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The EU's Sustainable Product Initiative: Enhancing the Readiness of the Furniture Business in Ukraine

Abstract

This study has been inspired by a set of new rules which are expected to be implemented within the EU's Ecodesign for Sustainable Products Regulation (ESPR). Considering the possible market risks for the Ukrainian furniture industry, and that includes both exporters and non-exporters (within the context of the harmonisation of the rules), this research sought to capture and understand the readiness of companies as regards the changes on the EU market, along with those companies' sentiments and ability to cope with the upcoming inherent challenges. The survey of furniture producers presented in this paper is one of the first devoted to the problem of Ukrainian producers' adaptability to the ESPR, made all the more challenging due to the burden of the ongoing war. This study has brought to light rather positive industry sentiments regarding furniture production volume and the competitive position of companies within the furniture industry, but there is also a lack of company awareness of the full range of ESPR measures and tools, hence there is a risk of underestimating those measures and tools' possible impact along with the risk of a delayed response. Environmental sustainability values should be given higher priority than they are currently in companies' current marketing strategies, and the effectiveness of supply chain management practices will inevitably have to be questioned by company leaders. Possible adaptation measures aimed at circularity are not sufficiently perceived, while attention is focused more on the use of materials, energy, and environmental pollution.

Keywords: Sustainable Product, Furniture, Circular Economy, Ukraine, EU Market

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Introduction

Russia's large-scale war against Ukraine not only has not reduced the priority of the EU's sustainable development goals, but, to the contrary, has attracted even more attention to the sustainability of critical resource sourcing, pushed forward the green transition agenda, and strengthened the political will for that agenda's implementation.

Following the New Circular Economy Action Plan (European Commission, 2020) and Sustainable Development Goal 12 – "Responsible consumption and production" – in March 2022, proposals of the European Commission on the Ecodesign for Sustainable Products Regulation (ESPR) were published (European Commission, 2022a; European Commission, 2022b). The initiative is aimed at extending the scope of eco-design regulations to the environmental performance of all products which are physically present on the EU market (European Commission, 2022a; Šajn, 2022; Kaldor, 2023; Heinemann, Arsenio, 2022).

Aimed at providing product sustainability-based information for consumers and businesses alike, a Digital Product Passport (DPP) has been announced. It will include information about durability, repairability, recyclability, recycled content, harmful substances, and the environmental footprint of a given product (Heinemann, Arsenio, 2022, p. 7). The first product-specific rules are expected to come in force either at the end of 2027 or at the beginning of 2028 (European Commission, 2022a). A company's compliance costs due to the implementation of a DPP are estimated to be from €1,000 to €4,000 per product that is placed on the market (European Commission, 2022a).

Furniture is considered to be a product category with a high environmental impact, albeit with potential for improvement. Hence, the aforementioned initiative will affect the competitive position of Ukrainian companies and the export of furniture from Ukraine to the EU. The European Furniture Industries Confederation has declared its support for the proposed ESPR (EFIC, 2022), with, however, a number of caveats. With the legislative procedure moving forward steadfastly, it could soon cause problems as regards access to the EU market if companies' strategies are not adopted properly or adequate investment is not made in time.

According to the Ukrainian Association of Furniture Manufacturers (Interfax-Ukraine, 2023), the financial volume of furniture exports by Ukrainian manufacturers in 2022 reached $806.6 million, which is $56.2 million higher than the COVID-impacted indicator for 2020, but $244.5

million lower than in the pre-war year of 2021. The top ten countries importing Ukrainian furniture in 2022 were Poland (34.91%), Germany (17.37%), Denmark (5.89%), Austria (4.50%), Belgium (4.04%), Romania (3.23%), Great Britain (2.59%), France (2.40%), Moldova (2.12%), and the Netherlands (1.83%). In total, in 2022, Ukraine exported furniture to 99 countries of the world (in peacetime, that number stood at 120).

Ukrainian businesses are working in an extreme environment and immediately bearing the full burden of the war. Existential risks both to people and organisations ensure that the first priority is to save lives, closely followed by the relocation of production facilities, the sustaining of operations, the restoring of supply chains, ensuring continued employment, and supporting family incomes for subsistence needs. The war has drastically worsened the business environment and undermined the very capacity to continue operations, especially when one considers asset destruction, the outflow of skilled workers into the army, and interruptions in electricity supply. In the Ukrainian furniture industry, small-and-medium-sized enterprises (SMEs) constitute the bulk of the business population and, in fact, they can currently be considered as a disadvantaged group of European furniture producers. Nevertheless, after one and half years of active war, looking to the future industry is timely, as is understanding the changes on the EU market, the need for an adaptation of business strategies, and improving readiness for post-war recovery. Production for exporting is considered by Ukrainian business leaders as a means of preserving the furniture industry amid the realities of an uncertain domestic market (Ukrainian Association of Furniture Manufacturers, 2023).

The use of new tools for regulating the environmental performance and circularity of products launched by the European Union is important not only to Ukrainian companies that are already exporting or planning to export their furniture to the EU, but also to other furniture manufacturers, taking into account the process of the harmonisation of legislation under the "Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part" (Official Journal, 2014) in the longer run.

This paper is structured as follows; it proceeds from the recent developments of the EU's sustainable product policy and the community's plan to implement the Digital Product Passport (DPP), which will provide information on Product/Organisation Environmental Footprint (P/OEF), recognising this as a challenge for Ukrainian exporters. After a concise review of studies in the field of green marketing and sustainable business operations placed in the context of supply chain management and green demand on B2B markets (which includes the demand for environmental investments), the aim and methods of the study are defined. Next, a detailed description and findings of the empirical research on furniture-manufacturing companies in Ukraine are presented. It reveals business' sentiments and levels of readiness for the implementation of the ESPR, including their intentions regarding more sustainable sourcing and investing in a decrease in the size of P/OEF. The study is summarised with conclusions and discussion of its limitations, and offers some practical implications and ideas for any future research agenda.

Review and Theoretical Approach

To the best of the author's knowledge, there are currently no studies regarding the ESPR's impact on Ukrainian companies, so this is a gap that needs to be filled via investigation. In a broader context, this issue should be analysed within the framework of policy instruments and stimuli for industry sustainability transformations. The policy area is complex and covers common market rules and competition, sustainable production and consumption, circular business models, consumer rights, the environmental goods sector, and industrial demand for environmental investment. A set of multi-purpose policy instruments are expected to be used. The core measures of the ESPR are aimed at impacting the supply chain of a product. This, in turn, will increase green demand on B2B markets. "Environmental considerations are increasingly part of the operations and marketing strategies for a large number of companies, and for their investors" (European Commission, 2013). Green companies improve their own processes, influence their suppliers and others up and down the value chain, and generate innovation (European Commission, 2013).

A. Nand et al. (Nand, 2023) investigated the current state of research on sustainability-related manufacturing trade-offs that affect suppliers in developed and less-developed countries and identified eight categories of trade-offs (Nand, 2023, p. 471) with the following dominating in the less developed countries: performance and competitiveness issues; and supplier-related practices and costs (Nand, 2023, p. 472). They concluded that "contingencies connected with trade-offs include a lead firm's power, stakeholder pressure and regulations, the industry, material criticality, dependency, quality and management practices, cultural and geographic distance, and the knowledge resources that determine the approach chosen by the buying firm to manage the sustainability of lower-tier suppliers"

(Nand, 2023, p. 474). They recommended these contingency variables as a future empirical research focus with respect to both developed and less-developed countries.

The specific factors driving B2B consumers to make green purchases along with research gaps concerning the B2B scenario have been identified by N.B.B. Veerabhadrappa et al. (2023).

M.H. Chowdhury et al. (2023) investigated supply chain sustainability barriers in manufacturing and developed a decision-support framework to determine the optimal strategies for those barriers' mitigation. They considered a lack of support from top management and problems connected to the cost and supply of utility services to be the main obstacles.-

Much of the research on firms' sustainability and green marketing in a B2B context are focused on human attitudes and thought patterns when it comes to making decisions concerning organisations and organisational operations (see, for example, Khattak, 2022). Referring to the subjectivity of human psychology, they do not examine the issues of organisational rationale for any given performance.

The determination of the type of the research and an appropriate sample size are not only essential features of the theoretical approach, but also of the designing and conducting of company research and interpreting the results. Considering resource constraints and the ongoing active phase of the war, it appears quite challenging to collect the volume of primary data that would allow inferences to be drawn with a high level of statistical reliability as required by quantitative research standards for the generalisation of findings. At the same time, it is quite typical that qualitative studies based on small samples may also provide valuable insights. An important discussion of problems pertaining to small samples and essential features of qualitative and quantitative research was once presented by T. Bock and J. Sergeant (Bock, Sergeant, 2002). Referring to a publication by Gordon and Langmaid in 1988, they noted that qualitative research is ultimately concerned with understanding things rather than with measuring them (Gordon, Langmaid, 1988, citation from Bock, Sergeant, 2002, p. 2) while "quantitatively inclined researchers simply see measurement as a necessary step in gaining understanding" (Bock, Sergeant, 2002, p. 2). Apart from the sample size, the method of selecting objects to be studied also matters. These theses contribute to the substantiation of the study design presented in this paper.

The Aim of the Research and the Method

This research is focused on the readiness of the Ukrainian furniture industry as regards the changes on the EU market due to the upcoming implementation of ESPR, along with the industry's sentiments and capacity to cope with the inherent challenges. The sector includes companies operating in the field of NACE (Rev. 2) Section C, code 31 – "Manufacture of furniture".

The aim of the research is to reveal:

- the current level of business awareness, expectations, and the degree of readiness of the industry's companies as regards the introduction of the Digital Product Passport (DPP) and indicators of the ecological footprint of a given product/organisation as tools of EU market regulation;
- the intentions of the industry's companies regarding the production of environmental goods and services for the short-and-medium-term period and their long-term strategies;
- the factors influencing the environmental demand of the industry in B2B markets in the context of supply chains, and environmental investments in connection with the environmental footprint of a given organisation.

To achieve the research aim, a survey of representatives of Ukrainian companies producing furniture was implemented during the period from 26.07.2023–15.08.2023.

The following assumptions are suggested:

- H1: The level of awareness of Ukrainian furniture exporters about the set of measures to be implemented within the ESPR is low, hence they underestimate the risks of interrupting operations;
- H2: The readiness of companies to shift to more sustainable business models is insufficient, especially in terms of providing circularity.

Empirical Research: Business Survey

The data were collected through a self-administered questionnaire in both paper-and-pencil and computerised form. Both the invitations to take part in the survey and the questionnaire itself were disseminated at a conference of furniture manufacturers and via a dedicated online publication, a webinar, mailing furniture companies' social networks, and phone calls to companies. A total number of 14 companies responded. The following methods were used in order to reduce the number of non-responses in telephone, face-to-face, and mail-based communication in the forms of a short introduction, a letter sent in advance, and a respondent-friendly questionnaire design. The questionnaire, covering the main themes of a company's position and sustainability shift, was drawn up with a set of 35 questions, most of which were close-ended in nature. To formulate some questions and to process the results, elements of the business tendency survey methodology (European Commission, 2023) were used, having been properly adapted *vis-a-vis* the approach to constructing questions, scales for responses, and the balance method of aggregating the responses which is used in statistics for a calculation of the business confidence indicator.

The questionnaire included questions aimed at revealing themes such as:

- the level of acquaintance with and the importance of the launching of the new EU requirements for companies and those requirements' inherent challenges in complying with them;
- company characteristics, recent dynamics, and strategy, i.e., whether a company has implemented the green marketing strategy and which type (reactive or proactive by V. Vaccaro, 2009);
- recent trends and business expectations regarding competitive position, the use of production facilities, and the ESPR's impact on the current status of furniture companies and their ability to recover after the possible negative impact of the regulation;
- the greening of the upstream supply chain, and sustainability-related trade-offs of furniture manufactures regarding the supply of materials proceeding from the postulate that "a firm is as sustainable as its suppliers" (Krause et al., 2009, cited in Nand, 2023, p. 464);
- industry intentions regarding the greening of products;
- industry readiness, intentions, and opportunities regarding environmental expenditure.

Findings

Companies' Characteristics

92.9% of the companies participating in the survey were represented by their owners or CEOs who responded in the survey. There were no enterprises with foreign investments (a factor which could have contributed to the transfer of management practices) among those organisations. A distribution of companies by size is presented in Figure 1. 50% of the respondents (7 companies) exported manufactured furniture products to EU countries in 2022. Of those, three companies (21.4% of the total number of respondents) had an export share of at least 80% of the manufactured furniture products, one company had 30%, and three companies had no more than 10%.

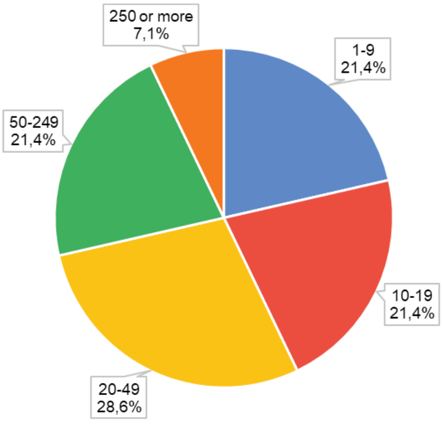

Figure 1. Companies by Size (the Number of Persons Employed in Full Time Equivalent)
Source: the author's own work.

Awareness

Data on the level of company awareness with regard to the new tools and basic requirements for furniture products on the EU market and the accompanying information on them which are planned to be introduced by the ESPR (the aforementioned digital passport, durability, maintainability, energy and resource efficiency, recycled content, the possibility of recovery, one's ecological and carbon footprint, and the prohibition of the destruction of unsold products) indicate that none of the respondents were informed about them in detail before participating in the survey. However, they (both exporters and those operating on the domestic market) recognise that these issues are important to them. On the whole, the level of awareness of exporters before participating in the survey was higher than that of non-exporters (the ratio of answers "We had some information, but we do not have detailed information" and "No, but this issue is important for the company" is 4:3 for exporters and 1:6 for non-exporters).

Production Trends, Expectations, and Limits

The answers provided by the companies which took part in the questionnaire indicate positive trends in the industry on the whole; half of the respondents noted an increase in the volume of production over the previous three months, with 36.7% noting an unchanged volume.

The balances as the difference between positive and negative answering options, measured as percentage points of the total answers (European Commission, 2023, p. 12) are presented in Figure 2 (balance estimations here and further on are based on the methodology of business surveys; European Commission, 2023). Positive expectations regarding the change in the volume of production in the following three months were also dominant among manufacturers; 64.3% of respondents expected it to increase. None of the exporters expected the production volume to decrease. Despite the ongoing war, the competitive position of 92.9% of the companies on the domestic furniture market had not deteriorated over the previous 3 months, and it remained unchanged for more than half of the respondent companies. All the exporters noted that their competitive position on the EU furniture market remained unchanged over the previous 3 months.

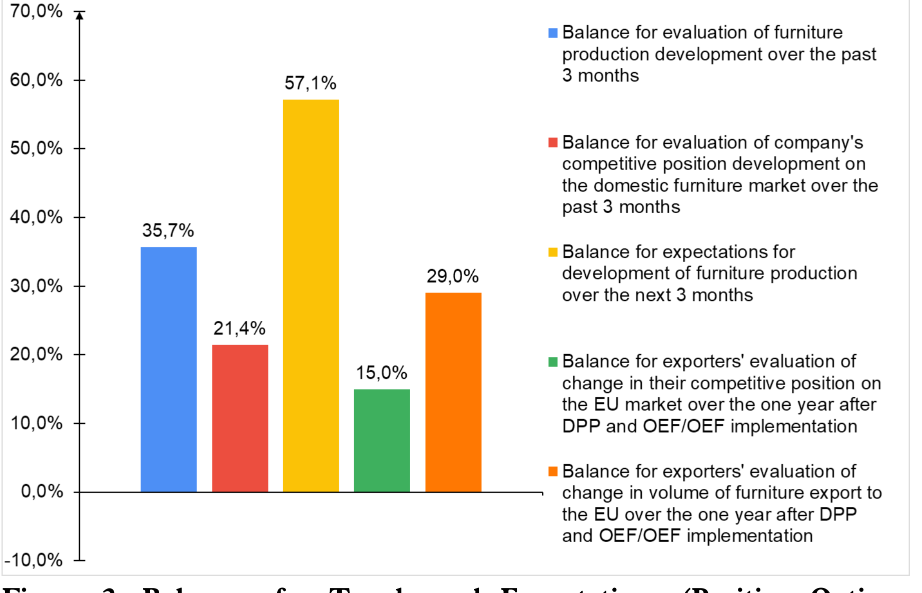

Figure 2. Balances for Trends and Expectations (Positive Options & Negative Options)

Source: the author's own work.

The limitations for furniture production that the companies are currently facing are presented in Figure 3. The balance of responses about the limits or opportunities associated with the ESPR (Figure 4) is encouraging, with a 12 % domination of the most positive and positive expectations over the negative and the most negative ones.

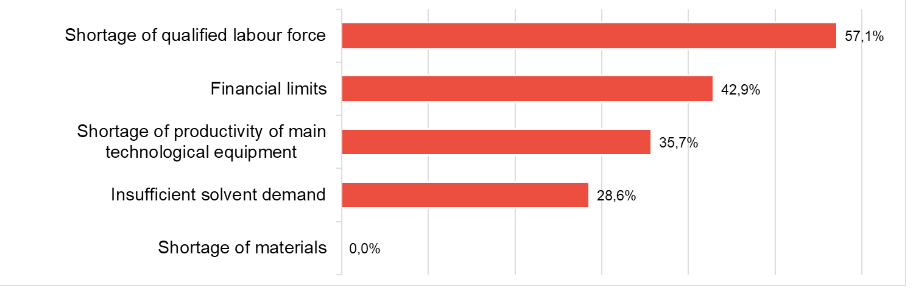

Figure 3. The Main Limitations for Furniture Production (Share of Respondents as %)
Source: the author's own work.

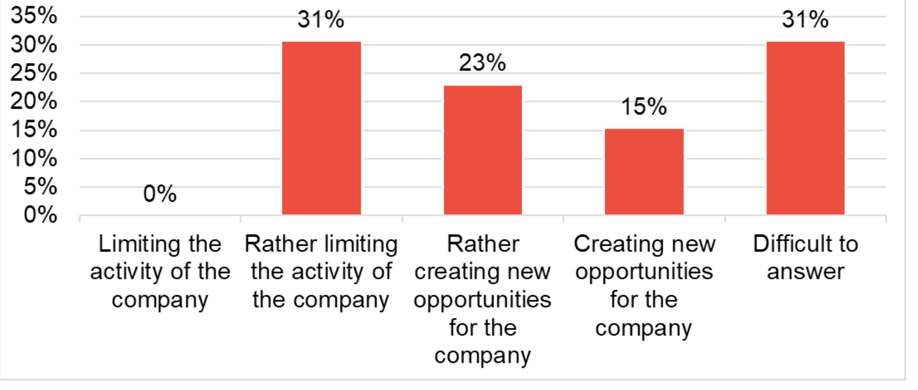

Figure 4. An Assessment of the Product Sustainability Measures to be Implemented in the EU (Limits & Opportunities)
Source: the author's own work.

The respondents realise that their current marketing strategies will be impacted by the ESPR and will not remain effective under the new regulations (Figure 5). The exporters of the group are more confident and more oriented towards essential changes of the strategy than the non-exporters, but, at present, even some of the former do not appear to fully perceive the extent of changes required by the circularity requirements of the ESPR.-

The balance for exporters' expectations as to the change in their competitive position on the EU market due to the regulation is slightly positive (Figure 2), but with a high level of uncertainty (for 57% of the respondents it was hard to provide a definite answer). The balance for the exporters' evaluation of change in the volume of furniture export to the EU over one year after DPP and OEF/OEF implementation is slightly better with less uncertainty which evidences confidence in the resilience

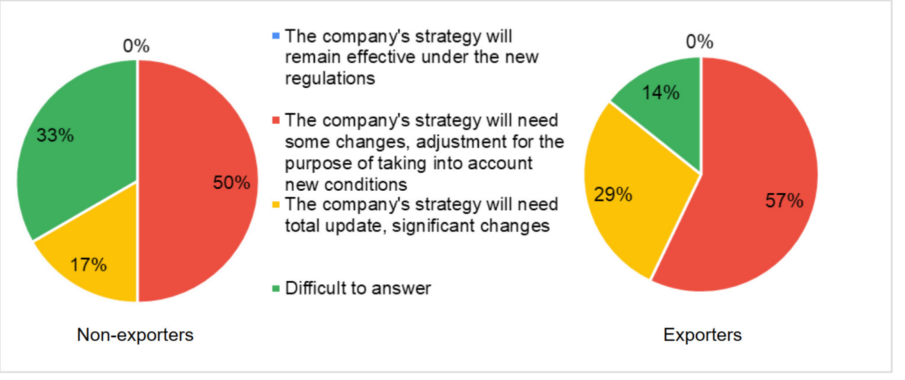

Figure 5. An Assessment of the Strategy of a Company Under the New Regulations

Source: the author's own work.

of the furniture business. One exporter that expects a decline in export levels assesses their own capability to restore it within a three-year period following DPP and OEF/OEF's implementation as a fairly likely scenario.

Sourcing

To manage supply chain sustainability, almost two thirds of the companies (64.3%) use and analyse the information about their direct suppliers provided by the suppliers themselves (Figure 6). None of the respondents impose independent audit or certification requirements on suppliers nor do they make supply chain information available to the public.

The share of wood-based materials – used by exporters for furniture production – is higher than 70% of the total cost of materials purchased for the manufacture of furniture (Figure 7). Four exporters reported significant shares of solid wood to be 50%, 70%, 95%, and even 100% of the total cost of materials purchased for the manufacture of furniture. This suggests that Ukrainian companies supplying products to the EU market specialise in furniture made of materials of wood origin. As to the sustainability of wood supply, 71.4% of the exporting companies reported that certified wood makes up 80% or more of the value of purchased wood materials, for the rest of the exporters the share of certified wood does not exceed 10% (for all surveyed companies, this indicator is 57%).

The three main factors that determine company demand for environmentally sustainable materials for furniture production are as follows:

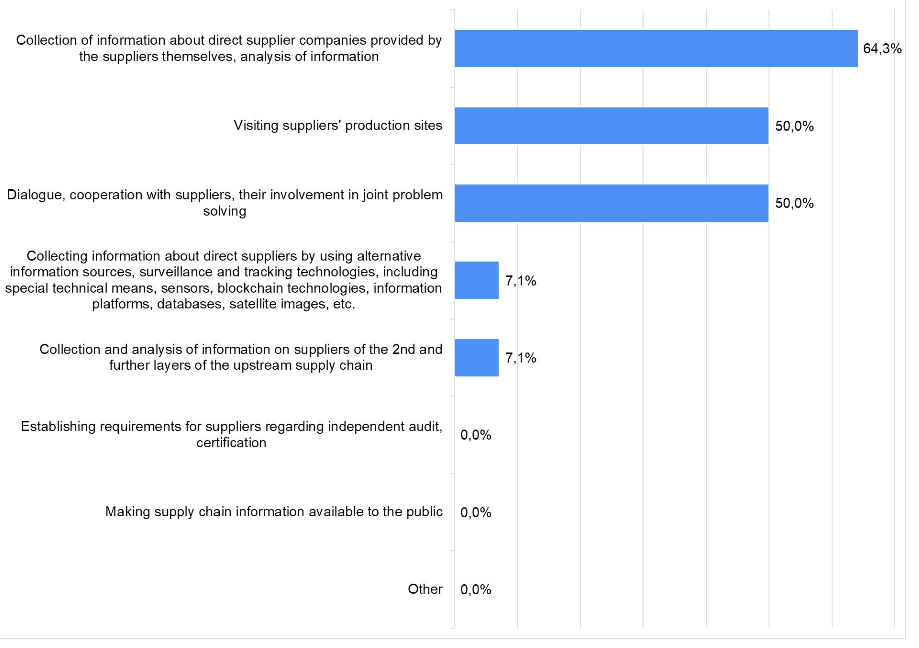

Figure 6. Measures the Companies Carry Out to Manage Supply Chain Sustainability
Source: the author's own work.

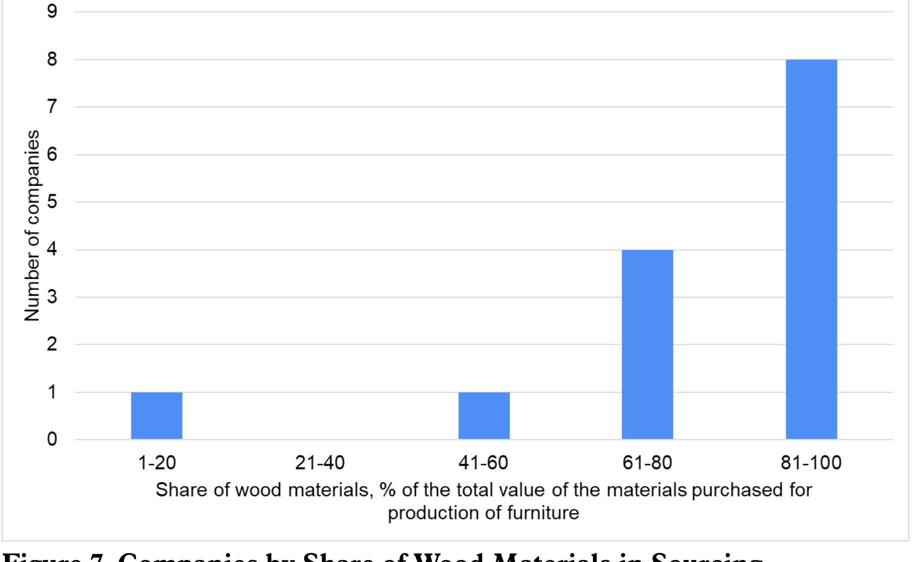

Figure 7. Companies by Share of Wood Materials in Sourcing
Source: the author's own work.

- legislative requirements regarding the materials used in the manufacture of products (e.g., the prohibition of certain chemicals, etc.), which were reported by 64.3% of respondents;
- requirements which are put forward in the process of certifying a company's products, reported by 57.1% of the companies;
- pressure from final consumers, noted by 50% of the companies.

The survey also revealed that such demand is strongly influenced by the companies' voluntary commitments within the framework of corporate social responsibility as was reported by 42.9% of the respondents. They consider pressure from competitors along with public sector organisations in the form of customers within the framework of public procurement, and investors, to be of low importance. The activity of non-governmental organisations as an impact factor was not reported by any respondent, which confirms the insignificant role of NGOs in how furniture companies manage their supply chains.

Furniture companies are positive as to the opportunity to shift to more environmentally sustainable sourcing over the next 3 years after the launch of the DPP and P/OEF (Figure 8); more than two-thirds of them consider this to be very likely or fairly likely.

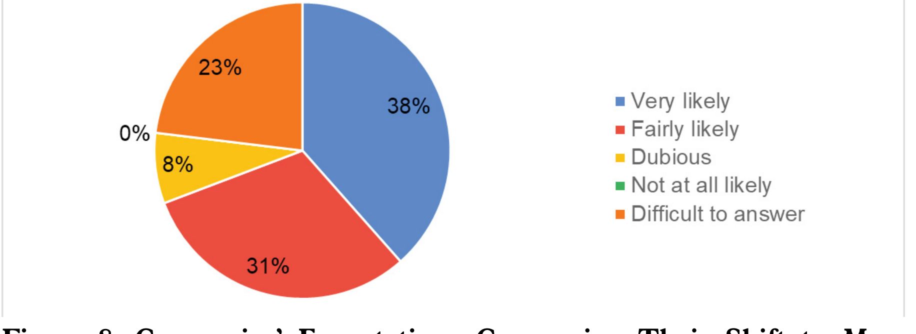

Figure 8. Companies' Expectations Concerning Their Shift to More Environmentally Sustainable Sourcing Over the Next 3 Years After the Launch of the DPP and P/OEF
Source: the author's own work.

Greening Products and Processes

The implementation of ESPR will make companies react by improving their technologies and P/OEFs. A number of questions were asked to reveal the respondent companies' current vision for this eventuality along with their priority directions for improving their products in order to reduce the environmental impact of production processes over the next 3 years after the launch of the DPP and P/OEF. 50% of the companies reported the share of furniture so positioned as "Cleaner and resource-efficient products" at the level of 80–100% of total sales of furniture in value terms in 2022. Such a share for one company amounted to 5%. 35.7% of the companies did not respond to the question, which can be interpreted as those companies having produced zero greener products. At the same time, half of the respondents considered the improvement of their PEF as either very likely or fairly likely over the next 3 years after the launch of the DPP and P/OEF.

A question was asked to reveal the characteristics of furniture products, including packaging and production processes which are to be improved as a priority in order to reduce company PEF and circularity indicators (Figure 9). Positions at the top of the rank include the "Use of materials, material intensity", the "Use of energy", and "Environmental pollution, toxic waste". Characteristics related to circularity, such as "Short period of use" and "Limited repairability" received little or no attention, which means that Ukrainian furniture manufacturers currently do not consider these features as the essential issues to address.

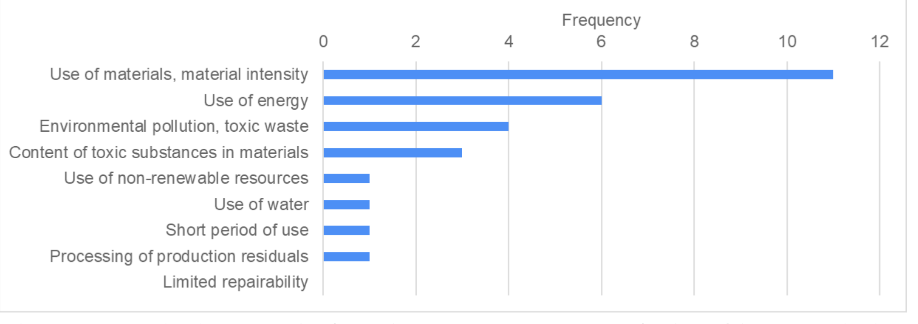

Figure 9. Priority Rank for the Improvement of the Characteristics of Furniture and its Production
Source: the author's own work.

Only one company out of the 14 has implemented the ISO 14001 environmental management system. The survey reveals what can be interpreted as a degree of company embarrassment when they were self-assessing their OEF against the typical (average) "Representative Organisation" of the sector (Figure 10); 46% of those who responded were not able to perform a self-assessment of that nature.

According to the ESPR, additional measures are needed for the sustainability of the supply chain, but only environmental investment growth can make the environmental profile of companies more sustainable. Two types of technologies to be invested in were analysed to

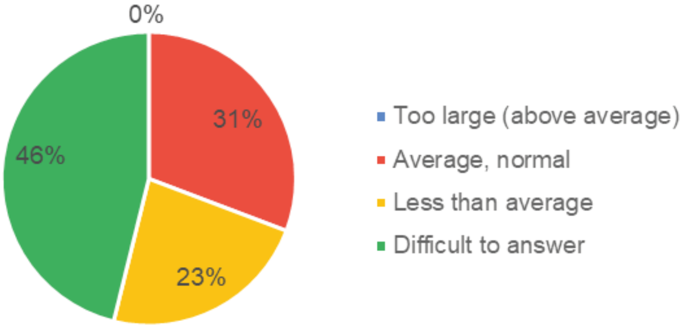

Figure 10. A Self-Assessment of Companies' OEF Against the Typical (Average) "Representative Organisation" of the Sector
Source: the author's own work.

separate the preventive approach (integrated technologies) and the effort to compensate for damage (end-of-pipe technologies). The expectations of companies as to the change in the volume of environmental investment over the next 3 years after the launch of the DPP and P/OEF are the result of their perceived current P/OEF levels, expected regulation, available financial opportunities, and their ability to respond quickly to changes in the marketing environment within a given period. In the case of positive expectations revealed, additional questions about the priority areas for investing were asked using the Classification of Environmental Protection Activities – CEPA (Eurostat, 2017). 38% of responses which were obtained for every type of the technologies mentioned above demonstrate positive expectations as regards the increase of investments while there is simultaneously a very high level of uncertainty about this issue, and 54–62% of companies faced difficulty in answering the questions. "Protection of ambient air and climate" and "Waste management" were considered as the main directions for applying efforts (Figure 11). At the same time, one can say that the respondents were not able to differentiate between the two types of technologies clearly enough despite the special notes provided in the questionnaire.

The availability of financial, material, and human resources and technologies, the demand for cleaner, resource efficient products as a form of pressure or, vice versa, as a marketing opportunity, the external expectations of stakeholders regarding business responsibility, and the institutional framework were all analysed so as to understand the sensitivity of companies to different stimuli from the viewpoint of policy recommendations. 76.9% of the 13 companies which answered the question

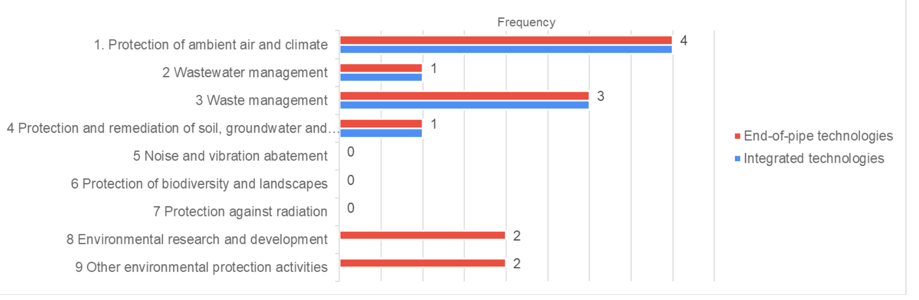

Figure 11. Priority Areas of Environmental Investment by CEPA Classes
Source: the author's own work.

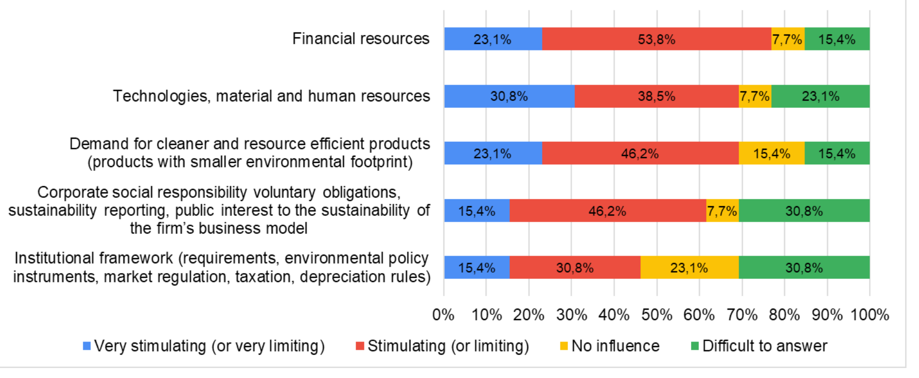

Figure 12. Drivers for Environmental Investment
Source: the author's own work.

concerning the drivers for environmental investment considered financial resources as the most important driver which was (very) stimulating (in the case of deficit – limiting) their environmental investment (Figure 12). The same level of importance was noted by 69.2% of respondents for other resources and green demand. Institutional stimuli are considered to be the weakest (46.2%) but usually it is the initial impulse for changes to be made.

Conclusions

The indicators of the current state of the furniture industry in the survey covered a range of company characteristics, a company's management board's awareness, production volume, export, strategy, the supply chain, and product and organisation environmental footprints. The furniture industry's perception of recent trends in production volume and competitive position were analysed. Furniture manufacturers' expectations regarding production and export volumes, production capacity, their competitive position, their strategic visions, supply chain sustainability, product development, and organisations' environmental footprints were revealed.

The hypothesis H1 has been confirmed, and one can conclude that the numerous essential and innovative details of ESPR were not known to Ukrainian furniture manufactures before the survey, while the exporters were, preliminarily, somewhat better informed than companies that sell their products only on the domestic market. Exporters are also more focused on updating their strategies to be in line with new regulations than non-exporters. Additional evidence of gaps in awareness and the resultant uncertainty is the high proportion of "Difficult to answer" responses to some questions. However, all the companies which were not aware of the ESPR consider this issue important to them, which shows their interest in it. More efforts should be made to disseminate the relevant information among Ukrainian furniture companies and other businesses to reduce any uncertainty about the new regulation.

There is a risk of respondent underestimation as regards the severity of the changes on the EU market and the subsequent interruptions in operations and weakening competitive position due to, *inter alia*, insufficient awareness, the highly speculative character of any forecasts in wartime, and a focus on a shortened horizon of planning.

Hypothesis H2 is also confirmed, due to the fact that nowadays there is less attention paid by businesses to circularity in terms of the short period of use and the limited repairability of furniture.

The studies found that even in the extremely turbulent environment *and* heavy burden of the full-scale war against Ukraine, after 18 months since its beginning, Ukrainian furniture business leaders declared a positive balance of the estimates of changes in production volume over the previous three months before the survey, a non-deteriorating competitive position of companies on the domestic market, and a very high balance for expectations for furniture production growth in the following 3 months from the time of the survey's end (+57.1%). Being aware of the difficulties that may arise due to the ESPR's implementation, furniture exporters are still inclined to be positive about their competitive position on the EU market a year into the future after DPP and OEF/OEF's implementation, with expectations of an increase in furniture export outweighing expectations of a decline.

Producers are not facing a shortage of materials; 71.4% of companies have an excessive or sufficient production capacity considering the existing orders for furniture and the expected demand, which are good preconditions for development in the post-war recovery period. 38% of them perceive ESPR as something which promises marketing opportunities. But the shortage of workers (wartime specifics) and financing are limiting their operations.

The current orientation of companies' marketing strategies does not recognise sustainability values to a great degree. In the last 5 years, only one company out of the 14 has implemented a green marketing strategy which was rather reactive (following the requirements of regulatory documents), and one other company, rather proactively, implemented a green marketing strategy (aimed at broader, long-term competitive advantages).

Ukrainian companies mainly offer furniture made of wood-based materials (including solid wood) coming from Ukrainian suppliers to the EU market. 28.6% of exporters who sell products made mainly from non-certified wood materials will face the risk of being prevented from selling their wares on the EU market. Currently, supply chain management practices in the companies which participated in the study provide neither requirements for an independent audit (certification) to suppliers, nor transparency of supply chain information for the public. Only one company collects and analyses information about the supplies of the latter and further tiers of the upstream supply chain. This should be a priority area to address to by the companies' managers as well as policy makers in order to strengthen the readiness of furniture producers to ESPR because the legal requirements regarding materials used in the manufacture of products is perceived by companies as the most important driver of their demand on environmentally sustainable materials for furniture production.

Resilience is demonstrated by two-thirds of furniture companies which believe that a transition to more environmentally sustainable sourcing is likely within the next 3 years after the launch of the DPP and P/OEF, and half of the respondents who believe that improving their PEF is quite likely within the same time period.

P/OEF indicators will provide more transparency with regard to the sustainability of products and should encourage investment in both cleaner, resource-efficient products with a focus on those which have been specially designed for environmental purposes (i.e., products for environmental sustainability). To understand the managerial implications of the expectations of the new rules, the envisionments of the companies were revealed concerning the priority of the environmental characteristics of furniture and its production which should be aimed at improvement.

A certain gap was also revealed between ESPR circularity requirements such as durability and reparability, and the attention that companies currently pay to the circularity characteristics of their products. This is partly countervailed by the recognition that waste management is a priority for environmental investment (after protecting the ambient air and climate, which ranks first).

At the moment, the group of companies from the study show a low level of any implementation of environmental management systems along with their dealing with difficulty in evaluating OEF through self-assessment as well as distinguishing between end-of-pipe environmental technologies and integrated technologies.

Companies report their highest sensitivity to financial resources as an impact factor (driver) for environmental investment (which is quite a common finding of many investigations of incentives influencing companies' behaviour). At the same time, the very need and the industrial demand on the resources for environmental purposes come from compliance requirements created by institutional frameworks, final demand, and/or societal expectations. This pushes us to rethink the list of stimuli considering the so-called 'dose/response' sequence. Nevertheless, considering the furniture industry consists mainly of small businesses, enabling the shift to more sustainable business models and products will require more options for financing which should be offered to furniture producers. "The European Commission expects negative impacts on SMEs due to increased admin burdens and compliance costs in the short run, but expects these to be offset by beneficial effects of the policies over time, e.g., through new business opportunities in repairing and recycling" (European Environmental Bureau, 2022, p. 11). As the risk of small businesses being terminated and the need to develop new business models are realised, comparative international research of the sentiments and environments of the furniture business could demonstrate the extent of the support that is needed.

Limitations and Future Research Agenda

The research conducted is quantitative in terms of the method of conducting it (a survey, questionnaire-based, in the forms of paper-and-pencil and computerised questionnaire administration) with a small sample. The aim was to gain an insight into the companies' perceptions and expectations. No pre-testing of the questionnaire was implemented. Despite this, the companies are represented quite evenly in terms of size and their (domestic) export market orientation. Only those companies that are currently continuing their business activities took part in the survey, and are highly motivated and active. Most of the companies (12 out of the 14) are members of the leading association in the furniture industry in Ukraine, namely, the Ukrainian Association of Furniture Manufacturers.

The small sample size makes us place caveats on the findings, recognising the limited capacity for the extrapolation of results and the risks of extended generalisations. Nevertheless, the research, which was one of the first attempts in this sphere, due to the coverage of an active part of the furniture industry's population and by a fairly in-depth and extensive questionnaire, has resulted in some valuable primary insights of the state, expectations, and perceptions in the furniture industry in the new marketing environment currently being formed by diving deep into the small sample.

Company size is an important factor that may affect a firm's sustainability (Nand, 2023, p. 468) but, in this study, the impact of a firm's size on the issues examined was not investigated due to the small sample of companies. This could be a task for a further research agenda together with the scaling of the object. A comparison of furniture manufacturers between countries could shed more light on the specifics of their competitive positions in the emerging marketing environment.

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