INVESTIGATION OF ENVIRONMENTAL SUSTAINABILITY DEVELOPMENT ISSUES FOR COMPANIES IN THE FREEPORT OF RIGA

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Abstract

Recently, the studies of the problems and opportunities of sustainable development have become increasingly important. In the face of increasing competition the ability to develop long-term strategic decisions gives companies the competitive edge. Sustainable development allows to "meet the needs of the present without compromising the ability of future generations to meet their needs" (Brundtland Commission, 1987).

This particular research is devoted to the study of the environmental issues of sustainable development focusing on the companies that operate in the Freeport of Riga. The paper is based on the results obtained during an applied research project conducted as part of Erasmus Intensive Programme " ECO-sup-Port: Sustainable Business for SME's in European Harbours". The study can be considered as an intermediate stage of ECO-sup-Port project and it offers the analysis of the sustainability problems faced by the companies in the port sector.

The **research problem** can be formulated as follows: port-related companies do not have or do not fully implement their sustainable development strategies. Therefore the **overall objective** has been set to investigate the problems of sustainability of the Latvian organisations, which activities are related to the Freeport of Riga. The paper identifies the following three **research questions**:

1.What is the level of knowledge about sustainability and ways of achieving it among port-related organisations?
2.Are the initiatives about air pollution, waste management, and energy efficiency viewed by the companies as drivers or barriers to business development?
3.What do organisations expect from Higher Education Institutions (HEIs) with regard to sustainable development?

The main **conclusions** of the study state that the companies have no clear understanding of the concept of sustainable development and ways of achieving it. The main objectives of the companies are focused on economic development and pursuit of short-term goals, while environmental problems are not considered as high-priorities. The companies have different perceptions of the importance of the European environmental initiatives. HEIs are expected to provide qualified experts capable of working in specific company-related fields as well as to supply information about doing business in the international environment.

Keywords: sustainable business, environmental sustainability, Latvia, port-related companies

1. INTRODUCTION

Until the mid-twentieth century the economic development could be characterised by rapid depletion of non-renewable natural resources and use of reproducible resources (soil, forests, etc.) at the rate that exceeds the possibility of recovery. Organisations were involved only in goods production and service provision, not taking into account the environmental and social aspects, which could negatively affect the interests of future generations. Today natural resources continue to deplete, but governments, organisations, and the society have been trying to minimise and avoid the negative effect through application of sustainable development practices.

Various international organisations and groups have been addressing the issue of sustainable development in certain regions or even worldwide. The legislation in many countries has been changed to promote sustainable development of companies. However, while governments and international organisations see the urge of switching from the traditional economic development toward sustainable, businesses (especially the local ones) often see no point in adopting these new

policies, as the latter incur high costs in the short-run. But, if the company is involved in sustainable development, it works towards long-term goals, which can comply with the company's core activities and strengths, motivate employees and bring benefits to other stakeholders.

According to Human Development Report Office (2013), Latvia ranks as having a very high human development index. However, in 2012 it was ranked 44th among all the countries. Most European countries had higher positions – Latvia was ranked 30th in Europe and 25th in the European Union. Latvia holds 74th position in the world with GDP per capita of 15,900 US$ in 2011 (Index Mundi, 2013), while the average in the European Union was 34,500US$ for the same year. These facts as well as various other indicators show a lag of Latvia's overall development compared to Europe. Due to the above stated facts it can be assumed that many companies in Latvia lack the knowledge about business sustainability or possibilities to achieve it (resources, legal allowances, etc.). As Latvia is perceived as a transit country, port-related businesses play an important role in the country's development and, therefore, the issues on sustainable development are extremely important for both the port sector and the whole economy of Latvia.

The Port of Riga plays and important part in the Pan European transport corridor and European-Asian transport corridor networks. The Port is continuously developing. In 2012 the cargo turnover at the port reached 36.05 million tons and it has been growing on average by 8 % per year since the middle of the 90-ies. The mission statement of the Freeport of Riga Authority states that it is essential to "develop a sustainability framework to ensure environmental and social issues are fully integrated in our business". In order to become one of the environmental friendliest (and thus sustainable) ports in the North-Eastern region of the Baltic Sea, Riga Seaport developed its environmental policy (ROP, 2009), which covers the following aspects:

- Improving service technologies and lowering the resource consumption;
- Ensuring compliance with environment protection regulations and requirements;
- Introducing environment friendly raw materials to the companies operating in the port;
- Reducing and preventing pollution;
- Increasing awareness of society and other stakeholders on environment policies, aims, tasks and achievements.

The Port of Riga had been developing and following the Port Development Programme in 1996-2010. Today the Freeport of Riga has prepared its new development programme for the period of 2009-2018. The programme includes strategic objectives in various areas, such as general management, tariff policy and financial management, development of the port's access infrastructure, development of the port terminals, navigation safety, security in the port, environmental protection, reputation as a socially responsible entity, and marketing strategy (Freeport of Riga Development Programme 2009 - 2018, 2009).

Assistance in environmental protection and sustainable development activities is provided not only by the Freeport of Riga or the Latvian government. As stated by the Baltic Course (2011), the Swiss government is providing financial support to Latvia in different environmental projects, including the liquidation of environmental pollution effects in Sarkandaugava. Until 2017 it is planned to detect oil residues' exact locations (as during the last decades it was absorbed by the soil), eliminate pollution, and provide sanitation works in port terminals and nearby routes. Thus, the Port of Riga is not the only party that contributes to the development of the port sector, environmental, social and economic development in the country. The companies operating in the port or having port-related business also affect the overall development of the port, as well as whole economic situation in Latvia.

2. LITERATURE REVIEW

In the 6th Environmental Action Programme (European Commission, 2002) four environmental areas that require immediate improvement were identified: climate change, environment and health and quality of life, natural resources and waste, as well as nature and biodiversity.

The action guidelines were also included in the 6th Programme, i.e.:

- Necessity to create a common legislative baseline for all EU Member States, ensuring effective implementation of environmental laws and actions;
- Decision to deal with environmental problems at their source;
- No specific instructions on the choice of instruments to deal with environmental problems: all types of instruments need to be considered and the most efficient and effective has to be used;
- All involved parties (businesses, NGOs, citizens, etc.) should be stimulated to participate in dealing with environmental problems through improvement of information flow and communication between parties (joint forces).

Harris (2003) states that "an environmentally sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems or environmental sink functions, and depleting non-renewable resources only to the extent that investment is made in adequate substitutes. This includes maintenance of biodiversity, atmospheric stability, and other ecosystem functions not ordinarily classed as economic resources." The European Parliament and Council adopted a directive (2004) that established a system of environmental responsibility to prevent and remove cross-border pollution. Following the principle "polluter pays", a company, whose activity has caused or may cause damage to the environment, is responsible for the fault-based damage to the environment, protected species or natural habitats and has to remedy the environmental damage. "Remediation has to consist in the remediation of the damaged natural resources (nature, water, soil) to or towards the "baseline condition" (restoration in kind or - if not or not completely possible - by recreation of similar resources)" (European Commission's Directive, 2004). Vanderbeeok (2006) in his study of Port of Long Beach states that port contribution to environmental sustainability is detrimental while it should be positive in the perfect way. Since 2006 it has been working with the Port of Los Angeles (the biggest port in USA) in order to reduce emissions and other environmental impacts through exchange of knowledge on environmental issues and adaptation of the latest „green technologies".

According to Sinitsyna (2012), the social aspect of sustainability is "aimed at maintaining the stability of the existing social and cultural systems and the reduction of destructive conflicts between people". An important part of social sustainability is the fair distribution of resources and opportunities among all members of the human society, the preservation of cultural capital and diversity. Hodgson (2008) asserts that "socially sustainable communities are equitable, diverse, connected and democratic, and provide good quality of life". The social sector is highly regulated in Europe. The first traces of regulations on the social aspect can be found in the Maastricht Treaty (1992) and the Treaty of Amsterdam (1999). The regulations (combined into a labour law) affected the health and safety of workers, communications, workers' rights and working conditions. "Today, labour law also has a key role in ensuring that a high level of employment and sustained economic growth is accompanied by continuous improvement of the living and working conditions throughout the European Union" (European Commission – Labour Law, 2013). Large organisations go beyond simply following the directives and engage themselves into societal development. For example, Bayer invests heavily in the areas of science and education, health, social needs and community projects. From 2012, the company concentrates its commitment on three fields of action: health and social needs, education and research, and sports and culture (Bayer, 2013).

Cleveland (2010) states that the goal of economic sustainability is "supporting ways for people to create wealth without harming natural systems or human beings". Economic development focuses on wealth generation, business attraction, development, and retention. Economic sustainability has strong connection with innovation processes. Tactical (short-term) and strategic (long-term) sustainability is dependent on the size of the innovation activity. Tuktarova (2008) thinks that tactical sustainability decreases with an increase in innovative activity, as the allocation of resources to innovative actions (i.e., actions with results available only in future) significantly reduces the level of economic development in the present. Strategic sustainability decreases when innovative activity is low, because reduction of the level of innovation from a certain average level

in the field of activity inevitably leads to lagging behind the competitors in one or more aspects of the business. In order to have sustainable economic development, the company's tasks and strategies must be "located in a zone of optimal sustainability", taking into consideration both tactical and strategic sustainability.

Darnton (2006) has identified 9 key barriers and 8 drivers of change that has to be considered during the development of an action plan for the sustainable development:

BARRIERS TO CHANGE	DRIVERS OF CHANGE
Willingness to act – companies might just refuse or not be willing to act sustainably; *Low-level behaviours* – companies might not be aware of the actions undertaken; *Norms and habits* – it is difficult to switch from usual practices towards others, more sustainable; *Convenience* –companies tend to reply that previous behaviour choice was more convenient; *Cost* – usual barrier for most of the sustainable options; *Psychological effects* – apathy, fear and other feelings that influence the decision; *Agency* – people/companies do not believe that their behaviour can make a difference and bring the change; *The terminology of 'sustainable development'* – majority of people lack clear understanding of "sustainable development" and sustainable initiatives; *Relative sustainability* – behaviours of the companies are not being single, they are grouped into the clusters, which hinder the innovation in sustainability.	*Norms and habits* – habits usually are depicted as barriers; however, norms are usually viewed as drivers; *Key influencers* – role models, benchmarks and key influencers motivate organisations to behave in a certain way (adopt sustainability practices) in the community; *Groups* – trusted groups, as voluntary organisations, play a key role in supporting the change of "business-behaviour" towards more sustainable. Additionally, different sectors/groups of society should be treated differently (targeted approach) to motivate them to change their behaviour; *Infrastructure* –physical provision should be developed accordingly ; *Saving money* – cost and quality are usually the main criteria for people in decision making; *Financial instruments* – tax reductions or other financial actions can motivate businesses/people to change their behaviour towards more sustainable; *Information* – information flow should be targeted, precise and combined with other measures in order to motivate companies change their behaviour; *The role of government* – despite people thoughts that governments pursue only economic interests, the government actions can influence businesses and society a lot.

Scott (2013) in his book „The sustainable business. A practitioner's guide to achieving long-term profitability and competitiveness" identifies ten trends that impact businesses and shift them towards more sustainable business development:

- **Volatile energy prices**: As stated in BP's Statistical Review of World Energy 2012, 87% of energy use comes from fossil fuels and oil prices are not stable and increasing due to the growing demand (40% increase in the price per barrel in 2011compared to 2010). Companies install more efficient equipment and machines to fight against higher fuel costs, invest in more sustainable energy sources (solar, wind, etc.), force employees to use energy more efficiently (such as policies on saving electricity).
- **Growth in raw material prices**: Due to the same reasons or oil prices, raw material prices are only growing. Scott (2013) offers a solution of „extended product life" in order to reduce costs on raw materials and reuse waste. Popular in Europe, the extended product life directs to recycle and reuse plastic bottles.
- **Increment in waste and disposal costs**. As mentioned in Scott's previous work (2009), on average a person generates 2 kilos of waste per day (and this number is growing). Waste that is not recycled is a loss to the business, furthermore, the company has to pay for disposing it. The bigger the business, the greater are the waste and disposal costs. Even insignificant reduction of the package size may save a large company millions in disposal costs.
- **Changes in waste legislation**: The European Energy Commissioner Oettinger (2012) explains that the EU's ban on old-style light bulbs of 100W or higher allows consumers and companies to save money (by switching to a better energy-saving type) and lower negative

environmental impacts. Through Directives 2002/96/EC and 2002/95/EC the European Union is taking measures against generation of waste and is promoting reuse, recycling and other types of recovery. The goal is to reduce the amount of waste, improve environmental performance of businesses and protect human health (by restricting the use of hazardous substances). There are many other acts and directives that mitigate waste issues.

- **Enforcement of environmental laws**: Scott (2009) mentions the US Securities and Exchange Commission (SEC) that „forces companies to reveal their actions they are taking to prepare for a climate change". According to SEC, investors should be able to avoid investing in companies that ignore rising costs of waste and changing environment. „Most environmental laws are made with the intention of strengthening in the future. Regulations are tightening to such a degree that crimes against the environment committed by negligent company directors can now result in heavier fines (of over $1million) and jail time up to 10 years" (Scott, 2009).
- **Changing consumer demands and expectations:** Kanal (2009) provides an example of customers' reaction to sustainability initiatives – in 2007 a major telecom manufacturer received 50 (out of 400) requests for proposals, asking for information about sustainability issues and developments in the company. In 2008 the number of similar requests for proposals reached 125, while in 2009 it exceeded 200. „Many customers care whom they buy from, whether they are consumers or multi-billion-dollar corporations" (Kanal, 2009).
- **Competitive advantage:** Many companies are now placing sustainable development high in their priorities as no commitment to low-cost sustainable operations might lead to being unable to compete with other „greener" businesses.
- **Transparency of business:** Winston (2009) says that transparency may come in two ways: voluntary (when information is provided by the company to the public), or involuntary (information is spread by dissatisfied customers or regulatory bodies). The company should just decide whether it wants to act proactively (not letting the problems/discontent appear) or reactively (addressing the issues after they happen).
- **Acquisition, motivation, and retention of keen employees:** „In the competition for the best business-school graduates and other high-flyers, especially once the economy starts to recover, companies that show that they were not mere fair-weather friends of sustainability will be at an advantage" (The Economist, 2008). Being sustainable motivates the employees and attracts new workforce.
- **Costs of procrastination:** The later company's management decides to deal with sustainability issues, the more damage is done to the business. According to United States Environmental Protection Agency (EPA), not only chemical contaminants from indoor/outdoor sources and biological contaminants, but even inadequate ventilation can cause „the sick building syndrome", when people in the building experience health and comfort problems due to the time spent in the building, while no specific illness/cause can be identified. This decreases productivity of employees and thus damages the company's productivity and profit. The more unsustainable business companies have, the more radical actions they will have to take in the future in order to cut costs and develop sustainably.

3. RESEARCH

According to Sekaran (2003), at least two types of variables have to be identified and discussed: the dependent independent variables. The aim of the research is to analyse how the dependent variable can be affected by independent variables. The dependent variable is formulated as the sustainability of a business. Independent variables are the factors that affect the value of the dependent variable. Independent variables (see Figure 1) for this research were identified from the preliminary literature survey. All independent variables are classified into three groups –economic, social, and environmental aspects of the sustainable development.

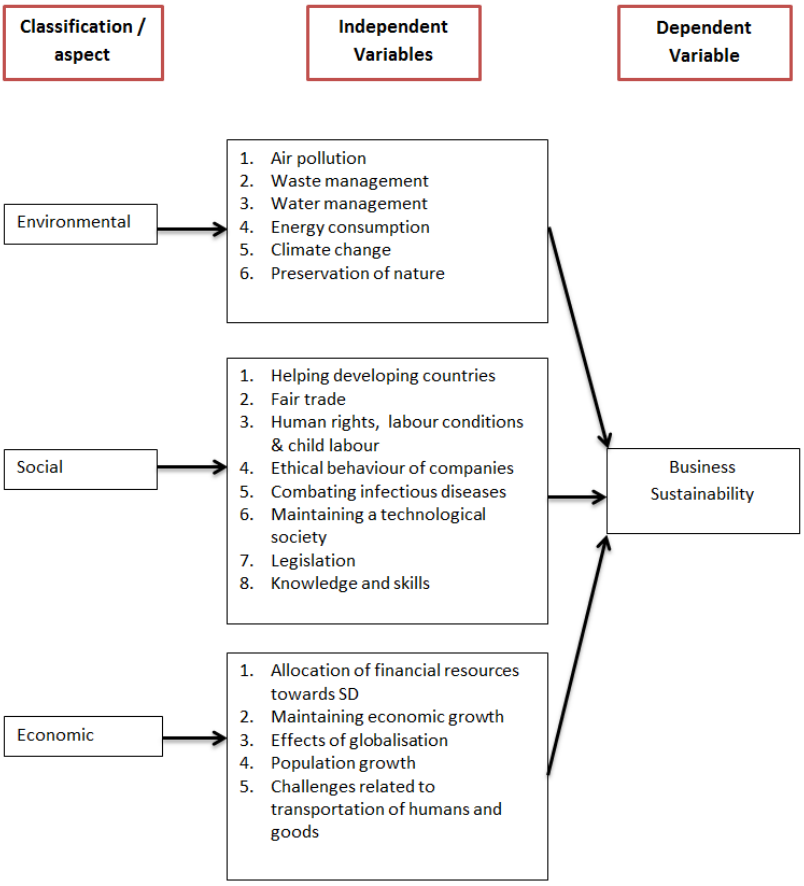

Figure 1. The link between dependent and independent variables

Due to the extent and limitations of the research, the number of independent variables analysed in this paper is reduced to three independent variables, classified as the environmental aspect of sustainable development: air pollution, waste management, and energy consumption (see Figure 2). The selected variables are considered as the most significant variables from the „environmental aspect" group. Knowledge/skills and legislation are classified as "social aspect" variables (see Figure 1); however, they are associated with all independent variables and affect sustainable development from different perspectives. The company needs to have the knowledge about all social, environmental and economic aspects in order to understand the problems and find solutions to remedy the issues. Legislation is also interrelated with all aspects of impact on the sustainable development of organisations – laws govern environmental and social issues, as well as control the economic situation and development.

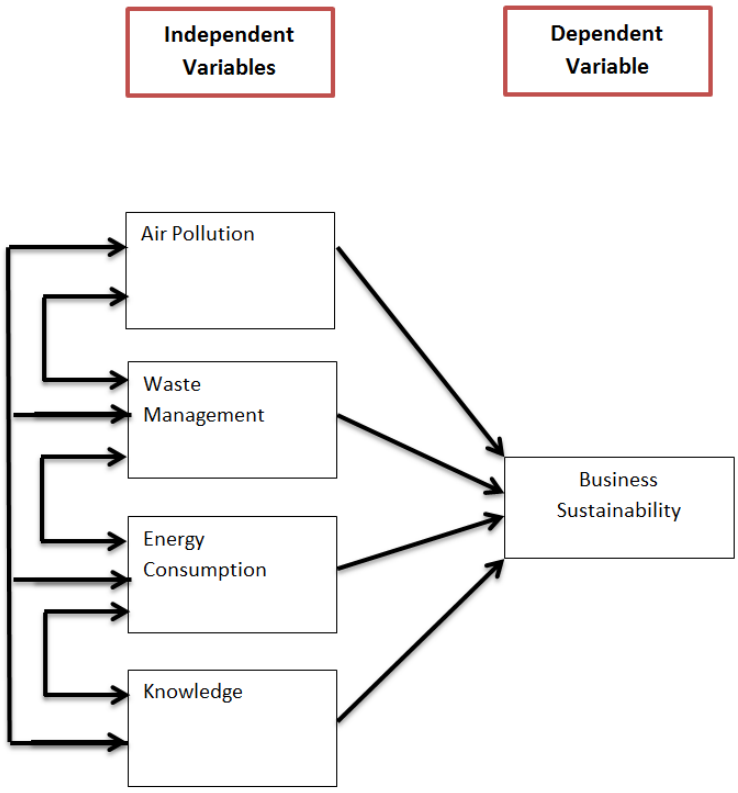

Figure 2. Relationship between dependent and independent variables

4. GENERAL INFORMATION ABOUT THE PROJECT

A three-year Erasmus Intensive Programme (IP) "ECO Port: Sustainable Business for SME's in European Harbours" (ECO-sup-PORT, grant agreement reference No: CF8017 - ERA/IP/11/28) was created and is supervised by Rotterdam Business School (the Netherlands). Six higher education institutions (HEIs) from five different countries across Europe are the main project participants. Generally, all these HEIs specialise in providing education in business administration, economics, logistics, and international business. The aim of the project is to discover the sustainable development issues of companies working with/in the port and find out how HEIs can help port-related small and medium enterprises (SMEs) to foster sustainable development. Therefore, the main research problem can be formulated as follows – how can HEIs help companies develop sustainably?

The project implementation planned in 2012-2014, is divided into three phases. The first phase was completed in 2012 – international student teams from five European universities developed the research methodology and questionnaires to assess the sustainability level of port-related organisations in specific countries (where the HEIs are located) and determine how HEIs can help companies develop sustainably. In 2013 the second phase of the research was completed by student teams from six European universities. The Latvian research team approached 60 companies that had business connected with Riga or Ventspils ports. 25 companies agreed to participate in the research. During the research the respondents were divided into three groups: stevedore SMEs (Group 1), SMEs not involved in stevedoring (Group 2), and companies that could not be classified as SMEs (Group 3). Such a wide range of organisations was chosen in order to meet the project requirements (at least 10 companies for one specific sector), and it became possible to find 10 or more companies-respondents for the main sector (stevedore companies) only near the end of data collection period. On the other hand, participation of organisations from various sectors gave the possibility to conduct a higher calibre study and assess the overall situation with the port-related

companies in Riga and Ventspils ports. After conducting the interviews with the management of selected companies and analysing the situation in the chosen ports, student teams met in Finland and held a two-week working session at Haaga-Helia University of Applied Sciences (Helsinki, Finland). The third phase of the research is planned to be conducted in 2014, when student teams will work on the implementation of the tools.

5. INTERPRETATION OF THE RESULTS

Few stevedore companies mentioned that sustainability initiatives are limited to following the rules (meeting health standards, complying with laws), some companies only mentioned expansion of their business (acquisitions of new equipment, development of infrastructure), which can be viewed as economic development, but not necessary sustainable (the economic aspects are only one part of sustainable development). While it was mentioned that companies have taken sustainability initiatives (running projects on sustainable development, reducing expenses, implementing cost-saving policies, improving IT), only few initiatives were indicated (100% manufacturing waste re-usage/recycle, adoption of a special snow technology to prevent dust dispersion, planting forests by one timber industry company). At the same time all stevedore companies realised that sustainability initiatives lead to success in the port area: for the companies (reduction of energy costs leads to company's welfare), for the port (increased level of activity), and for the nature (less pollution/waste and lower resource consumption). Suppliers of the respondents from Group 1 do not ask for more than it is required by government/regulatory bodies – the suppliers are only interested to know if the company has certain certificates and if the work processes are transparent enough. Customers are more willing to know about environmental protection policies and actions of companies-respondents, especially when these are long-term business projects/contracts.

Several companies in Group 2 identified staff training and career guidance as sustainability initiatives taken by the company. Adoption of policies on air pollution, recycling, and environment protection were among popular answers to the question about implemented initiatives, as well as development of CSR activities (did not specify which ones). Only one organisation described specific initiatives implemented by the company (adoption of the closed cycle of production and usage of water cleaning equipment that allows re-using the water later). Only one third of Group 2 companies admitted that they see some business value from sustainability initiatives, one company mentioned that initiatives can generate business value only if large enterprises adopt initiatives on sustainability and promote them to SMEs. Two other companies stated that sustainability initiatives are mostly for creating better image to stakeholders and thus increasing investments/income. Few respondents from Group 2 admitted that their suppliers show interest in some of the environmental issues, particularly in the availability of labour with the required skills, working conditions and long-term contact establishment. Other companies either claimed that no interest is shown by suppliers or hesitated to give an answer. Clients of the majority of companies-respondents showed interest in sustainability issues, such as availability of skilled professionals in the market and compliance with legislation. Some of the respondents were uncertain if their clients show interest or replied negatively.

Large companies from Group 3 have taken various sustainability initiatives in-house: replacement of equipment with less resource consuming, decreasing the pollution and the level of CO2, investments in sustainability projects, use of wind energy and other alternative energy sources. While one company in Group 3 believed that the impact of sustainability initiatives is very low, other respondents saw opportunities to minimise financial, technical, and personal risks, improve the economic situation in the country and increase the country's overall competitiveness. Most of the suppliers for large organisations show overall interest in sustainability issues, like company's long-term productivity. Customers showed only general interest in sustainability issues.

Initiatives on air pollution were not perceived equally by all companies – despite all companies claiming that air quality is important or even very important priority, some companies identified

priorities as barriers for doing business, while others recognised them as drivers (if the company is able to stay ahead of its competitors).

Unexpectedly, large companies did not perceive general waste and port waste priorities as important ones, but SMEs mentioned crucial importance of the priority, while the theme "recycling" was not perceived important for the business. Several companies did not even request any knowledge on recycling, while valuing "general waste and port waste" as an important priority.

All companies think that energy consumption priorities are very important. Stevedore companies perceive it as a barrier (or driver-barrier), large companies – as a driver, while non-stevedore companies are divided into two groups, thinking of priority as a driver and as a barrier. However, only few companies (members of the stevedore group) identified "focus on renewable/sustainable energy production" as an important aspect for the business. It was also noticed that when non-stevedore and large organisations think that priorities on energy are important for the business, they require much knowledge on energy aspects from their employees. Such tendency was not observed among stevedore companies.

Analysing information obtained during the research on the level of knowledge about sustainability and ways of achieving it among port-related organisations, it was found out that companies do not fully understand what sustainability is and what actions can lead to sustainable business development. Companies pursue economic growth opportunities, putting minimum efforts to maintain a positive image in the society, while environmental issues are not considered as priorities to businesses. Non-stevedore SMEs and large companies identified lack of knowledge as one of biggest non-environmental barriers to generating more business opportunities related to the port. Employee's ability to contribute to sustainable development in a company was not ranked as a very important skill by the majority of respondents. Employees were not requested to have extensive knowledge in the areas that might lead to sustainable development through environmental or social aspects, only in the areas related to economic development and coping with laws and regulations. Companies gave preference to the problem-solving skill, rather than the ability to plan. It can be assumed that companies prefer reactive actions when dealing with the problems, rather than proactive. Most SMEs associate with sustainability initiatives only following the rules, while large companies "go an extra mile", having projects that will benefit the company in the long-run. Non-stevedore companies did not even see the benefits that could be gained if their business were developing sustainably.

From Higher Education Institutions companies want the provision of specialists in various areas (specific technologies, logistics, law, finance, engineering, communication) and the knowledge in the following fields: general management (human resources management and motivation, planning, networking and negotiation skills), strategic management (business diversification and development through innovations), operations management (efficiency and effectiveness issues, supply chain management), marketing (market analysis, public relations and customer attraction, product launch and development), international relations (cross-cultural business communication and establishment of international networks), as well as various professional skills (technical knowledge, knowledge of languages, knowledge for specific professions, like chemists, engineers, logistics specialists, legal professionals, and the ability to raise finance).

6. CONCLUSIONS

Air pollution, waste management, and energy efficiency priorities are generally considered important; however these are labelled as both barriers and drivers to business development by different organisations. The lack of information about the benefits of sustainable development does not encourage the management of the companies to promote sustainability ideas among employees. Not all companies require their employees to have in-depth understanding and knowledge of the environmental aspects. The surveyed companies prefer to pursue short-term goals that lead to economic growth and their actions are mostly reactive rather than proactive to sustainable

development business initiatives.

Organisations can raise knowledge on sustainable development though participation in projects like ECO-sup-Port or through cooperation with Higher Education Institutions and advisory agencies. From Higher Education Institutions organisations mostly need the provision of specialists in various areas: specific technologies, business administration, economics, finance, and international business. In order to satisfy companies' needs and develop the country's economy, Higher Education Institutions should cooperate more closely with port-related companies and provide internships within those companies. The port should develop sustainability initiatives, support compliance with them and inform companies on possibilities of sustainable development.

Besides helping specific companies, such types of research projects can positively affect the economic growth of the whole country and provide useful insights for both port-related and non-port-related businesses around the world.

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