development of marine governance elements

Since the late 1970s, the scientific and environmental community has gradually drawn focus to issues in the oceans – including the increasing ocean acidification, the depletion of biodiversity and the degradation of food chains to aquatic contamination, fragmentation of aquatic ecosystems, negative changes of the integrity of marine ecosystem goods and services and the warming of waters [17]. In this context, MSP has its origins in the conservation of marine nature, “*as an extension of the logic of establishing MPAs [Marine Protected Areas]*” [18, p. 173]. The most commonly cited and pioneering example in this regard is zoning for the Great Barrier Reef Marine Park in Australia dating back its origins to the 1960s and early 1970s, being legislated in 1975 and its first plan being adopted in 1981 [17–22].

However, while the initial MSP efforts and international events promoting the sustainability of the marine environment historically focused on marine conservation, in the last decade years, gradually, the emphasis has increased concerning the Blue Economy and its sustainability [15]. Therefore, there are two competing ways how the oceans are often framed – “*as areas of opportunity, growth and development, as well as threatened and vulnerable spaces in need of protection*” [23, p. 596].

Nowadays, MSP is advanced as “*an essential and valuable tool to help implement [EBA] in the marine environment*” [24, p. 788] and as the dominant discourse for facilitating the sustainable development of the Blue Growth [3, 25] and making it more operational and efficient [26]. In this manner, MSP has the potential to convert into operative action the slogan of the Sustainable Development Goal 14 “*Life Below Water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development*” [27]. In a similar vein, the Directive 2014/89/EU creating a framework for MSP (MSP Directive) [28, recital 19] states that the primary purpose of MSP is “*to promote sustainable development and to identify the utilisation of maritime space for different sea uses as well as to manage spatial uses and conflicts in marine areas*”. In other words, MSP could be denoted as one kind of “*the already broad range of sustainability-oriented deliberations (urban planning, collaborative resource alternative management, corporate greening, national accounts, industrial ecology, growth management, and so on)*” continuing to expand [29, p. 179].

Introduced on the eve of the 2012 United Nations (UN) Conference on Sustainable Development (Rio+20 Earth Summit), the term “*Blue Economy*” appeared from the attempts to connect ocean activities with the “*Green Economy*” [30, 31], also called, “*the green economy in the blue world*” [32]. Therefore, it can be argued that the term “*Blue Economy*” forms a part of the broader discourse of the sustainable development movement [23, 33] initiated by the Brundtland Report [34].

The EU has been pushing continuously for sustainable growth in the maritime economy since the establishment of an Integrated Maritime Policy (IMP) in 2007 [35] dedicated to providing a more coherent approach to maritime issues and enhanced coordination across various policy areas [7]. Through the adoption of the Marine Strategy Framework Directive (MSFD) [36] as the environmental pillar of the wider EU Maritime Strategy and “*one of the most ambitious international marine protection legal frameworks*” [37, p. 9], the EU has ensured a comprehensive, holistic approach to the protection of European seas and set a policy objective of achieving “*good environmental status*” [38, 39] in European marine waters by 2020 [14, 36]. The Blue Growth strategy, driving forward Commission’s IMP, was introduced in 2012 [33], and “*is perhaps the most well-known and well-established application of the Blue Economy concept*” [23, p. 607]. The Blue Growth is defined as “*an initiative to harness the untapped potential of Europe’s oceans, seas and coasts for jobs and growth*” [33, p. 2]. However, Maria Damanaki, former EU’s Commissioner of Fisheries and Maritime Affairs until 2015, aptly indicates that Blue Growth can only work if it respects the marine conservation [40]. In line with above mentioned, the European Commission [37, p. 9] has pinpointed: “*The Blue Growth strategy needs to be compatible with sustainability according to the MSFD, especially with respect to the potential expansion of maritime activities such as offshore energy generation and aquaculture. To ensure that the expansion of traditional activities or that the deployment of new economic activities do not pose additional pressures*

on the marine environment, the EU and its Member States need to ensure strong links between the MSFD and the policies that regulate maritime activities”. Yet, the compatibility of the Blue Growth with environmental sustainability is not always sufficient because the steps taken to move towards environmental sustainability can have both beneficial and harmful social consequences on various communities in comparison to the status quo [41], thus, in turn, raising the social justice concerns.

Soon, it was realized that high and increasingly growing demand for maritime space for various purposes requires an advanced integrated planning and management strategy and approach [7]. Thus, in 2014, the European Parliament adopted the MSP Directive, requiring the Member States to establish maritime spatial plans at the latest by 31 March 2021. In this manner, academic / technical principles were translated into operational capacity [42], and the substantive and procedural provisions were provided for the adoption and implementation of the maritime spatial plans. Primarily, when the MSFD laid down the criteria for the conservation of the aquatic ecosystem, the MSP Directive appeared as a mechanism of spatial and temporal distribution controls in terms of achievement or maintenance of good environmental status [28, recital 22; 38, annex part A, point 6] and a key enabler for exploiting the commercial value of the oceans while maintaining long-term sustainability [37]. As well as MSP Directive [28, Art. 3(2)] defines MSP as a “*process by which the relevant Member State’s authorities analyse and organise human activities in marine areas to achieve ecological, economic and social [here – the author’s emphasis] objectives*”, thus *inter alia* providing an emphasis on social justice aspects.

Overall, from a legislative point of view, in combination with other relevant legislation (e.g., 1992 Habitats Directive, 2002 Common Fisheries Policy, 2000 Water Framework Directive), EU institutional MSP framework is composed by three principal regulatory instruments – IMP, MSFD, and MSP Directive – all together they “*establish MSP as an integrative tool to address these issues and achieve broader environmental, economic and social sustainability objectives at sea*” [43, p. 261].

Promotion of MSP at the global level as one of 14 actions, with the aim of addressing ocean governance issues and in the pursuit of sustainable development of oceans and seas, is also included in Joint Communication by the European Commission and the European External Action Service on International Ocean Governance (action 10) [44]. This Communication also contains the commitment of the European Commission to work “*towards proposals for international guidelines on MSP*” [44, p. 14]. In this regard, the EU and the Intergovernmental Oceanographic Commission of the UN Educational, Scientific and Cultural Organisation adopted a “*Joint Roadmap to accelerate Maritime / Marine Spatial Planning processes worldwide*” [4], aimed at disseminating MSP approach. The Roadmap was introduced to the UN Conference on Sustainable Development Goal 14 as part of a joint non-mandatory agreement stressing MSP’s contribution to the implementation of Agenda 2030 [7].

1. Challenges of the heterogeneity of the Blue Economy sectors

The concept “Blue Economy” can have diverse meanings and approaches and be employed in different settings. As a result, the term has no uniform definition [12, 31, 45–47]. Voyer et al. [23] took further the work of Silver et al. [31] regarding prominent and competing discourses of human-ocean relations during UN Conference on Sustainable Development and its side events, identifying four leading lenses through which the oceans can be viewed, i.e., as 1) natural capital, 2) livelihoods, 3) good business, 4) a driver of innovation [30]. One of the dominant views is that a central tenet of Blue Growth and consequently a socially optimal use of ocean-based natural resources is integrated management of multiple relevant economic sectors, balancing sustainable economic benefits with long-term ocean health; however, the eventual mechanisms for the implementation of integrated policies are still poorly understood and remain vague [45, 46, 48].

Another viewpoint is “*challenging the mainstream discussions fixed on the present growth-oriented imaginary*” [12, p. 3]. Thus, nevertheless, Blue Growth “*seeks to marry ocean-based development opportunities with environmental stewardship and protection*” [23, p. 595], taking into account social-ecological dimensions of the environment in the broadest sense and aligns with the concepts of ecological economics [46, 47, 49], it is considered this concept itself is an economic strategy identifying seas and oceans as drivers for the economy [12] and “*with its only social component being a count on job creation*” [26, p. 163]. On the one hand, one shall agree that obviously, the Blue Growth has a clear foundation in economic theory [25]. Thereby, in the EU, “*the problems inherent in the concept of sustainable development are apparent, as it appears that two somewhat different elements are being melded together: a Marine Strategy, with a heavy emphasis on environmental protection; and a Maritime Policy that is*

strongly motivated by economic growth considerations, albeit it with numerous references to the need for environmental protection" [50, p. 274].

On the other hand, besides economic optimisation, or more effective use of resources Blue growth "*also refers to creation of change in the context of existing social relations*" [25, p. 364]. This approach is reflected in the definitions of the tool through which the Blue Growth is planned and implemented, i.e., MSP, e.g., in MSP Directive Art. 3(2) [28]. Elsewhere, MSP is denoted as "*a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social [here – the author's emphasis] objectives that are usually specified through a political process*" [20, p. 18]. The social objectives shall be understood in a broad sense: not only in terms of employment opportunities but also, e.g., demographic change, quality of life, income, financial protection, adequate infrastructure and access to services [51]. Social objectives can also be related to other non-monetary values provided of "*some longstanding uses of the sea, from shell collecting to the health benefits people experience after vacationing at the shore and enjoying unspoiled, natural views*" [40, p. 177], i.e., non-market values and people values [41], such as health promotion and psychological benefits [52], perception of the oceans as relational seascapes [53] and "*not as a space but as a place – moreover, a place that can generate deep-seated attachment*" [54] and emotional connection [55].

Because of diverse perspectives on the ocean, there is a strong disagreement which sectors could be legitimately called "Blue" [23, 30]. Additionally, the experience from the implementation of the 1st round maritime spatial plans (e.g., in German Exclusive Economic Zone of the North Sea) evidences fundamental conflicts between such industries like offshore renewables and nature conservation, offshore renewables and fisheries [56]. This conflicting environment leads to the more and more frequent use of two associated terms "blue washing" (an analogy to "greenwashing" [53]) and "ocean grabbing" (an analogy to "land grabbing" [57]).

Looking through "oceans as good business" lens, integration of all industries is supported, and the attempts are encouraged to "green" all current ocean sectors and to establish potentially innovative practices [30] in order to reflect the economic impact of ocean uses adequately and to calculate and take into account the full spectrum of externalities correctly [23]. The "oceans as natural capital" paradigm, on the other side, for example, intrinsically opposes the incorporation of carbon-intensive sectors such as oil and gas and the exploitation of non-renewable energy by seabed mining as part of the Blue Economy definition [23, 30]. Accordingly, in this paradigm, the inclusion of such industries in the Blue Economy concept will certainly be viewed as legitimizing harmful activities – or "blue washing" narratives [23]. Case of "blue washing" narratives becomes evident when the economic development interests are justified by the environmental concerns and covered under the ecological dimension of the MSP [53]. Elsewhere, it is explained that especially if governments give priority to new or seemingly more profitable activities over traditional uses, there is always a higher risk to "*greenwash a bad project by calling it blue growth*" [40, p. 377].

Moreover, in the case of many activities, e.g., aquaculture, the effects from environmental, socio-economic and social perspectives are not fully explored. Marine aquaculture experience in different parts of the world (e.g., India, Chile, Greece and Turkey) brings considerable evidence of socio-environmental conflicts as the result of the industry's development [26]. As well as, there have been reported cases when the interests of small-scale artisanal fishermen have not been taken into account, squeezing them out from some areas by economic priorities hidden under a mask of sustainable development [11, 53, 56, 58, 59], local community objections have been disregarded concerning aesthetic impacts of the installations or environmental values of the citizens and non-governmental organizations – undermined while granting development consents were issued for oil and gas developments, representing "*a "lose-lose" rather than a "win-win" outcome*" [9, p. 260]. A similar case is when MSP is driven by a specific sectorial goal that can be related to biodiversity conservation and designation of marine protected areas or promotion of a particular sector [9, 53] (e.g., aquaculture farms in Norway [58] or offshore wind farms in Germany as well as, more generally, most maritime spatial plans in Northern Europe have been driven by the policy of offshore renewables [56]). In a broader sense, "blue washing" phenomena can lead to the spread of "ocean grabbing", that "*means the capturing of control by powerful economic actors of crucial decision-making [...], including the power to decide how and for what purposes marine resources are used, conserved and managed now and in the future*" [60, p. 3]. This term is related to the acts, strategies or initiatives that can be initiated by a variety of actors such as environmental non-governmental organizations, foundations, corporations, private sector investors and individuals and governments [57] and "*anchored in market-based and corporate economic logic and approaches in fisheries governance, nature conservation and economic development*" [60, p. 37]. For the purpose of the ocean grabbing, different mechanisms can be used and include such as "*(inter)national fisheries governance and trade and investment policies, designated terrestrial, coastal and marine 'no-take' conservation areas, (eco)tourism and energy policies, finance speculation, and the expanding*

operations of the global food and fish industry, including large-scale aquaculture, among others” [60]. As a result, these actions dispossess and exclude the most vulnerable communities and particularly small-scale fishermen of access to sea areas, natural resources and markets and expropriate their income [57, 60]. Put differently, “ocean grabbing” has adverse effects on *“the people and communities whose way of life, cultural identity and livelihoods depend on their involvement in small-scale fishing and closely related activities”* [60]. In order to know whether the ocean grabbing has taken place, one must answer the question whether the MSP has undermined human security or livelihoods or has negatively affected the social-ecological well-being [53, 57]. If the answer is affirmative, only then one can consider that the ocean grabbing is happening; otherwise, it is not the case of the ocean grabbing [53, 57].

In view of the above, one can agree that the quest for a common definition of the concept “Blue Growth” may rather enter the deadlock, resulting *“in a particular lens being privileged, and undermine the ability of states or regions to develop a more contextualized Blue Economy which is sensitive to the aspirations and objectives of their communities”* [23]. In line with Voyer et al. [23] the author agrees that an alternate solution could be to accept the intrinsic complexity of the concept as an incentive for versatility and adaptability – how the contradictions between the various Blue Economy lenses can be accommodated or handled in a way that acknowledges the specific goals found in the different shades of blue. In this situation, it would be essential for potential work to examine how the four concepts of the Blue Economy will coexist in reality through sustainability assessment perspective coming to the fore as *“a logical sequence of the developments in the assessment and planning processes that over the past 30 years or so have increasingly changed both ideology and practice”* [61]. A prominent sustainability assessment scholar Robert Gibson [29, p. 179] indicates: *“One especially attractive quality [of the sustainability assessment] is that it can offer efficiency gains by providing a means of consolidating the variety of ill-connected, overlapping and competing processes that have proliferated in most jurisdictions in recent decades”*.

2. Role of maritime spatial planning in promotion of Blue Economy

When examining international Blue Economy policy documents and key “grey” literature, Voyer et al. [23, p. 604] concluded that *“many sub-themes were common across a large number of documents analysed, and that these sub-themes were usually not exclusive to one particular lens. In fact, sub-themes might be seen across all four lenses [...] In particular, the themes of ‘Marine Spatial Planning’ and ‘maritime security’ appeared to be significant across all four interpretations”*. Further, these authors [23] deduced that *“MSP was seen as a universal tool towards achieving a Blue Economy across all four lenses”*.

As described previously, in the EU, the establishment of a legally binding approach took place through the adoption MSP Directive in 2014 [28]. As noted earlier, MSP Directive [28, recital 19] states that the main purpose of MSP is the promotion of sustainable development, identification of the utilisation of maritime space for different sea uses and management of spatial uses and conflicts in marine areas. However, MSP can solely reach this settled aim in an efficient, safe and sustainable way in case if EBA is implemented: *“The application of an ecosystem-based approach [EBA] will contribute to promoting the sustainable development and growth of the maritime and coastal economies and the sustainable use of marine and coastal resources”* [28, recital 3, 14; 36, art. 1(3)], and this application is compulsory [28, art. 5(1)].

The EBA can be described as *“the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of ecosystem goods and services and [the] maintenance of ecosystem integrity”* [62, p. 1]. The EBA is also defined as *“[a]ssessing cumulative impact of all sectors on the whole ecosystem and managing undesired impacts”* [58]. Thus, EBA is *“[a]n integrated approach that considers the entire ecosystem, including humans”* [20, p. 24]. To put it another way, EBA renders MSP *“as a strategic approach towards sustainable development [...] that integrates all of its three components, i.e. environmental, social and economic. MSP should guarantee that they are in balance”* [63, p. 1]. Kidd [64] argues that the integration ambitions of MSP have been central to its rise to prominence, by attracting support from different spheres of interest. In this perspective, MSP should be defined as the type of the sustainability assessment that *“adopts a scope that covers the full set of global and regional as well as local sustainability concerns, through application of generic criteria, but combines this with sensitivity to the particular context (ecological, cultural, socio-economic, and*

so on) through direct engagement of stakeholders in identifying key case-specific concerns and priorities to supplement, and/or elaborate, the generic criteria” [29, p. 179].

To ensure the performance of MSP as sustainability assessment in practice the author claims for the use of the notion of just transformations formed on the conceptual grounds of sustainability transformations, just transitions and social justice [41] to head to ocean justice [53]. Bennett et al. [41, p. 5] describe: “*Just transformation management consists of deliberate governance processes and actions taken to shift systems towards environmental sustainability and social justice outcomes in ways that account for recognitional, procedural and distributional concerns* [here – the author’s emphasis].” It follows that for the implementation of just transformations notion recognitional justice, procedural justice and distributional justice need to be taken into account [41]. In addition, the ramifications of the conceptually linked additional concepts are an integral part once different kinds of justice need to be practically applied. In this paper, the author is not going to contribute to the debate on the other conceptually linked additional concepts. Still, the author builds on the methodological implication of the “three-justice” approach for MSP:

- recognitional justice as the recognition of pre-existing rights and cultural diversity of the communities (cultural, subsistence and livelihood rights) [41, 53] and aesthetic and spiritual value of the natural environment (intangibly affecting a person’s health and well-being) [65];
- procedural justice as the participatory practice which means actual community inclusion in decision-making, providing access to justice and co-management options [41] (e.g., as the exercise of the territorial rights to reconcile conservation and welfare objectives) [53];
- distributional justice as the equitable distribution of costs and benefits, fair compensation and mitigation mechanisms, adaptative management actions [28, recital 14; 41, 53].

According to this approach, ideal MSP would be the social-ecological transformative MSP that is integrative (in terms of integration of sectors, landscape uses, stakeholders, jurisdictions, different levels of government) [66] and based on EBA and can deliver both social justice and ecological sustainability [53]. One must take into account that in practice MSP is not always compatible with principles of an ideal MSP of the integrated nature and application of EBA and these principles must be worked on and practically incorporated in the plan, e.g., including management actions that bring to the implementation of EBA [66].

A possible but by no means an exhaustive list of solutions (including management actions) would involve:

1. The transition from a linear economy to a circular economy in the marine environment [67].
2. The equity-driven decline in output and consumption (e.g., shift away from government-imposed protected areas to community-based management [41, 68] using more collaborative or social economies [12, 53], emphasis on human well-being and ecological factors).
3. The designation of culturally significant areas, “*based on the cultural connection of a community to a given area*” [54].
4. The application of adaptive management [28, recital 14].

Conclusion

Nowadays, the MSP underpinned by EBA is internationally recognized as a holistic approach and a crucial tool to ensure the sustainable management of the seas, becoming the new buzzword of the maritime sustainability debates and marine governance system. A pertinent example of its importance is the political guidance and legal regulation in the EU, rendering it as one of the most influential players in the maritime affairs field worldwide. The MSP framework provides advanced coordination across various policy areas in the EU, most notably regarding marine protection and Blue Growth. The EU legal framework stipulates the obligation of the Member States to consider *inter alia* social aspects during the establishment of the maritime spatial plans and the initiatives of the Blue Growth shall be reconciled with the needs of environmental sustainability. However, MSP establishment and implementation encounter difficulties in accounting for social-ecological complexity.

The concept of the Blue Economy may have various interpretations and methods and may be seen in a number of different contexts. There are four leading but diverse discourses (lenses) concerning ocean perceptions (oceans as natural capital, livelihoods, good business, and a driver for innovation). Therefore, there are significant disputes on

the legitimization of the activities in the sea environment. The inclusion of specific industries in the concept of the Blue Economy is a controversial issue and considered as part of “blue washing” narratives where economic growth priorities are supported by environmental considerations and covered under the ecological element of the MSP. “Blue washing” narratives are connected with other phenomena – so-called “ocean grabbing” when the most powerful stakeholders take control over the decision-making process and deprive traditional users of the access to the sea, natural resources and possibilities to earn subsistence income.

For MSP to convert into operative action the slogan of the Sustainable Development Goal 14 “*Life Below Water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development*”, there is a need to improve awareness and interpretation of how the MSP is being established. MSP can function as the key enabler of the Blue Growth if it is performed as the sustainability assessment where ecological, economic and social justice considerations are bound together, and four leading discourses of human-ocean relations coexist at the same time. According to this perspective, ideal MSP is integrated, ecosystem-based and social-ecological transformative. Through the use of the methodology of the concept of the just transformations and consequently “three-justice” – recognitional justice, procedural justice and distributional justice – approach in the MSP process, the social justice and ecological sustainability can be achieved.

Future research needs to reveal other multi-layered aspects of ecosystem-based MSP notion and its capacity to enable efficient and sustainable Blue Economy along with marine conservation. Undeniably, constant change of transition owing to academic work and practice through the implementation of the EU-funded projects and MSP establishment and implementation is a typical feature of the highly dynamic marine field. These developments will provide a basis for the further advancement of MSP theoretical and methodological frameworks to refine the finding this study.

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Why Do People Intentionally Consume the Faked Products of Luxury Brands?

Marina Ochkovskaya^{a*}, Tagui Karapetyan^a

^aLomonosov Moscow State University, Faculty of Economics, 1 Leninskie gory, Moscow 119991, Russia

Abstract

The paper is devoted to motives and risks of counterfeit consumption of luxury brands and systematization of non-price factors motivating consumers to buy counterfeits. In spite of the fact that a number of studies about motives and patterns of this unethical phenomenon have been conducted in China, Brazil and Europe, there is a lack of research describing the counterfeit consumption behavior of Russian consumers. In this paper the authors are trying to fill this gap. The study was done for so called “willing collaborators”, who are consumers purchasing counterfeit knowingly and deliberately. Although some limitations, the article gives insights about motives and classification of perceived risks related to counterfeits consumption. According to the conducted study the main motive for purchasing luxury counterfeits in Russia is related to price factors and the context of consumption of certain goods makes sense for the buyers.

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Keywords: luxury brands; consumer behavior; faked products; motives for consumption of faked products; risks of faked products' consumption.

Introduction

Nowadays consumption of faked goods of luxury brands has been growing, becoming a challenge which should be dealt with. According to the Global Brand Counterfeiting Report 2018, the amount of total counterfeit products globally reached to 1.2 Trillion USD in 2017 and is bound to reach 1.82 Trillion USD by 2020 [1]. This challenge negatively influences not only on luxury brands, but also on the consumers of both authentic and faked products. Consumers of faked goods might be exposed to functional (poor-quality) and social (damage to reputation) risks [2]. At the same time consumers of authentic goods, expecting a unique experience and set of different values provided

* Corresponding author. Tel.: + 7 91 645 55231.
E-mail address: ochkovskaya@econ.msu.ru

by luxury brands might feel disappointed due to increasing number of fakes. Luxury products give consumers an opportunity to position themselves in society [3]. Fakes might dilute the feeling of being special and unique. Luxury brands which products are copied might lose some of their consumers, who do not want any associations with fakes.

The aim of this paper is to define motives and risks of consumption of faked goods of luxury brands and to systematize of non-price factors motivating Russian consumers to buy counterfeits. The paper begins by analyzing the phenomenon of counterfeits consumption. Then an empirical part follows devoted to finding out the motives and risks of counterfeit consumption by Russian consumers (in comparisons with Chinese). The paper finishes with conclusion and limitations.

1. Literature review

Luxury vs. fakes. Goods of luxury brands, especially of so-called star luxury brands with loud products, are often copied. This fact indicates the special appeal of these brands to a wide audience. According to Kapferer, *“counterfeiting is only possible if the brand has reached a significant awareness threshold and is highly desirable; we may even say that if there are no counterfeits of a brand, it is because the brand is not luxury”* [4]. *“Quiet luxury”* without visible logos which is recognized mainly by luxury experts is not popular in the counterfeit industry [5]. Counterfeiting is the fraudulent practice of affixing a false trademark to a product [6]. Usually faked goods are of low quality and low price. When buying faked goods, people most likely long for famous logos, not for high-quality goods. The famous logos on faked goods might create the illusion of belonging to the world of luxury brands. In reality, this illusion in an attempt to pass a fake off as an original becomes a hoax. The counterfeits imitate only material attributes of the authentic products of luxury brands. Luxury brands have a long history connected with their founders and famous people who have been adoring these brands. There is no way to imitate the heritage which is behind the luxury brands. Behind luxury brands is a inspirational story being told to its admirers. Fakes have nothing to inspire. Although counterfeits do not have any eloquent and authentic history, their availability might decrease the emotional and social value provided by authentic products of luxury brands [7].

To purchase publicly consumed items, people might be motivated by either “snob” or “bandwagon effect”. “Bandwagon effect” is a type of behavior when people desire to wear, buy, do, consume, and behave like their fellows [8]. People want to be identified with a group of people important for them and their possessions of luxury brands serve as a symbolic sign of group membership. Regarding this effect, Wiedmann, Hennigs & Siebels wrote about prestige value in social networks provided by authentic luxury brands [3]. “Snob effect” represents the desire of people to be exclusive, different and to dissociate themselves from the “common herd” [8]. In this case people want to be distinguished and stand out from the crowd but at the same time connect themselves to a specific desired group [5]. The study conducted by Turunen & Laaksonen [5] demonstrated that counterfeit users also want to be associated with a significant group, but unlike luxury consumers, they do not want to stand out from the crowd due to the fake they possess. Authentic luxury products are perceived more than just a material possession and emphasized personal importance as e.g. self-esteem and self-respect. Regarding counterfeits, their owners know that these products are inauthentic and they might use them experiencing the fear of being caught.

The consumers of counterfeits. Wagner & Lee singled out two segments of consumers of faked luxury goods:

1. Sly shoppers who consider faked products comparable to originals and feel smart buying fakes.
2. Economically concerned shoppers who evaluate fakes inferior in comparisons with authentic products, but lower price is a sufficient factor for them to buy counterfeit. They also mentioned groups of ethical shoppers who object to fakes for various ethical reasons and risk-averse shoppers who do not buy fakes because of risks concerned with fake purchasing [9].

Pueschel, Chamaret, Parguel who conducted their research for Emiratis classified following segments [2]:

1. Counterfeit consumers who are able to identify and choose so-called high quality fakes that do not significantly differ from the authentic products in their look. If people are not experts in authenticity of luxury products, they hardly might recognize that it is a fake.

2. “Black chameleon” counterfeit consumers who combine multiple authentic pieces with faked products simultaneously, mixing originals and knock-offs depending on the occasion. According to the research, Emiratis avoid wearing fakes to important social events; usually they use “mix & match” approach in daily life.
3. Counterfeit consumers who intentionally choose to buy knock-offs of the latest fashionable goods of luxury brands but at the same time, for the classical or traditional products they prefer originals.

All three above-mentioned groups would like to be perceived as authentic products owners and hope that the public does not expose their “shameful secret”. As Islam plays an important role in the life of Emirate people, Pueschel, Chamaret, Parguel singled out the segment of believers who refer to the Quran to explain their counterfeit consumption [2]. This group of the counterfeit consumers does not cheat posing knock-offs as originals.

Except income-based reasons, there are many non-price factors motivating people to buy counterfeits, e.g. education, environment, character.

Based on the literature we offer to single out two big segments of the counterfeit consumers: cheaters and non-cheaters. Inside these segments, there are subsegments: money-based and culture-based. There are four groups of the counterfeit consumers:

1. Non-cheating economical counterfeit consumers: the counterfeit consumers with low income who do not lie people about having a fake.
2. “Poor cheaters”: the consumers who buy counterfeits on income reasons and pretend that fake is an original.
3. Non-cheating counterfeit connoisseurs: they have enough money to buy originals, but due to their cultural level do not see any difference between authentic and faked products. They make no secret of the fact that they are counterfeit consumers.
4. Non-respectful cheaters: those who have enough income to buy authentic products, but do not see the differences between fakes and originals. They think that the other people are not enough educated to identify the fakes, so it is easy to pose fakes to them as originals.

Risks of counterfeits consumption. Klarmann, Wiedmann & Hennigs wrote about risks of counterfeit consumption [10]. They mentioned financial, functional, individual and social risks. Financial risk takes place when consumers do not have the opportunity to return the counterfeit when something goes wrong with the products because the illegal manufacturers do not provide any warranties [11]. Functional risks are concerned with poor quality and noticeable defects. Individual risks are related to the self-esteem [10]. Demonstrating fake as an original, the consumers are deceiving not only other people, but also themselves. It may provoke self-disappointment and feeling of guilt. The social risks deal with publicly consumed goods and refer to “social sanctions” [12]. Risks of this type are about situations when people with counterfeits are unmasked publicly and their reputation becomes damaged.

Risks might prevent consumers from the unethical behavior of the counterfeit consumption. In spite of the stress experienced by being caught, the consumers can gain very useful experience and probably stop consuming fakes. Overcoming shame, embarrassment, and even guilt, the consumers can rethink their attitude to fakes and start with new approach to consumption.

2. Methodology

Research (April 2019) was conducted to identify the motives and risks of consuming faked goods of luxury brands. This study includes two stages:

- series of in-depth interviews;
- online survey.

Before this, the following hypotheses were put forward based on literature review.

H1: the choice between the original and faked luxury products depends on the context of consumption.

H2: decisions about conscious purchase of faked luxury goods are predominantly determined by non-price factors (personal, social, product characteristics, etc.).

H3: sociocultural characteristics of consumers form their attitude to the consumption of counterfeits.

H4: potential risks of acquiring counterfeits (social, psychological, etc.) can reduce the propensity to consume them.

Scenarios of one expert semi-structured interview and three semi-structured interviews with consumers were developed for the first stage of research. The purpose of this stage coincided with the overall purpose of the research (identifying the motives for luxury counterfeits consumption and identifying risks associated with their consumption). In addition, the specific purpose of the interview was to specify the hypotheses and questions of the questionnaire.

An expert in the luxury industry with more than ten years of experience, who is well familiar with the specific characteristics of research object (Puig Company, Moscow) took part in the expert interview. Based on the results of this interview, the hypotheses that were identified based on literature review were refined. The remaining semi-structured interviews were conducted with ordinary consumers. Opinions of ordinary consumers is crucial for this study, since the motives and risks (in terms of consumers) are investigated. Based on them, the questionnaire questions were clarified.

An online survey was conducted on the platform “Google Forms” for the second stage of research. The questions of questionnaire were clarified based on the first stage. The questionnaire is divided into four conditional parts. In the first part, respondents express their opinion on luxury counterfeits, share experiences of luxury counterfeits consumption if any. The second part of the questionnaire consists of one question on specification of category of consumed counterfeits if any. Respondents (who did not buy counterfeits) are supposed to express their willingness or unwillingness to purchase such goods in the future. The remaining questions are common to all respondents. The third part was devoted to the identification of motivational factors and risks of counterfeits consumption. In the fourth part, respondents indicate gender, age, material situation and other general characteristics.

274 people took part in the survey, where 79.1 % of respondents – 19–35 y.o. Males / females – 20 % / 80 %. 53.4 % of respondents come from Russia, 39.1 % – from China, the rest from other countries; 52.4 % of respondents work, about 25 % – combine study and work, about 20 % – only study. Consequently, most survey participants have their own source of income.

3. Research results

First stage (in-depth interviews). An expert semi-structured interview with a competent specialist in the luxury industry allowed to get general understanding on object of research. According to expert opinion, the main motive for luxury counterfeits consumption is related to their financial status. The expert notes that it is possible to switch from the consumption of counterfeit goods to original ones. Besides, counterfeits consumption shows to some extent a hidden loyalty to the brand, an internal desire to start consuming original goods is formed. In this case, the existence of fakes allows consumers to somehow get in touch with the brand they dream of. The emergence of respect for the brand, for the quality offered, and an increase in awareness determine the transition from the consumption of fakes to the consumption of original products.

Based on the results of the expert interview, the initial hypotheses were refined based on the specifics of the Russian consumer:

Refined H1: the choice between original and fake goods of luxury brands is determined by importance of consumption context, i.e. events where they are consumed.

Refined H2: decisions about conscious purchase of luxury fakes are mainly determined by price factor.

Refined H3: socio-cultural characteristics of buyers (i.e. belonging to a certain culture, public opinion) determine their attitude to the consumption of fake goods of luxury brands.

Refined H4: potential risks of purchasing luxury counterfeits (harm to health, poor quality) may reduce the propensity to consume them.

Interviews with consumers revealed their perceived motives and risks of consuming counterfeits. Identified motives are below:

1. Low price.
2. Low-income consumers.
3. Good quality.
4. The ability to meet fashion trends without significant financial investments.
5. Unwillingness to overpay for the name and brand values.

Specified by respondents risks are:

1. Potential harm to health.
2. Functional risk (low-quality product).
3. Risk of cheating expectations.
4. Reputation risk.

Second stage (online survey). Since the study topic is sensitive, the answer “yes” to the question “have you Purchased counterfeits of luxury brands?” has variable nature, and the respondent could specify the reason for the purchase. Almost 20 % of respondents bought a fake good without knowing it; 16.1 % noted that they made such purchases in their youth. In the latter case, the real reason for such purchase was likely to be the inability to buy original product due to lack of finance. A little more than 10 % of respondents purchased a fake for the sake of interest, and a little less than 10 % bought only high-quality copies of the fake product. In this case, we can assume that consumers do not want to overpay for the brand name. 36.1 % of respondents admitted that they had never purchased luxury counterfeits, and only 8.1 % expressed their willingness to purchase counterfeit goods in the future.

The survey also showed that the decision to buy or not to buy luxury counterfeits depends on the financial status of consumers. Most often, an affordable price motivates to buy a fake – this factor was noted by 46.3 % of respondents. 23.5 % admitted that their desire to acquire counterfeits is predetermined by low income. Thus, the Refined H2 was proved.

The absence of outside differences (between fake good and original one) is a leader among non-price motivators to buy counterfeits (in 41.2 % of cases). This is followed by the desire to conform to fashion (32 %), unwillingness to overpay only for the brand name (26.5 %), high quality of the product (24.6 %), the desire to seem successful (23.2 %), 8.5 % of respondents also noted getting positive emotions. 8.1 % of respondents indicated that the lack of punishment for the consumption of counterfeits encourages to purchase fakes.

This research together with the literature review allowed to systematize non-price factors that encourage buying fakes, and explain the purchasing behavior of those consumers who can afford the original product of a luxury brand. These factors include:

1. Cost optimization-the absence of outside differences allows counterfeits consumers to follow current trends and save money on purchasing a good that is expected to go out of fashion soon.
2. Getting positive emotions – an opportunity to please yourself without overpaying for the name and brand values.
3. The desire to pass off a fake as the original – consumers deceive others, taking advantage of the fact that the purchase and use of fakes is not punishable.

So, although the key factor in purchasing counterfeit is the price, such purchases are made not only when there is a lack of financial resources. There is a segment of consumers who, along with original products, occasionally buy fakes. When asked whether the context of consumption can influence the choice between a fake and an original luxury brand product, 47.8 % of respondents said that they use the original in any case.

13.2 % of respondents are ready to use fake products regardless of the context, and 39 % can alternate the consumption of original and fake products depending on the specific situation. In particular, they are not ready to appear with fakes at weddings or important business meetings, but they can use them during a trip to the store or to the beach. Thus, the refined H1 was proved.

Switching to risks, it is worth noting that most consumers (49.3 %) are concerned about purchasing a low-quality product – i.e., functional risk. There is a social risk associated with possible damage to reputation with a little less frequency (48.2 %), followed by a potential health risk because of low-quality and toxic materials (29.8 %) and the risk of violation of moral standards (18 %).

To test the refined the refined H4, respondents were asked about the impact of perceived risks on their propensity to consume fakes. 60.9 % of respondents consider the health risk and / or functional risk to be real. And almost 80 % of these said that the perceived risks reduce their propensity to buy counterfeits, which proves the hypothesis.

To test the refined H3, two completely different markets for luxury brand products were selected: Russian and Chinese. The majority in both groups expressed a neutral attitude to the consumption of counterfeit goods and admitted that they had such an experience. At the same time, in the Chinese group, almost half (46.2 %) of those who purchased luxury counterfeits did it by mistake, in the Russian group – only 12.8 %. Consequently, Russian consumers are more

likely to deliberately purchase fake products. The vast majority of Chinese consumers (almost 75 %) are afraid of social risk, while in the Russian group – only 33.7 %. This suggests that Chinese consumers are very sensitive to criticism, and the attitude of society is important to them, so they try not to do things that are not approved in society. Almost 95 % of Chinese respondents noted that public opinion can influence their acquisition of counterfeits; in the Russian group, this was a significant factor for 51.7 % of respondents. Therefore, this hypothesis was proved too. Particular culture creates consumer values that further influence consumer behavior.

Thus, the survey allowed us to get a quantitative interpretation of the studied phenomenon and prove all the hypotheses that were clarified at the stage of the expert interview.

Conclusions and limitations

Conclusions which are below can be drawn based on study results:

1. The main motive for purchasing luxury counterfeits is related to price factors.
2. The potential risks of consuming luxury counterfeits can reduce the propensity to purchase them.
3. The sociocultural characteristics of consumers affect their desire to purchase a fake.
4. The context of consumption of certain goods is crucial for buyers.

As for limitations, the results need further statistical processing. Also sociocultural factor should be studied more deeply involving not only Chinese respondents but also European.

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Revealing Corporate Sustainability Maturity Levels Through Corporate Websites

Joana Ramanauskaitė^{a*}, Eglė Staniškienė^a

^a*Kaunas University of Technology, School of Economics and Business, 50 Gedimino St, Kaunas LT-44239, Lithuania*

Abstract

This study seeks to define the corporate sustainability maturity levels through corporate websites. A model developed by Siano et al. [1] was chosen for the empirical analysis of corporate websites. The chosen sample for corporate website analysis includes organisations from the Baltic States, which are active members of the UN Global Compact initiative. The results revealed that the analysed organisations have only reached an acceptable level of corporate sustainability communication, with the majority of them displaying weaknesses or poor compliance with the requirements for sustainability communication on corporate websites. The research identifies four distinguishable corporate maturity levels: emergence, popularisation, formalisation, and maturity.

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Keywords: corporate sustainability; corporate sustainability maturity; corporate websites.

Introduction

In the recent years, many drastic phenomena have been occurring throughout the world, starting from radical climate change to public protests of the people unsatisfied with their living and working conditions. Nonetheless, human activities, including industries, travel choices, production and consumption rates, are the main culprits of the climate change, pollution of atmosphere, soil and water. The crises that the humanity is facing – including climate change, dwindling natural resources, and unjust distribution of wealth and security – lie deep in the structures of currently unsustainable societal systems [2]. These issues must be addressed to maintain or even improve the current situation. There are several possible ways we could start out towards a better society – from global sustainability agreements and global organisations to local governments and policies to local organisations and socially and

* Corresponding author. Tel.: + 370 630 83955.
E-mail address: joana.ramanauskaite@ktu.edu

environmentally aware actors to societies and everyday life. Although incremental solutions may not be enough to sustain the living environment, radical changes could cause a resistance from people who feel comfortable in their own routines.

Addressing the sustainability issues on the corporate level might have a more significant impact on the environment, society and economy because industries and businesses contribute to it more both positively and negatively. The sustainability issues can be arranged into two clusters:

1. Global and local environmental policies are becoming more stringent with more standards and directives being issued, such as the Unified Product, Packaging and Waste Record Keeping Information System (PPWIS) of the European Union; ISO 14000 etc.
2. Reputation – sustainability issues are on the high tide in the current society and organisations cannot disregard them. An example of being sustainable is to be a respectable and honourable employer, minding social needs of the customer, employee, and environment. Creating a social fairness climate in the organisation combined with the employee perception of CSR could contribute to the company's overall social reputation [3].

Organisations that keep up with the sustainability regulations as well as mind the customer needs, current trends, and adjust their strategies accordingly can achieve higher commercial results and positions themselves better in the market. This notwithstanding, understanding and managing the actions needed to take a more sustainable path might not always be easy and clear.

1. Theoretical background

This study investigates organisational transitions toward sustainability and tries to distinguish sustainability maturity levels through corporate websites. Institutional theory links the organisations and institutional change strongly and is widely used by scholars in management studies and sociology [4]; therefore, it is considered in this research. Imitation is one of the classic insights of institutional theory: rather than optimising their decisions, practices, and structures, organisations look to their peers for cues to appropriate behaviour [5]. Institutional theory can be applied in consideration of the fact that transitions can be “considered as being an integral part of the change process whereas the defining characteristics of the old state are fading away, but still exist, while the defining characteristics of the new model are emerging without being fully established yet” [6].

When speaking of corporate sustainability, the question of “What are we as an organisation?” emerges quite naturally because it has been raised and adopted as best-reflecting the theory of organisational identity since the publication of Albert & Whetten [6]. Corporate values can have a great impact on whether the organisation chooses to adopt the sustainability ideas or not. Identity is a core concept raised to help make sense and explain action from micro- to macro-level: thinking about an individual, an organisation, or even a nation [8]. Gioia et al. [8] categorised organisational identity according to four perspectives: social construction (self-referential, organisational members identifying how they perceive who they are as an organisation); social actor (self-referential, how organisation sees itself as an actor in the society); institutionalist (sees identity as an internally defined notion that is subject to the strong influence of institutional forces); and population ecologist (externally defined view of organisational identity by category (industry) membership). In this research, the institutionalist perspective is adopted mainly because sustainability is revealed through corporate strategy referring to the strategy of an organisation, clearly defined and unified for all, hopefully followed by all members of the organisation. However, it may not be easy understanding the organisation's identity only through websites. A deeper look needs to be cast on what can describe the organisation.

There are attributes that could help describe an organisation's identity. A general list of organisational attributes could be clustered into two main categories: core attributes that can be described as intangible identity, which satisfy the organisational identity, and application attributes – tangible attributes – that do not necessarily meet the organisational identity definition [8–10]. Core attributes are divided into two categories (purpose and philosophy) and are the constituting representation of organisational identity; application attributes (priorities, practices, and projections) refer to the way an organisation represents itself and not necessarily constitute the organisational identity [8, 9]. The authors suggest that a change in application attributes without a change in core attributes is expected to give a sense of “continuity”, while any change in core attributes is likely to lead to a sense of “discontinuity” [8]. Thus, when an organisation is trying or thinking about adopting sustainability ideas and / or technologies, it is necessary to

understand the core attributes of its identity, because even great ideas that could bring a lot of positive change to the organisation could cause chaos and discontinuity of an organisation as it is, if brought to the wrong environment.

Everything that is new and is being brought to an organisation amends its routine. Incremental changes come and are adopted more naturally. However, the sustainability transitions are more associated with disruptive innovations [11]. For existing organisations, adapting to sustainability transitions means preparation for bigger changes and challenges. Institutional change lies at the core of sustainability transitions, and that is why transition scholars have studied the institutional structures, strategic activities of firms and other actors and how organisations shape their institutional environments [4]. Corporate sustainability contains the feature of intrinsic tension in the definition per se [12, 13]. One of considerable tensions in organisations shifting towards sustainability occurs between the statement of long-term organisational strategy, ecosystem management, and lack of knowledge and experience for future development of the ecosystem [14]. When adapting to climate change [14] or any other outside pressure, this tension becomes tangible. Van der Byl & Slawinski [15] systemised the preceding research and grouped tensions in corporate sustainability under three categories: strategic direction, domain, and strategy implementation. It is evident that the majority of tensions manifest at the extra-organisational level. Intra-organisational level tensions have been so far researched by only by several authors [3, 16, 17].

The subject of organisational sustainability has been addressed in corporate responsibility and environmental research societies for several decades now. Tensions emerging in organisations when speaking of their search and reach for sustainability have been addressed in scientific literature, including van Bommel [18], Hahn et al. [19], Passetti et al. [13], and Wright & Nyberg [20]. Even though it is clear that tensions are values in opposition, the underlying reasons of their occurrence are not clear. This field of research has not been thoroughly addressed in the context of the Baltic States. There are two research approaches to the field of organisational sustainability: while the responsibility approach investigates the relationship between managers / firms and society and takes a normative position, railing against the amorality of business, the sustainability researchers do not assume a focal factor and take a systems perspective, sounding the alarm of business-driven failures in natural systems [21]. This research draws on a holistic approach, taking both the responsibility and sustainability researchers' points of view into consideration.

Taking the notice of different corporate sustainability approaches and the organisation's perception of itself, the present research draws to the attention the way the organisations present themselves. When looking for a partner, an investment opportunity or general information about a company, the first place to start might be its website. What do we expect to find about the general interests of the company and, even more specifically, about its sustainability? Organisations represent one part of the social construct of the country and can surely influence its development path, preferably, towards sustainability.

Communicating and engaging with their stakeholders is crucial to any kind of organisation. Corporate communication plays a major role in stakeholder relationship management [22]. The authors also recognise that maintaining and managing communication activities with the stakeholders to contribute to a positive corporate reputation is one of the aims of corporate communication. When talking about "sustainability communication", the term "corporate responsibility communication" is used most frequently by the researchers. Corporate responsibility is the second most important attribute contributing to boosting a positive corporate reputation [22]. Engaging with stakeholders, organisations can have a better understanding of what is expected to be found within their sustainability communication [23]. Corporate responsibility communication is considered as a legitimating activity for the organisation and its importance in the eyes of the society hence its stakeholders, has been growing [23–25]. Appropriate management of stakeholder relations is still an emerging issue in the sustainability field. Although there are instruments of corporate sustainability communication assessment available, no single effective formula of communicating sustainability has been devised yet.

Looking at sustainability communication practices of organisations might reveal some insights into the actual tensions or the ones they declare, revealing whether the sustainability is visible in the core attributes. Sustainability transitions are long-term, complex, fundamental transformations of organisational systems [26]. They are part of the social construct and can be addressed in different levels of maturation. This research is going to look at sustainability transitions through the phases proposed by Hugé et al. [27]: Phase 1: Emergence; Phase 2: Popularisation; Phase 3: Formalisation into a governance framework; and Phase 4: Maturity reflected in normative changes (i.e. the uptake of sustainability as a norm).

The scientific problem emerges from the inconsistency of research approaches in the field of organisational sustainability maturity levels, resulting in ambivalent results and viewpoints of emerging tensions. This research draws on theories of organisational identity and institutionalisation to understand the corporate sustainability maturity levels and whether it is possible to reveal them through corporate websites.

2. Methodology

2.1. Context and sample

Organisations use multiple communication channels for communicating their sustainability actions to stakeholders [28]. The internet has become one of the main contemporary communication channels and has a prominent role in sustainability and CSR communication [1, 28, 29]. This study is aimed at finding organisations, which are already implementing certain sustainability measures and looking at their websites for corporate sustainability communication. For the website evaluation, the study applies the OSEC model, proposed by Siano et al. [1] and adapted to the context of the organisations of the Baltic States. Websites of organisations, which report their sustainability are analysed seeking to find their similarities and differences and to understand the message they send to their stakeholders. There also might be differences between messages conveyed by the websites, sustainability reports and interviews.

For the study sample, organisations from the Baltic States were selected according to one criteria – they have to be a part of the UN Global Compact initiative. The list was first checked on the 28th of March 2019 and contained 51 organisations. The last check of the list was carried out on the 13th of November 2019 and it had decreased to 38 active members. Further research of the websites was carried out including only the active members of the UN Global Compact. The companies pursue 15 different business activities (Fig. 1).

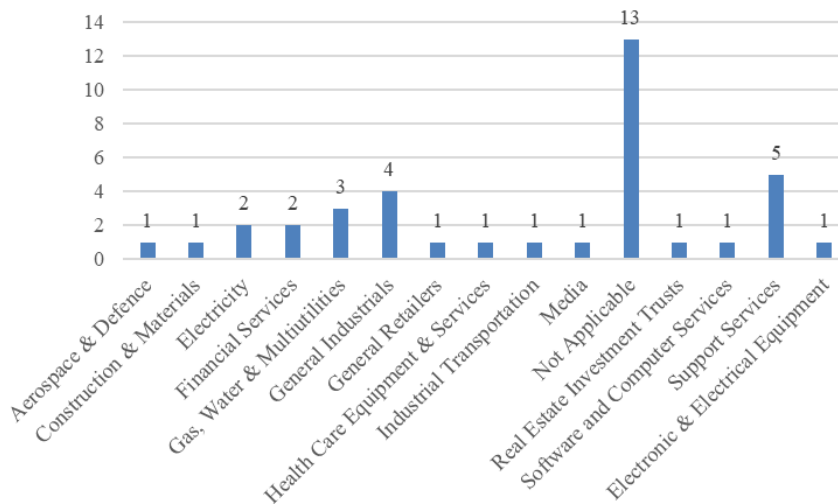


Fig. 1. Frequency of business activities

Even though there are more organisations that pursue some sustainability-related activities, this study chose to investigate those corporations, which are taking the next step towards sustainable operation – providing reports on their sustainability. From the numbers of active members of the UN Global Compact it can be seen that sustainability reporting is not that popular in the Baltic States.

2.2. Measurement

Websites of organisations were analysed using the OSEC model proposed by Siano et al. [1]. This model is hierarchical and based on 4 dimensions (orientations, structure, ergonomics, and content), 18 sub-dimensions and 64 items that measure the corporate sustainability communication and provide a score (0–100) on the following ranges:

- $s > 80$ – excellent compliance to sustainability communication requisites;
- $70 < s < 79$ – communication requirements are fulfilled in a satisfactory way;
- $60 < s < 69$ – acceptable compliance to communication requisites;
- $50 < s < 59$ – there are some weaknesses in digital sustainability communication;
- $s < 49$ – poor compliance with the communication requirements [1].

Corporate websites were rated according to the 64 items (indicators) that were treated as dichotomous variables (“1” for item being present in the website, “0” for item missing from the website). Three items measuring the stakeholder engagement section sub-dimension checked the number of certain items in the section of the website and values ranged from 0 to 5 (according to the number of items in the section). The score is calculated summing up the evaluation scores from four different dimensions: Orientation (0–9.38), Structure (0–26.56), Ergonomics (0–29.69), and Content (0–34.37).

Interestingly, the OSEC model allows calculating the possible greenwashing patterns on the websites and adds penalties to the final score. The model detects inconsistencies by cross checking orientation, structure, and content dimensions.

3. Results

Results of the study on corporate sustainability communication on the websites of organisations of the Baltic States is shown in Table 1. None of the analysed organisations met the requirements for excellent or satisfactory compliance with the sustainability communication requisites. Acceptable compliance of sustainability communication was achieved by only two organisations. These results show that all the sustainability reporting organisations of the Baltic States had possibilities for improvement and needed to take improvement actions to avoid the reputational risks and improve communication practices and strategies.

Table 1. Ranking of organisations of the Baltic States according to the OSEC model

Organisation	Business Activities	Country	OSEC dimensions				Green-washing	Total score
			Orientation	Structure	Ergonomics	Content		
OrgA	Not Applicable	LT	4.69	8.41	24.24	26.97	0.00	64.32
OrgB	Industrial Transportation	LT	4.69	7.75	19.93	31.03	0.00	63.40
OrgC	Support Services	LT	4.69	5.09	20.43	29.36	0.00	59.57
OrgD	Not Applicable	LT	3.13	12.84	16.61	26.26	0.00	58.83
OrgE	General Retailers	LT	0.00	9.08	21.91	26.74	0.00	57.72
OrgF	Not Applicable	LT	3.13	9.08	21.06	24.11	0.00	57.37
OrgG	Electricity	LT	3.13	10.63	19.79	20.29	0.00	53.83
OrgH	Electricity	LT	0.00	7.30	19.30	26.26	0.00	52.86
OrgI	Health Equipment	Care & LT	4.69	4.65	14.28	29.12	0.00	52.74

Organisation	Business Activities	Country	OSEC dimensions				Green-washing	Total score
			Orientation	Structure	Ergonomics	Content		
Services								
OrgJ	Not Applicable	LT	3.13	7.97	21.91	30.56	-10.94	52.62
OrgK	Gas. Water & Multiutilities	LT	3.13	9.08	19.79	20.05	0.00	52.04
OrgL	General Industrials	EE	0.00	4.43	17.25	29.36	0.00	51.04
OrgM	General Industrials	LT	4.69	4.87	17.74	23.63	0.00	50.93
OrgN	Not Applicable	LT	4.69	5.53	17.46	20.77	0.00	48.45
OrgO	Not Applicable	LT	6.25	4.65	19.30	26.74	-9.38	47.56
OrgP	Support Services	LV	3.13	5.31	20.07	29.36	-10.94	46.94
OrgQ	Gas. Water & Multiutilities	LT	0.00	9.08	16.96	30.79	-10.94	45.90
OrgR	General Industrials	LT	6.25	5.98	21.70	19.57	-9.38	44.13
OrgS	Not Applicable	LT	0.00	6.64	15.41	19.34	0.00	41.39
OrgT	Not Applicable	LT	1.56	7.75	23.89	17.43	-9.38	41.25
OrgU	Not Applicable	LT	0.00	1.99	21.06	17.43	0.00	40.48
OrgV	Support Services	LT	0.00	6.64	13.50	20.29	0.00	40.43
OrgW	Software & Computer Services	LT	0.00	2.43	16.75	21.01	0.00	40.19
OrgX	Gas. Water & Multiutilities	LT	0.00	3.10	21.77	12.89	0.00	37.76
OrgY	Financial Services	LT	0.00	1.33	15.27	20.05	0.00	36.65
OrgZ	General Industrials	LT	0.00	3.54	22.76	21.01	-10.94	36.37
OrgAB	Construction & Materials	EE	0.00	1.55	17.25	16.71	0.00	35.51
OrgAC	Not Applicable	LV	3.13	7.97	22.41	17.66	-18.75	32.42
OrgAD	Financial Services	LT	4.69	4.65	18.94	12.41	-9.38	31.32
OrgAE	Not Applicable	LT	0.00	0.44	14.91	15.76	0.00	31.11
OrgAF	Support Services	LT	0.00	0.44	16.96	11.94	0.00	29.34
OrgAG	Not Applicable	LV	0.00	3.98	8.84	15.76	0.00	28.58
OrgAH	Real Estate	LT	0.00	1.99	14.42	10.98	0.00	27.39

Organisation	Business Activities	Country	OSEC dimensions				Green-washing	Total score
			Orientation	Structure	Ergonomics	Content		
Investment Trusts								
OrgAI	Not Applicable	LV	0.00	1.77	14.56	10.03	0.00	26.36
OrgAJ	Support Services	EE	3.13	0.89	14.91	16.71	-9.38	26.26
OrgAK	Media	LT	0.00	1.33	15.76	9.07	0.00	26.16
OrgAL	Aerospace & Defence	LV	1.56	4.65	14.91	11.94	-9.38	23.69
OrgAM	Electronic & Electrical Equipment	LT	1.56	1.55	8.48	18.14	-10.94	18.80

Thirty-two percent of the analysed websites displayed possible greenwashing activities. In the original model description by Siano et al. [1], these greenwashing signals are called sins. Three sins were found amongst the analysed organisations: sin of vagueness (18 %), unidirectional approach to stakeholder (13 %), and sin of worshipping false labels (3 %). To look deeper into the sins, a broader explanation is needed:

- sin of vagueness – description of sustainability is based on vague or inaccurate information;
- unidirectional approach to stakeholder – there is no stakeholder engagement support on sustainability approach;
- sin of worshipping false labels – sustainability labels are not supported by a labelling system or certifications.

Commitment of each sin takes points off the final score, -9.38, -10.94 and -9.38 respectively. One organisation had not one, but two sins to its credit – both sin of vagueness and sin of worshipping false labels. Greenwashing activities might also be seen as tensions – values in opposition – resulting from the inconsistency of communication inside and outside the organisation.

When analysing the websites of organisations providing their reports on the UN Global Compact platform, some interesting decisions of organisations emerged:

- there were differences between the information provided to Lithuanian and English-speaking stakeholder groups. One Lithuanian corporate website included information for the main customers of the company, while the English version of the website provided information for the potential shareholders and other interested parties. There were also differences between the Lithuanian and English corporate social responsibility reports (i.e. number of pages);
- several corporate websites did not provide the corporate sustainability reports, some reports in the websites were outdated (UN Global Compact platform providing a more recent version);
- some organisations did not provide their sustainability approach altogether.

The results suggest that the website analysis could provide insights into corporate sustainability maturity levels, called phases in the research of Hugé et al. [27] and depicted in Figure 2.

The score from the model can relate to a certain corporate sustainability maturity level:

- Level 1: Emergence – score < 49, where the organisation addresses its sustainability poorly. In the case of joining the UN Global Compact initiative, it can be seen that awareness of sustainability issues is emerging, but not yet defined by the organisations.
- Level 2: Popularisation – the score is between 50–69, where the organisation shows some weaknesses; however, the sustainability is being addressed. There are some miscommunications in the websites that are either intentional or not. The inconsistency of information reveals that the organisations are still trying to define their sustainability identity.

- Level 3: Formalisation into a governance framework – the score is between 70–79, where corporate sustainability is visible, and the communication level is good. Minor inconsistencies in the information provided by the organisations can be detected; however, a general picture is formed showing that the organisations are formalising sustainability in their activities.
- Level 4: Maturity, reflected in normative changes – the score is > 80, where the organisation is fully aware of its sustainability activities and impact and communicates it excellently. Such organisations demonstrate a consistent approach to sustainability issues and might be an inspiration or example of good practices for those still in search of their approach towards the sustainable modes of working.

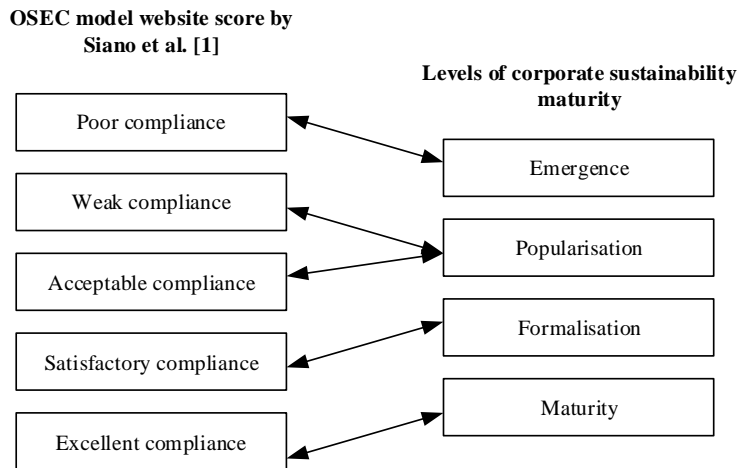


Fig. 2. Defining corporate sustainability maturity levels

Drawing from the results, it is clear that the organisations analysed reveal their purposes and philosophies poorly; their identities as sustainable or at least sustainability-oriented organisations are not defined through their websites.

Conclusions and discussion

The present research groups organisations into four levels of maturity. These levels can also be described by the results of corporate website analysis, attributing each score group to a certain maturity level. Tensions that occur in the organisations are visible in the results of corporate website analysis: 32 % of the analysed organisations showed greenwashing activities. There are certain tensions specific to the maturity levels. This refers to the inconsistency between their actions towards stakeholders. The paper suggests that there is a connection between the sustainability communication on a corporate website and the overall corporate sustainability maturity.

This paper contributes to the scientific literature by addressing the corporate sustainability maturity and identifying its levels. Furthermore, the analysed organisations did not have the appropriate sustainability communication culture, even though they were taking the next step towards sustainability – providing information in the public sustainability reports via the UN Global Compact platform.

This study will be complemented with further research that includes the assessment of corporate sustainability reports and interviews with sustainability-reporting organisations for deeper understanding on the tensions these organisations are facing.

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Benefits of Lithuanian Vocational Teachers' Involvement in Project Activities: Intercultural Competence Component

Aušra Repečkienė^{a*}, Daiva Vareikaitė^b, Renata Žvirelienė^a

^a*Kaunas University of Technology, Panevėžys Faculty of Technology and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania*

^b*PE Panevėžys Centre of Vocational Education, 68 Staniūnų St, Panevėžys LT-36143, Lithuania*

Abstract

The paper examines the project typology and benefits gained by the Lithuanian vocational teachers participating in project activities in national and international projects while particularly emphasising the importance of intercultural competence of vocational teachers, as one of such benefits, in different educational settings.

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Keywords: participation in project activities; vocational teachers; benefits of project activities.

Introduction

In view of ongoing changes in science and technologies, personal professional excellence of teachers, their openness to change and leadership become the key determinants of progress of an educational institution and its students. Transformation processes in vocational training pose increasingly higher requirements to vocational teachers both as specialists of the respective discipline as well as individuals striving for diverse improvement, being open to innovations and international integration, who are able to adapt flexibly to constant changes and realise their potential.

International and intercultural projects implemented in educational organisations have great influence on the development and expression of educators' competences. Vocational teachers' participation in international projects confers crucial experience in intercultural education, whereas collaboration with foreign colleagues enables discovering new methods of teaching and learning and gaining experience and helps developing both general and

* Corresponding author. Tel.: + 370 686 06696.

E-mail address: ausra.repeckiene@ktu.lt

special competences, with particular emphasis on the intercultural competence. All this helps the educators become more effective in the respective field of education when conveying the knowledge and skills to their students in practice.

Education and teaching are vital in ensuring the development of social behaviour and values necessary for maintaining the culture and promoting cultural awareness. Intercultural competence development should encompass various structures of teaching, learning and education: formal, non-formal and informal life-long learning.

Intercultural competence has been extensively examined in different activity contexts such as education, development, cultural transformation, higher education internationalisation, and cultural globalisation. Intercultural competence of teachers is distinguished as a necessity in a contemporary educology context; however, intercultural competence of vocational teachers as one of the benefits of involvement in project activities has received little attention. The current paper analyses the benefits of involvement of vocational teachers in project activities with particular emphasis on the importance of one of them – intercultural competence – in the learning paradigm.

1. Attributes of project activities

In the glossary of international terms [lat. *Projectus* – (something) thrown forward], a project is defined as one of the following: a plan or conception; documentation drawn up in advance; tentative, anticipated, inconclusive text of an act or document. The term ‘project’ is used in numerous fields of activities and generally is construed as a temporary activity limited by time resources intended for attaining the set target. Project activities, project thinking and projection (or planning) is a very common phenomenon describing economic, political, and social changes and their progress [1].

Different definitions of project / project activities identify specific attributes of this activity that distinguish a project from other methods of functioning or activities. The following key attributes of project activities are enumerated: clear goals, novelty, uniqueness, complexity, diversity of participants, specific project organisation, limitation of required resources, and limitation of time [2–4].

In the context of education, a project is construed as a means aimed at achieving a tangible change or improvement of a situation, or solution of a specific problem. Nowadays, in the Lithuanian education system, projects represent one of the means for education system modernisation provided for in strategies of all vocational training institutions as a factor promoting the transformation of education and improvement of teacher competences.

In a contemporary world, transformation of the learning process manifests through the new education paradigm with life-long learning as the key component. In orientating towards the mentioned paradigm, it is important to mention that continuous learning, development of the existing competences, and their manifestation should occur as a natural process motivating the learners. Project activities, oriented to the development of the individual’s creativity, proactiveness, and interculturality, represent one of the factors promoting the transformation of teaching and learning.

According to Zubrickienė and Adomaitienė [5], project activities help acquire new competences and develop the existing ones, and represent a natural proceeding of the adult learning process with well-focused collaboration while seeking for a common goal. In the context of project activities, the conception of competence pertains to the self-sustained fostering of individual knowledge, abilities, attitudes, and personal qualities [5]. Project activities disclose the holistic competence of an individual displayed by the ability to use the knowledge possessed to assess new situations, select the right methods of action and empower the people to act in uncertain situations while following one’s personal values, and to integrate subject-related, professional and general competences. According to Birgelytė [6], idea and experience sharing, pooling of knowledge and skills, learning to acknowledge and interact are all the things inherent to a project. In project activities, new experiences are gained and public relations as well as responsibility and self-sustainability are promoted.

In summary, it can be stated that project activities are multi-complex activities characterised by a variety of forms, flexibility and openness to collaboration that promote receptiveness to innovations and experience-sharing, and enable the formation of outlook and spiritual values as well as self-realisation. The striving for integrity, activation of multiculturalism, dissemination of culture, international collaboration, and cultural dialogue are the key features of education projects.

2. Involvement of Lithuanian vocational teachers in international projects: typology and benefits

Seeing that Lithuania participates in the implementation of Europe 2020, a European Union (EU) investment strategy, one of the thematic goals of the Operational Programme for EU Funds Structural Funds' Investments refers to investing in education, abilities, and life-long learning. Embracing the possibilities to obtain funding from the EU, vocational schools regularly apply for funding to implement various projects. Majority of the projects implemented from the EU funds are international projects and programmes for partnership, best practice dissemination and exchange, involving students, specialists assisting the students, principals, teachers of general education, and vocational teachers.

Challenges faced nowadays by the vocational training system and educators working in vocational training schools presuppose exceptional requirements. Particular emphasis is placed on educators' personal qualities, motivation, innovative approach to one's activities, and willingness to improve constantly while absorbing the best practices in vocational training from foreign countries and modern teaching technologies of the subjects taught [7].

Lithuanian vocational training institutions implement both national and international projects. National projects are intended for solving only the country's own education, training, employment, labour market integration, social adaptation, cultural, ecological and other problems, and foreign partners are not involved in the activities. Meanwhile, in international projects, common vocational training, education, development, employment, competence, and qualification improvement or other issues are solved in cooperation with other countries.

Document analysis showed that vocational training institutions generally implement the projects under *Erasmus+* strategic partnership programme. This programme is aimed at helping implement the Europe 2020 strategy and strive for cooperation in the EU in the field of education and teaching. Projects of this type promote the partnering, collaboration and mobility of several training organisations of the same type. Participation within the framework of such programmes enables studying, learning and acquiring experience abroad. For teachers, this is an excellent opportunity to improve the competences they already possess, to promote the expression of intercultural competence, and share the professional discipline-related experience.

The Lithuanian Strategy for the Development of Internationalization of Vocational Training and Adult Education [8] notes that the mobility for learning purposes under *Erasmus+* programme is implemented under key actions *KAI02* and *KAI16*, involving vocational schools that both do and do not have adopted the Mobility Charter. The *Erasmus+* activities are aimed at promoting long-term mobility of students and graduates of vocational training schools through long-term traineeships in foreign companies or institutions of the vocational training services provider.

Vocational training institutions also implement the *NordPlus* international programme – an international cooperation programme of the Nordic and Baltic countries intended for education institutions from the Baltic States (Lithuania, Latvia, and Estonia), Nordic countries (Denmark, Iceland, Norway, Sweden, and Finland), and autonomous regions of the Nordic countries (Greenland, the Faroe Islands, and the Aland Islands). *NordPlus* implemented in Lithuanian vocational training institutions creates opportunities for the vocational teachers and other members of staff to participate in international exchanges, share their best practices, and improve their general and professional competences in the Nordic countries. Attainment of the programme objectives contributes to the quality of education and cooperation with progressive Nordic and Baltic educational institutions while shaping a common education space of the Nordic and Baltic countries.

After conducting an analysis of project activities carried out by Lithuanian vocational training institutions, it can be stated that projects pursued by vocational training institutions generally cover the following areas:

- skills and vocational training;
- education;
- employment and decent work.

The analysis of projects carried out in vocational schools and participation of the vocational teachers in *Erasmus+* project activities identified political, economic, social, technological, and cultural benefits that motivate the vocational training institutions to apply for and implement the projects.

When implementing projects in vocational schools, political benefit is measured through the aspect of education policy promoting a life-long learning and dictating the need for continuous education. Project activities are focused

directly on the striving for education quality, when educators as leaders of the education process are provided an opportunity to become participants of international activities.

The participation of educators in the project could be approached as an economic factor promoting the relationship between science, business and manufacturing, and closely related to changes in the labour market and training of professional employees. Quite a number of projects implemented in vocational training institutions are intended for the improvement of training of specific profession employees and introduction of international vocational training programmes with employers, social partners, and students involved.

Teacher participation in project activities could be approached as a socialisation process encompassing cooperation and interaction between different social groups, e.g. teacher and student; teacher and principal; teacher and teacher; teacher, student and employer; teacher and employer as well as participants from different countries and cultures, or with different attitudes.

Project activities are also closely related to technological processes. Teacher participation in projects promotes the improvement of their technological competencies in the lessons on the use of information technologies (IT) as well as in applying new technologies in the production process. Furthermore, IT help improve the foreign language skills and communication process in social networks.

The cultural aspect covers the fostering of one's own culture, cultural values and traditions, and getting to know other cultures. As shown by activity descriptions and agendas of projects in which educators are involved, almost all project activities plan for cultural education activities. During international projects, teachers not only develop their discipline-related competences, but also improve their cultural awareness, knowledge of cultures, and strengthen the cultural identity.

In summary, international mobility projects implemented by the vocational training institutions promote the integration of science in the labour market, collaboration of teachers, students and educators, and international entrepreneurship development. Participation of vocational teachers in international project activities enhances the attraction and prestige of vocational training and effectiveness of vocation teachers, promotes awareness in international arena and competitiveness between colleagues, develops stress-resistance and language skills, helps acquire cultural knowledge and develop the intercultural competence.

3. Manifestation of intercultural competence of vocational teachers in project activities

Participation of vocation training institutions' staff in project activities is conducive to the quality of education as well as accords with the life-long learning while orientating towards the implementation of new educational vision, importance of new values and personality improvement as well as improvement of strategic competences through cooperation [9]. According to Mažeikienė and Locher [10], the involvement of teachers in staff mobility and exchange programmes is closely related to their professional activities in which the intercultural competence manifests. Aužiņa [17] findings confirm that participation in international projects provide benefits not only for teachers (students as well), but also for whole education institutions in home country and other representatives who did not have ability to participate in the international projects.

Intercultural competence (IC) refers to a continuous learning competence encompassing cognitive, emotional and behavioural components [11–12]. Lustig and Koester [13] define intercultural competence as competence that requires knowledge, motivation, skills, understanding non-verbal communication, and suitable and effective behaviour in various situations when faced with different cultures and values. Hiller and Wozniak [14] associate the intercultural competence with tolerance for ambiguity, behavioural flexibility, communicative awareness, knowledge discovery, respect for others, and empathy. Numerous scientists associate IC with Byram's [15] Model of Intercultural Communicative Competence: knowledge, attitudes, skills, and critical cultural awareness. According to Teräs and Lasonen [16] intercultural competence is constructed contextually and defined as teaching activities, facilitating students' learning and cooperating with employers and their job offers.

When examining intercultural competence, a broad spectrum of the *knowledge dimension* expression is first emphasised encompassing knowledge about other cultures and their traditions as well as specific knowledge about education and vocational training systems of other countries, ways, forms and methods of vocational training, trends in vocational training and labour market, links between entrepreneurship development and vocational training, and specificity of vocational training subjects or modules taught. The expression of the knowledge dimension also includes

geographical literacy of teachers and their ability to use different sources of knowledge. Knowledge acquired in project activities is channelled by the teacher towards the improvement of the education quality and introduction of innovations in the teaching process.

When analysing the participation of the vocational teachers in international projects for exchange of best practices and partnership, foreign language knowledge and language skills could be distinguished as a separate dimension. As stated by Baltakys and Kaušylienė [9], knowing the foreign language is one of the factors enabling the participation of vocational teachers in international projects and one of the motives encouraging them to participate in project activities and improve their foreign language knowledge and skills. On the other hand, insufficient language knowledge and speaking skills of vocational teachers represent the factor that impedes them from participating in international projects. However, project activities could become a motive for learning a foreign language and, after attaining a certain level of knowledge, it would enable the vocational teachers to participate in international project activities.

Participation in international project activities encourages the vocational teachers to discover skills and interact, interpret and associate, be able to understand cultural diversity, select suitable approaches of communication and behaviour, and interact with audiences of project participants who have had different experiences. The latter skills reveal themselves in activities undertaken by the vocational teachers that are aimed at understanding and interpreting the education policies of other countries, various documents of the EU / other foreign countries governing education and development, vocational training, employment, competence assessment and project activities, and carrying out the activities in unknown cultures, new uncertain situation, when different means and forms of communication are invoked.

Cultural awareness of vocational teachers when participating in international project activities reveals through the perception of teachers about the integrity and diversity of the world, ability to understand global issues, global transformation, fostering of respect for environment and different cultures, and their ability to adapt to the changed conditions.

The behaviour of project participants in certain situations depends on their personal characteristics, beliefs, attitudes, and values. These are all components of the intercultural competence dimension – attitude: flexibility, attentiveness, curiosity, tolerance, motivation, courage, self-control, stress-resistance, and openness to other cultures. When participating in international projects, these personal characteristics and attitudes are very important, and in many cases, they determine the well-being of the individual, satisfaction with certain activities, and their outcomes.

In summary, in contemporary education context, teacher's intercultural competence is treated as the expression of cognitive, emotional and behaviour dimensions. Project activities can be identified as one of the most attractive education innovations enabling the expression of the teachers' life experience, creativity and proactiveness, which motivates them for acting, develops their public spirit, tolerance, and stress-resistance and helps benefitting from new work-related contacts and professional experiences.

Conclusions

In the contemporary context of education and vocational training, project activities are understood as a factor promoting the transformation of education and teachers' personal and professional improvement, established in the strategies of all vocational training institutions. Embracing the EU funding opportunities, vocational schools participate in the projects and programmes for international partnership, best practice dissemination and exchange, encompassing such areas as skills and vocational training, education, and employment and decent work.

The analysis of the benefits of participation in international projects revealed that vocational schools thus enhance the attractiveness and prestige of vocational training, increase the awareness in international arena, whereas for the vocational teachers, the benefits manifest through their effectiveness and added value created, while promoting competitiveness among the colleagues. The participation of vocational teachers in international projects help develop their intercultural competence, i.e. its cognitive, emotional and behavioural dimensions that manifest in everyday professional activities.

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Integration of a New Leader into the Established Team: How Does a Woman Leader Succeed in Manufacturing Sector?

Brigita Stanikūnienė^{a*}, Aušra Simonavičiūtė^a

^a*Kaunas University of Technology, Panevėžys Faculty of Technology and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania*

Abstract

The purpose of this paper is to explore the personal experiences of women leaders on how they accept new managerial positions in the traditionally male-dominated manufacturing sector. The female leadership research discloses a wide spectrum of obstacles and prejudices women meet in their career path, but research into their transition and integration as a new leader into the established team is still very scarce. The paper employs a semi-structured interview method, which helps to elicit personal strategies, internal and external obstacles and facilitating practices for women leaders to enter a new position in manufacturing sector. The findings reveal the main traits, motives and peculiarities of female leadership in manufacturing sector. The results suggest that they tend to rely on their initiative, communication skills and individualized approach to get to know team members and adjust to their new position rather than on organizational means. Although, the qualitative research employs a relatively small sample and is limited to an international context, it offers a number of important insights for further research on female leadership in manufacturing sector and facilitation of new leader's integration into the established team.

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Introduction

Over the last decade, the noticeable migration of leaders in organizations has become one of the interesting objects of research, raising new questions for researchers. They argue [1–4] that leader's transition decreases the team

* Corresponding author.

E-mail address: brigita.stanikuniene@ktu.lt

cohesion and effectiveness, challenges the prevailing team norms, daily routines and confuses with new ideas or intentions to make changes. On the other hand, the researchers claim that new leaders from outside organizations encounter many difficulties in their integration process: they have to learn a lot, to find the relevant way of communicating, align everyone's expectations and earn trust and recognition in a team. This is quite stressful experience, especially if a newly appointed leader enters the existing team [3, 5].

Therefore, the researchers aim to answer what behavior models a newcomer leader has to use and what obstacles to overcome for smooth and sustainable integration into the established team. Although, the prior research [1, 2, 3, 6, 7] focuses on the problems of new leader transition, his assimilation and intervention as feedback seeking process, it underscores the importance of successful integration of women leaders as newcomers in the established team.

The phenomenon of female leadership has been researched in such sectors as education, politics, public and non-governmental sectors [8–13]. However, there is an obvious gap in exploring the situations when women come to a new managerial position as externally appointed candidate in the manufacturing sector. Are there any peculiarities in female leadership when a new woman leader enters manufacturing sector, which is traditionally male-dominated? Are there any gender related issues that may help or impede their integration? There is a particular lack of research that would be interested in the peculiarities and problems of the integration of women leaders in the team, emphasizing their personal traits and specific efforts, which enabled their successful integration.

The purpose of this paper is to reveal the attitudes and personal stories of female leaders in manufacturing sector on their integration into the established teams, emphasizing gender related issues, the strategies used, the obstacles and facilitating factors for their integration. The research employed scientific literature analysis, semi-structured interview method and qualitative content analysis method.

1. Conceptual Background

1.1. Female leadership

The identification of leadership impact on organizational processes and the dynamics of environment strengthened the emphasis on female leadership as a separate research phenomenon. The previous studies on gender leadership, as Eagly, Karau [11], Douglas [10], Šilingienė, Stukaitė [14] claim, focused on the exploration of differences and similarities of male and female leadership styles and argued on the gender as important factor that influences the leadership effectiveness. Along with the biological differences between men and women discerned, the researchers emphasize the different stereotypes of male and female behavior, personal traits, and value system. Although, as Bubnys and Ruškus [15] assume, men and women have rather similar inborn motivation for work, the choices they make are quite different because of the different early socialization experience, unequal social structural possibilities and the established public attitudes in the society.

The researchers agree that men are considered psychologically stronger and women are more emotional. Šilingienė [16] explains that women as leaders are characterized by active interaction with subordinates and strong sense of identity with a team. By emphasizing the feelings and state of the followers, the woman leader can accurately understand their emotions, which would not cause general anxiety or become a constant concern. Listening and support help them to maintain harmonious communication by creating a group of followers who approve cooperation. According to Eagly, Karau [11], the male leadership style is usually associated with rigor, controlling and self-confident leader with the traits of aggression, ambition, dominance and independence.

A number of studies define the differences of decision making between men and women [17]. They assume that these differences cause the differences of gender leadership. Women tend to take into consideration the instability context, strive to understand the assumptions and care about the consequences of their decisions. Men focus more on setting the goals for decision making, the analysis of information and motivation for decision making. However, the similarities between men and women are also observed: the information is carefully processed, the memory for retrieving data necessary for decision making is employed, different data are grouped in the same manner, the alternatives are evaluated in a logical way, the results are predicted, the consequences are evaluated as well as the same level of involvement in all stages of decision making process is demonstrated.

Adler [18] summarizes the findings of different researchers and claims that female leadership is based on particular personal traits and the manner of communicating that are assigned to women only. While the researchers still debate whether these characteristics are inborn or socially constructed, according to Adler, most studies indicate a

disproportionate number of women with most of these traits. Empathy, helpfulness, care and nurturing, interpersonal sensitivity, attentiveness and responsiveness to persons' needs and motivation; orientation to collective interest and integrated goals, such as group coherence and stability are assigned to women. They prefer open, egalitarian and cooperative relationships to hierarchical relationship and focus on values and networks that are significant to community. Early, Carli [12] attribute such qualities to democratic (or participative) leadership style, which is less directive as compared to male leadership style. Men are more task-oriented and controlling, while women leaders tend to emphasize relationship with followers. Interestingly, as Douglas [10] mentions, that the effectiveness of female leaders, who are more likely to follow an autocratic than a democratic leadership style, is less valued than that of men using the same style. Although a female leader, according to Eagly, Karau [11], will perform leadership tasks properly, she may still receive negative public reactions that a male leader would have acted more logically, more rationally and separating feelings from ideas.

A number of studies [10, 12, 19] proves that women rarely emerge as leaders, and this is hampered by more identifiable formal and informal or external and internal barriers to their career, ranging from the prevailing stereotypes in society to their own lack of self-confidence, and so on. Douglas [10], Eagly, Karau [11] mention most popular stereotypes in the society: male leaders need to be strong and resolute, and women need to show warmth and care for others, be helpful and compassionate. The negative attitude towards female leaders is supported not only by these stereotypes, but also by the internal resistance in the company when women hold management positions.

Nevertheless, the researchers [9, 13] who have explored the effectiveness of male and female leadership assume that there are some indicators when a woman leader has advantages over a man. First, as Douglas [10] claims, they are stronger in building and strengthening the interpersonal relationship inside the team, empowering team members for task performance. The author emphasizes that women leaders achieve better results, because they take care about the relevant microclimate among the team members. Second, female leadership is valued because of multitasking ability [20]. This ability of female leaders, according to Kuptsova, Ivanova, Petrushevsky, Fedina [21], is explained by the neuropsychological and neurochemical differences between male and female brain functioning. Based on psychological studies, the authors discern the differences in speed of perception, the perception of visual space and attention properties among the genders. For this reason, men use more energy than women in performing multiple tasks. Similarly, men employ more areas of brain to perform multiple tasks than women who perform the same tasks.

Alhaj, AlKowari, Hallak, Khamis, George [20] state that women have network thinking that enable to process information in more details than men are able to do. The way women collect and analyze data may be evaluated as the creation of external network complex. According to these researchers, women have abilities to simultaneously solve several questions or problems, to process and analyze several scenarios, especially the ones related to financial issues. Women have unique abilities, such as psychological flexibility, oral articulation, executive social skills, network building, cooperation and empathy. Researchers conclude that these abilities make women naturally better leaders than men.

Eagly, Carli [12] argue, however, that effectiveness of female leadership depends on such variables as the nature of the task and the personal traits of followers, while the stereotypic female characteristics – cooperation, mentorship and maintenance of relationship – are important only in certain situations. Also, the effectiveness of female leadership is different from the male leadership in terms of team composition. Hoyt [22] noticed that female leadership was less effective than male when their teams were dominated by men. Thus, women who occupy managerial positions in traditionally male spheres – military organizations, politics, manufacturing and production, and so on – usually face challenges in recognizing their status and competence [11]. For example, the findings of research by Horowitz, Igielnik, Parker [23] revealed respondents' beliefs that men as leaders take better positions than women in business and politics. The same study, however, disclosed the duality of respondents' opinion: they would like to see more women in leadership position not only in politics but also in business. Hoyt [22] agrees that women were more effective leaders in education, government and social service organizations, and were generally more effective than men in the middle management, where interactions with team members were more valued. The author proved that women leaders working in more masculine positions (e.g. athlete coaches, managers in manufacturing companies) were rated lower than male leaders working in the same positions. According to Powell, Butterfield, Bartol [24], research results show that female leaders will be better valued by the same-sex evaluators. It implies that a woman leader in male dominated team will receive lower evaluation than a male leader.

The above overview of the scientific literature suggests that the female leadership phenomenon is very contextual and based on the prevailing differences or / and similarities between men and women that are grounded psychologically or have societal justifications. That is why the manifestation of female leadership may be treated

controversially, for instance, the female traits such as emotionality, empathy and sensitivity might be considered as leadership obstacles, but on the other side, these traits help to explore team members' emotions, their needs and develop collaborative relationship. Therefore, we assume that the integration of new woman leader in the manufacturing sector that is usually male dominated may be characterized by the specific features.

1.2. A new leader integration process

During the past two decades, the tendencies to change the organizations in the search for a new leader positions or career opportunities have been observed. Accordingly, the researchers tend to focus their attention to the dynamics of this transition process [3, 7, 25], the problems and challenges a new leader encounters in taking the charge of the existing teams [26, 27] and integrating [6, 28] within the established team culture with pre-existing organizational norms and values.

Forbes, Borchert, Cellmer-Bruhn, Sapienza [1] explained that the process of a new team member addition is generally determined by two different approaches. The first approach defines the entering of a newcomer as a rationally grounded process that is based on the economic and instrumental needs of organization. That means that a new person is coming to organization for filling the "competence gaps" in the existing team with the relevant "package" of personal traits, skills, experience or professional expertise. The second approach emphasizes that the entering of newcomers is related to social networking and interpersonal relationships. Forbes, Borchert, Cellmer-Bruhn, Sapienza [1] expressed that this process is influenced by the social psychological needs of the existing teams. The organization's decision to take a new member is based on mutual trust in relationships, the similarities, personal traits of team members and such characteristics as gender, ethical dependence and profession field. However, the research on new leader integration into the existing team is still scarce.

Denis, Langley, Pineault [6] make a comprehensive theoretical analysis of the literature on leader transition and suggest the conceptual model by discerning three positive outcomes of a new leader integration: assimilation, transformation and accommodation and a negative outcome as parallelism. The transformation implies that a new leader had power to impose his / her own concept of role distribution among team members. That means that a newcomer transforms a team, according to his / her expectations, beliefs and attitudes. Contrary, the assimilation is defined as the leader's adaptation to the existing norms and beliefs of the team without altering them. As Downey [29] states, the aim of assimilation is to ensure the smooth adaptation of a leader overcoming the usual obstacles for newcomer's integration. The organization, accordingly, commits itself to providing developmental and training activities that facilitate a new leader's integration. This is in line with the concept of leader assimilation presented by Manderscheid [25], Manderscheid and Ardichvili [3]. They define leader assimilation as an "*intervention typically facilitated by an internal or external leadership development practitioner*" and argue that this is an effective way to help a newcomer to adapt to their work teams. The accommodation strategy, according to Denis, Langley, Pineault [6], reveals that both the leader and organization have to partially change their perspectives and create a new pattern of belief system. The parallelism outcome implies that there is a total divergence between leader's and organization beliefs.

The researchers [1, 3, 7, 29] acknowledge that an integration process of incoming leader is quite a complicated process from the very start of appointment. As a newly appointed leader, he or she has a task to maintain the performance and cohesion of the existing team, to align their expectations and to gain team members' respect and trust. Sauer [4] argues that the transition of external leader has a negative effect for both, the team and the whole organization. Other studies [1] prove that a new member may increase team's capacities, but, similarly, challenge the existing team norms and processes.

Previous studies suggest that an externally appointed leader has to perceive the existing culture of team and organization. Ciampa and Watkins [30] believe that a newcomer loses two resources from the earlier workplaces – the perception of organizational culture and the network of relationship. Neff and Citrin (cited in [3]) describe that a new leader "*inherits a legacy of an existing team: their ambitions and aspiration, their hidden agendas, their possible mistrust and questionable loyalty, as well as the history or relations among them*" [3, p. 82]. He or she (Neff, Citrin (cited in [3])) has to learn about each of the team members, their value system, team norms, expectations and goals. Manderscheid, Ardichvili [3] refer to Shein (1997) and anticipate that new leaders have to interview the employees, especially the senior ones, with the aim to become aware of the prevailing assumptions shared by a team. The exploration of team expectations enable to gain the leader's status in a team. More than that, researchers [3, 7, 4, 27] believe that successful development of competence helps to guide the team and reduces stress during the transition process.

The researchers [3, 7, 29] support the idea that team members also have to show initiative to share their expectations, to give feedback and help to ensure open communication. This is not an easy task since with the addition of a new member, the established roles and duties of team members are forgotten and it (team) returns to the initial stage of team development, searching for the information about a newcomer [4]. Therefore, the self-confidence of leader [4], abilities to demonstrate influence and managerial control and willingness to respond to team's expectations help to establish the interpersonal relationship and receive feedback.

Along with the importance of building interpersonal relationship with team, the authors provide the research findings that a new leader's integration is highly influenced by his / her learning during this transition period, which could be a quite complicated task for an external newcomer, because he or she have to learn so much. First, this could be described in terms of new leader's "identity development process" [5], which is understood as the process of formulating leadership-related self-views. In this case, a leader increases his/her self-awareness and looks for the learning opportunities that could be described as "work-related incidents" [2]. Second, leader's learning is enhanced by the strategies that organization implements for facilitating new leader integration [3, 6, 25]. To sum up, the integration of new leader is highly dependent on both parties – a leader and followers – and it could be positively supported by leaders' self-confidence, the eagerness to actively explore and align team members' expectations, to know their competencies, to manage first impressions and early actions, to learn, to foster open communication and develop interpersonal relationship. The success of integration process may be enhanced by applying the organizational efforts and strategies for new leader assimilation. The above overview of studies, however, suggests that the research on how the female leaders as newcomers succeed in the integration process is still needed. More than that, the research on the integration of female leader in the manufacturing sector with the existing team is very limited in the scope.

2. Empirical study on a newly appointed female leader's integration in the manufacturing sector's companies

2.1. Research context and methodology

The purpose of this qualitative study was to examine the challenges of integration a new female leader faces and the tactics she applies while entering the existing team in the manufacturing sector company. We were deeply interested in the perception of their own leadership, the differences (if any) they acknowledge between male and female leadership and the ways they managed their integration into the established teams in manufacturing companies. Therefore, the semi-structured interviews with the targeted and a small number of respondents enabled us to focus on each respondent's unique personal experiences, feelings and responses to a particular leadership situations.

The qualitative research methodology was appropriate for this study to gain detailed responses to each question, reveal respondents feelings and understand the peculiarities of new female leader integration. The semi structured interview questions covered the main themes overviewed in the theoretical part of this paper. First, a set of questions was designed to describe the female leadership: the features of male and female leadership; the main traits of female leadership in manufacturing sector; the personal leadership attributes. Second, a number of interview questions were dedicated to exploring the reasons and motives of coming to a new organization into leader's position. The third set of questions was related to the new leader's integration process: the ways leaders used to create interpersonal relationship with team members; obstacles for integration and facilitating factors.

2.2. Sample and data collection

One of the most important issues of the qualitative research is to identify the most appropriate sample that matches the description and purpose of the study. The three main characteristics for selecting relevant respondents were taken into account: first, they have to be in a top level or middle level management positions in manufacturing sector; the duration of service in leadership position no longer that 10 years, in order to reconstruct the process of entering the organization in detail; third, the educational level – higher education. The detailed characteristics of the sample are presented in Table 1.

Table 1. The characteristics of the respondent sample

Respondent (Code)	Position	Years in leadership position	Company's field of activity	Company's lifetime	Number of employees
R1	Project manager	2	Production of advertising products for business	9	9
R2	Sales department manager	5	Food industry	106	200
R3	Supply and logistics manager	5	Production and design of electrotechnical devices	19	160
R4	Metal production processing manager	1.5	Production and design of electrotechnical devices	19	160
R5	Building maintenance department manager	5	Manufacture of cigarettes	26	500
R6	Executive director	3	Manufacture of cosmetics	31	68
R7	Executive director	7	Wood processing, production of furniture components	18	50
Educational level			Higher education		

The total sample of respondents was 7 female leaders. They represent quite different fields of activity in the manufacturing sector, starting from the very male-dominated fields like wood processing to more gender diverse activities; e.g. manufacture of cosmetics. Companies, established in different cities of Lithuania, differ in their lifetime and the number of employed persons, therefore, it was assumed that female leaders might have a variety of experiences and disclose different perspectives of newcomer's integration into the existing teams.

The results of qualitative research were processed by applying qualitative content analysis method, which helped to diagnose the differences between the theoretical characteristics of the phenomenon under investigation and its manifestation in social reality, to disclose the ways respondents perceive their leadership and integration process. The collected data of semi-structured interviews were processed in this sequence: discerning the meaningful text fragments and their division into components; components coded into explicit categories and subcategories; coding text units into categories and the interpretation of categories' content, the substantiation of study results. In data processing stage, each participant received a code. For example, R1 stands for the first respondent with more detailed socio-demographic information presented in Table 1.

2.3. Results and discussion

As it was mentioned above, the first set of questions was devoted to the perception of female leadership in general and the traits of female leadership in manufacturing sector. The content analysis of responses enables to discern the three main categories that depict the female leadership: (1) attitude to gender differences in leadership; (2) characteristics of female leader in manufacturing sector; (3) manifestation of female leadership in manufacturing sector.

The meanings of content of "Attitude to gender differences in leadership" category are revealed in two subcategories: female leadership characteristics; male leadership characteristics (Table 2) and acknowledge the main differences of male and female leadership in terms of their personal traits and approach to teams members they work with.

Table 2. Category “Attitude to gender leadership”

Category	Subcategories	Examples of meaningful statements – units
Attitude to gender differences in leadership	1. The characteristics of female leadership	“a woman is associated with emotions” [R1]; “women more spontaneous than men, (women) more rely on emotions” [R2]; “women are less strict and oriented to people and their feelings” [R3]; “women are gentler and aim at finding communication with other team members” [R4]; “female leaders are more emotional than men, and more restrained, oriented to long term relationship” [R5]; “women have greater empathy and better communication skills” [R6]; “women focus on small details and they are more humane” [R7].
	2. The characteristics of male leadership	“a man gives status of reliability and coldness” [R1]; “men are more categorical and with different logical thinking” [R2]; “... men are more strict and oriented to task fulfillment and results” [R3]; “men try to manage people with rigor ...” [R4]; “... men are oriented to goal and result” [R5]; “men tend to take higher risks, raise high goals and ambitions” [R6].

The results indicate that female leaders clearly differentiate between male and female leadership. They emphasize the emotional and relationship – oriented pattern of female leadership that is supported by communication skills and empathy. On the contrary, masculine leadership is more result – oriented and does not usually rely on emotional appeal to team members. The responses imply that male leadership is more characterized by entrepreneurial traits such as risk-taking; high ambitions, high goals. One of the respondents added that a leader in general “<...> is a person team members trust, and usually he is a strong and charismatic personality” [R1]. The explanation she gives: “You feel if he becomes your leader” [R1] allows assuming that feelings play important role in her leadership. Although, there was no question about the stereotypes in gender leadership, such phrases as “Society tends to trust a man more ...” [R1], “<...> women close themselves in the circle “home-children”” [R7] suggest that women encounter these stereotypic attitudes in their professional career.

The content of category “Characteristics of female leader in manufacturing sector” helped us to disclose the spectrum of professional and transferable competencies a woman leader needs while working in the manufacturing sector. Three main subcategories were discerned: professional competence; personal traits and skills and management skills (Table 3).

Table 3. Category “Characteristics of female leader in manufacturing sector”

Category	Subcategories	Examples of meaningful statements – units
Characteristics of female leader in manufacturing sector	1. Professional competence	“<...> has to be a professional in her field, <...> has to know the production line” [R1]; “ability to quickly solve problems in production, because lots of problems in production arise every day ...” [R2]; “<...> to know the psychological models of employees and adapt them relevantly” [R1].
	2. Personal traits and skills	“ability to cope with stressful situations” [R1]; “ability to clearly communicate” [R1]; “concentration, rigidity” [R3]; “reliability, practical wisdom, concentration” [R1]; “agility, courage to do things” [R7]; “self-control; ability to manage confusion” [R2]; “communication skills” [R7].
	3. Management skills	“ability to formulate tasks” [R1]; “strategical thinking, planning ahead, team building and motivation, ability to plan tasks” [R2]; “a perfectly organized function of planning” [R6].

The analysis of content revealed the specific working context in manufacturing sector: this is a turbulent environment with many daily problems that are quite stressful and need a quick solution, concentration and self-control. That is why the personal traits and skills defined by the respondents are more attributable to male leadership pattern described in the theoretical part. Only a few respondents mentioned the ability to communicate, as it “helps a woman in the male-dominated manufacturing sector” [R5]. One of the respondents believes that the manufacturing

sector employees mainly wait for the clear instructions, so a leader has to speak their language, i.e. “<...> descend to their level of understanding and be equal with them” [R5]. “Communication with engineers requires more communication, by explaining why this is necessary, by listening to their opinions and with the final decision made by a leader”, explains the building maintenance department manager [R5]. Professional competence embraces the skills and specific knowledge a person has to demonstrate in the manufacturing sector. So, the respondents agree that a leader in the manufacturing sector has to obtain the specific knowledge in the production fields along with some knowledge on how to manage human resources. Interesting notice that a woman leader “has to know more than others, in order to earn respect” [R3]. Accordingly, the skills of performing management functions – planning, setting tasks, strategy building, organizing – has to be mastered by a female leader in the manufacturing sector. In describing the female leadership in the manufacturing sectors, the respondents concluded about the leadership style and submitted a variety of answers. Some of them believe that the leadership style in the manufacturing sector has to be “conservative”, but the majority argues about the situated leadership: “<...> style has to be mixed, and democratic, not dictatorial” [R2]; “mixed” [R4]; “cooperative” [R5]; “<...> when crisis happens, the autocratic style is necessary sometimes, in some cases – situated leadership” [R6]. The latter respondent explains that autocratic leadership is not dominant in the manufacturing sector since “the modern production, new generation comes and leadership changes” [R6].

The general perception of a woman as a leader in the manufacturing sector may be enriched by the personal practice of respondents. So, they were asked to describe the main principles they follow in dealing with their team members, main personal traits and motivation for their leadership. The general title of the category is “Manifestation of female leadership in manufacturing sector” which consists of three subcategories: personal traits and skills, development of relationship with subordinates and leadership motivation (Table 4).

Table 4. Category “Manifestation of female leadership in manufacturing sector”

Category	Subcategories	Examples of meaningful statements – units
Manifestation of female leadership in manufacturing sector	1. Personal traits and skills	“Good communication skills, flexibility, ability to clearly formulate task” [R1]; “self-confidence, good communication skills, good listener, ability to accept other’s opinion” [R2]; “concentration, orientation to goal” [R3]; “ability to listen to everyone” [R5]; “reliable, keeping promises, sincere, open, creative, friendly and supportive” [R6]; “courage, communication skills; no fear of making mistakes, learning from mistakes” [R7].
	2. Development of relationship with subordinates	“<...> treat subordinates as colleagues” [R2]; “I try to follow the principles of leader who <...> is a part of a team” [R3]; “I develop the relationship based on trust by communicating openly with people. <...> we are not only colleagues, but friends. If something is wrong, we make a decision together what to do” [R4]; “Leadership style is cooperative. Maintaining a good atmosphere in a team is important. <...> without creating stressful situations, trying not to bring negative things into team” [R5]; “<...> openness, transparency are my values. I remind my team that these (values) are very important to me; we have to openly talk not only about good things, but bad (things) as well. <...> when you give freedom to act, you show trust to your people” [R6]; “<...> treat your people as equal, in friendly, humane manner, with good sense of humor” [R7].
	3. Leadership motivation	“<...> success as motivator” [R1]; “good result <...>, support and recognition” [R2]; “(I am) motivated by good results, goals, sustainable teamwork” [R3]; “I enjoy implementing things, <...> motivate tangible results” [R6]; “I am motivated by the results that are achieved with joint efforts and when you see your people are happy” [R7].

The subcategory “Personal traits and skills” indicate that respondents emphasize the traits and skills necessary for building a dialogue culture in the organization by open communication, active listening and friendliness. As compared with the previous findings on personal traits and skills (Table 3, subcategory 2), there the focus is on more feminine approach to leadership. Although, the respondents claimed that a woman leader in manufacturing sector needs the set

of competencies to cope with daily challenges in production and to manage and plan processes in a relevant way; here the content analysis revealed that building trust based relationship with subordinates and maintaining good atmosphere in a team is very important. And this is achieved through communication. Some respondents acknowledge the difficulty of describing their own personal skills and traits. They think that the people they work with are in a better position to describe them. The second subcategory “Development of relationship with subordinates” supplements the personal traits and skills. It depicts the approach to team members and the behavior towards them: women respondents consider themselves as partners of their teams, demonstrate empathy, value openness, and sincerity, strive for trust inside the team. Some of respondents noticed they try not to be “<...> superior to other team members, but a part of a team” [R3], want their subordinates treat a leader “as a friend” [R4] and prefer “no differences between a leader and subordinates” [R7]. Basically, the respondents believe that good interpersonal relationship helps in achieving goals and maintaining employees’ loyalty.

Nevertheless, the subcategory “Leadership motivation” revealed that the biggest motivator for leadership is successful attainment of goals or tangible results. This is in line with respondents efforts to “<...> explain, why we need this, why it is meaningful. Why it is useful for the company.” [R5]. This kind of motivation is usually attributed to male leadership, since men, as leaders usually are strongly goal and result oriented. But the overall evaluation of respondents’ approach to the leadership in the manufacturing sector and their experiences let assuming that these women are strongly result-oriented, but in practice they aim to enable each person in a team for goal attainment by manifesting cooperative, but not directive style of leadership.

The second set of questions was aimed at revealing the motives and reasons of female leader’s transition. This data most probably may contribute to the deeper understanding of leaders’ motivation and their self-evaluation as a suitable candidate for a leader’s position in manufacturing sector. In the theoretical part of this paper we agree with the researchers, that entering of a newcomer may be determined by organization’s need to obtain the competencies it lacks or by the existing social network of relationship. The women leaders in all cases indicated that they were accepted in a leader position because of their competence. More precisely, one of them stated, “<...> I can bring together people naturally, I do not know how... And I have a Master’s degree” [R1]. Another respondent mentioned competencies in both manufacturing and human resources, but she did not describe them in detail. The third claimed: “I was chosen because I was extremely brave and extravert. I could communicate with IKEA top executive and a person responsible for cleaning offices, since I respected them equally, that is why, I think, I was selected” [R7]. The respondent from cosmetics manufacturing sector told, “I offered myself in new leader’s position, since I know people, products and I have strong motivation.” [R6]. This reference to self-confidence is reinforced by the statements about the motives to move to leader’s position. Six out of seven respondents related their transition motives to their wish to encounter and deal with challenges and experience novelty: “<...> need for challenges, innovations, adrenaline, wish to grow” [R1]; “new challenges, I like testing myself in new situations, and this (transition) was a real challenge for me” [R3]; “challenges, wish to develop myself, to take more responsibility” [R4]; “eagerness and courage” [R5]. Only one respondent mentioned the external motive of transition: she moved to another organization, because the vision of executive team (her included) did not match the vision of company’s owners. Nevertheless, the same respondent added, “I met big challenges and wished to overcome them” [R7].

The above analyzed qualitative research results let us conclude that women leaders in manufacturing sector acknowledge the differences in gender leadership. They view female leadership as relationship building phenomenon, while male leadership is more goal and result oriented with less empathy and emotional appeal towards subordinates. Nevertheless, female leaders in manufacturing could be characterized with a set of quite “masculine” or entrepreneurial traits – they are agile, ambitious, goal or result oriented, fearless of challenges and eager to take risk in new situations. These personal traits, motives and skills are mastered with their more “feminine” behavioral tactics to be open in communication, actively listen, treat subordinates with care, empathy and respect, search for partnership in decision making and maintaining the psychological well-being of the team.

The third set of questions was devoted to disclose the peculiarities of new female leader’s integration process: how they managed to come into contact with team members and to develop productive interpersonal relationship. The interview data were categorized into three main categories: obstacles for female leader’s integration, the personal strategies for better integration into team and the facilitating external factors of integration.

The content of category “The obstacles for female leader’s integration” helped us to disclose the practice and attitudes a woman leader encounters mainly from the team she enters. The answers of interviewees imply that these

attitudes more or less are gender related, i.e. they have a notion of mistrust and devaluation of a woman as leader. This category consists of four subcategories: lack of trust, age and gender, competence and team-related obstacles (Table 5).

Table 5. Category “The obstacles for female leader’s integration”

Category	Subcategories	Examples of meaningful statements – units
The obstacles for female leader’s integration	1. Lack of trust	“... <i>I felt the rejection of team members</i> ” [R1]; “ <i>the lack of trust as a new leader</i> ” [R5]; “ <i>the lack of trust</i> ” [R6]; “... <i>at the beginning (there was) less mutual trust among the team members, less harmonious work</i> ” [R3].
	2. Competence	“ <i>The beginning was complicated, because the employees valued me as incompetent person</i> ” [R7]; “ <i>Team members doubted how marketing manager can lead the organization, she knows nothing about production</i> ” [R6]; “<...> <i>when you come to a new company, you are told (that)... <...> you work too little, you have too little experience ...</i> ” [R1].
	3. Age and gender	“<...> <i>because of my (young) age, it was difficult to lead and manage other team members</i> ” [R7]; “ <i>At the beginning I experienced challenges because of team members. They were men and they looked at me differently ...</i> ” [R4]; “ <i>I got resistance from men. It was complicated for them (to accept that I am) younger, woman who started putting agenda for them</i> ” [R2]; “<...> <i>age and gender were the main barriers. <...>men could not accept that their leader is a woman, and especially still so young</i> ” [R7]; “<...> <i>if a woman comes into manager’s position, it will be here all sorts of tears, dramas, emotions. The men felt the emotional atmosphere would change</i> ” [R6].
	4. Team related obstacles	“<...> <i>team had no rules, no labour ethics, no traditions</i> ” [R7]; “<...> <i>team members were too individualist ...</i> ” [R3]; “<...> <i>internal disagreements among team members</i> ” [R2]; “<...> <i>the old fashioned work principles and systems of previous manager were deeply rooted <...>, from Soviet times.</i> ” [R7]; “<...> <i>some employees wanted to live in a comfort zone, without changing anything</i> ” [R6].

All the respondents mentioned one or another obstacle or difficulty she met at the beginning of her integration process into the established team. These obstacles could be conditionally divided into two main groups. One of them is person related or socio-demographic; i.e. they are related to person’s competence, age and gender (Table 5). Another group could be related to irrelevant practice embedded in the established team and it is not related to the personal characteristics of newcomer; we named them team related obstacles. Therefore, the first subcategory “*Lack of trust*” revealed that in general the women leaders experienced the feeling of rejection and negative attitude to their entrance into the team. Interestingly, but the biggest number of meaningful statements were related to woman’s gender and age (Table 5, subcategory 3). The content analysis revealed that the negative attitude mainly emerges from male-dominated departments, when a woman leader came into male team. The majority of respondents agree that the male team members with the difficulty accept the younger age of woman leader. Some respondents named it as the influence of stereotypes, “<...> *especially from those who previously had a male leader*” [R1]. One of the respondents from the wood processing company cited the biggest challenge she met at the beginning of her leadership: “*There were a few men who could not accept me as a woman leader. Some of them could not obey me; agree with my plans, so they (men) all left.*” [R7].

Most probably, this resistance could be attributed to the prevailing organizational culture and practice, since a lot of manufacturing companies were traditionally managed by men. One respondent from cigarettes manufacturing enterprise explained that their company had a tradition to hire women as managers, so, according to her, “<...> *everyone is used that in our company a woman takes the equal position and (the ratio of men and women) has to be fifty to fifty.*” “<...> *I wasn’t the first woman in this position and <...> I did not feel any prejudices*” [R5]. Obviously, organizational culture is rather difficult to change and it takes time to anchor new organizational values and attitudes.

The meaningful statements from the subcategory “Team-related obstacles” support the idea of organizational culture attributes that influence the newcomers’ integration into the established team: existing style of working, the established routines, working systems established by the previous manager. More than that, respondents agree that they encounter difficulties to change the prevailing inefficient routine, chaotic way of working with no clear guidance, instructions and strategies and other irrelevant managerial practice.

Although, according to the respondents, some employees believed that a new woman leader would not be able to manage the existing situation and to lead the team, the content analysis proved that the negative attitude of team members has been changed over time because of the internal ambitions and persistence; e.g. “... *but I did not give up*” [R7]. The women leaders indicated that internal strength helped to prove others that they can perfectly manage the processes in manufacturing and demonstrated competence, e.g. “<...> *simply you prove that you know more than they do ...*” [R4].

Nevertheless, the responses of interviewees indicate that the interpersonal relationship between a leader and team members has improved over time and trust has increased. Therefore, the further content analysis clearly reveals a set of integration facilitating factors. One category is related to the personal strategies a woman leader employed in trying to efficiently integrate into the established team and to maintain team’s cohesion and productivity. Another category depicts a number of organizational tools or practices for facilitating leader’s integration. Therefore, two categories were named as follows: “Personal strategies for better integration into team” and “Facilitating external factors of leader’s integration” (Tables 6 and 7)

Table 6. Category “Personal strategies for better integration into team”

Category	Subcategories	Examples of meaningful statements – units
Personal strategies for better integration into team	1. Individualized approach	“ <i>I communicated individually with each member and observed them from the distance, and in that way the integration became easier</i> ” [R1]; “<...> <i>I tried to get to know the activity of each person, send all day long with him/her and understand their daily routines</i> ” [R4]; “<...> <i>need to know everyone individually, “<...> in order to know how to approach each person</i> ” [R5].
	2. Search for allies	“<...> <i>when you have a back and make friendship with the strongest of team members</i> ” [R1]; “<...> <i>I looked for the people who were smarter than me</i> ”, “<...> <i>they helped me a lot</i> ” [R7].
	3. Non-formal communication	“<...> <i>meetings after work. We used to go out <...>, in order to know and to understand each other better</i> ” [R2]; “<...> <i>communication in non-formal environment</i> ”, [R3]; “<...> <i>not official talks help a lot</i> ” [R5].

All the ways women leaders try to facilitate integration into the team are based on their willingness to openly communicate, their flexibility, ability to listen and striving not to impose immediately the big changes in the existing team culture. The first subcategory reveals that in most cases women rely on the individualized approach and talks, which helped them to get to know each person individually, to understand their daily practices, even their emotions. Respondents believe that it is important to ask questions, to encourage people state the problems and difficulties they encounter and in turn give them individualized feedback. Along with this, some of them practice observation and careful noticing on “... *who is informally leading in a team, who are friends, what they talk about <...>*” [R1]. And this naturally helped them to search for useful alliances. The second subcategory describes the situations when women leaders purposefully looked for the competence-based alliances. Interestingly, that they emphasize the efforts to find allies with more experienced and intelligent team members and not with those, they could easily control. Some of them openly stated that at the beginning of their entrance into the manufacturing field they felt unexperienced and even not so self-confident. These ideas match the argumentation made by Denis, Langley, Pineault [6] that “*successful integration involves conformity rather than control*”.

The effective integration into the team and the leader’s intentions to position themselves with respect to established organizational norms and rules are facilitated by non-formal communication activities. Women strongly believe that these activities help to develop relationship, to maintain group cohesion and motivation. The personal strategies for approaching team members and facilitating integration by using communication skills are in line with

the discussion on feedback seeking [31]. Actually, the researchers argue that in most cases the newcomer leader searches the feedback from their peers and supervisors rather than from subordinates.

However, a number of respondents emphasized that, despite willingness to be closer to the subordinates, the certain distance between a leader and team members have to be retained and also the communication style has to be differentiated according to the personality you work with. *“Tasks have to be done in time, thus a certain distance has to remain, some employees were not happy with my attitude that work must be done, but it must be done, despite our relationship after work”* [R2]. Instructions and control were necessary with those employees who did not welcome the changes and active participation in exploring and discussing goals and expectations. More than that, some managerial control was needed in the teams that *“<...> were too relaxed and it was difficult to set the rules”* [R7]. When asked about the advice for a leader to better integrate into the established team, the majority of respondents agreed that “cold mind”, patience and calmness are necessary. And these are male leadership attributes.

Accordingly, the respondents were also asked to submit the advice for a woman leader in the manufacturing sector, which is most often male-dominated. The majority agreed that there is no difference between male or female dominated teams. The women leaders have to learn about team members (e.g. *“get to know people professionally and psychologically, <...> what kind of person he [she] is, optimist, pessimist, realist, introvert, extravert”* [R1]; *“use empathy and understand what subordinates really need, what they lives for and what their daily life is”* [R5]); avoid becoming more “masculine” and to retain feminine features (*“I felt perfect in male-dominated team, <...> do not be afraid to say if you cannot perform something or you need help, even if you are a leader”* [R7]).

However, in the study the interviewees did not give much evidence about the organizational initiatives by which a new leader is initiated into the established team (Table 7). The content analysis enabled us to discern three main facilitating factors or organizational activities that helped or might be helpful for a woman leader to ease their integration.

Table 7. Category “Facilitating external factors of leader’s integration”

Category	Subcategories	Examples of meaningful statements – units
Facilitating external factors of leader’s integration	1. Official introduction	<i>“I was introduced to the team as a manager”</i> [R1], [R3]; <i>“I was introduced by personnel manager”</i> [R2]; <i>“<...> I was introduced by the shareholder; “<...> he assisted me in everything”</i> [R7].
	2. Mentoring	<i>“<...> mentor has to be appointed for a newcomer manager, to present (to a newcomer) the general regulations (of organization)”</i> [R2]; <i>“<...> my line manager was as a mentor”</i> [R4].
	3. Training events	<i>“<...> various psychological games”</i> [R1]; <i>“<...> teambuilding”</i> [R3]; <i>“<...> teambuilding training on how to maintain the relationship”</i> [R6].

The first subcategory “Official introduction” depicts very formal and short-term activity performed by someone who is in managerial position. The analysis of the answers imply that after the short introduction the newcomers received no targeted attention and intervention, unless they were brave and ambitious to ask for the assistance and help from peers or other supervisors. That is why the content analysis revealed the expectations of women leaders rather than existing practice of mentoring and training. This practice has been underdeveloped in the organizations. Although, prior studies give evidence that these interventions increase the likelihood of successful transition [3] and leaders identity development [5]. There were no meaningful mentionings on *“intervention typically facilitated by an internal or external leadership development practitioner”* [26] or other organizational efforts to facilitate a new leader’s entering. It means that an incoming leader has to rely on the personal strategies and abilities to manage first impressions, get feedback, to understand the team’s dynamics and adjust to a new role.

The content analysis of female leaders’ interviews allows making some concluding remarks; define limitations of the study and implications for further research. The qualitative research helped to deepen the understanding of female leadership phenomenon and, especially, the process of entering a new leadership position in the traditionally male – dominated sphere. Obviously, in this context the gender related issues remain on focus. The respondents acknowledge

they met preconceptions, caution, reservation and even suspicion from the established team members because of their age and gender. Fortunately, these prejudices have been overcome due to women leaders' persistence, ambitions, their abilities to communicate and find the individualized approach to each team member, eagerness to learn. The evaluation of their leadership motivation and the personal strategies they use in the integration process imply that they could be characterized as leaders with clearly manifested motives for recognition and goal attainment, the understanding what the company expects from them, what they would like to change and what goals to achieve. The leadership style they apply in the integration process could be characterized by the abilities to manoeuvring between their agile, ambitious and result-oriented manner and more "feminine" behavioral tactics to make alliances with useful people, openly communicate and search for feedback from team members. Faced with integration difficulties, they do not complain about the lack of organizational support (mentoring, training, etc.), but tend to rely on their personal strategies.

Limitations of the study and implications for further research. One of the limitations is the small scope of the sample. It means that the generalization should be done with caution and the involvement of more respondents would help to describe the leader's integration in more detail. Second, we consider to be useful to differentiate between women who enter leadership position for the first time and those who have managerial experience, but enter a new team in the manufacturing sector. This sample selection criterion was not taken into account. Third, as the study was carried out in Lithuanian companies, the generalization for international context is limited. Although, the results of this study make some important contribution to the field of female leadership, some issues require further consideration. First, the approach – transforming or assimilating – a newcomer woman leader uses in the integration process. Second, the team composition criteria has also be taken into account, since the study revealed female leaders intentions to search for allies during their integration process. Third, further research may be linked to exploring the female leaders' integration in the field of advanced hi tech industries, instead of manufacturing industry.

Conclusions

The content analysis of the qualitative study revealed the following characteristics of female leadership in manufacturing sector:

- The female leaders in manufacturing sector is characterized by the professional competence in the specific field of manufacturing, the management skills and a set of personal skills and traits. The manifestation of female leadership indicates that women leaders tend to combine both "masculine" and "feminine" attributes of leadership, i.e. their motives for leadership, ambitions and future plans are result oriented and entrepreneurial, while the approach to team members is based on fostering dialogue culture, emotional appeal and empathy.
- The experiences female leaders encounter as newcomers in manufacturing sector revealed the following challenges in their integration process: mistrust and refection of team members because of their age and gender; mistrust in their competence and experience; embedded irrelevant routines and managerial practices; unwillingness of the existing team to actively participate in the changes.
- The success of integration of new female leaders into the established team is based on several factors:(1) the individualized approach to team members in aiming to develop relationship, trust and feedback; (2) the search for alliances, emphasizing the selection of most motivated and competent subordinates; (4) non formal communication activities; (5) personal traits such as persistence, flexibility and patience.
- The organizational means and facilitation tools for successful integration of incoming leader into the established team are underdeveloped in manufacturing sector; although, the female leaders believe they might be helpful.

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Demographic Factors as Drivers for Pro-environmental Behaviour in the Workplace: the Case of Chemical Industry

Živilė Stankevičiūtė^{a*}, Lina Jatautė^a

^a*Kaunas University of Technology, School of Economics and Business, 50 Gedimino St, Kaunas LT-44029, Lithuania*

Abstract

As humankind still causes a wide range of negative consequences for nature, pro-environmental behaviour referring to behaviour that harms the environment as little as possible or even benefits it, is an extreme necessity. Previous studies have mainly focused on pro-environmental behaviour in households. However, people normally spend at least one third of their time in the workplace leading to the notion that environmentally-friendly acts in the workplace are equally important. As acting pro-environmentally in workplace is beneficial, the factors that could predict such behaviour are addressed in the literature. While other studies focus on external and internal factors, this paper limits its scope to demographic factors and aims at revealing whether and how the demographic factors predict pro-environmental behaviour in the workplace. For this purpose, quantitative data were collected (340 responses in total). The findings revealed that gender and age served as predictors of pro-environmental behaviour in the workplace and this should be taken into consideration by organisations creating and implementing pro-environmental policy and practices.

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Keywords: pro-environmental behaviour; pro-environmental behaviour in the workplace; demographic factors; chemical industry.

Introduction

Over several past decades, environmental concerns have become an extremely hot topic and accordingly widely discussed. Thus, for the first time the Global Risks Report, prepared by World Economic Forum for 2020, is dominated by the environment [1], arguing that climate change is hitting harder and accelerating faster than foreseen by many. Further, the young generation is becoming extremely active, for instance the Swedish teenager Thunberg is firmly demanding that governments, businesses and people make drastic and urgent cuts in greenhouse gas emissions to avoid

* Corresponding author. Tel.: + 370 650 11505.
E-mail address: zivile.stankeviciute@ktu.lt

the climate disaster. Finally, in Davos 2020, the UN Secretary-General Antonio Guterres called the world to change course in order to survive [2]. Changing course in general means that humankind needs to transform their behaviour, as it causes serious damage to the Earth's environment and threatens the future of humans and other species [3]. In order to mitigate such issues as greenhouse gas emissions, pollution and decline of natural resources or raw materials, pro-environmental behaviour, referring to behaviour that harms the environment as little as possible or even benefits it [4, 5], is crucial.

Usually, people combine their work and private life activities and engage in various behaviours as regards to both private and work domains. However, previous literature has mainly focused pro-environmental behaviour in household settings [6, 7, 8, 9]. Since employees spend about one third of their time in the office, pro-environmental behaviour in the workplace is of the same importance as in household settings, while it can simultaneously contribute to the minimisation of the negative impact of employee actions on the environment [8]. Hence, the paper tries to close the gap by analysing pro-environmental behaviour in the workplace.

In order to predict and enhance pro-environmental behaviour in the workplace, the factors that might affect behaviour receive some attention in the literature [10, 11]. Drawing upon the systematic literature review, Kollmuss and Agyeman [12] identified three groups of factors for explaining why people act or do not act pro-environmentally. These groups include: demographic factors, external factors, and internal factors. In this research, only demographic factors will be taken into account. The main argument behind such decision lies in contradictory empirical evidence from previous literature on pro-environmental behaviour [13, 14, 15] not allowing to provide a clear answer whether and how demographic factors matter in relation to pro-environmental behaviour in the workplace. Thus, the paper tries to close the gap by focusing on relationship between gender, education level, marital status and age, and pro-environmental behaviour in the workplace. Moreover, relying on the notion of Wesselink et al. [9] that context matters while analysing pro-environmental behaviour in the workplace, the sample of research was restricted to employees working in Lithuanian chemical industry.

The aim of the paper is to reveal whether and how demographic factors predict pro-environmental behaviour in the workplace.

The paper contributes to the literature in several ways. First, the paper enriches the literature on pro-environmental behaviour in the workplace, as it still lacks maturity due to being rarely studied in comparison to pro-environmental behaviour in the households [8]. Second, the paper responds to the call that context helps creating an accurate picture of what is going on in the workplace [9] and provides data from the chemical industry setting. Third, the paper contributes to the literature on factors that predict pro-environmental behaviour in the workplace by investigating the following demographic factors: gender, education level, marital status, and age. The main practical implication of this paper relies on the notion that demographic factors might serve as the predictors of pro-environmental behaviour of employees in the workplace and this should be taken into consideration by organisations creating and implementing pro-environmental policy and practices.

The remainder of this article proceeds as follows: at the beginning, a literature review and proposed hypotheses are presented; further, methodology is explained; then, the paper presents the empirical results, followed by the discussion and conclusions with some important implications.

1. Theoretical background

Pro-environmental behaviour in the workplace. Given that climate change and other environmental issues are largely driven by human activity [11], pro-environmental behaviour in both settings, households and workplace, is now crucial. In general, success of sustainability depends to a large extent on individual efforts [16]. The readiness of individual employees to actively embrace pro-environmental behaviour is seen as essential means next to new processes and technologies to conserve our planet and humankind [17]. Such insights and notions receive increasing support by growing the number of studies on pro-environmental behaviour in the workplace [18, 19, 20, 21, 22, 23].

Pro-environmental behaviour is commonly understood as “*behavior that consciously seeks to minimize the negative impact of one's actions on the natural and built world (e.g. minimize resource and energy consumption, use of non-toxic substances, reduce waste production)*” [12, p. 240]. Pro-environmental behaviour refers to a kind of voluntary behaviour that consciously seeks to tackle environmental issues such as global warming,

environmental degradation and minimise the negative impact of individual's actions on environment [24]. Illustrations of pro-environmental behaviour could include such behaviours as recycling, turning off lights and electric appliances, opting for videoconferences instead of travelling, using public transportation, or drinking from reusable cups and bottles [25].

Graves et al. [17] conceptualised pro-environmental behaviour in the workplace as “*a broad set of environmentally responsible activities such as learning more about the environment, developing and applying ideas for reducing the company's environmental impact, developing green processes and products, recycling and reusing, and questioning practices that hurt the environment*” [p. 81]. Based on literature, four characteristics of pro-environmental behaviour in the workplace could be proposed: first, it is a type of pro-social behaviour; second, it is not obligatory; third, it relates with a genuine concern for the Planet; finally, it can only be displayed when an individual thinks of future generations, nature, and humankind.

Graves and Sarkis [26] distinguish between basic behaviours that occur as part of core tasks (reducing energy use, recycling etc.) and advanced behaviours that require being proactive (finding new environmentally sound ways of working, building environmental design knowledge, etc.). In general, basic pro-environmental behaviour in the workplace “*are more short-term, less arduous, and more common; advanced behaviors are more long-term and arduous, and less common*” [26, p. 578].

Seeing the relevance of pro-environmental behaviour in the workplace, the question why people engage in such behaviour is really complex [12]. The factors that motivate individuals to engage in pro-environmental behaviour have been under investigation for many decades [27, 15]. Two major streams of economists and of psychologists have investigated pro-environmental behaviour of individuals [15]. Economists analysed the impact of external factors on individual behaviour and therefore, their solution to environmental problems is based on penalty or reward. Meanwhile, psychologists prefer to link psychological variables to the behaviour and therefore suggest tools such as education, awareness, and persuasion for behavioural change towards environmentally-friendly [28, 15]. For the comprehensive overview of models of pro-environmental behaviour in order to explain why people act or not act pro-environmentally, please see the study of Kollmuss and Agyeman [12]. Drawing upon a systematic literature review, Kollmuss and Agyeman [12] distinguished proposed the classification of the factors that might predict pro-environmental behaviour in the workplace (that was later broadly used in the literature), namely demographic factors, external factors (e.g. institutional, economic, social, and cultural factors) and internal factors (e.g. motivation, environmental knowledge, awareness, values, attitudes, emotion, locus of control, responsibilities, and priorities). This paper limits its scope only to demographic factors, namely gender, education level, marital status, and age. These socio-demographic variables have been addressed most often in earlier research on pro-environmental behaviour, however attention in research on pro-environmental behaviour in the workplace is lacking. To the best knowledge of the authors, demographic variables were taken into account only in several papers on pro-environmental behaviour in the workplace. Further, hypotheses linking demographic characteristics and pro-environmental behaviour in the workplace are provided.

Gender and pro-environmental behaviour in the workplace. One widely used theoretic perspective concerning the relationship between gender and environmental concern engages socialisation processes and gender roles [13]. According to this perspective, early childhood socialisation makes women more sensitive to the feelings and needs of others and thus more willing to take on caring roles. Correspondingly, caring for the environment might mean caring for “others”. Meanwhile, with men, early childhood socialisation leads them to control their emotions and more greatly value independence and achievement. Accordingly, men who tend to identify with the role of the primary family “breadwinner” are more concerned with economic issues, leaving environmental problems behind [13]. Following the previously provided argumentation, women are likely to act more pro-environmentally than men.

Diamantopoulos et al [29] argue that a large majority of previous studies concluded that males tended to have more and better knowledge about green issues than females, however females have been found to exhibit both higher concern and participate more frequently in various types of green behaviour. More recently, empirical research on gender and environmental behaviours demonstrated mixed results. For instance, Xiao and Hong [13] found that women demonstrated greater participation in environmental behaviours at home, while outside of the home (e.g., environmental organisation donations) no gendered patterns were exhibited. Chen et al. [30] reported that being female increased the odds of sorting garbage 1.26 times and recycling bags 1.51 times. Meanwhile, in the study of Rice [31], gender was unrelated to pro-environmental behaviour. Speaking of the present, the research results of Vicente-Molina

et al. [32] confirmed that gender influences environmental behaviour: women are more likely to engage in environmentally friendly activities in both advanced and emerging countries. Turning to pro-environmental behaviour in the workplace literature, Blok et al. [8] revealed that men showed less pro-environmental behaviour compared to women. Referring to the nature of the processes of socialisation and gender roles, and following previous empirical evidences, the paper hypothesises as follows:

H1: Males and females differ in relation to their pro-environmental behaviour in the workplace.

Education and pro-environmental behaviour in the workplace. The level of education is another demographic characteristic in the existing research that is linked more consistently to environmental behaviour [15]. To date, the relation of education level with environmental behaviour remains unclear. According to Kollmuss and Agyeman [12], the longer the education, the more extensive is the knowledge about environmental issues; however, better education does not necessarily mean increased pro-environmental behaviour. Some studies found a negative association between education level and environmental behaviour [33], whereas most of the studies observed a positive and significant relationship between high education level and pro-environmental behaviour [13]. Based on earlier empirical evidence, the paper hypothesises as follows:

H2: Pro-environmental behaviour in the workplace significantly varies depending on the education level.

Marital status and pro-environmental behaviour in the workplace. Marital status is yet another demographic characteristic that it is linked to environmental behaviour. The empirical evidence is contradictory. For instance, marital status was found to be a non-significant correlate of environmental behaviour [29]. However, in a study carried out in China, Chen et al. [30] showed that singles were more likely to participate in pro-environmental behaviour. Based on this, it is suggested that:

H3: Single and married people differ in relation to their pro-environmental behaviour in the workplace.

Age and pro-environmental behaviour in the workplace. Discrepancies have been found regarding the relationship between age and environmentally sensitive behaviour. Some studies found that age was negatively related to behaviour, while others reported that older people displayed higher levels of green behaviour [29]. More recently, Xiao and Hong [13] found that age had weak associations with environmental behaviours. Turning to pro-environmental behaviour in the workplace literature, in the study of Blok et al. [8] age was not a significant variable in predicting behaviour. However, looking at the differences in the literature on gender [34], it is hypothesised that:

H4: Pro-environmental behaviour in the workplace significantly differs across various age groups.

2. Methodology

Sample and data collection. The study took place in the context of chemical industry companies. In Lithuania, the chemical industry accounts for about 1.5 % of GDP, employing around 5 000 workers or 0.5 % of total labour force [35]. A questionnaire study was conducted among employees of such companies operating in Lithuania. The argument behind such choice was that the chemical industry has a vital role to play in the climate discussion. On the one hand, chemical products are essential to many low-carbon technologies. On the other hand, chemical production is energy- and CO₂-intensive, as emissions from the industry exceed the emissions from either the building or transport sector, and represent more than 30 % of global GHG emissions [36]. Seeing that the industry faces environmental challenges, it was essential to investigate pro-environmental behaviour of its employees in the workplace. Moreover, given the importance of context in research on pro-environmental behaviour in the workplace [9], this study provided an overview of pro-environmental behaviour in the workplace in a specific setting, namely chemical industry.

The companies from chemical industry in Lithuania were contacted by emails or phone calls inviting them to take part in the survey. During the conversations with representatives of companies, the aim of the study was presented. The questionnaires were disseminated in two ways. First, questionnaires were sent by email to representatives of chemical industry companies, which agreed to participate in the research and these representatives forwarded the questionnaires to employees. Second, printed copies of questionnaires were given to the same representatives, who distributed them to employees. Afterwards, the responses were collected either by electronic means or as hand-filled questionnaire forms. Each questionnaire contained information about the purpose of the survey. Due to the method of dissemination, it was impossible to estimate the number of persons the questionnaires were sent or given to and the response rate. Data collection took about 2 months. At the end of the research, 340 questionnaires were returned.

Measures. The paper uses a well-established scale. The scale of Saeed et al. [37] was used to measure pro-environmental behaviour in the workplace (16 statements). The examples of statements are as follows: “*At work, I avoid wasting resources such as electricity or water*” and “*At work, I take stairs instead of elevators to save energy*”. The respondents were requested to indicate their agreement with each statement on a 5 point Likert scale, where 1 meant strongly disagree, 5 – strongly agree. Reliability of the scale was assessed using the Cronbach’s alpha coefficient. Cronbach’s alpha of pro-environmental behaviour in the workplace was estimated at 0.933. As all Cronbach’s alpha coefficients exceeded 0.7, the measure was considered acceptable for the analysis [38].

Concerning demographic characteristics, questions about gender, education level, marital status, and age were included.

To analyse the statistical significance of the differences between pro-environmental behaviour in the workplace for men and women; for employees with university degree and employees with non-university degree, and for single and married employees, the Mann Whitney *U* test was used. The Kruskal-Wallis *H* test was used to analyse the statistical significance of the differences between pro-environmental behaviour in the workplace for different age groups.

3. Results

As already identified, the aim of this paper was to reveal whether and how demographic factors predict pro-environmental behaviour in the workplace. The respondents reported that they were quite highly engaged in pro-environmental behaviour in the workplace (mean – 3.9798, std. deviation – 0.61663). The paper covered 4 demographic characteristics, namely gender, education, marital status, and age. Table 1 provides data on how the respondents of different demographic characteristics evaluated their pro-environmental behaviour in the workplace.

Table 1. Means and Std. Deviation of pro-environmental behaviour in the workplace according to different characteristics of respondents

Demographic characteristics	PEB in WP*	
	Mean	Std. Deviation
Gender:		
Female	4.0559	0.58432
Male	3.8833	0.64440
Education:		
University degree	3.9676	0.61087
Non-university degree	4.0079	0.63181
Marital status:		
Single	4.0022	0.63484
Married	3.9770	0.59125
Year of birth:		
Born in 1946–1964	4.0632	0.49746
Born in 1965–1980	4.1488	0.82132
Born in 1981–2000	3.7383	0.65953
Born in 2001 and later	3.7563	0.42538

* – pro-environmental behaviour in the workplace

As regards H1, it proposed that males and females differed in relation to their pro-environmental behaviour in the workplace. The data in Table 1 indicate that females exhibit higher pro-environmental behaviour in the workplace (mean – 4.0559). Moreover, Mann-Whitney *U* test (Table 2) showed a statistically significant difference between the pro-environmental behaviour of males and females in the workplace. Thus, hypothesis H1 was supported.

Table 2. Gender differences in pro-environmental behaviour in the workplace (Mann-Whitney test)

	Female mean rank	Male mean rank	Mann-Whitney <i>U</i> test	Z	Sig.
Pro-environmental behaviour in the workplace	182.35	155.49	11 999.000	-2.503	0.012

As regards H2, it was suggested that pro-environmental behaviour in the workplace significantly varied depending on the education level. Based on the results (Table 1), it is seen that employees with non-university degree exhibit higher pro-environmental behaviour in the workplace (mean – 4.0079). However, the Mann-Whitney test did not reveal any statistically significant differences (Table 3). Thus, hypothesis H2 was not supported.

Table 3. Education differences in pro-environmental behaviour in the workplace (Mann-Whitney test)

	University degree mean rank	Non-university mean rank	Mann-Whitney <i>U</i> test	Z	Sig.
Pro-environmental behaviour in the workplace	167.92	176.45	11 593.000	-0.736	0.462

Referring to H3, it was proposed that single and married people differed in relation to their pro-environmental behaviour in the workplace. Results (Table 1) show that single employees are slightly more engaged in pro-environmental behaviour in the workplace (mean – 4.0022). However, the Mann-Whitney test did not reveal (Table 4) any statistically significant differences. Thus, hypothesis H3 was not supported.

Table 4. Marital status differences in pro-environmental behaviour in the workplace (Mann-Whitney test)

	Single employees mean rank	Married employees mean rank	Mann-Whitney <i>U</i> test	Z	Sig.
Pro-environmental behaviour in the workplace	152.54	152.48	9,436.000	-0.005	0.996

Turning to H4, it was predicted that pro-environmental behaviour in the workplace would be different across various age groups. The data in Table 1 indicate that employees born in 1965–1980 demonstrate higher pro-environmental behaviour in the workplace (mean – 4.1488). Moreover, the Kruskal-Wallis test (Table 5) showed a statistically significant difference in various age groups of respondents as regards their pro-environmental behaviour in the workplace. Thus, hypothesis H4 was supported.

Table 5. Age differences in pro-environmental behaviour in the workplace (Kruskal-Wallis *H* test)

	Born in 1946–1964 mean rank	Born in 1965–1980 mean rank	Born in 1981–2000 mean rank	Born in 2001 and later mean rank	Kruskal-Wallis <i>H</i> test	df	Sig.
Pro-environmental behaviour in the workplace	180.21	211.51	133.02	122.90	26.166	3	0.000

Discussion and conclusions

The paper aimed at exploring the demographic factors as predictors of pro-environmental behaviour in the workplace. The particular context chosen included chemical industry companies. These companies are under pressure for more environment-friendly production and lower emissions. Pro-environment behaviour in the workplace reflects behaviours that harm the environment as little as possible or even benefit it [5]. The respondents from chemical industry reported a quite high engagement in pro-environmental behaviour in the workplace (mean – 3.9798). In comparison, the respondents from university setting in the study done by Blok et al. [8] reported an average score of 2.99. Drawing upon these findings it could be presumed that employees who work in a more polluted industry (chemical) care about the environment more, as they perceive the danger of not environmentally-friendly practices to the nature and humans themselves due to their daily working activities.

The paper analysed four demographic characteristics, namely gender, education, marital status, and age as factors in predicting pro-environmental behaviour in the workplace.

Turning to the gender aspect, Kollmuss and Agyeman [12] argue that women usually possess less extensive environmental knowledge than men do, but they are more emotionally engaged, show more concern about environmental issues, and are more willing to change. Even the current research revealed that females behave more pro-environmentally (mean – 4.0559), and it was a statistically significant difference comparing the pro-environmental behaviour in the workplace of males and females. Such results are in line with the findings of Blok et al. [8] where men demonstrated less pro-environment behaviour in workplace than women.

Referring to the education level, it was unexpected that employees with non-university degree exhibited a slightly higher pro-environmental behaviour in the workplace than people having a university degree (mean – 4.0079). In earlier studies, the main notion was that people with high education level engaged more in pro-environmental behaviours than those with low education [39]. Such findings could probably be explained by the sector specifics. However, the current research did not show any statistically significant difference in viewpoints of the two employee groups.

Although the current findings showed that single employees were a little bit more engaged in pro-environmental behaviour in the workplace, the difference between single and married people was not statistically significant. Such findings in part coincided with the conclusions of Chen et al. [30] where singles were more likely to participate in pro-environmental behaviour.

Referring to the age aspect, statistically significant differences in various age groups of respondents were observed, among whom employees born in 1965–1980 demonstrated higher pro-environmental behaviour in the workplace (mean – 4.1488). These results contradicted the findings of Blok et al. [8] as in their study age was not significant in predicting pro-environmental behaviour in the workplace.

Certain limitations of the current study need to be kept in mind when interpreting the results. First, this research used single-source self-reported data. Although this is a common approach, it has been criticised by some scholars as individuals are likely to present themselves somewhat favourably [5]. For future, it would be worthwhile to control for social desirability. Second, although the study took place in the context of chemical industry, there were no statements in the questionnaires to determine whether or not working in chemical industry influenced the respondents to act pro-environmentally in the workplace. Further research is needed to analyse this relationship. Third, in order to get an overall picture, future research could integrate three types of factors (demographic, internal and external) while analysing the predictors of behaviour. Finally, the study dealt with pro-environmental behaviour in the work setting leaving household setting behind. Future research might combine these two settings by analysing the differences and similarities in pro-environmental behaviour of employees at home and at work.

The main practical implication of the paper concerns the notion that demographic characteristics may serve as factors that predict pro-environmental behaviour of employees in the workplace. Accordingly, organisations need to create such management systems and practices that would enable the enhancement of pro-environmental behaviour of all groups of employees in the workplace.

In conclusion, this paper challenges the researchers to move towards more sophisticated assessments as to how and why employees engage in pro-environmental behaviour in the workplace, seeing that proper understanding of factors leads towards less negative impact on environment and accordingly to sustainability.

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Personal Factors as Antecedents of Employee Perception of CSR

Živilė Stankevičiūtė^{a*}, Eglė Staniškienė^a, Asta Daunorienė^a, Brigita Stanikūnienė^b

^aKaunas University of Technology, School of Economics and Business, 50 Gedimino St, Kaunas LT-44239, Lithuania

^bKaunas University of Technology, Panevėžys Faculty of Technologies and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania

Abstract

Recent years, corporate social responsibility has been recognized as a tool for organizations to become more socially responsible. Different examples of organizations show different practices to promoting corporate social responsibility. Moreover, the researchers argue that there is no single practice that promotes corporate social responsibility. Empirical evidences show that CSR initiatives make a positive impact on an organization's reputation, values, economy, environment, and society. Moreover, scientific data confirms that organizations incorporate social responsibility into their activities in order to stay in the market and meet public expectations. However, not only the external environment recognizes organization's efforts to become more socially conscious; employees provide a reward for organizations that promote corporate social responsibility as well. In order to understand employees' perceptions towards corporate social responsibility, the paper analyses employees' personal characteristics perception on corporate social responsibility. The aim of this study is to explore different perceptions of corporate social responsibility levels of employees belonging to different generations, genders, marital statuses and educational levels.

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Keywords: corporate social responsibility; employee perception; personal factors.

Introduction

Research on corporate social responsibility (further CSR) has been growing over the past 20 years [1]. Due to the complex nature of CSR, different authors describe CSR as an organization policies and practices to go beyond legal requirements and profitability [2]. The other authors [3] state that CSR could be described as organization initiatives that goes beyond economic, technical and legal requirements. Herrera and Heros-Rosas [4] state that CSR is

* Corresponding author. Tel.: + 370 650 11505.

E-mail address: zivile.stankeviciute@ktu.lt

indeterminate, dimensionless, regional and cultural approach. However, most of research cases CSR is being described as a balance between organization economic, social and environmental goals [5; 6].

Empirical studies show that organizations positive attitudes forward CSR leads to an organization success. For example, Crane [7] states that many organizations promoting CSR have a CSR agenda, strategy [8]. Testa et al [9] argue that organization social behaviour pays an important role on CSR organizational benefit. Despite a positive approach to CSR, organizations still discuss how to find a common driving force for stakeholders to increase the added value of CSR.

Recent researches have highlighted the impact of the external environment and the role of external stakeholders towards organization CSR. However, there is still a need to understand internal stakeholders, especially employees' perceptions towards CSR. Pena Miranda et al [10] states that CSR has a positive effect on employee's attitudes and behaviours. Hejjas et al [11] published article analyses 55 in-depth employee interviews across different organizations. The authors conclude that organizational initiatives need to align employee personal interests. Hur and all [12] surveyed 250 employees and found that employees' perceptions of an organization's CSR lead to compassionate behaviour and intrinsic motivation. Tian and Robertson [13] research results reveal that employees' perception on CSR indirectly affects employee's engagement in voluntary pro-environmental behaviour. While employees intentional or unintentional behaviour towards CSR has been gaining attention, individual employee characteristics towards CSR is still in the early stage of research. This paper aims to analyse employees' personal characteristic on the perception of corporate social responsibility. The study explores different perceptions of corporate social responsibility levels of employees belonging to different generations, genders, marital statuses and educational levels. The added value of this paper is that the research results contributes to the further explanations of employee personal characteristics impact on CSR. In addition, organizations could explore findings to find appropriate practices that encourage employees to become a strong voice in promoting CSR.

The structure of the article is designed to review the scientific literature on CSR at the organizational level, to identify and substantiate employees' personal factors in CSR (Chapter 1). The article provides a description of the research method used as a research design (Chapter 2), empirical evidence, and a discussion of employees' personal factors as antecedents in CSR perceptions. The article provides recommendations for further research and practical recommendations for organizations.

1. Theoretical background

1.1. The concept and dimension of corporate social responsibility

CSR can be defined in several ways. Cheema et al [14] states that CSR could be described as actions to address the challenges and to help society and environment. Carrol [15], Schwartz et al [16] describes CSR as the organization responsibility and values to meet the economic, legal, ethical and discretionary expectations that society is facing at a given point time. Kotler [17] describing CSR adds the dimension of organization willingness to enhance the community well-being through voluntary initiatives. Van Marrewijk [18] indicate that CSR could be described as organization voluntary activities to promote social and environmental awareness through day-to-day operations and relationships with stakeholders. Rangan et al [19] supports the idea of responsibility on day to day operations and argues that that CSR is concerned with business processes in which an organization's environment is responsible for the direct and indirect impact on internal and external stakeholders and the environment as a whole.

The CSR definitions promoting the balance between economic, social and environmental goals. However, the balance itself raise awareness. The awareness may exist between organization and society values, between organization attitude to the economic and environmental issues etc. Research conducted by Yadlapalli and all [19 a] shows that organizations, as an economic benefit of CSR, recognize the potential for saving the cost, increasing productivity, profitability, and revenue. The understanding of social dimension of CSR brings to the organization possibility to attract more customers and employees, to avoid discrimination and other negative facts. Even though without the deep understanding, analysis, and balance of organization practices towards CSR, the taken CSR practices may appear episodic rather than providing long-term practices and benefits. In addition, the changing organization environment can mislead organization initiatives regarding CSR. Glavas and Kelley [22] argue that, for example,

philanthropic commitments of organizations can be further alerted because they are affected by public expectations which is changing over time.

In order to understand the balance between economic, social and environmental goals of CSR, it is important to understand the relationships between the levels of CSR (Fig. 1).



Fig. 1. Levels of CSR [15]

The Carroll model, which could be described as a classic example, provides four levels of CSR. The main idea of this pyramid is the division of responsibilities into economic, legal, ethical and philanthropic dimensions. Organizations should meet the full range of their responsibilities [15].

The first level of the pyramid represents organization's economic responsibility. Profitability is a key business priority based on the need for the business to generate revenue. Without a profit, organizations would not be able to secure jobs even before the organization starts CSR. The second level of the pyramid is the legal obligation of the organization to comply with the law. This is the most important responsibility, as it demonstrates how organizations conduct their business in the market. Organization activities is expected to comply with legal requirements together with economic objectives. The ethical layer of the pyramid is described as fair, honest behaviour in all situations. An organization should not only comply with the law, but also conduct its business ethically. Ethical responsibility is driven by social values, such as moral laws and justice, and places greater demands on organizations together with legal requirements. The top of the pyramid belongs to philanthropic responsibility. Along with philanthropic responsibility, organizations are expected to be civic. This refers to any active participation in order to contribute to the general well-being of society in monetary or non-monetary terms [20]. The philanthropic responsibility includes social activities carried out by the organizations that are not required by any law and are not expected from organizations in the sense of ethics [21].

The reviewed definitions and levels of CSR confirm that CSR is a complex combination of organizational activities and responsibilities that affects not only the external environment but also the internal environment of the organization. Therefore, the alignment of the different dimensions of the SRC and the achievement of the set goals depend not only on the leaders of the organization, external stakeholders, but also on the employees of the organization who directly contribute to the support and development of CSR.

1.2. Employees' perception of CSR

The existing literature on employees' perception of CSR is closely connected with employee's attitudes and behaviours [23; 24]. Vice versus Lee et al [25] states that employees' motivation, morale, dedicational and loyalty can be affected by CSR. Rupp et al [26] indicates that employees' positive attitude towards CSR triggers positive behavioural changes in cognitive and emotional ways [27]. These examples show that employee perceptions and the organization's approach to CSR are interrelated. This approach is important in order to recognize the importance of individual characteristics of employees in CSR, as well as organizational activities that promote CSR and involve employees in CSR programmes.

Only a few research analyses employee individual characteristics on perception of CSR. For example, Rosati et al [28] research results show that male employees are more satisfied with organization CSR than females. Additionally, the other research reported that gender differences play a significant role in influencing the values and attitudes of individuals. Rosati et al [28] prove previous research [31] that age differences are not significantly impact employee attitudes towards CSR. The results of the research show that graduates are more demanding on organizations CSR than non-graduates. Hur and Kim [29] conceptualize that marital status have influence to CSR perception. However, Mueller [30] states that marital status, gender, race, religion shows significant differences on CSR perception.

This paper defines employees’ individual characteristics as different generation, gender, marital status and educational level perceives differently CSR levels and a CSR as a common concept. A theoretical model showing the relationships between an organization’s CSR levels and individual employee characteristics is presented in the Figure 2.

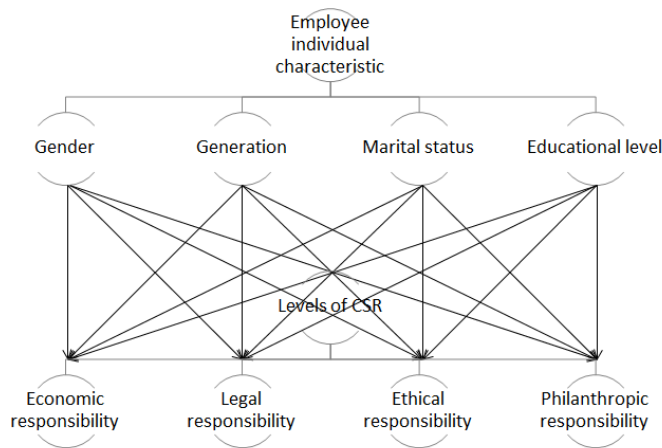


Fig. 2. Theoretical model

The theoretical model considers the economic component of CSR which is related to the economic responsibility of organization, such as operational efficiency, competitiveness, etc. The CSR legal responsibility component is related to the organization duty to obey the laws and regulations. The ethical level of CSR is related to the fairness in making decisions, ethical behaviour, etc. The philanthropic level of CSR is related to the organization activities which include charity, support and other initiatives.

Based on the theoretical model 17 research hypotheses were proposed (Table 1).

Table 1. Summary of raised hypothesis

Hypotheses	Levels of CSR				
		Economic responsibility	Legal responsibility	Ethical responsibility	Philanthropic responsibility
Individual characteristics	Gender	H1a	H1b	H1c	H1d
	Generation	H2a	H2b	H2c	H2d
	Marital status	H3a	H3b	H3c	H3d
	Educational level	H4a	H4b	H4c	H4d

The sixteen hypotheses were constructed as follow:

- H1a Employees gender has a positive perception on organization CSR economic responsibility;
- H1b Employees gender has a positive perception on organization CSR legal responsibility;
- H1c Employees gender has a positive perception on organization CSR ethical responsibility;
- H1d Employees gender has a positive perception on organization CSR philanthropic responsibility.

Accordingly, the other hypotheses were formed and tested.

The developed theoretical model and stated hypothesis provides an opportunity to analyse the personal factors of employees, considering the levels of CSR, and based on the obtained results to enable organizations to make decisions on CSR not only from organizational experience but also to consider individual characteristics of employees.

2. Research method

2.1. Sample and data collection

The empirical research was performed by examining a theoretical model and raised hypothesis. In order to conduct a comprehensive empirical study a quantitative data collection method was chosen. The survey covered personal employee characteristics (demographic questions) and questions which helps to measure economic, legal, ethical and philanthropic responsibility (Table 2). The questions related to CSR levels were based on the validated Lee et all [32] validated research construct. Levels of CSR was measured with a five-time Likert scale.

Table 2. Summary of raised hypothesis

Theoretical model construct	Measurable variables
Individual characteristics	
Gender	Male Female
Generation	(born in 1946–1964) Baby boomers (born in 1965–1981) Generation X (born 1982–2000) Generation Y (born in 2001 or later) Generation Z
Marital status	Single Married Married and a child(ren) (under 18) Divorced and a child(ren) (under 18) Live with parents, friends, other relatives
Educational level	University degree Non-university degree Other higher degree Tertiary education Vocational school Higher middle school Lower middle school Primary school
Levels of CSR (adapted from Lee et all [31])	Organization has a procedure in place to respond to every customer complaint Organization continually improves the quality of our products Organization uses customer satisfaction as an indicator of our business performance
Economic responsibility	Organization has been successful at maximizing our profits Organization strives to lower our operating costs Organization closely monitor employee's productivity Top management of organization establishes long-term strategies for our business
Ethical responsibility	Organization internal policies prevent discrimination in employees' compensation and promotion Organization has a comprehensive code of conduct Members of organization follow professional standards Top managers monitor the potential negative impacts of our activities on organization community Organization is being recognized as a trustworthy company Fairness toward co-workers and organization partners is an integral part of our employee evaluation process A confidential procedure is in place for employees to report any misconduct at work (such as stealing or sexual harassment) Organization salespersons and employees are required to provide full and accurate information to all customers

Theoretical model construct	Measurable variables
Philanthropic responsibility	Organization tries to improve the image of its product Organization tries to improve perception of its business conduct Organization tries to improve its corporate image Organization tries to help the poor Organization tries to contribute toward bettering the local community Organization tries to fulfil its social responsibility Organization tries to accommodate governmental requested Organization tries to accommodate requests for NGOs

In order to collect research data, working employees were interviewed. In order to reach the data validity threshold, Lithuanian statistics were analysed. To achieve data reliability, the number of 399 employees with a 5 % error was estimated. Totally 423 questionnaires were filled. The study was based on an unreliability sampling method. The questionnaire was distributed online. The profile of respondents by individual characteristics is presented in Table 3.

Table 3. Summary of raised hypothesis

Characteristics	Measurable variables	Percentage (%)
Gender	Male	42.1
	Female	57.9
Generation	(born in 1946–1964) Baby boomers	9.2
	(born in 1965–1981) Generation X	36.2
	(born 1982–2000) Generation Y	54.4
	(born in 2001 or later) Generation Z	0.2
Marital status	Single	11.6
	Married	41.6
	Married and a child(ren) (under 18)	35.9
	Divorced and a child(ren) (under 18)	5.4
	Live with parents, friends, other relatives	5.4
Educational level	University degree	73.3
	Non-university degree	14.7
	Other higher degree	5.2
	Tertiary education	1.2
	Vocational school	2.4
	Higher middle school	3.3
	Lower middle school	-
Primary school	-	

In the group of respondents there were more females than males. 54 % of respondents were born in 1982–2000, 36 % of respondents in 1965–1981. The majority of respondents (73 %) have university degree.

2.2. Strategy of data analysis and results

The research data was analysed using SPSS programme. In order to test internal consistency and reliability analysis Cronbach's α value was analysed through two-scale coefficients. If Cronbach's α value varies from 0.6, the theoretical model construct items are "acceptable", whereas if Cronbach's α value varies from 0.7, the theoretical model construct items are "respectable" [33, 34]. Calculated Cronbach's α (Table 4) showed respectable values for further research questions analysis.

Table 4. Construct scale items reliability analysis

Theoretical model construct items	Reliability	Mean	SD
Economic responsibility (7)	0.841	22.512	4.745
Legal responsibility (7)	0.869	29.48	4.563
Ethical responsibility (7)	0.883	25.536	5.053
Philanthropic responsibility (8)	0.903	32.571	5.707

Pearson Chi-Square test was calculated in order to test whatever or not statistically significant relationship exists between a dependent and independent variable [35]. If the significance of Pearson Chi-Square test is large than 0.005 confidence level, the testing hypothesis cannot be supported because of independent variables.

Kappa coefficient was conducted for the analysis of consistency among various dimensions across all categories [36]. The interpretation of Kappa values is provided below (Table 5).

Table 5. Employee Gender perceptions on CSR levels

Kappa value	Interpretation
< 0	Poor agreement
0.01–0.20	Slight agreement
0.21–0.40	Fair agreement
0.41–0.60	Moderate agreement
0.61–0.80	Substantial agreement
0.81–1.00	Almost perfect agreement

In the case of employee gender perceptions on CSR levels (Table 6), the calculated Pearson chi-square test results revealed that there no significant relationship between the economic responsibility and gender, legal responsibility and gender, ethical responsibility and gender, and philanthropic responsibility and gender.

Table 6. Employee Gender perceptions on CSR levels

CSR construct items	Gender	N	Pearson Chi-Square	Asymp. Sig. (2-sided)	Kappa	Aprox. Sig.
Economic responsibility	Male	178	4.578	0.313	-0.004	0.378
	Female	245				
Legal responsibility	Male	178	9.246	0.055	-0.002	0.408
	Female	245				
Ethical responsibility	Male	178	6.808	0.146	0.001	0.842
	Female	245				
Philanthropic responsibility	Male	178	5.829	0.212	-0.002	0.618
	Female	245				

In the case of employee generation perceptions on CSR levels (Table 7), the calculated Pearson chi-square test results revealed that there is significant relationship between the economic responsibility and employee generation, legal responsibility and employee generation, ethical responsibility and employee generation, and philanthropic responsibility and employee generation. Kappa coefficient shows that between baby boomers, generation X, generation Y, generation Z there is a slight (economic 0.011 responsibility; ethical responsibility 0.020; philanthropic responsibility 0.019) and fair (legal responsibility 0.023) agreement on the CSR levels.

Table 7. Employee generation perceptions on CSR levels

CSR construct items	Generation	N	Pearson Chi-Square	Asymp. Sig. (2-sided)	Kappa	Aprox. Sig.
Economic responsibility	(born in 1946–1964) Baby boomers	39	148.635	0.000	0.011	0.439
	(born in 1965–1981) Generation X	153				
	(born 1982–2000) Generation Y	230				
	(born in 2001 or later) Generation Z	1				

CSR construct items	Generation	N	Pearson Chi-Square	Asymp. Sig. (2-sided)	Kappa	Aprox. Sig.
Legal responsibility	(born in 1946–1964) Baby boomers	39	151.624	0.000	0.023	0.054
	(born in 1965–1981) Generation X	153				
	(born 1982–2000) Generation Y	230				
	(born in 2001 or later) Generation Z	1				
Ethical responsibility	(born in 1946–1964) Baby boomers	39	150.445	0.000	0.020	0.182
	(born in 1965–1981) Generation X	153				
	(born 1982–2000) Generation Y	230				
	(born in 2001 or later) Generation Z	1				
Philanthropic responsibility	(born in 1946–1964) Baby boomers	39	148.281	0.000	0.019	0.194
	(born in 1965–1981) Generation X	153				
	(born 1982–2000) Generation Y	230				
	(born in 2001 or later) Generation Z	1				

In the case of employee marital status perceptions on CSR levels (Table 8), the calculated Pearson chi-square test results revealed that there is significant relationship between the economic responsibility and employee marital status, legal responsibility and employee marital status, and ethical responsibility and employee marital status.

Kappa coefficient shows that between single, married, married and a child(ren) (under 18), divorced and a child(ren) (under 18), living with parents, friends, other there is a slight agreement in the terms of CSR economic (0.015) and ethical (0.012) responsibility. Single, married, married and a child(ren) (under 18), divorced and a child(ren) (under 18), living with parents, friends, other slightly disagrees in the terms of CSR level legal responsibility.

Table 8. Employee marital status perceptions on CSR levels

CSR construct items	Marital status	N	Pearson Chi-Square	Asymp. Sig. (2-sided)	Kappa	Aprox. Sig.
Economic responsibility	Single	49	35.483	0.003	0.015	0.315
	Married	176				
	Married and a child(ren) (under 18)	152				
	Divorced and a child(ren) (under 18)	23				
	Live with parents, friends, other relatives	23				
Legal responsibility	Single	49	38.011	0.002	-0.017	0.173
	Married	176				
	Married and a child(ren) (under 18)	152				
	Divorced and a child(ren) (under 18)	23				
	Live with parents, friends, other relatives	23				
Ethical responsibility	Single	49	43.376	0.000	0.012	0.420
	Married	176				
	Married and a child(ren) (under 18)	152				
	Divorced and a child(ren) (under 18)	23				
	Live with parents, friends, other relatives	23				
Philanthropic responsibility	Single	49	33.742	0.006	-0.007	0.653
	Married	176				
	Married and a child(ren) (under 18)	152				
	Divorced and a child(ren) (under 18)	23				
	Live with parents, friends, other relatives	23				

In the case of employee educational level perceptions on CSR levels (Table 9), the calculated Pearson chi-square test results revealed that there is no significant relationship between the employee educational level and CSR levels.

Table 9. Employee educational level perceptions on CSR levels

CSR construct items	Educational level	N	Pearson Chi-Square	Asymp. Sig. (2-sided)	Kappa	Aprox. Sig.
Economic responsibility	University degree	310	36.739	0.013	0.006	0.388
	Non-university degree	62				
	Other higher degree	22				
	Teritary education	5				
	Vocational school	10				
	Higher middle school	14				
Legal responsibility	University degree	310	35.966	0.016	0.011	0.071
	Non-university degree	62				
	Other higher degree	22				
	Teritary education	5				
	Vocational school	10				
	Higher middle school	14				
Ethical responsibility	University degree	310	25.199	0.194	0.004	0.529
	Non-university degree	62				
	Other higher degree	22				
	Teritary education	5				
	Vocational school	10				
	Higher middle school	14				
Philanthropic responsibility	University degree	310	17.220	0.639	0.006	0.371
	Non-university degree	62				
	Other higher degree	22				
	Teritary education	5				
	Vocational school	10				
	Higher middle school	14				

Accordingly, the hypotheses (Table 10) were tested using Kappa coefficient. Therefore, as employee gender and educational level, marital status (philanthropic responsibility) hypothesis were not supported.

Table 10. Summary of hypothesis testing

Hypotheses	Levels of CSR				
		Economic responsibility	Legal responsibility	Ethical responsibility	Philanthropic responsibility
Individual characteristics	Gender	H1a Denied	H1b Denied	H1c Denied	H1d Denied
	Generation	H2a Supported	H2b Supported	H2c Supported	H2d Supported
	Marital status	H3a Supported	H3b Supported	H3c Supported	H3d Denied
	Educational level	H4a Denied	H4b Denied	H4c Denied	H4d Denied

Discussion and conclusions

The paper aimed to explore different perceptions of corporate social responsibility levels of employees belonging to different generations, genders, marital statuses and educational levels. The paper has addressed and tested a model that explains the perception of employee’s with individual characteristics on different CSR levels. Study results have indicated both theoretical and managerial implications.

Regarding the perceptions of corporate social responsibility levels of employees belonging to different gender were not proved. These results were not proved previous research results [28]. Particular attention was paid to the perceptions of corporate social responsibility levels of employees belonging to different education levels. The results in this case were not significant and proved as well.

This study shows that the perceptions of corporate social responsibility levels of employees belonging to different generation were proved. The results provide support for the previous research [28] results. Data analysis shows that baby boomers, generation X, generation Y, generation Z have a positive slight agreement on the economic responsibility of the organization, on the ethical responsibility of organization and philanthropic responsibility of

organization. Moreover, baby boomers, generation X, generation Y, generation Z have a positive fair agreement on the legal responsibility of the organization.

In terms of marital status, the result of this study confirms the other research results [29] in finding significant employee marital status perception on CSR. Data analysis shows that single, married, married and a child(ren) (under 18), divorced and a child(ren) (under 18), living with parents, friends, other are also more likely perceive economic and ethical responsibility. However, single, married, married and a child(ren) (under 18), divorced and a child(ren) (under 18), living with parents, friends, other employees have a negative perception on the legal responsibility. This conclusion is a very important finding trying to identify employee personal factors as antecedents on employee perceptions of Legal responsibility.

From the theoretical perspective, this paper supports the idea that employee personal characteristics should be considered when measuring employees' perceptions of CSR. The understanding the unique characteristic of each employee is important seeking to identify the most effective practices promoting organization CSR.

From organization point of view, organizations should acknowledge the employees' personal characteristic importance for the CSR. Proved hypothesis provides a comprehensive tool for organizations managers to test the different perceptions of corporate social responsibility levels of employees belonging to different generations, genders, marital statuses and educational levels. Supporting previous research [25] the findings of this research demonstrate that organizations should invest resources in CSR levels which create value for the organization and employees as well.

When interpreting study results, the paper has several limitations. The paper uses a sample from a single country, it has a limitation due to its restrictive generalizability. In order to overcome that factor, future research could be extended to the different regions. Moreover, it is necessary to compare the difference between the individual characteristics in perceiving different levels of CSR. This would help better understand the data and to identify CSR practices that meets employee expectations caused by personal characteristics.

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Relationship between Sustainable Development and CSR

Dalia Susnienė^a, Daiva Žostautienė^{a*}

^aKaunas University of Technology, Panevėžys Faculty of Technologies and Business, 33 Nemuno St, Panevėžys LT-37164, Lithuania

Abstract

Despite worldwide importance and interest in sustainability practices among academia and professionals, sustainable development includes a huge diversity of ideas and approaches. Therefore, in this paper we aim to extend current knowledge of sustainable development (SD) and Corporate Social Responsibility (CSR) disclosing relationship of these constructs and their interplay. Descriptive research is employed to identify the characteristics of phenomenon and collect more information with the help of Content analysis trying to draw meaningful inferences of SD and CSR contexts. This research has significance for professional organisations and policymakers who can shape practice, both locally and internationally.

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Keywords: sustainability; sustainable development (SD); corporate social responsibility (CSR).

Introduction

Sustainability is a principal topic in contemporary world. Rapid economic, scientific and technological developments, increasing ecological threats to the survival of various species of life require a systemic approach to the development of a sustainable society. It is increasingly important to ensure that, in addition to financial goals, companies start to take more care of the natural environment and society. It is clear that most environmental problems are related to the economic development. After all, the environment and business are closely interlinked, and the long-term success of a business depends on how companies are able to integrate harmoniously into the environment and feel the social mood of society.

Businesses must comply with growing national and international obligations, including environmental protection, working conditions standards, human rights, and anti-corruption practices. Sustainability is the use of voluntary measures and initiatives. The topic of organizational sustainability is often discussed in the business, scientific, and

* Corresponding author.

E-mail address: daiva.zostautiene@ktu.lt

popular literature, and the term is often used as a synonym for sustainable development or organizational social responsibility. Over the last decade, companies have been increasingly encouraged to extend their accountability to the effectiveness of sustainability, including not only economic but also environmental and social aspects. Business sustainability means that the goals of sustainable development, which aim at social justice, economic efficiency, and environmental protection, must be integrated into the daily practices of companies. For many modern managers, this becomes not only a challenge but also a goal, the implementation of which requires the preparation of managers, knowledge of the latter concept, a positive attitude towards it and the adaptation of new roles.

Because of the rising stakeholders' pressure, successful companies are engaged to deal their success with others and to benefit people, business, and environment. Organizations are about to form informal social-economic contract between organization and its stakeholders. The organizations are being motivated to improve both social and environmental practices and the cooperation with the stakeholders voluntary by the attempts of various international initiatives. In order to guaranty the durable partnership between the companies all around the world and the stakeholders concerned about the transparency of the businesses' results, organizations consolidate into the global Corporate Social Responsibility (CSR) networks, use various means to implement the concept of Corporate Social Responsibility into the business practice: from abstractly declared to standardized worldwide.

Despite its almost ubiquitous acceptance among professionals, sustainable design encompasses a huge diversity of ideas and attitudes. Therefore, in this paper we aim to extend current knowledge of sustainable development (SD) and Corporate Social Responsibility disclosing relationship of these constructs and their interplay. Descriptive research is employed to identify the characteristics of phenomenon and collect more information with the help of Content analysis trying to draw meaningful inferences of SD and CSR contexts.

This research has significance for professional organisations and policymakers who can shape practice, both locally and internationally. It also has consequences for educational purposes as it emphasises the perceived relative importance of these factors in economic science and business management.

1. Sustainability and Organization

Since the publication of Our Common Future [1], competing interpretations of sustainable development have been insinuated from its definition [13]. It contains within it two key concepts: the concepts of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation of the environments ability to meet present and future needs [10]. Thus the goals of economic and social development must be defined in terms of sustainability in all countries developed or developing, market-oriented or centrally planned, cited in "Our Common Future" [1].

A sustainable organizational environment is a pre-selected and purposefully targeted component of the organization's environment that ensures the overall sustainable development of the organization (Fig. 1). The existence of a sustainable organizational environment shows that an organization has a goal to transform into a sustainable organization and is targeted by certain forces in that direction.

In summarizing the research, Čiegis and Grunda [8] distinguish the following concepts of sustainable business and sustainable organization:

- the Natural Step framework, which mentions the theoretical concept of a sustainable business and a sustainable organization, defining a sustainable organization, its links to resource availability, and its use in a "resource funnel model" and encouraging looking at the current situation from a future perspective, i.e. applying backcasting methodology for the implementation of the principles of sustainable development;
- United Nations Global Compact Principles for Socially Responsible Business;
- UNCTAD concept of sustainable business; Good Corporation Charter; ICC Business Charter for Sustainable Development; IISD principles of sustainable business (established by the Canada-based International Institute for Sustainable Development) grouped into three parts: internal sustainability, external reliability and utilization of own resources;
- Galen management concept (management objectives are clearly divided into three levels of management: normative, strategic and operational, according to which the organization's activities are based on the organization's future vision, and applying this management concept to sustainable development management in the organization). This vision directs the activities of the organization both in the direction of ecological improvement of processes and products, as well as in relations with stakeholders [8, 35].

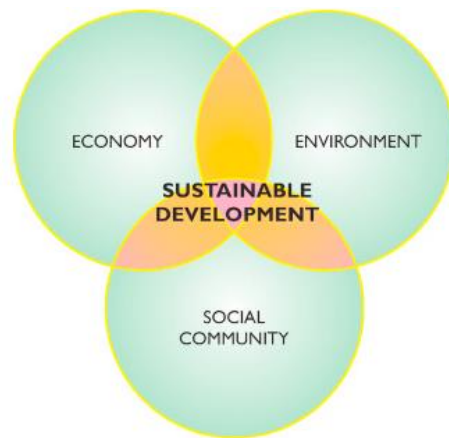


Fig. 1 Components of a sustainable organizational [22]

Researchers distinguish three stages during which it is possible to transform an organization into a sustainable organization:

1. Stage 1. Creating an understanding of what a sustainable organization is.
2. Stage 2. Creating an understanding of how to become a sustainable organization. Exchange.
3. Stage 3. Creating an understanding of what will show the sustainability of the organization. Verification of results.

The way in which sustainable development policy incorporates the private sector is a particularly important issue because sustainable development will need to use all possible means at the disposal of the international community, going beyond business as usual [7, 33]. The private sector has received considerable emphasis in the sustainable developments goals (SDGs) [31, 32], probably because of “*a widely shared assumption that the 2030 Agenda for Sustainable Development provides momentum for a renewed engagement of the private sector in the service of the United Nations’ goals and objectives*” [9, 12, 23, 35]. Indeed, Scheyvens et al. [31] consider that the private sector has been “foregrounded” in the SDGs in which “businesses, governments and civil society actors are equally called upon to pursue a more sustainable path forward”.

Sustainability means an organisation’s growth that is not just speedy, but also authentic and holistic. Essentially, it means attending to issues that are “important” rather than only those that are “urgent” and are beneficial to the organization in the “long term” rather than just in the “short term”. Moreover, there are a few things that corporates need to keep in mind while addressing sustainability issues:

Organizations must realize that sustainability is not just about CSR and protecting the environment. First, it also includes ensuring energy efficiency, risk management, social development, reputation management, financial sustainability, adequate due diligence on new investments, business diversification, employee protection, sustainability reporting, and much more.

Second, organizations must stop viewing sustainability as a Public Relations (PR) tool to look good. Doing little and plastering reports and media with feel-good photos of it, is unfortunately what many companies do. Positive results from being a sustainable company can only be achieved when the company’s objective is not PR, but a genuine desire to achieve its own authentic and holistic growth trajectory keeping in mind the mid and long term.

To be sustainable, a company needs to develop the capacity within itself to continuously identify the factors affecting its holistic growth in the long term, build knowledge and skill set on how to counter the adverse factors, and roll out the changes within itself in a self-sufficient manner.

Following dimensions of organizational sustainability can be identified:

1. Strategic sustainability. One of the most important considerations to have a realistic vision and goals for the organization.

2. Product and program sustainability. This means that organization should ensure high-quality products, services and programs. If organization does not have high-quality products, services and programs, then customers' and clients' participation will eventually decline as will funding.
3. Personnel sustainability. That encompasses fully trained and well supervised personnel in order to ensure effective and reliable performance.

2. Theoretical concept of CSR

The social responsibility of an organization is examined in detail in most foreign authors such as Carrol [3], Carroll & Shabana [4], Carroll & Buchholtz [5], Kotler & Lee [19] and others. However, in almost all cases, the term "social responsibility" is also used in the sense of moral organization. Though the concept of Corporate Social Responsibility firstly was introduced in 1930, there is no united definition of CSR and it is still being the target of various authors' dispute [17, 18, 20, 27, 29, 38]. The definition of CSR vary from the combination of philanthropy, economics and law issues to the company's responsibility for its performance and all the consequences related to it. According to the EU Green Paper [12], published by the European Commission, CSR could be defined as a concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment. CSR is also about company's ability in finding the consensus between its objects, values and demands of stakeholders, such as customers, investors, employees, suppliers and society [6, 26, 37]. Other authors use the following definition: Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large [16, 21]. Ministry of Social Security and Labor in Lithuania presented the following CSR definition: Corporate social responsibility is companies' ideology, politics and strategy about such a behavior when businesses voluntary implement social and environmental issues into their practice, and follow all the principles of human, society and nature respect while developing the relationship with representatives of community, business, government and other stakeholders. In other words, generally CSR is about meeting all the customers' needs at the same time putting into consideration other individuals', such as employees, suppliers and demands. It represents company's impact to society and environment as well. Appropriate management in both its performance and impact to the surroundings guarantees company long-term competitive ability.

So which definition is the one worth to use in initiating to put CSR concept into business practice? Obviously - there is no "one size fits all". In different countries, there will be different priorities, and values that will shape how business act. On the contrary, one could find considerable common ground between great varieties of CSR definitions.

One of the most adequate CSR definitions might be the following: CSR must be considered as the guaranty of the organization's economic success contributing social and environmental issues into its daily practice. This stated notion may be supported by the several arguments. Most CSR definitions focus mainly only on the company's impact to environmental and society as a whole. For unexplainable reason various authors defining the CSR refuse the most essential issue to all businesses – company's economic success. It is obvious – none of the organizations are about to use its resources if that expenditure would not guarantee financial success. Finally, CSR may be defined as positive company's efforts in finding the consensus between the welfare of environment and society as a whole, company's practices and its economic success.

2.1. Areas and types of CSR

Analysing the experience of foreign companies in implementing the ideas of corporate social responsibility, it can be emphasized that these initiatives are implemented by various companies, regardless of their dependence on a particular industry, size or type of activity. Gruževskis [14] noted that responsible business activities can be very diverse and involve different beneficiaries. The social responsibility implemented by the company can touch on the following areas:

- promoting staff learning;
- organization of leisure time for employees (families), promotion of healthy lifestyle;
- increasing intergenerational solidarity;
- improving the psychological climate at work;
- development of equal opportunities;

- improving the well-being of workers' families;
- environmental protection;
- promotion of transparent business.

P. Kotler and N. Lee [19] identify six types of social responsibility:

- cause promotions – it aims to raise the profile of social programs and invites them to contribute to their solution;
- charity marketing;
- corporate social marketing – supporting behavior change programs;
- corporate philanthropy – companies donate directly to charity;
- community volunteering – companies support employee volunteering.

A. Carroll [3] distinguishes four closely related types of social responsibility: economic, legal, ethical, and philanthropic.

The concept of corporate social responsibility is a broad-based process that covers the entire production and development cycle of a product or service and the related environmental, social, financial, and ethical aspects. The social responsibility of an organization means that the organization should be responsible for any of its actions that affect people and the environment. Social activity is not only based on, guided by moral and social responsibility, but also at the same time fosters and promotes their perception of values as one of the most important and practically binding factors for achieving good results.

2.2. Orientation towards stakeholder partnership

The orientation of modern business towards socially responsible activities is determined by the fact that both individuals and participants in collective activities are aware of their responsibilities towards those who are affected by the consequences of their activities.

Since the 2012 United Nations Conference on Sustainable Development [23], there has been a growing trend towards multistakeholder partnerships, defined as partnerships between donors, governments, non-governmental organizations, and the private sector [7, 11, 23]. Seeking for the highest quality of products and services companies must manage and satisfy their stakeholders' needs and interests. Organization-focus stakeholder theory distinguishes two types of stakeholders: those who are defined as a group by their relation to a corporation (e.g. workers, shareholders, customers, suppliers) and those who become stakeholders by claiming a stake in the corporation (e.g. civil society actors) [28]. Corporation is a collaboration of multiple and diverse constituencies and interests referred to as stakeholders. Organizational wealth can be created (or destroyed) through the relationship with stakeholders of all kind – resource providers, customers and suppliers, social and political actors. Therefore, effective stakeholder management (managing relationship with stakeholders for mutual benefit) is a critical requirement for corporate success [25].

Today companies, both small businesses and big corporations are constrained to work inside the complicated environment, being affected by the values, concerns, and intentions of the society. Businesses must be ready to make decisions under the conditions of frequently changeable environment. For this reason, organizations must cooperate with neighbourhood community, and not to stay behind. The cooperation between society and organizations is being guaranteed by various good practice ideas, voluntary certified standards or systems, based on the concept of Corporate Social Responsibility.

A socially responsible organization takes care of its employees first and foremost and deals with problems such as investment in human capital, ensuring the health of employees, ensuring safety, and so on. It must also carry out environmentally friendly activities, usually related to the management of the use of natural resources in the production process. The activities of the company organized in this way can ensure the acquisition of a competitive advantage for the company. Companies are also dependent on local communities: they hire the majority of workers from the local labour market and are therefore interested in the health of the population and proper education. The company's social activities can also be affected by other influential groups – competitors, customers, suppliers, subcontractors. Thus, corporate social responsibility covers not only its own activities but the entire supply chain.

2.3. Impact of CSR

CSR concept as a guideline for the company's daily performance might guarantee business success to the organization. Numerous studies show that the implementation of socially responsible business returns economic benefits and competitive advantage. Ethical business practices provide a competitive advantage and help attract foreign investment. Also, it helps to gain a good reputation, name and company's image as well as community's assurance. Customers want the reliable supplier well known for its high-quality production and services. On the other hand, suppliers would like to deliver goods for the client that will not run away and meet its financial commitments on time. The local community prefers to be assured that organizations' performances will guarantee social and environmental welfare. Finally, employees would like to work for the company they might be proud of and realize their personal input value. Fair pay helps to keep good and skilled workers attracted to higher earnings abroad, but also raises the overall level of consumption, from which producers also benefit. Commitment to socially responsible business improves not only the image of the organization, but also brand management, employee morale, loyalty, productivity, operational efficiency.

Socially responsible companies since 1999 may join the United Nations initiative – Global Compact. They base their strategy and corporate culture on 10 principles that cover 4 areas: human rights, workers' rights, the environment, and the fight against corruption. Socially responsible companies follow their code of ethics and present progress reports to the public every year. In addition, companies make sure that the goods and services they consume meet the requirements of fair and ethical trade: they support small producers, those who care about the environment, respect the rights of their employees and local communities.

3. Interface between CSR and SD

The role of business regarding sustainable development has usually been discussed as “responsibility” to society, whereby responsibility is defined as a need to eliminate negative effects of business [2]. CSR is usually associated as approach to integrate social and environmental aspects into corporate activities.

The term organizational sustainability is often used as a synonym for sustainable development or organizational social responsibility. The social dimension of sustainability requires that basic human needs be met and that a fully quality of life be created. When examining the sustainability and social responsibility of an organization, researchers usually associate it with the implementation of the principles of sustainable development in the organization [2, 15, 24, 34]. The concept of corporate social responsibility (also called responsible business) is a broad-spectrum process that covers the entire production / development cycle of a product / service and the related environmental, social, financial, and ethical aspects. For an organization, sustainable development means the application of business strategies and actions that meet the needs of the organization and its stakeholders today, while protecting, strengthening, and enhancing the human and natural resources that will be needed in the future. The concept of sustainable development obliges organizations to change their behaviour towards stakeholders, therefore the sustainability of the organization is based on economic, environmental, and social responsibility aspects [16, 30].

It is biodiversity, functional resilience, labour productivity, social well-being, citizenship, as well as social justice that are practical components of sustainable development. In today's world, CSR is becoming a new form of regulation (effective self-regulation) at both the macro and micro levels. This is due to changes in values over the last 15–30 years throughout the civilized world:

- with the democratization of societies and the expansion of the realization of human rights in all spheres of activity, the dynamics of labor relations is observed, from humble relations to partnership, mutually respectful relations; from blind obedience to authority to perceived commitment to commonly accepted values;
- from the principle of attitude and action “only the strongest remain”, “the smarter the better”, “the struggle of all against all”, “man to man wolf” to the principles of participation, care, cooperation, subsidiarity and solidarity;
- from the Marxist “class struggle” paradigm to free, contractual, horizontal relations. From revolution and barricades to reconciliation of interests and partnership: i.e. from hiding interests (and walking through their heads) to their transparency, legitimacy, and reconciling and nurturing the legitimate interests of the individual;
- from quick profits to long-term, balanced prosperity.

That is why CSR is considered an essential condition for sustainable development. Sustainable business is a socially responsible business that is scientifically formed by (balancing) social humanistic (ethical) values and economic achievements. The modern world rationally develops this balance by purposefully combining 3P or 3E (Fig. 2):

Economics / efficiency	PROFIT
Ecology	PLANET
Ethics (social responsibility)	PEOPLE

Fig. 2. 3P parameters

Modern business has long-term prospects only by purposefully balancing 3P parameters. The purpose of CSR strategies is to implement these ideas. CSR policies and strategies contribute to the common good of the country, especially when they involve the general public. On the one hand, CSR is an indicator of the maturity of civil society, and on the other hand, it is a tool for its formation (or purposeful construction).

Civil society expects more and more from businesses. Through CSR, the development of real citizenship takes place, companies are seen as good fellow citizens (or socially neglected entities). They try to respond not only to criticism about their activities, but also to initiate solutions to problems needed by society, to respond to the needs of various interest groups. Initiatives of non-governmental organizations (NGOs), which help to implement corporate social responsibility in practice, have the greatest significance for the above-mentioned processes. In the past, corporate social irresponsibility scandals in different countries have become a catalyst for the development of CSR and business ethics through civil society responses. And now, in various countries, they are the pretexts and engines of CSR development, helping to shape models and mechanisms for the development of corporate citizenship. CSR reveals a new role for business in society, demonstrating and developing the contribution that business makes to the creation of comprehensive social well-being.

Wilson’s [36] analysis of many research papers on organizational sustainability presents a conceptual evolution model of organizational sustainability, presented in Figure 3, which includes four concepts: sustainable development, organizational social responsibility, stakeholder theory, organizational accountability theory, which he claims form the basis of organizational sustainability.

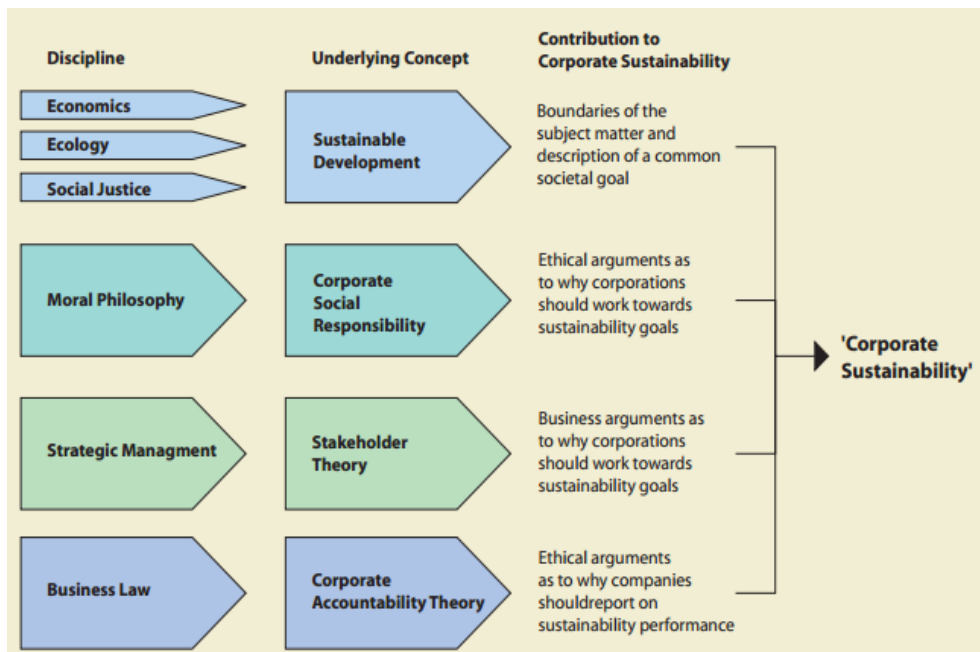


Fig. 3. The Evolution of Corporate Sustainability [36]

Summarizing the two concepts under this research we can state that. The language and tools of CSR, at least in its early forms, tended to focus on meeting – or balancing – the needs of stakeholders today. Additionally, the term is often confused with philanthropy. As CSR and the broader field have come to focus more on long-term systemic issues, such as climate change and the inclusive economy, we felt that the ambition conveyed by sustainability better captures the objectives of our work.

Sustainability emphasizes more a common agenda for all sectors of society, while the “C” in CSR calls out corporate practices more exclusively. CSR’s focus on critical systemic issues has come with a greater commitment to multistakeholder collaborative initiatives, in which business, government, and civil society all have critical roles to play.

Conclusions

The concepts of sustainable development are based on three dimensions: environmental protection, economic and social development. The focus is on the environment, as it forms the basis of the social environment and economic existence. The term organizational sustainability is used as a synonym for sustainable development or organizational social responsibility.

Corporate social responsibility is a corporate ideology, policy and practice that reflects the behaviour of companies when they voluntarily incorporate social and environmental issues into their activities and is guided by the values of respect for man, society and nature in relations with all interested public, business and government representatives. The process of corporate social responsibility covers the entire production and development cycle of a product or service and the related social, environmental, financial and ethical aspects. Involving employees in social responsibility practices is a necessary factor if effective results are to be achieved. Training and competence are a prerequisite for the successful implementation socially responsible activities.

Sustainability is responsibility for the impact that the organization exerts on its surroundings, in business, environmental and social terms. Conscious management of the impact translates into lower costs, improved external relations and better managed risks. Sustainability is a holistic concept that encompasses the full range of environmental, social, and economic issues addressed by our work. While the same is true of a good CSR strategy or program, the “S” in CSR is too – often construed to mean a narrower focus on social issues.

Sustainability conveys greater ambition because it focuses on what we need to achieve, rather than where we are today. Therefore, sustainable development can be seen as a way of expressing the broader expectations of society that need to be taken into account by organizations, groups and individuals, each seeking to act responsibly. Whereas social responsibility encompasses the responsibility of an organization for the impacts of its decisions and activities on society and the environment and thus contributes to Sustainable Development.

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