

# Development of Corporate Sustainability in Enterprises through the Application of Selected Practices and Tools

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**Background and Purpose:** The research paper identifies practices and tools to support corporate sustainability concept that can lead to increased business competitiveness in a dynamically developing business world. The purpose of the paper is to provide insight into the practices and tools of corporate sustainability applied by the Slovak industrial enterprises and which barriers do exist. Moreover, the aim is also to identify factors influencing the application of tools such as company ownership, importance of sustainability concept, and company vision.

**Design/Methodology/ Approach:** In order to obtain the necessary data an online questionnaire was used. The sample of enterprises was selected on the basis of the enterprise size and the industry focus (n = 336). The following statistical methods were used 1) one-way ANOVA, 2) the Kruskal-Wallis test, and 3) the Wilcoxon rank-sum test.

**Results:** This paper revealed some key insights: 1) foreign-owned enterprises are better at application of sustainability practices and tools, 2) still quite a few enterprises attribute the importance to the concept, 3) the existence of barriers, particularly in the form of a lack of financial resources, 4) one of the key drivers of sustainability is enterprise vision.

**Conclusion:** The paper created and analyzed quite a comprehensive list of practices and tools suitable for enterprises in Slovakia. There was an effort to find out point at the ways how enterprises contribute to sustainable development. It was also found out that they attach importance to vision as a major trigger for the application of the tools.

**Keywords:** *Corporate sustainability, Practices, Tools, Barriers, Company vision*

## 1 Introduction

For any enterprise which tries to be sustainable in every way of its activity, everything begins with operating with integrity. This means that business entity will behave in the sense of respecting fundamental responsibilities in the areas of human rights, labor, environment and anticorruption. The well-being of workers, communities and the whole planet is linked to the health of the business world. For this reason it is necessary for the enterprise to manage proactively own operations and also value chain (United

Nations Global Compact, 2014). The number of factors, e.g. excessive environmental pollution, climate change, corporate behavior towards local communities have led the enterprise to focus on the environmental and social consequences of its activities. This was mainly due to the current situation, marked by environmental burden, high social tension and human behavior. Current models of production and consumption are not sustainable, which is already a well-known fact. Organizations such as the UN, OECD, World Bank, or European Union have paid more attention to this issue. In this regard, enterprises play a significant role. Enterprises can “green” their own products

and also their production. Thereby they can support environmental and social standards in their business chains or implementation of sustainable innovations and solution in the context of sustainable development (Tukker et al., 2008, p.410). The example of sustainable innovation can be the application of the life cycle assessment (Potkány, Gejdoš & Debnár, 2018).

Relatively new and innovative approaches to business have been still a challenge, e.g. corporate sustainability, Industry 4.0 and many others. Sustainability is gaining quite a strong response in the business sphere, as evidenced by several recent surveys (Bonini & Bové, 2014; GlobeScan & BSR, 2019; The Bureau of National Affairs, 2018). This is in conditions of Slovakia not a thoroughly explored area of corporate management. Corporate sustainability can be perceived as an enterprise strategy that monitors long-term business growth, efficiency, performance and competitiveness by integrating economic, environmental and social aspects into corporate management (Kocmanová, Hřebíček & Dočekalová, 2011). Enterprises can use some tools, initiatives or approaches to become a better producer of products with respect to the future generations. Eco-efficiency, life cycle assessment, and sustainability reporting are examples of promoting sustainability which have been developed mainly by and for corporations (Lozano, 2019). Another examples are tools which are described in the study of Hlushko (2018), who divided the tools into qualitative and quantitative ones. He included tools as stakeholder analysis, training handouts, environmental monitoring, social audits, etc. There are many initiatives or tools to support corporate sustainability and they will be discussed in more detail in the next chapter.

The purpose of the paper is to identify initiatives and tools used by Slovak industrial enterprises to support sustainability and evaluate which are the most commonly used. Within the analysis we focused on the existence of potential barriers in their application. Consequently, the aim is also to identify the factors on affecting the use of the tools, e.g. company ownership, importance of sustainability concept, and company vision.

## 2 Corporate sustainability in business practices

In business practices it is necessary to distinguish, as claimed by Hyršlová (2009), between the “sustainable” enterprise and the enterprise that adopts the concept of sustainable development and seeks to ensure that business activities are in line with the concept. In a business that adopts the concept, changes are required in all business processes, goals, and target values. It means that it is necessary to implement a range of actions and practices within enterprise that can reduce negative impacts and enhance positive effects. In this way the enterprise is on the road

towards sustainability, while sustainability is the ultimate goal that the enterprise seeks. Sustainability is a business strategy that focuses on profitability over a long-term horizon, also requiring environmental and social issues to be incorporated into the business model. Moreover, sustainability practices can bring an improving competition advantage (Clark, Feiner & Viehs, 2015), improving the business performance (Adams, Thornton & Sepehri, 2012), and a long-term success in the long-term perspective (Eccles, Ioannou & Serafeim, 2012). There are other important benefits from acting on sustainability in a proactive way in the meaning of strong correlation with higher equity returns (Khan, Serafeim & Yoon, 2016).

Sustainability at the enterprise level can be considered a way to take measures such as recycling, conservation of non-renewable materials and energy consumption to reduce the negative impacts of business activities on the environment. These types of activities are increasingly becoming part of a deeper strategic perspective in the context of sustainability (Gittel, Magnusson & Merenda, 2012). According to survey of companies from Europe and the United States conducted by The Bureau of National Affairs (2018), these companies see sustainability mainly as reducing company’s environmental impact, investing in long-term growth strategies, and developing more sustainable products and services. These statements reflect the need and involvement in the implementation of sustainability initiatives and practices.

### 2.1 Practices and tools supporting sustainability

There are many terms which are used in the terminology of this issue, e.g. tools, standards, initiative, activities, methods, practices, principles. The reason is that this issue is quite wide and plenty of supported attributes can be included here. For promoting the corporate sustainability concept an enterprise can use many initiatives and tools which turn the principles of sustainable development into a competitive advantage (Bocken, Short, Rana, Evans & 2014). These business tools present measures for making products and services, and the processes that delivers them, more sustainable. Another type of tools is the management systems and standards designed to promote sustainable business and certification schemes against which they can be benchmarked (International Institute for Sustainable Development, 2013). Global Reporting Initiative (GRI) has a great importance in individual sustainability initiatives and activities. This framework presents a global best practice for reporting publicly on a range of economic, environmental and social impacts and particular activities (GRI, 2015). Some authors divided these practices into environmental area, e.g. reduction of carbon footprint, energy and water conservation, etc. and social area, such

as increasing workforce diversity or improving labor conditions, etc. (Taylor, Ylm & Vithayathil, 2018). For the purpose of this paper we primary divided the sustainability practices and tools in the sense of Triple bottom line principle (framework with three parts: economic, environmental, and social).

According to Global Reporting Initiative (2015, p. 48) the economic dimension of sustainability concerns the company's impacts on the economic conditions of its stakeholders and on economic systems at local, national, and global levels. It does not focus on the financial condition of the company. ISO management standards are one of the used sustainable practices from the economic perspective. The ISO 9000 family of standards provides guidance and tools for enterprises, which want to ensure that their products and services consistently meet requirements of their customer and that quality is consistently improved (iso.org). Also the EFQM Excellence Model is committed to helping companies drive improvement and comprehensive management framework used by over 50,000 companies around the world (efqm.org). Customers, as well as the enterprise itself, can gain tangible and also intangible benefits from the corporate sustainable management activities, which can cause the company-customer relationships to grow stronger (Shin, Thai, Grewal & Kim, 2017). Management control systems have also been linked with regard to environmental and sustainability issues leaving the question open as to how sustainability management control is embedded in the context of the range of management methods applied in an enterprise (Maas, Schaltegger & Crutzen, 2016). Audit is an important practice to support sustainability activities; however, companies still have reserves in using this tool. Furthermore, auditing and reporting of sustainability information are increasingly structured and standardized (Boiral & Gedron, 2011).

The enterprises within the social area of corporate sustainability primarily invest socially responsible actions, which improve their position and motivate their members of staff (Miragaia, Ferreira & Pombo, 2017). These practices and tools concern particular areas such as human capital development, labor management, supply chain labor standards and so on (Lyon et al., 2018). A comprehensive example of tool is the ISO 26000 standard, whose aim is to provide guidance on social responsibility and help all types of organizations contribute to sustainable development (Hahn, 2012). Social area of practices and tools include in particular: training and education, motivation programs, diversity and equal opportunity, human rights which include issues as non-discrimination, gender equality, etc. (GRI, 2015). In the context of motivation, the authors (Lorincová et al., 2016, p.360) pay particular attention to the three most satisfying motivation factors which are significant especially for Slovak companies, and those are physical work demands, "interestingness" of work and usefulness of one's qualification. A possible tool is a social audit representing an independent evaluation of the per-

formance of an enterprise. It relates to the attainment of enterprise social goals and therefore, it is a tool of social accountability of an enterprise (Hlushko, 2018). Another form of social area is characterized by promotion to local community with implemented local community engagement, impact assessments, and development programs (GRI, 2015).

The environmental area of corporate sustainability concept represents mainly the ISO 14000 family of standards, which provide practical tools for enterprises and organizations of all types looking for managing their environmental responsibilities. These standards can help their users in achieving the strategic corporate objective by incorporating environmental issues into business management, providing a competitive and financial advantage through improved efficiencies and reduced costs or encouraging better environmental performance of suppliers by integrating them into the organization's business systems (iso.org). Another important tool is the cleaner production which means "...the continuous application of an integrated preventive environmental strategy applied to processes, products, and services to increase overall efficiency and reduce risks to humans and the environment" (UNEP, 2002). Cleaner production principles are also practiced as waste minimization, pollution prevention, and eco-efficiency (founded as a 4 R): Reduce, Recycle, Reuse, and Reformulate (UNEP, 2002). An example of research in this field is study by authors Vicianová-Hroncová and Hronec (2017) who dealt with the regression analysis between the numbers of environmentally oriented companies and the production of green-house gases, producing sulphur oxide, nitrogen oxide, etc. Further important practices cover also procurement. Green public procurement (GPP; or green purchasing) is a voluntary tool; it has a key role to play in the EU's efforts to become a more resource-efficient economy. It can help stimulate a critical mass of demand for more sustainable goods and services which otherwise would be difficult to get into the market. GPP is therefore a strong stimulus for eco-innovation (ec.europa.eu). Another tool used in this area is eco-labeling. It is a sign of the company's commitment to environmental protection (Witek, 2017). Other examples are reducing environmental impact, raw material sourcing, packaging and waste, opportunities in clean tech, opportunities in renewable energy or green procurement, etc. (Lyon et al., 2018).

However, the view of practices and tools may be slightly different. Table 1 presents the tools recommended for the use created by authors Iatridis and Schroeder (2016) in classification by standards, global initiatives and principles. The last two categories include initiatives and guidelines for sustainability from different organizations, e.g. Global Reporting Initiative, OECD or Global Compact. Each of mentioned organizations has an aim to implement universal sustainability principles through particular tools into business practice.

Table 1: Recommended tools (Iatridis and Schroeder, 2016)

<b>Standards</b>	ISO 9001, ISO 14001, EMAS, ISO 50001, OHSAS 18001, SA 8000, ISO/IEC 27001, ISO 26000
<b>Global Initiatives</b>	GRI, Global Compact, The OECD Guidelines for MNE, UN Guiding Principles on Business and Human Rights, ILO MNE Declaration
<b>Principles</b>	Business Principles for Countering Bribery, Caux Round Table Principles, CERES Roadmap for Sustainability, ETI Base Code, Business Social Compliance Initiative

A representative list of tools used by the most sustainable organizations to manage sustainability in division to certified and assured tools, non-certified tools, international guidelines, disclosure, other management programs, and other tools and systems are presented in work of Nawaz and Koç (2019). In relation to environmental area, tools as environmental management systems and labeling systems, environmental product declaration and eco design are mentioned (Tobler-Rohr, 2011). From our point of view the classification by all authors except Tobler-Rohr provide a complex list of possible sustainability activities. Some are more suitable for large and multinational companies or specific industries.

Many of practices and tools are mentioned in research of Szanto (2018). These are oriented on availability of sustainability themes and practices on selected businesses websites as part of online communication. Reporting is an integral component of the sustainability practices and tools. On the other hand the sustainable reporting tools have some deficiencies: the lack of standardization which makes comparability difficult, corporations deliberately manipulating stakeholders' perception through 'green-washing', the lack of attention to uncertainty in the assessment of sustainability performance and etc. (Siew, 2015).

The use of practices and tools is not compulsory, but it is on a voluntary base. For this reason, enterprises are not forced to use them in a wide range. Many barriers that enterprises can perceive also contribute to this situation. Barriers of changing the corporate behavior to achieve sustainability through applying of some practices and tools are presented by Burnes (2017): the low level of change effectiveness in most organizations; the lack of clarity and consistency of change goals; and the need for appropriate and consistent leadership. Other barriers that can be seen are as follows: pressure on short-term economic performance rather than the long-term vision of the environmental and social sustainability, business's lack of proper competences and/or abilities, lack or improper use of key sustainability indicators, insufficient support by current organizational structure, sustainability as too low priority, insufficient involvement of stakeholders, lack of stimuli to implement sustainable development activities (Bonini, 2012; Hyršlová, 2009). The research question supports the purpose of the paper, as follows:

*RQ1: What practices and tools do selected enterprises use to support corporate sustainability and are there any barriers to their application?*

An important factor in the implementation of all the concepts based on the Triple bottom line is the factor of ownership of the company capital. In the Slovak conditions, large foreign owned businesses are mostly those which have better opportunities to implement sustainable and responsible entrepreneurship principles (Markuš, 2005). The results of the survey also showed that in terms of ownership, the concept of sustainability is more applied in foreign-owned enterprises (Vicianová, 2011). Integration of corporate sustainability into business activities is still problematic (Witjes, Vermeulen & Cramer, 2016) not only in Slovakia. On the other hand it is evident, that interest of companies in this issue is increasing. The research carried out in 125 companies which are the members of the sustainable business community shows that with more than half of the companies, the sustainability is among the top five priorities for their CEO. Moreover, quarter of companies reported that it is among the top three priorities. This trend points to how sustainability is being prioritized within companies (GlobeScan & BSR, 2019). In regard to the above mentioned facts, we have defined the following hypotheses:

*H1: Enterprises with foreign capital use more practices/tools in their practice than is in the case of enterprises with domestic capital.*

*H2: Enterprises with higher importance dedicated to the corporate sustainability concept use wider range of practices and tools.*

## 2.2 Strategic background of corporate sustainability and its practices

In relation to strategic level of enterprise we encounter the term of sustainable strategic management. It enables the businesses to develop and to apply strategic methods and tools to ensure environmental and social well-being. Sustainable strategic management creates a link between the social, environmental and corporate aspects of the enterprise (Stead & Stead, 2009). The following can help enterprise to be successful in terms of sustainability: reflection of the social and environmental area in corporate mission,



vision and values, application of international social and environmental standards in company management system, defining not only objectives but also measurement of economic, social and environmental areas (Fülöp & Hernádi, 2014). Transformation of sustainable development into enterprise includes changing corporate culture, employee attitudes, defining commitments and responsibilities, creating an appropriate organizational structure, information system, and operational activities (Epstein & Buhovac, 2014).

Enterprises are integrating sustainability across many processes. With regard to results of McKinsey's survey, most respondents claim that their enterprises have integrated sustainability into mission, vision and values (Bonini, 2012) which is considered crucial in this issue. According to Baumgartner and Rauter (2017) there is the need for more concrete guidance that will allow businesses to act strategically and successfully in a sustainable way. It seems that a clear definition of sustainability and a vision is required to support the integration of sustainability into the business (Engert & Baumgartner, 2016). According to a survey conducted among Swedish companies, the company vision must be formulated and promoted among all members of company and that guides the daily work of employees (Chhotray, Sivertsson & Tell, 2018). In practical application of these tools is an important role of institutional pressure for the implementation of these tools (Windolph, Schaltegger, & Herzig, 2014). Based on this, we have defined another research question as well as the last hypothesis:

*RQ2: What starting point/driver should be done to implement these practices and tools by enterprises?*

*H3: Enterprises that attribute a higher importance to a vision and consequently transform it into the business strategy use more practices and tools.*

It can be concluded as claimed by the authors Eccles, Ioannou, & Serafeim (2014) that the High Sustainability companies are characterized by several features: a greater attention to nonfinancial measures regarding employees; a greater emphasis on external environmental and social standards for selecting, monitoring, and measuring the performance of their suppliers; and a higher level of transparency in their disclosure of nonfinancial information, etc.

### 3 Research methodology

#### 3.1 Data collection and sample

To answer the research questions and hypotheses the primary data were obtained through a questionnaire survey using the sample of Slovak industrial enterprises. We have decided to focus on enterprises of all sizes, except

micro-enterprises. In our case the business sized categorization was based on European Commission Directive no. 2003/361/EC (European Commission, 2003) according to employee number. Micro-enterprises were excluded because many of them struggle with survival, often lacking a strategic approach. The object of the investigation was industrial enterprises. The research was based on the division of enterprises according to SK NACE (Statistical Office of Slovak Republic) and industrial enterprises from below mentioned fields having a significant impact on the environment, from our point of view, were taken into consideration. Following industries were selected: leather, wood-processing (incl. manufacturing of furniture), pulp and paper (incl. printing), chemicals, manufacturing of rubber and plastic products, coke and refined petroleum products, pharmaceuticals, metallurgy, engineering (incl. automotive), electrical, and other non-metallic mineral products. The impact of industry on the environment is perceived from two sides: based on the impact of industrial production on the environment as well as the impact of consumption, i.e. the use of industrial products.

We obtained the database of enterprises from the Statistical Office of the Slovak Republic in the number of 2,793. We addressed enterprises (whose e-mail contact was available) with the request to fill out the questionnaire. From the total number of enterprises, 2,125 enterprises were contacted. A total of 501 questionnaires was returned. In order to statistically process individual hypotheses without missing data, 135 questionnaires were excluded. 336 correctly filled out questionnaires were analyzed.

The online questionnaire was focused on application of practices and tools of corporate sustainability (CS) which are shown in Table 2. The list was based on GRI methodology<sup>1</sup>. Unlike other authors mentioned in subchapter 2.1, we divided the practices and tools into TBL areas, not according to their forms. We focused on commonly used tools in business practice. Respondents had the opportunity to indicate which tools they use in their practice.

Other questions in the questionnaire concerned the existing barriers (whereas we rely on the authors' knowledge from subchapter 2.1) and also the importance that the companies surveyed assign to the concept of sustainability itself. Respondents' attitudes could be expressed on a scale of 1 to 4, with 1 meaning high importance and 4 meaning low importance. Based on the literature background, our interest was to explore the vision of enterprises. We wondered whether enterprises have sustainability elements in their vision. The respondents had the opportunity to respond as follows: yes, partially yes, no, I do not know.

The collected data were processed by MS Excel. Within the descriptive statistics, we used absolute and relative frequencies and averages. The following Figure 1 summarizes the methodology highlighting research questions and hypotheses.

<sup>3</sup> <https://www2.globalreporting.org/resource/library/GRIG4-Part1-Reporting-Principles-and-Standard-Disclosures.pdf>

Table 2: Unit Root Test for Panel Data

Selected practices / tools to support CS		
Economic area	Social area	Environmental area
<ul style="list-style-type: none"> <li>• ISO 9001</li> <li>• Customer satisfaction survey</li> <li>• Audit</li> <li>• Cost reduction programs</li> <li>• Research and development (R&amp;D)</li> <li>• EFQM model</li> <li>• Management of crises</li> <li>• Benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>• Motivation programs for employees*</li> <li>• Additional social programs for employees*</li> <li>• Employees satisfaction survey</li> <li>• Gender equity</li> <li>• Ethic code</li> <li>• System of safe and protection health</li> <li>• Philanthropy</li> <li>• ISO 26000</li> <li>• SA 8000</li> <li>• Social audit</li> </ul>	<ul style="list-style-type: none"> <li>• Clean production</li> <li>• ISO 14001</li> <li>• Renewable resources</li> <li>• Green public procurement</li> <li>• Eco-labeling</li> <li>• EMAS</li> <li>• Carbon footprint</li> <li>• Life-cycle assessment</li> <li>• Environmental reporting</li> <li>• Environmental benchmarking</li> <li>• Ecological footprint</li> </ul>

\*The difference between motivation program for employees (courses, training, health care) and additional social programs for employees (supplementary pension insurance or life insurance, corporate loans, financial assistance, childcare programs and so on) is that programs offer something extra that is not so common in business practice.

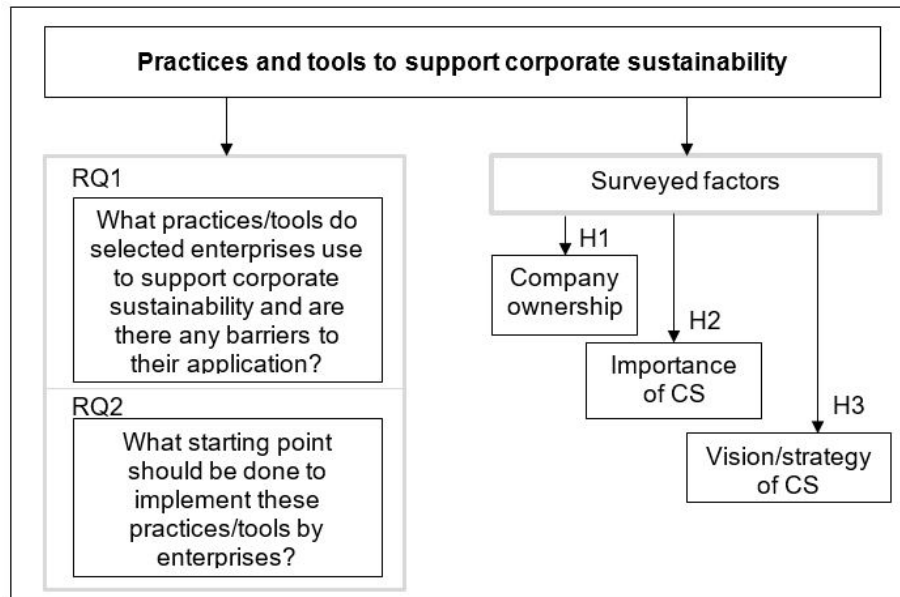


Figure 1: Methodology of research

### 3.2 Statistics methods

In our study all investigated variables except one are at ordinal level of measurement. These variables play a role in grouping the values in our analyses. The dependent variable of our interest – range of tools - is at the interval level of measurement. When the assumptions of one-way ANOVA – normal distribution of dependent variable and approximately equal variance on the scores across groups are not met we use nonparametric rank-sum tests – the Kruskal-Wallis test and the Wilcoxon rank-sum test for two independent samples.

The Wilcoxon rank-sum test seeks to determine whether two populations are identical in measure of central tendency or different from one another. The test uses a test statistic, symbolized by  $W$  that is derived by pooling the data contained in two independent samples, ranking the data from the smallest value to the largest value, and summing the ranks in each sample.

The Kruskal-Wallis test is an extension of the Wilcoxon rank-sum test from two to more than two populations. The purpose of the test remains the same: to determine whether the populations of interest are identical in measure of central tendency or different from one another. A final test statistic  $H$  is computed after pooling and ranking the

observations contained in the various samples. A rank sum is computed for each original sample.

All our analyses were carried out using the statistical software STATISTICA 12. We used .05 level of significance.

## 4 Current state of practices and tool application in Slovak enterprises

The object of our interest was pointing out at the most commonly used practices and tools of sustainability. The research was not focused only on tools in individual areas separately, but also on the joint application. Moreover, we identified the average of practices and tools by particular areas and by industry. The center of attention was to identify the existing barriers and the influence of factors on application of practices and tools such as company ownership, importance of sustainability concept that is linked with company strategy, and company vision.

### 4.1 Descriptive statistics

Enterprises can use a plenty of tools to promote their attitude to sustainable development. Many of them understand the meaning of responsible behavior towards themselves but also towards the local community, and environment. This behavior could bring many benefits for not only environment but also for enterprises (see Chapter 2). This section provides a brief overview of using corporate sustainability practices and tools in terms of range and average of them in economic, environmental and social area.

Figure 2 presents the most often used practices and tools promoting corporate sustainability. The highest number of enterprises uses management system STN ISO 9001 (nearly 70.00%). It may be caused by a relatively strong pressure to implement these standards in the supply chain. Enterprises which try to differentiate themselves from the competition are aware of the fact that the ability to satisfy customer needs is crucial. The effective and well-implemented quality management system can bring an increasing customer satisfaction, increasing product quality, strengthened trust and relationships between the enterprise and customers, etc. to the company. It can be concluded that enterprises are mainly focused on practices and tools related to customer satisfaction. From our point of view, relatively fewer enterprises in the sample are engaged in research and development (30%), which is considered to be a serious deficiency in Slovak conditions. This may have an impact not only on the creation of enterprise's added value, but also on the environment. The least used practices and tools in the economic area (not shown in Figure 2) are benchmarking (22.62%), management of crises (15.48%) and EFQM excellence model (2.08%).

The application of social practices and tools is relatively balanced. Enterprises focus mainly on employees in the

form of motivational programs (almost 60% of enterprises). On the other hand, the surveyed enterprises apply less following practices/tools: philanthropy (20%) and work-life balance (13.69%). The least represented practices/tools are: STN ISO 26000 Guideline for Corporate Social Responsibility (3.27%), social audit carried out by only 10 respondents (2.98%) and the use of the social responsibility standard and the improvement of working conditions SA 8000 (5 respondents; 1.49%). Enterprises are therefore more focused on the internal community - employees than on supporting the external community. Therefore, we can say that enterprises are not comprehensively focused on this area.

Practices and tools from environmental area represent the clean production (45.24%). Almost 35% of enterprises have an implemented ISO 14001 standard. Slovak enterprises have some limits in application of renewable resources, as well as in green public procurement. The following tools are used less frequently (less than 10%): eco-labelling (5.95%), measurement of carbon footprint (4.76%), environmental accounting (3.87%), life cycle assessment – LCA and environmental benchmarking (3.52%). Ecological footprint is not represented at all.

Figure 3 shows the range of practices and tools used. This range is in the form of averages for each area as well as for all areas together. It can be concluded that the surveyed enterprises use 3 tools on average from the economic area, as well as 3 tools from the social area. Almost 2 tools on average are used in the environmental one. The average of tools from each area together is nearly 9 practices/tools. The highest average of their application is in the social area.

From the perspective of barriers, the enterprises surveyed notice a lack of financial resources for sustainability initiatives (Figure 4). In Slovakia, many enterprises are still struggling with survival, which is reflected in a lack of financial resources, not just for sustainability activities. Making a profit or optimum level of return on capital is a prerequisite for an enterprise to invest in its development or in the development of surrounding communities. Furthermore, enterprises register few stimuli to these initiatives. The stimuli could come from government, customers, etc. We can see that shortsightedness still prevails in the form of short-term profits before long-term development.

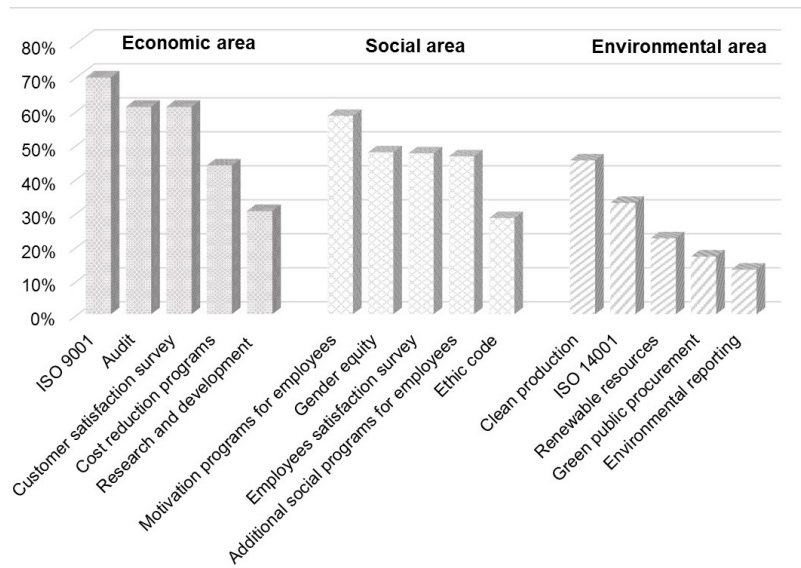


Figure 2: The five most used practices/tools in individual areas

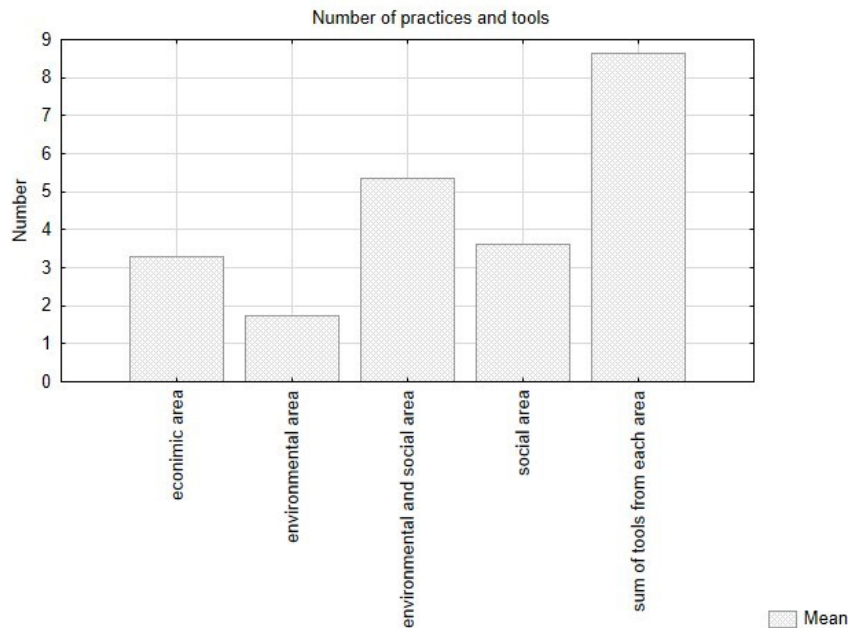


Figure 3: Mean of practices/tools used by areas

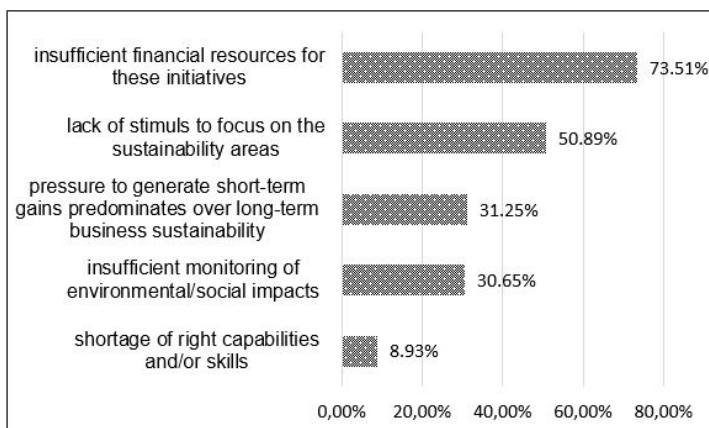


Figure 4: Main barriers of sustainability initiatives



## 4.2 Results of research hypotheses

Except of evaluation of descriptive statistics we tested hypotheses through selected statistical methods (see Chapter 3.2). We analyzed all surveyed practice and tools mentioned in Table 2. In the first hypothesis, we supposed that enterprises with foreign capital use more practices and tools in their practice than enterprises with domestic capital. The results are presented in the Table 3.

We reject ( $p=.000$ ) the null hypothesis that the average number of used tools is identical among the enterprises with the different capital structure. The enterprises significantly differ in the scope of used tools. The related statistical characteristics are shown in Figure 5.

At the .05 level of significance we reject the null hypothesis ( $p=.000$ ). The capital of enterprise appears to be significantly different in the scope of applied practices and tools. From the results it is evident that enterprises with domestic capital structure are different in application of scope of tools from enterprises with foreign or mixed capital structure. Moreover, enterprises with mixed capital structure are different from enterprises with domestic capital structure. Looking at the tools only from the viewpoint of environmental and social area, we can see the same situation. In the case of mixed-capital enterprises ( $n= 27$ ) the situation is closer to enterprise with foreign capital. Thus,

we can see the impact of foreign investments in the enterprises and consequently these enterprises are more focused on sustainability issues.

The average number of practices and tools in differentiation of enterprises with different capital structure is shown in the next table and figure. The smallest difference in application is in the case of environmental instruments that make up the smallest part.

In the second hypothesis, we supposed that enterprises with higher importance dedicated to the corporate sustainability concept use wider range of practices and tools. Importance given to the concept is measured on the scale (1-high importance, 4-low importance). Again, we have applied Kruskal-Wallis Anova.

At the .05 level of significance ( $p=.000$ ) we reject the null hypothesis about equality of average number of practices and tools. The enterprises with different sustainability concept priority differ significantly in the extent of used tools. The conclusion is in accordance with our hypothesis H2. The basic statistical characteristics are illustrated by using of quartile box plot in Figure 7. The results of multiple comparison are presented in Table 7.

At the .05 level of significance we reject the null hypothesis ( $p=.000$ ). The priority given to the concept appears to be significantly different from the range of used practices and tools, as we expected.

Table 3: Statistics: number of used practices/tools and enterprise ownership

Grouping Variable	Kruskal-Wallis test by Ranks:		
	H (2, N= 336) =45.49 p =.000		
	Valid N	Sum of Ranks	Mean Rank
Domestic capital structure	210	29622.00	141.06
Foreign capital structure	99	21526.50	217.44
Mixed capital structure	27	5467.50	202.50

Table 4: Multiple comparisons

Multiple Comparisons (medians and p-values)	Domestic capital structure	Foreign capital struc- ture	Mixed capital structure
Domestic capital structure ( $x = 7$ )		0.000	0.006
Foreign capital structure ( $x = 10$ )	0.000		1.000
Mixed capital structure ( $x = 11$ )	0.006	1.000	

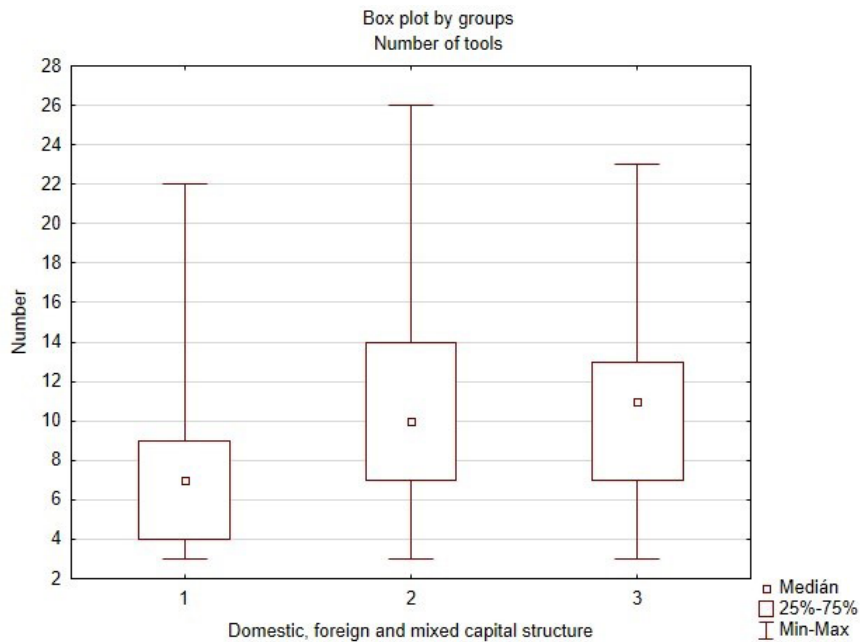


Figure 5: Number of practices/ tools by enterprise ownership

Table 5: Number of practices/ tools by enterprise ownership

Practices/tools	Foreign capital			Domestic capital		
	Sample size	Mean	Median	Sample size	Mean	Median
economic area	99	4.24	4	210	2.77	3
environmental area	99	2.20	2	210	1.48	1
social area	99	4.51	4	210	3.11	3

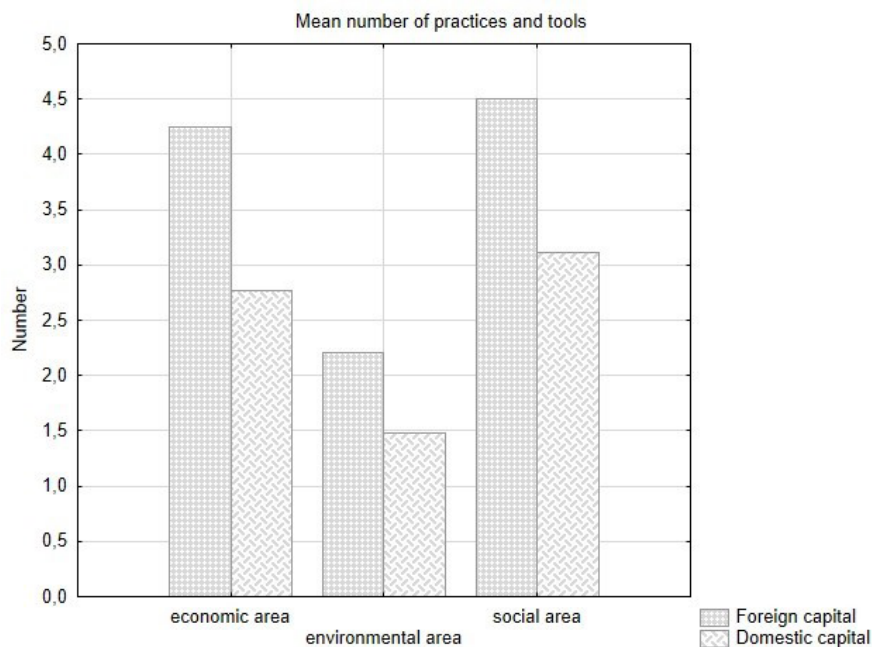


Figure 6: Mean number of practices/tools by different type of ownership

Table 6: Number of used practices/tools and priority to the concept

Grouping Variable	Kruskal-Wallis test by Ranks:		
	H (3, N= 336) =31.46 p =.000		
	Valid N	Sum of Ranks	Mean Rank
High priority	106	20836.00	196.57
Slightly high priority	151	26393.50	174.79
Rather low priority	66	8178.50	123.92
Low priority	13	1208.00	92.92

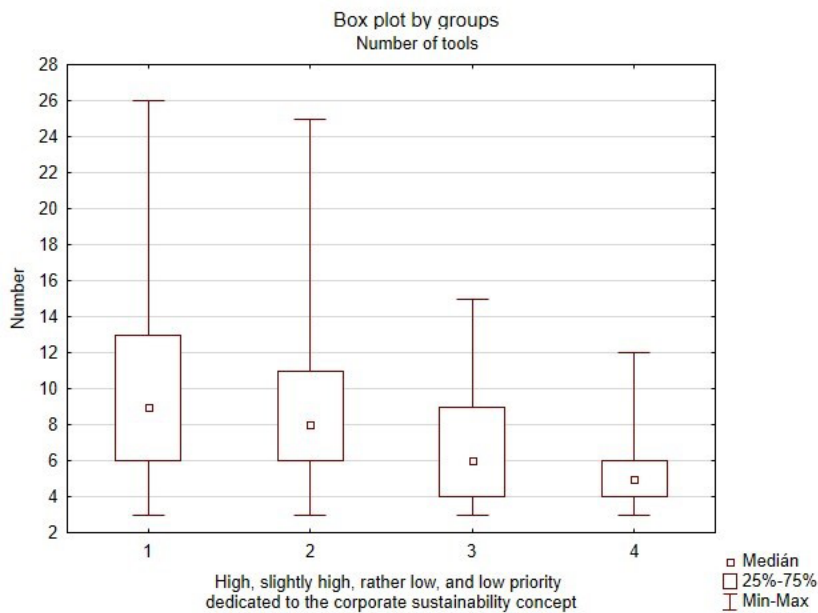


Figure 7: Number of practices/ tools and priority to the concept

Table 7: Multiple comparisons

Multiple Comparisons (medians and p-values)	High priority	Slightly high priority	Rather low priority	Low priority
High priority (9)		0.461	<b>0.000</b>	<b>0.002</b>
Slightly high priority (8)	0.461		<b>0.002</b>	<b>0.021</b>
Rather low priority (6)	<b>0.000</b>	<b>0.002</b>		1.000
Low priority (5)	<b>0.002</b>	<b>0.021</b>	1.000	

From the results in Table 7, it is evident that enterprises with attitude of high (slightly high) priority are different in applying range of tools from enterprises with attitude of low (rather low) priority.

The last hypothesis is linked to the vision of enterprise. The vision is a prerequisite for further development of the enterprise in any direction the enterprise wants. The reason comes from the future oriented feature of vision, whereas

the vision demonstrates the status of enterprise for the next 5-10 years. We assumed that enterprises which have linked corporate sustainability concept to the vision, apply more practices and tools.

From the results (Table 8 and 9) it is evident that there is statistical significant dependence between the range of initiatives and tools and linkage of concept with the vision of an enterprise. The enterprises with no linkage of con-

cept to the vision are different in application. Based on the results we can confirm the hypothesis H3. Enterprises that have set a sustainability aspect in the vision use also more practices and tools.

Table 8: Used practice/tools and vision of enterprise

Grouping Variable	Kruskal-Wallis ANOVA by Ranks:		
	H (3, N= 336) =28.18 p =.000		
	Valid N	Sum of Ranks	Mean Rank
Concept is not linked to the vision	17	1637.00	96.29
Concept is partially linked to the vision	167	27073.50	162.12
Concept is linked to the vision	126	24832.50	197.08
Do not know	26	3073.00	118.19

Table 9: Multiple comparisons

Multiple Comparisons (medians and p-values)	CS is not linked	CS is partially linked	CS is linked	Do not know
Concept is not linked to the vision (x = 5)		<b>0.047</b>	<b>0.000</b>	1.000
Concept is partially linked to the vision (x = 8)	<b>0.047</b>		<b>0.014</b>	0.192
Concept is linked to the vision (x = 10)	<b>0.000</b>	<b>0.014</b>		<b>0.001</b>
Do not know (x = 5)	1.000	0.192	<b>0.001</b>	

## 5 Discussion

The research paper brings insight into the application of practices and tools to support corporate sustainability concept in the Slovak industrial enterprises. The research questions focused on the application of individual sustainability practices and tools, existing barriers and also what should the starting point of enterprises within these initiatives be. The most applied tool in the Slovak enterprises was management standard ISO 9000. We consider this tool quite common regarding its application in the Slovak conditions. If it is properly implemented, it ensures efficiency gains, increased customer satisfaction that is leading to business development and competitiveness growth. Enterprises applied also motivation programs for employees and clean production. In our opinion, the enterprises need to understand the need for applying these practices and also the importance of sustainability. Their application is beneficial for the enterprise as well as for the whole society. Overcoming existing barriers, in particular in the form of lack of financial resources or lack of stimuli for these activities, could improve the situation of applying practices and tools. The state could also promote the elimination

of deficiency, e.g. in the form of tax remission or subsidies for sustainable initiatives. Enterprises should emphasize more establishing a vision and its subsequent communication to all employees. The fact that every employee will be informed about where the enterprise is heading, is an essential prerequisite for the successful development of the enterprise. We consider the vision a starting point in this process.

Since there are no available statistics of the implementation of sustainability through adequate practices and tools, these research results can summarize reveal reserves related to this issue. From our point of view, we created and analyzed quite a comprehensive list of practices and tools suitable for Slovak enterprises. The benefits can be seen in helping understand how enterprises contribute to the achievement of sustainable development goals. Recognition of vision importance and subsequent strategy seems like a major trigger for the application of these practices.

The limitations of our research appear in the sense of exploring several factors that may affect the application of practices and tools. Many papers deal with the impact of sustainability on business performance, but few papers deal with the issue of specific tools to help behave in terms of sustainable development. A limiting factor is also the



focus of research on industrial enterprises. It is possible to extend the research to service enterprises. Although the focus of this paper may seem narrow, it provides basic overview of tools and barriers and also the opportunities to expand the analysis in further research. Future research will be focused on analyzing the benefits of all these practices and tools aimed at comprehensive fulfillment of sustainable development goals. Another interesting possible point covers the extension of research to the V4 countries.

## 6 Conclusion

The development of enterprise depends on the development of its employees. The source of employee performance may be sufficient motivation in the form of various benefits, detection and removal of deficiencies through the social audit etc. Environmental investments can also contribute to business development, which can ultimately reduce energy or material intensity, attract customers etc.

The purpose of the present research was to provide insight into the practices and tools of corporate sustainability used by the Slovak industrial enterprises and existing barriers. Moreover, the focus was also to identify the factors influencing the application of tools such as company ownership, importance of sustainability concept, and company vision. The paper relies on research questions in terms of application of particular practices and tools and the position of the vision in this process. We can conclude that enterprises use 8 tools on average, while the least used are in the environmental area. This is surprising, despite the fact that nowadays the pressure on environmental behavior is increasing. Recognizing that sustainability is a complex and comprehensive issue, we have focused only on a specific area of application of practices and tools, and we highlight the following key insights:

- Foreign-owned enterprises are better at using practices and tools than domestic-owned enterprises. This can be caused mainly by the impact of foreign investment, which is more focused on sustainability issues. Enterprises are gradually implementing these practices into our business conditions.
- 31% of enterprises assign a great importance to the sustainability concept. These enterprises apply more practices and tools, which is logical. In this case, it was crucial to find out the amount of such enterprises and whether the perception of the concept has a real impact on application the tools.
- In the case of existing barriers we can confirm as Bonini (2012) that they exist in a form of increased pressure of short-term earnings; performance is at odds with longer-term nature of sustainability, and there is also a lack of incentives tied to performance on sustainability initiatives. In the case of Slovak enterprises, there is also a problem with financial resources to support this kind of business behavior.
- One of the key drivers for sustainability is the vision. This is an important starting point for a business to “move” towards sustainability. In this respect, the strategic management of the enterprise determining the direction of the company, is very useful. It also monitors the external environment. We can state that sustainability in all its aspects is a current trend. More and more attention is being paid to directing activities towards sustainable development goals. In this connection, the egoist principle is not adequate, but the principle of consideration of future generation’s needs is. The world is constantly changing. The future will show whether the sustainability and its activities are justified.

We share the opinion of the author Baumgartner (2014) that we are facing the urgent need to implement strategic measures to make enterprises behave in a more sustainable manner. Because of that it is necessary to implement and to apply more practices and tools in this area. Sustainability plays a key role in long-term period – and its initiatives needed to be incorporated into the strategic issue in a holistic way.

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## Razvoj korporativne trajnosti v podjetjih z uporabo izbranih praks in orodij

**Ozadje in namen:** V članku so opredeljene prakse in orodja za podporo konceptu trajnostnosti podjetij, ki lahko privedejo do večje konkurenčnosti poslovanja v dinamično razvijajočem se poslovnem svetu. Namen prispevka je zagotoviti vpogled v prakse in orodja korporativne trajnosti podjetij, kakršna uporabljajo slovaška industrijska podjetja, in identificirati ovire za njihovo uporabo. Cilj je tudi ugotoviti dejavnike, ki vplivajo na uporabo orodij, kot so lastništvo podjetja, percepcija pomena koncepta trajnosti in vizija podjetja.

**Zasnova / Metodologija / Pristop:** Za pridobitev potrebnih podatkov je bil uporabljen spletni vprašalnik. Vzorec podjetij je bil izbran na podlagi velikosti podjetja in panoge ( $n = 336$ ). Uporabljene so bile naslednje statistične metode: 1) enosmerna ANOVA, 2) Kruskal-Wallisov test in 3) Wilcoxonov testni seštevek.

**Rezultati:** Raziskava je razkrila nekaj ključnih spoznanj: 1) podjetja v tuji lasti več uporabljajo trajnostne prakse in orodja; 2) še vedno precej podjetij ne pripisuje pomena trajnosti; 3) ovire obstajajo zlasti v obliki pomanjkanja finančnih sredstev; 4) eden ključnih dejavnikov trajnosti je vizija podjetja.

**Zaključek:** V članku smo analizirali dokaj obsežen seznam praks in orodij, primernih za podjetja na Slovaškem. Prizadevali smo si, da bi ugotovili, kako podjetja prispevajo k trajnostnemu razvoju. Ugotovljeno je bilo tudi, da pripisujejo pomembnost viziji podjetja kot glavni pobudi uporabe orodij.

**Ključne besede:** korporativna trajnost, prakse, orodja, ovire, vizija podjetja