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A PRELIMINARY RISK ASSESSMENT OF THE EXTERNAL MARKETING ENVIRONMENT IMPACT ON THE MACHINE- BUILDING ENTERPRISE OPERATING

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Despite the fact of growing concerns regarding environmental sustainability and climate change issues there is still a very high demand for nuclear power in the world. Moreover, the relative growth rate of the renewable sources of energy, which include solar, wind and hydropower as well as geothermal, wave and tidal, and bioenergy equals +455% during the term of only 53 years since 1966 till 2019 [3].

Nevertheless, there are 440 nuclear power reactors operating globally in 2020: 95 of them are in the USA, 57 nuclear power plants are located in France (with 72% share of the nuclear energy in the country for 2018), 47 – in China, 38 – in Russia, 24 – in South Korea, 22 – in India, 19 – in Canada, 15 – in both the UK and Ukraine, 7 nuclear power plants are functioning in Sweden, Spain and Belgium and 6 – in Germany. In addition, due to the statistical database of the 2020 year other 109 nuclear power plants are being planned to be built worldwide with the biggest numbers in China (44), Russia (24) and India (14) [5].

It means that a large number of nuclear power plants in the world require many years of maintenance until they are decommissioned. Furthermore, this industry more than others depends upon professional service and high-quality production.

That is why one of the Ukrainian machine-building enterprises is being considered in the study as an example to carry out a preliminary risk assessment of the external marketing environment impact on its operating.

Kyiv Central Design Bureau of Valves is a lead company of the machine-building industry in Ukraine with a specialization in the valves and hydro pneumatic aggregates' development and manufacturing for the nuclear and thermal power stations, oil-and-gas, chemical and aerospace industry [7]. The main strategic partners of the company are nuclear power plants which except Ukrainian include those located in Russia, Finland, Hungary, Czech Republic, China, India, and Iran within German manufacturers of pumping equipment. The valves for energy objects

are being supplied to the above countries, as well as Belarus and Turkey.

Although Kyiv Central Design Bureau of Valves is the main supplier on an internal market, its average export fraction is 46.6% for the period 2017 – 2019. Therefore the machine-building enterprise functioning is highly dependent on the external marketing environment which must be coherently assessed in order to avoid tactical mistakes in its planning for the foreign markets' development. To do so the preliminary risk evaluation is being carried out in the study below in accordance with PEST-analysis.

Political factors can be characterized as ones of a high impact and negative by its nature. First of all, there is an unstable situation inside the country caused by the war conflict on its eastern borders. Secondly, the main strategic partners of the enterprise are also situated in countries with escalating political tensions. For instance, the decades-lasting conflict between nuclear weapon states China and India has been recently renewed. The chances of the peaceful solving of the territorial dispute remain weak as in the collision happened on June 15, 2020, in the Galvan Valley, Ladakh region, 20 Indian soldiers were killed [4].

Dissatisfaction with the results of the presidential election held on August 9, 2020, led to mass protests among the population in Belarus. Analysts of the situation in this country note that the protests will affect the stability of the banking system, the outflow of deposits, and the recovery of the deteriorating macroeconomic stability in Belarus will take a long time.

Political volatility is also a typical feature of Iran, where widespread national discontent poses new challenges to the country's existing regime. As the authorities tried to hide a missile strike on a commercial aircraft of the Ukrainian airline in January 2020, a wave of new protests swept the country. The consequences of Covid-19 and ineffective government methods of combating the pandemic are another reason that could accelerate the collapse of Iran's theocratic political regime [2].

Economic factors of the external marketing environment can be described as negative by its nature under the current circumstances and with a significant impact on the machine-building enterprise operating. The major components from the perspective of the B2B industry which can be taken into consideration are an unemployment growth and the resource prices' rate. According to the report of the International Monetary Fund, IMF there is a steady decline in metal prices' rate over the past 10 years [8].

However, due to the global pandemic, one of the biggest economic crises is being expected in the world since the Great Depression of the 1930s. Partial economic recovery can take place only in 2021. The International Labor Organization also noted that in the second quarter of 2020, the number of working hours may decrease by 6.7%, which will be equivalent to the loss of employment for 195 million full-time employees [1].

The group of the social factors of the PEST-analysis which are considered in the study can be assessed as ones of a neutral impact on the enterprise functioning at the current moment because of the fact that they are slightly less significant for the B2B sector instead of the B2C one. Anyway, the most important social aspects for the valves company to be dealt with are changing views on the concept of sustainable development and the impact of socio-ethical marketing. It is understandable that the responsibility for the actions and production should be accepted by companies as an integral and inevitable part of building loyalty for their brands. Furthermore, it is believed by more than 80% of consumers that the concept of environmental sustainability should primarily adhere to the energy, transport and manufacturing

industries [6].

Technological factors for this enterprise play an important role and also have a high level of influence, but positive by its nature. The scientific and technological progress means the introduction of new technologies in production which determine the competitiveness of the enterprise, including its operating on the foreign markets. In addition, it should be noted that the company is constantly implementing and improving its own developments that relate directly to the design of manufactured products and technical aspects required for the production process in valve construction.

The results of the PEST-analysis are summarized and possible steps for the company to decrease the negative impact of key external marketing environment factors are introduced below (table 1).

Table 1

Generalization of results by the method of PEST-analysis

Factors of the external marketing environment	Political factors	Economic factors	Social factors	Technological factors
Tendencies of the factor's development	Increasing political instability and tensions in the world	Uncertain trends in the development of this group of factors caused by the difficult situation with the global pandemic	Strengthening legal protection and international regulation of environmental compliance	Accelerating the pace of scientific and technological progress and implementation of technologies
The nature of the impact	High impact, negative in nature	Significant impact, negative in nature	Neutral impact	High impact, positive in nature
A degree of the impact from (-5) to (+5)	- 3	- 1	0	+3
Possible solutions for the company	Expansion of markets, search for new strategic partners	Attracting human resources under the principles of outsourcing	Checking the compliance of the production processes with environmental requirements	Introduction of new technological achievements, attraction of investments
Possible degree of the impact from (-5) to (+5) after implementation of the measures	- 1	+2	+1	+5

[authors' table]

The conclusions. The total level of influence of the four groups of factors in quantitative terms is (-1) point so that the external marketing environment is moderately critical for the activities of the enterprise. However, after the implementation of the possible solutions, the impact might be improved to the positive

level of (+7) out of 25 possible points.

In addition, it was assumed that the probability of the negative impact of the PEST-analysis factors on the machine-building enterprise functioning might be assessed relatively: $p = 0.45$ for political factors – the medium risk of negative influence, $p = 0.25$ for economic factors – the medium risk of negative influence, $p = 0.10$ for social factors – low risk of negative influence, $p = 0.20$ for technological factors – low risk of negative influence. In conclusion, the sum of the probabilities of the negative in nature factors – political and economic – equals $p = 0.70$ and belongs to the group of the very high risk of the negative impact. On the other hand, appropriate steps might reduce the risk level to the medium category.

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