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MASTER’S LEVEL QUALIFICATION PAPER

on the topic “PROSPECTS FOR THE PRODUCTION OF BIODEGRADABLE
TABLEWARE IN THE CONTEXT OF THE TRANSFORMATION OF
INTERNATIONAL ENVIRONMENTAL POLICY”

Specialty 292 “International Economic Relations”

Student 5 Course

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It is submitted for the Master`s level degree requirements fulfillment.

Master`s level degree qualification paper contains the results of own research. The use of the ideas, results and texts of other authors has a link to the corresponding source _____ V.S. Mielnikov

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SUMMARY

of Master's level degree qualification paper on the theme
“PROSPECTS FOR THE PRODUCTION OF BIODEGRADABLE
TABLEWARE IN THE CONTEXT OF THE TRANSFORMATION OF
INTERNATIONAL ENVIRONMENTAL POLICY”

student Mielnikov Valentyn Serhiyovych

The main content of the master's degree qualification paper is presented on 52 pages, including references consisted of 70 used sources, which is placed on 6 pages. The paper contains 5 tables, 4 figures.

Keywords: DISPOSABLE TABLEWARE, ENVIRONMENTAL POLICY, COMPETITORS, BIODEGRADABLE TABLEWARE, STRATEGIES.

The purpose of the qualification paper is to form a strategy of “Andrex” LTD development in the context of the transformation of international environmental policy.

The object of the research is disposable tableware.

The subject of research is prospects for the production of biodegradable tableware by “Andrex” LTD in the context of the transformation of international environmental policy.

The following research methods were used to achieve the goals set in the work: abstract-logical, theoretical generalization, systematic and complex approaches, factor analysis, statistical method, comparative analysis, causal analysis.

The qualification paper is carried out on materials of official statistics, legislative and normative acts, and scientific publications of Ukrainian and foreign authors.

The main scientific results of the work include:

- identification of the stages of the life cycle of “Andrex” LTD and influencing of external elements to further development of the company;

- systematization of strengths and weaknesses, opportunities and threats for development of “Andrex” LTD in the context of transformation of international environmental policy;

- Formation of a strategy for the reorientation of “Andrex” LTD to the production of disposable tableware from biodegradable raw materials;

The obtained results can be used by the heads of enterprises in the decision-making process concerning compliance with the company’s strategic development plan.

The year of master’s level qualification paper fulfillment is 2020.

The year of paper defense is 2020.

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TASKS FOR MASTER’S LEVEL DEGREE QUALIFICATION PAPER

(specialty 292 “International Economic Relations”)
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Mielnikov Valentyn Sergiyovich

1. The theme of the paper is “Prospects for the production of biodegradable tableware in the context of the transformation of international environmental policy”

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3. The purpose of the qualification paper is to form a strategy of “Andrex” LTD development in the context of the transformation of international environmental policy.

4. The object of the research is disposable tableware.

5. The subject of research is prospects for the production of biodegradable tableware by “Andrex” LTD in the context of the transformation of international environmental policy.

6. The qualification paper is carried out on materials of official statistics, legislative and normative acts, and scientific publications of Ukrainian and foreign authors.

7. Approximate master's level degree qualification paper plan, terms for submitting chapters to the research advisor and the content of tasks for the accomplished purpose is as follows:

Chapter 1 "Global trends in disposable tableware market development"; till 20.11.2020.

Chapter 1 deals with investigation of modern technologies to produce disposable tableware, areas of disposable plastic tableware usage, and dynamics of development of world and national markets in the field of disposable tableware production.

Chapter 2 "State regulation of the disposable tableware market"; till 01.12.2020.

Chapter 2 deals with analyzing prerequisites of the transformation of environmental policy in the field of disposable tableware usage, foreign experience in managing the use of disposable tableware, national policy of Ukraine in the field of production and consumption of some types of plastic.

Chapter 3 "Prospects for the use of biodegradable raw materials to produce disposable tableware by "Andrex" LTD"; till 06.12.2020.

Chapter 3 deals with consideration of "Andrex" LTD as a leading enterprise in disposable tableware production in Ukraine, assessment of competitiveness of "Andrex" LTD in comparison with national and foreign companies, formation of a strategy for "Andrex" LTD development in the context of the transformation of international environmental policy.

8. Supervision on work:

Chapter	Full name and position of the advisor	Date, signature	
		task issued by	task accepted by
1	T.O. Kurbatova, Senior Lecturer of International Economic Relations Department	20.11.2020	20.11.2020
2	T.O. Kurbatova, Senior Lecturer of International Economic Relations Department	01.12.2020	01.12.2020
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Research Advisor: _____

T.O. Kurbatova

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V.S. Mielnikov

CONTENT

Introduction.....	8
1. Global trends in disposable tableware market development.....	10
1.1. Modern technologies for the production of disposable tableware.....	10
1.2. Areas of the use of disposable plastic tableware.....	13
1.3. Trends in development of world and national markets of disposable tableware.....	15
2. State regulation of the disposable tableware market.....	20
2.1. Prerequisites of the transformation of international environmental policy in the field of disposable tableware usage	20
2.2. Foreign experience in managing the use of disposable tableware.....	22
2.3. National policy of Ukraine in the field of production and consumption of some types of plastic.....	25
3. Prospects for the use of biodegradable raw materials to produce disposable tableware by “Andrex” LTD	28
3.1. “Andrex” LTD as a leading enterprise in disposable tableware production in Ukraine	28
3.2. Assessment of competitiveness of “Andrex” LTD in comparison with national and foreign companies	32
3.3. Strategy for “Andrex” LTD development in the context of the transformation of international environmental policy	35
Conclusions	44
References.....	46

LIST OF ABBREVIATION

EU – European Union

SWOT – Strong, Weaknesses, Opportunities, Tendences

PEST – Political, Economical, Social, Technical

ISO – International Organization for Standardization

INTRODUCTION

Relevance of the theme. Over the last few years, the disposable tableware market has been in a state of transformation. The negative impact of plastics on the environment has led to a revision of the regulatory framework in a number of countries in terms of banning or restricting the use of plastic products. This, in turn, put at risk many entrepreneurs who produced disposable utensils from oxydegradable plastic. Finding new raw materials to meet demand and re-equip their own plants with new standards has become a key challenge for entrepreneurs.

Today, most foreign companies for the production of disposable tableware are in the process of reorienting production using a new type of biodegradable raw materials for the manufacture of environmentally friendly disposable tableware. Therefore, the study of their experience and the impact of legislative changes in international and national policy on the prospects for the development of Ukrainian enterprises specializing in the production of disposable tableware, becomes especially relevant.

Study of the problem. The problems of studying the legal framework against the background of the transformation of production processes of international companies for the manufacture of disposable tableware, dealt with such authors as: Barnes D., Galgani, F., Thompson R., Barlaz M., Alexander G., Dur H., Sutter D., and others. However, in the scientific literature little attention is paid to strategies of company development in the context of the transformation of international environmental policy.

The purpose of the qualification paper is to form a strategy of “Andrex” LTD development in the context of the transformation of international environmental policy.

In accordance with the purpose of the qualification work, the following tasks were set:

- to research modern production processes and technologies of production of disposable tableware;
- to analyze the usage of disposable plastic tableware;
- to consider the dynamics of world and domestic markets of disposable tableware in the conditions of transformation of the international ecological policy;
- to study the main competitors for “Andrex” LTD in the world and domestic markets and the prospects of using biodegradable raw materials for the production of tableware in “Andrex” LTD;
- to determine the economic and environmental benefits of biodegradable tableware
- to determine the main strategy for “Andrex” LTD for the production of disposable tableware from biodegradable raw material

The object of the research is disposable tableware.

The subject of research is prospects for the production of biodegradable tableware by “Andrex” LTD in the context of the transformation of international environmental policy.

Research methods: abstract-logical, method of theoretical generalization, system and complex approaches, factor analysis, comparative analysis, causal analysis, etc.

Information base of the research. During writing qualification work, legislative and normative acts in the field of nuclear weapons disarmament, official statistics, publications of Ukrainian and foreign scientists were used.

1 GLOBAL TRENDS OF DISPOSABLE TABLEWARE MARKET DEVELOPMENT

1.1 Modern technologies for the production of disposable tableware

In order to fully meet the consumer demand for disposable tableware, the manufacturer's range must include tableware for drinks, snacks and other dishes. Several types of raw materials can be used to make disposable tableware: plastic, including biodegradable, special paper, wood, etc.

Plastic tableware have a number of advantages. It is convenient, hygienic, practical and cheap. The versatility of the material allows you to produce a wide range of products of different colors, shapes and sizes. If necessary, you can apply a logo or bright pictures.

For the production of disposable tableware manufacturers are using high-tech equipment, which includes:

- thermoforming machine;
- extruder;
- mold;
- compressor [1].

In more modern lines, there are already stackers for stacking goods and automated machines for packing finished goods in plastic bags.

The cost of a set of equipment is about 20-50 thousand euros, the cost of the first batch of raw materials - from 30 to 50 thousand hryvnia [2].

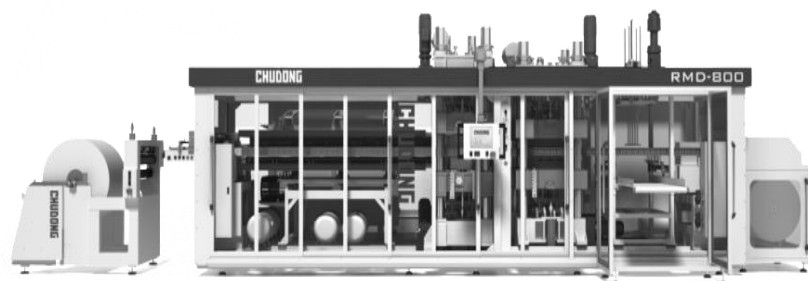


Figure 1.1 - Comparable production line for the production of disposable tableware made of polypropylene and polystyrene [1]

The most common types of plastic used for the manufacture of disposable tableware include:

- polypropylene (strong, plastic, heat-resistant). Dishes from it can be used for hot dishes and drinks; denoted by PP with the number 5);
- polystyrene (products do not withstand heat, so they can not store hot food and beverages; denoted by PS with the number 6).

The raw materials for the production of plastic tableware are granular polymers that look like foam balls. The price per ton of granules fluctuates in the range of 30-50 thousand UAH [3]. This difference in price depends on the brand, diameter, origin of raw materials and other characteristics. Such raw materials are used by full-cycle enterprises, which provide for the melting of granules and the manufacture of a film from which to produce plastic tableware.

The full cycle of production of disposable tableware includes the following stages:

1. Melting of granules during which white or (if it is a question of manufacturing of color ware, multi-colored balls) place in an extruder where raw materials heat up to melting temperature at constant hashing by the screw press.
2. Making the film while reaching the desired consistency, the mass is fed to the press, which produces a plastic sheet with a thickness of 2 mm.
3. Shaping products with a thermoforming unit - when the film is heated to a plastic state and tightened into molds.
4. The solid canvas with the formed utensils is moved to the trimmer, where the individual elements are separated from the solid canvas. Plastic pieces are sent for recycling. Then the dishes are sorted and fed to the conveyor, where it is modified - the application of logos, bending the edges, etc.
5. Packaging is done using a machine that selects the required number of products and places them in the film. In a similar way, the production of utensils from biodegradable plastic.

Disposable tableware made of biodegradable plastic is positioned as "green", but the material, although to a lesser extent than its bio-resistant counterpart, still

pollutes the environment, because its decomposition releases methane and carbon dioxide. However, supporters of the ecological way of life welcome this decision on the principle of choosing the "lesser evil". Bioplastic utensils are light, durable, comfortable and beautiful, it can be used in a freezer and microwave. The raw materials for biodegradable utensils are corn starch, bamboo fiber, sugar cane, wheat straw, etc [4].

Paper tableware are less profitable than plastic, primarily because of the price. The high cost of products is associated with the complexity of the production process and significant costs for the purchase of equipment. At the same time, tableware has a number of positive properties. It does not harm the environment, because it is made from natural raw materials, completely recycled, air permeable, preventing the accumulation of condensate, retains heat well, is suitable for storing hot food and does not emit harmful substances when heated. Disposable paper tableware are made of thin cardboard, which in most cases is laminated on the outside to prevent soaking.

The highest quality lines for the production of paper tableware are those of the United States and the European Union, designed to produce 250-300 products per minute. The cost of such a production line will be about 300 thousand euros. Chinese equipment with a capacity of 125-150 products per minute can be purchased for 80-150 thousand euros [5 - 6].

The main difference between the production lines is the soldering methods. Thermal adhesion is considered optimal, but its ultrasonic analogue provides stronger fixation and high quality at high production speeds. Production lines are not equipped with paper cutting machines and a machine for making logos, because each manufacturer has its own requirements for labeling.

Disposable paper tableware are made of a special type of paper. Finnish companies are considered to be the best producers of this raw material. However, its cost is quite high. At first, companies buy consumables of domestic production. It is inferior to foreign in external parameters, but at the same time provides the necessary qualities of finished products. The standard line for making paper

tableware includes units for forming blanks, soldering seams and cutting out extra elements. It is worth noting that to ensure even the minimum range, manufacturers buy not one line, but at least three or four. This is due to the fact that one of the components of the system - molding or billet, which gives shape to the products, can form products of only the same size and shape. In other words, one line - one molding. Accordingly, even at the initial stage of production requires several kits for the production of different categories of goods [6].

Summarizing all the above, we can conclude that the production of disposable tableware is a high-tech and financially costly process. The planning and accuracy of actions for the production of various types of disposable tableware depends very much on highly skilled workers who service the machine at each stage of production. You should also pay attention to raw materials, which can vary and vary not only in price but also in quality depending on the type. Studying the technology of disposable tableware allows entrepreneurs who want to enter a new market to understand the complexity and cost of manufacturing disposable tableware.

1.2 Areas of the use of disposable plastic tableware

The interest in disposable tableware is not accidental, because during the summer holidays, when outdoor recreation is quite popular, disposable tableware, which does not require significant investment and is very easy to use, is most in demand.

The main consumers of disposable tableware include:

- private buyers for an away feast;
- factories and plants for packaging products (fish, pickles, cheese, etc.);
- staff or guest services (eg cooler or coffee machine water glasses);

- companies specializing in the sale of beverages and takeaway food or outlets that provide such a service;
- cafes, gas stations, airports, etc.

In today's market, types and forms of disposable tableware are very diverse and have their own special purpose.

Disposable tableware for kitchens, dining rooms and self-service places:

- disposable tableware for first, second courses and drinks;
- plastic cutlery (spoons, knives, forks);
- bottles, flasks, wrappers and other food packaging;
- containers for sweets, first courses and takeaways [7].

Children's disposable tableware are designed to ensure the safe nutrition of children of all ages. Such tableware are used to ensure the safety of the child so that he does not get hurt. After all, when using metal objects, many children can unknowingly injure themselves. These dishes can also be used to serve children's birthdays and holidays both at home and in public places. In any case, such tableware must comply with sanitary and hygienic standards to avoid harm to the child's body.

Picnic disposable tableware provide for its simple and convenient use in nature. The advantage of this dish is the absence of the need to wash it after a meal in nature. After use, such utensils are disposed of.

Disposable tableware for reheating are resistant to elevated temperatures, designed to heat food in microwave ovens. This category includes utensils made of polypropylene, which can withstand temperatures over 80 degrees. This dish can be used many times: it does not melt, does not crack and does not emit harmful substances when heated [8].

So we can conclude that, depending on the specifics of consumption, different types of disposable tableware are used - from colorful cutlery to "hot" and "cold" containers. Materials are selected according to individual preferences and purpose of ware, and color and the form under a certain kind of the consumer.

1.3 Trends in development of world and national markets of disposable tableware

Mass use of disposable tableware in Ukraine began in the 2000s. At the same time, Ukrainian producers appeared and began to gradually displace imported products. The domestic market of disposable tableware continues to develop. The growth of fast food markets, on-site service, food delivery, and the development of trade stimulate consumption and increase the popularity of disposable tableware and food packaging.

The market of artificial tableware can be divided into three segments [9]:

- disposable tableware presented mainly in street trade pavilions and cheap fast food outlets;
- premium disposable tableware - more expensive, improved quality and design;
- ultra-premium disposable tableware that can be used even in restaurants.

The obvious trend of recent years in the Ukrainian market is an increase in sales in the premium segment: people's incomes are growing, so are the requirements for quality. Today, the share of premium tableware in total sales is at least 25% [10]. The segment of premium tableware made of durable, high-quality, bright plastic or paper is now growing significantly faster than the economy segment.

In the segment of expensive disposable tableware, the most important characteristics are brightness, innovative shape and design, the ability to choose a complete collection of disposable tableware in a certain color and style, as well as the ability to print.

Disposable tableware for various holidays is becoming more and more popular: children's birthday, company anniversary, New Year, weddings, picnics, etc. Each event requires appropriate design, and utensils become an integral part of it. Very popular bright children's designs with cartoon characters, with funny

drawings. Adult buyers are also in demand for paint products. Design options can be different: futuristic, geometric, with colors or inscriptions. Such products are best sold at retail in chain stores, especially in hyper - and supermarkets. The bulk of disposable tableware with a design - about 60% is sold through online retail. The remaining 40% are souvenir shops and shops offering goods for the organization of holidays. Sales of colorful disposable tableware are not subject to seasonality. Such products are in constant demand, as the holidays are all year round: in the spring - summer are picnics and trips out of town, and the rest of the time - corporate events [11].

In terms of regional use of disposable tableware on the national market, the leader is the city of Kyiv, where there are a large number of food outlets Fig. (1.2).

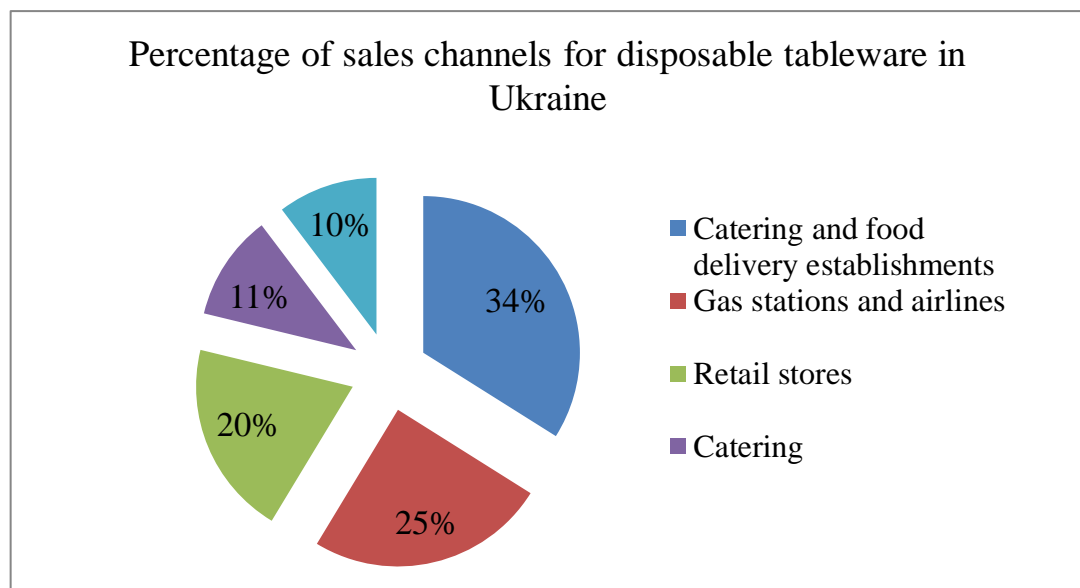


Figure 1.2 – Percentage of sales channels for disposable tableware in
Ukraine [12]

Today in Ukraine there is an active increase in the number of new catering establishments and the expansion of existing networks. It is worth noting the rapid development of street food. Thus, gastronomic festivals are gaining popularity in the capital, which increases the demand for disposable tableware.

Also, the demand for disposable tableware is formed by companies that deliver food, which is due to the rapid development of e-commerce through COVID - 19. Development of catering companies, kitchen factories that produce ready meals for retail chains, as well as demand from the population who buys dishes for picnics and holidays and the vending segment (in Ukraine this area is filled by only 15-20% and represented by 10 thousand. vending machines) affect the growth of the disposable tableware market [13].

Disposable tableware is also actively used by airlines and gas stations, which in recent years have developed grocery retail. There are about 7,000 gas stations in Ukraine. The first cafes appeared in 2015 at WOG gas stations. Today, this trend is being developed by all well-known brands.

Demand for quality disposable tableware is growing every year. However, despite the increase in demand, companies producing disposable tableware face various problems, the main of which are [14]:

- small number of producers of raw materials for the production of disposable tableware in Ukraine and a high price for it;
- dependence on foreign suppliers of raw materials, technologies and equipment;
- lack of state interest in the implementation of projects for the collection and processing of plastic;
- strengthening competition in the market at the expense of unregistered companies that do not pay taxes;
- changing consumer preferences and increasing requirements for the quality of such products on the world market.

It should be noted that along with the development of the Ukrainian market of disposable tableware, the world market is also developing dynamically. Among the world leaders in the production of plastic tableware, we can highlight the following companies: Huhtamaki, DART, Georgia-Pacific and SOLO [15].

Demand in the world market of ware is inhomogeneous. First of all, the growth of the disposable tableware market is stimulated by the development of

public catering, including online fast food. In this case, the role of the manufacturer of disposable tableware as a developer of integrated solutions is especially important, and the role of the supplier is to ensure the availability of the entire range of disposable tableware for the end customer. In the world market of disposable tableware, distribution as a whole has separated from production. It is worth noting that distributors often take on the functions of manufacturers - complete sets for retail.

According to Freedgonia, the market for disposable tableware will grow by 4.8% annually. The largest growth will be shown by the markets of China, Russia and India. By 2020, the global market for disposable tableware will reach \$ 48.6 billion [16 - 18].

The growth in demand for disposable tableware is due to the acceleration of the pace of life and growth in per capita income and the development of fast food restaurants. Catering outlets will remain the main consumers of all types of disposable tableware.

China's share in the consumption of disposable tableware by 2020 may reach 25% of world volume. Demand in developing countries will also show steady growth, both due to the increase in online fast food and due to the growing popularity of takeaway food sold by private restaurants.

In world production, under the influence of environmental requirements, a relatively new trend is gaining momentum - the production of disposable tableware from biodegradable materials (for example, from polyactides made from corn fiber, which completely decompose in about two months). According to experts, the main deterrent to the production of such disposable tableware on the domestic market is the cost of production, which is 4 times higher than the cost of production of disposable plastic tableware [19]. However, the cost of biodegradable tableware has a clear tendency to decrease, and it is possible that in three or four years it will be quite affordable.

Now in the world there is a serious increase in demand for small packaging and kits for retail, with their thematic focus, design and completeness (plates,

glasses, napkins, tablecloths, tubes for juice or cocktail, etc.). In network retail, priority places on the shelf are given to manufacturers of disposable tableware with a festive design. Now consumers increasingly perceive disposable tableware as part of the festive entourage. Such novelties as figured tubes for cocktails from rigid plastic executed in the form of heart, a treble clef, a spiral have appeared on the market. Experts note that the design of disposable tableware is no less important than its consumer qualities [20].

Summing up, we can conclude that today in Ukraine the market of premium segment of disposable tableware is developing dynamically. Sales channels in Ukraine are increasing every year, which contributes to increased demand for goods. In this regard, many entrepreneurs face the problem of finding raw materials, as well as the problem of purchasing quality equipment to maintain a leading position in the market of disposable tableware. Foreign companies are focusing on the transition to biodegradable raw materials and maintaining demand through innovative ideas for disposable tableware. Currently, the market is focused on the retail sale of disposable tableware in the premium segment, but with the reduction in the cost of biodegradable raw materials for the manufacture of disposable tableware, it is likely that wholesale trends will again become a priority.

2 STATE REGULATION OF THE DISPOSABLE TABLEWARE MARKET

2.1 Prerequisites of the transformation of international environmental policy in the field of disposable tableware usage

In recent decades, the growth rate of plastic production has outpaced the growth rate of almost all other materials. Many plastics are produced with the expectation of being discarded immediately after use. Accordingly, plastic packaging materials account for about half of all plastic waste in the world. There is no clear information on the extent of pollution. According to US oceanographers, each year humanity throws about 8 million tons of plastic into the ocean. The leader is the world's main production plant - China. This country emits about two and a half million tons of polymer waste a year. Both developed and underdeveloped countries are among the leaders in pollution (Fig 2.1). Among them are Nigeria, Indonesia, the Philippines, Egypt, Sri Lanka, Thailand, Malaysia. Every year, humanity produces about 280 million tons of plastic, of which about 3% falls into the ocean [21 - 22].

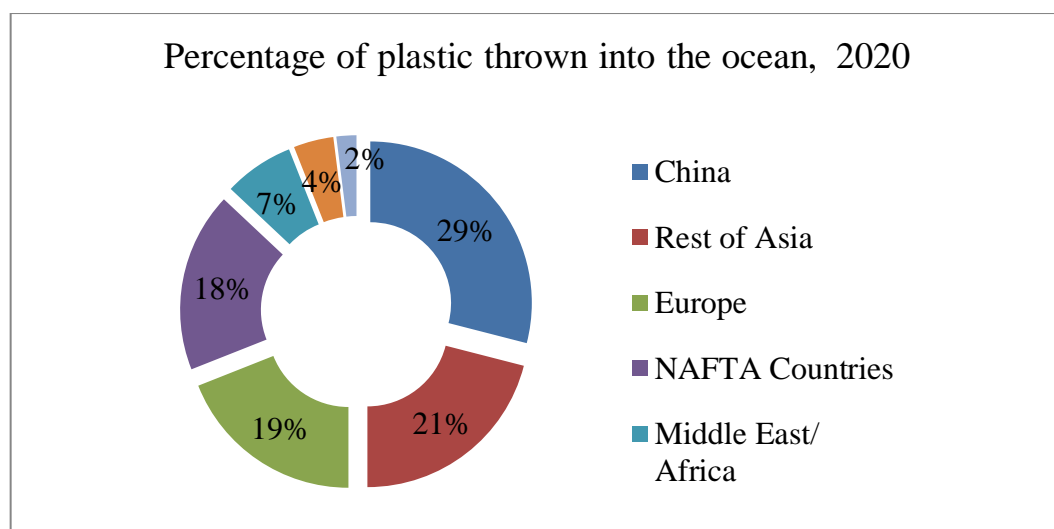


Figure 2.1 - Percentage of plastic thrown into the ocean, 2020 [23]

Most of this type of waste is generated in Asia, while America, Japan and the European Union are the largest producers of plastic packaging waste per capita [24]. Today, most plastics end up in landfills. If the current models of consumption and waste management are not changed, by 2050 12 billion tons of plastic waste will be accumulated in landfills [25]. If plastic production continues to grow at the same rate, the plastic industry will account for 20% of world oil consumption [26 - 27].

The most common types of disposable plastic that occur in the environment, in descending order: plastic bottles, bottle caps, food packaging, disposable tableware, plastic bags and beads, lids from beverage cups, drinking tubes and mixing sticks, other types of containers of plastic and polyfoam.

Most plastics do not have the ability to biodegrade. Instead, they slowly break down into smaller particles - microplastics. According to research, plastic bags and containers made of expanded polystyrene (also known as foam) can decompose for thousands of years, in the process of contaminating soil and water. Being eaten by fish, microplastics can get into our food chain. Studies show that microplastics are found in 90% of bottled and 83% of tap water [28 - 30].

Plastic bags can block waterways and exacerbate natural disasters. By clogging sewer networks and creating places of mass reproduction of mosquitoes and pests, plastic bags can contribute to the spread of transmission diseases. There have been cases where high concentrations of plastic materials, including plastic bags, have blocked the airways and stomachs of hundreds of species. Turtles and dolphins often swallow plastic bags, taking them for food.

Styrofoam products contain carcinogenic chemicals such as styrene and benzene, which are extremely toxic if ingested, affecting the nervous system, lungs and reproductive organs. The toxins contained in the foam containers can pass into food and beverages. In poor countries, plastic waste is often incinerated for heating or cooking, exposing people to toxic emissions. Burning plastic in the open air releases harmful gases such as furan and dioxin [31].

The economic damage caused by plastic pollution is huge. In the Asia-Pacific region alone, plastic waste costs the tourism, fishing and shipping industries \$ 1.3 billion annually. USA. In Europe, cleaning beaches and coasts from plastic debris costs about 630 million euros a year. According to research, the total economic damage caused to marine ecosystems by plastic pollution is at least \$ 13 billion a year [32 - 34].

The above-mentioned environmental and economic consequences of large-scale use of plastic products have led to a revision of the legislation regarding the ban on the use of certain plastic products in many countries.

2.2 Foreign experience in managing the use of disposable tableware

Now the EU countries are at the crossroads of choice: to leave the market for disposable tableware or to adapt to new standards. The approval of Directive 2019/904 to reduce the environmental impact of certain plastic products has restricted the market for disposable tableware, namely the production and consumption of the following types of disposable plastic tableware:

- cutlery (forks, knives, spoons, sticks);
- plates;
- cotton swabs;
- mixers for beverages and food containers made of expanded polystyrene;
- products made of oxo-decomposable plastic [35].

In accordance with the European Union's waste policy, members are obliged to:

- take measures to reduce the production of certain plastics
- disposable products (drinking glasses, including lids and containers for ready meals for immediate consumption);

- track the amount of use of these disposable products and inform the European Commission of the progress made.

The directive requires an ambitious and sustainable quantitative reduction consumption of these products until 2026 [36].

Lawmakers noted that about half of all garbage on the beaches of the European Union - plastic. Plastic also accounts for three-quarters of all waste in the world's oceans. The European Parliament has also approved a proposal to oblige plastic manufacturers to compensate for the damage caused by plastic to the natural environment.

Manufacturers will, among other things, be required to reimburse the money spent on cleaning the seas and beaches in the European Union. In many countries, the process of transforming and adapting to new standards will be difficult: enforcing the law will require profound, costly and far-reaching changes.

Let's try to show from the experience of neighboring Poland what reforms will have to be carried out by companies that focus on the European Union market. About 3.5 million tons of plastic are used in Poland every year. The industry employs about 160 thousand people, its turnover is 80 billion zlotys (19 billion euros), of which more than half falls on the packaging market [37 - 38]. It is these manufacturers will have to look for an effective way to recycle plastic waste.

Despite the fact that, in principle, the system of separate waste collection has long been operating in Poland, now the processing of plastic in the country remains low. There are no collection points and a system for recycling plastic bottles, in addition, disposable packaging is made of low-quality plastic - only 40% of packaging is recyclable. Everything else ends up in landfills.

The eco-revolution will undoubtedly affect the food industry, the main customer of packaging. But not everyone is aware of the scale of the changes. This is especially true for small businesses.

For the food sector, farewell to plastic means the need to re-equip production lines for new packaging. No later than 2023, all plastic bottles must be made of at least 25% of secondary raw materials, and by 2030 - by 30%. The beverage

industry will be particularly affected by the changes. In 2024, plastic bottles with screw caps should disappear from stores.

By 2025, Poland is obliged to recycle 50% of artificial materials, by 2030 - 55%. However, in the case of plastic bottles, the directive increases this level by another 40%. To achieve this, the state must introduce a system of receiving plastic containers or establish selective waste collection within the system of extended producer responsibility [39 - 41].

The changes will also affect the gastronomy and catering sector. From 2021, a ban on the use of disposable plastic plates, cutlery and straws for drinks will come into force [42].

In order to comply with the new rules, the entire municipal waste management system will have to be significantly changed. All participants in the process will have to try to do this: local governments (they are responsible for organizing waste collection), companies that collect municipal waste (they must be the first to "guard" the quality of selective collection), waste sorting points (they prepare garbage for recycling)), recycling organizations (which provide the recycling process itself), incinerators and, finally, companies that supply plastics to the market (they expect quality recyclables for the production of new packaging).

In general, it can be concluded that it is as impossible as it is undesirable to completely rid society of plastic. However, given the scale of today's plastic crisis, alternative materials have an important role to play in reducing our dependence on plastic, the price and convenience of which have led to an unprecedented increase in its production in recent decades. This trend of increasing plastic production will continue, which means that our ability to deal with plastic waste, which is already completely insufficient, will continue to suffer additional burdens. Governments are gradually beginning to notice the problem. Prohibitions on the use of plastic bags and foam can significantly reduce the amount of plastic waste that enters our environment. Directive 2019/904 on reducing the environmental impact of certain plastic products is one of many steps to reduce the production and distribution of disposable tableware used by the European Parliament.

2.3 National policy of Ukraine in the field of production and consumption of some types of plastic

Ukraine, is only taking the first steps to adapt Ukrainian legislation to that of the European Union in terms of reducing polyethylene and plastic waste. In 2020, deputies of the Verkhovna Rada registered law № 9507 “On reducing the amount of certain types of polyethylene waste in civil circulation”, which proposes to limit the use of plastic bags [43] and № 2051–1 “On reducing the number of plastic bags in civil circulation”, which aimed at limiting the use of plastic bags in retail, catering and services [44].

Consider in more detail the rules of the above legislation to understand how they can affect the circulation of disposable tableware and plastics in Ukraine.

Law № 9507 “On Reducing the Amount of Certain Types of Polyethylene Waste in Civil Circulation” aims to reduce the amount of waste of polymer products, including plastics, introduces restrictions on the production, import and use of certain types of such products in order to improve environmental protection and improvement territories.

The main purpose of this law is to determine the types and groups of plastic goods that are allowed to be produced and imported into the territory of Ukraine. Article 2 "Peculiarities of the use of packaging products made of thin and ultra-thin plastic in the trade network" states that the production, import, sale, distribution and use by economic entities and individuals in the trade network (retail network) of packaging products from thin and ultra-thin plastic, including oxo-decomposable, which do not meet the requirements of part two of this article, is prohibited.

Production, import, sale, distribution and use of packaging products (packages, films, etc.) from thin and ultra-thin biodegradable plastic by business entities and individuals is allowed in the presence of:

- developed network of waste collection and processing of disposable packaging products from thin and ultra-thin biodegradable plastic and biodegradable polymer film;

- systems of financial support for collection and processing of waste disposable packaging products from thin and ultra-thin biodegradable plastic and biodegradable polymer film.

The ability of packaging products made of thin and ultra-thin biodegradable plastic to biodegrade is determined in accordance with the national standard, and before the entry into force of the relevant national standard - based on the results of expertise conducted in accordance with consumer protection legislation.

Therefore, according to Article 2, it can be concluded that at present the market for packaging products in Ukraine should focus on the production of ultra-thin biodegradable plastic to reduce emissions of oxo-degradable plastic from polyethylene.

Measures to limit the circulation of polymeric plastic products are funded by manufacturers, importers of plastic products, retail chains and wholesalers. Funds from environmental funds, voluntary contributions from businesses, institutions, organizations, citizens and their associations may be used to finance these activities.

In order to stimulate the introduction of biodegradable plastic products by economic entities, the state introduces appropriate mechanisms of economic regulation, in particular, a preferential credit system and the provision of tax benefits which reduces taxes.

Control over the restriction of production, use, import and distribution on the territory of Ukraine of plastic products is provided within the competence of public authorities, local governments, enterprises, institutions, organizations regardless of ownership and subordination, as well as citizens, including foreigners and persons without citizenship.

State supervision (control) over compliance with legislation in the field of reducing the use of certain types of plastic products is carried out by the central

executive body in the field of state control over compliance with legislation on consumer protection.

Persons guilty of violating the requirements of this law shall bear disciplinary, administrative, civil or criminal liability in accordance with the laws of Ukraine.

Law № 2051-1 “On Reducing the Number of Plastic Bags in Civil Circulation” can be interpreted as a more specific version of Law № 9507, as the main difference is the full description of the requirements for the production and sale of plastic bags and packaging.

Companies must adhere to special requirements and labels in order to obtain a marketing authorization.

The main of these requirements are:

1. Walls up to 15 microns and dimensions 225mm * 345mm * 450mm, used for meat, fish and products from them, as well as bulk products for which the package is the primary packaging.

2. Suitability of plastic bags for biodegradation. Defined in accordance with national standards SSTC EN 13432: 2015 (EN 13432: 2000, IDT) "Packaging. Requirements for packaging disposed of by composting and biodegradation. Test schemes and evaluation criteria for final acceptance of packaging "and SSTC EN 14995: 2018 (EN 14995: 2006, IDT)" Plastics. Assessment of biochemical degradation ability. Test procedure and technical conditions" [45 - 47].

3. Plastic bags that meet the requirements of biodegradable plastic bags established by the national standard SSTC EN 13432: 2015 shall be marked by the manufacturer. Each individual plastic bag is subject to such marking [48].

Summarizing the above, we can conclude that Ukraine is taking the first steps in forming a regulatory framework aimed at reducing the impact of plastic products on the environment. The purpose of these laws is to bring the country closer to the standards of the European Union so that in the near future our companies will be able to adapt to the new environment and the laws of the world market of plastics and disposable tableware.

3 PROSPECTS FOR THE USE OF BIODEGRADABLE RAW MATERIALS TO PRODUCE DISPOSABLE TABLEWARE BY “ANDREX” LTD

3.1 Andrex” LTD as a leading enterprise in disposable tableware production in Ukraine

“Andrex” LTD was established in 1998. Since its inception, the company has been actively engaged in the wholesale of disposable tableware, packaging and related products, as a major importer and distributor in Ukraine of the famous Polish manufacturer - the company "Bittner". In 2001, an agreement was reached with Bittner to open a plant in Sumy, and in April 2001, “Andrex” LTD began to specialize in the production of disposable tableware [49].

Since 2008, the company, in addition to the production of disposable tableware, began to produce polystyrene film on new high-tech equipment.

The main goals of “Andrex” LTD are:

- profit maximization;
- formation of a positive image in the market;
- production of competitive products;
- meeting the needs of the population in goods;
- expanding the range of products;
- building relationships with partners based on trust and mutual respect;
- development of social structure.

“Andrex” LTD pricing policy is aimed at maintaining the optimal price-quality ratio. In terms of quality of products, “Andrex” LTD positions itself in the "premium" segment, in terms of price - in the middle price segment.

The team of managers of “Andrex” LTD builds its work on the principles of professionalism, open partnership, legality and balance of interests of society, business and the state. The company trains employees at international seminars, conferences, etc.

“Andrex” LTD plans to constantly improve the quality of its products, expand its range, while providing favorable and convenient conditions for cooperation with suppliers and customers.

The management of Andrex “Andrex” LTD realizes that the success of the company depends on the quality of products and services provided. Constantly improving the quality, the company increases the value of the brand, and thus achieves new positions in the global market.

“Andrex” LTD has received the ISO 9001 certificate - an international standard that defines the quality of the management system [50].

The ISO 9001 standard includes the following principles aimed at quality management:

- customer orientation;
- staff involvement;
- leadership;
- system approach to management;
- making decisions based on facts;
- mutually beneficial relations with suppliers.

Development and implementation of the ISO 9001 quality management system provides “Andrex” LTD with a number of advantages, including:

- confirmation of the company's desire to improve and meet customer needs;
- ensuring compliance of products and services with legal and regulatory requirements;
- the ability to assess progress in business process management and improve management weaknesses.

The main activity of “Andrex” LTD is wholesale of disposable tableware.

Today “Andrex” LTD uses two main technologies for the production of disposable tableware: casting and molding. Casting is necessary to obtain a thick-walled container: dense plates, wine glasses, stacks, glasses, etc. For ordinary non-thick-walled containers, the molding method is used.

The production of disposable plastic utensils includes the following stages:

1. The raw material is fed into the extruder, where under the action of high temperature it melts and mixes. The standard color of raw materials is white. If colored utensils are made, colored polystyrene granules are added at this stage.

2. The resulting mixture is passed through an auger press, turning into a plastic sheet 1-2 mm thick. An important condition is the uniform thickness of the product. It is achieved by carefully adjusting the shafts that turn the mass into a solid canvas. This requires careful monitoring of the mass temperature and the beating frequency of the shafts. When working with polystyrene to achieve a uniform thickness is easier than with polypropylene. Therefore, the productivity of polypropylene is reduced by 20%, and the same increases the consumption of raw materials;

3. The finished and heated in the oven sheet is sent to the thermoforming apparatus. At this stage, blanks are made: the canvas passes through certain molds (depending on the type of finished product - plate, glass, fork, etc.). By means of a press from a film preparations of the necessary form are created;

4. With the help of special devices (depending on the type of product) is the final processing of the product: for example, the bend of the upper edge of the glasses;

5. Packaging of finished products.

It should be noted that the remnants of the plastic film after the formation of the finished products can be used in the next operating cycle.

Disposable tableware is made of granules, which must first be melted (full production cycle) or from the finished film, which is purchased in rolls (incomplete production cycle) [51].

Consider a set of machines for organizing a complete cycle:

- extruder to obtain a plastic web of granules;
- granulator and crusher;
- thermoforming apparatus;
- molds;

- packing machine.

The cost of a line for the production of disposable tableware is about 5-20 thousand dollars. USA, depending on the country of manufacture. European production lines are the most expensive, so many entrepreneurs prefer Chinese, Taiwanese and domestic brands. “Andrex” LTD uses Taiwanese and Turkish thermoforming machines [52].

The main materials from which disposable tableware is made include: paper, polystyrene, expanded polystyrene and polypropylene. Consider in more detail the advantages and disadvantages of producing disposable tableware based on them.

1. Disposable tableware made of laminated paper:

- non-toxic;
- well disposed;
- suitable for heating food in microwave ovens.

2. Disposable tableware made of polystyrene:

- suitable for cold and warm (up to 70 ° C) food / drinks;
- when interacting with alcohol releases styrene.

3. Disposable tableware made of expanded polystyrene:

- retains heat / cold very well;
- suitable for heating food in microwave ovens.

4. Polypropylene tableware:

- suitable for hot food / drinks (up to 100 ° C);
- in interaction with alcohol releases formaldehyde and phenol [53].

“Andrex” LTD manufactures a wide range of products and has a conclusion of sanitary - epidemiological examination, which confirms the correctness of the technological process in the manufacture of plates and cups, which indicates a completely safe use of the company 's products.

Summing up, we can conclude that “Andrex” LTD is a technologically innovative enterprise that produces quality and competitive products.

3.2 Competitiveness assessment of “Andrex” LTD with domestic and foreign companies

The issues of studying the competitiveness of industrial enterprises are important and relevant both for the country's economy as a whole and for individual producers. In market conditions, high competitiveness of economic entities is the main condition for the development of the enterprise and the key to high and stable profits.

Realizing this, domestic producers in the face of fierce competition have the following goals: to meet consumer needs, increase sales and maximize profits, expand the share of domestic and foreign markets, ensure the required level of quality and price, introduction of new processes and equipment upgrades . Given that “Andrex” LTD is focused on European quality standards, in the global market it can compete with companies such as: Huhtamäki Oyj, Bittner Packaging Sp. Z OO, Kram Family Company, STYBOWSKI SPSKIŁKA JAWNA and Guillin Group. Consider in more detail the three largest competitors of “Andrex” LTD in the market of disposable tableware [54].

The first and biggest competitor for “Andrex” LTD is the Finnish company Huhtamäki Oyj, which manufactures food packaging and has offices in more than 30 countries. Huhtamäki Oyj employs about 18,000 people in various countries. The company's shares are traded on the Helsinki Stock Exchange, are among the 25 most liquid securities that make up Finland's key stock index OMX Helsinki 25.

According to the annual report of Huhtamäki Oyj, net sales for 2019 amounted to 3.34 million euros Fig. (3.1).

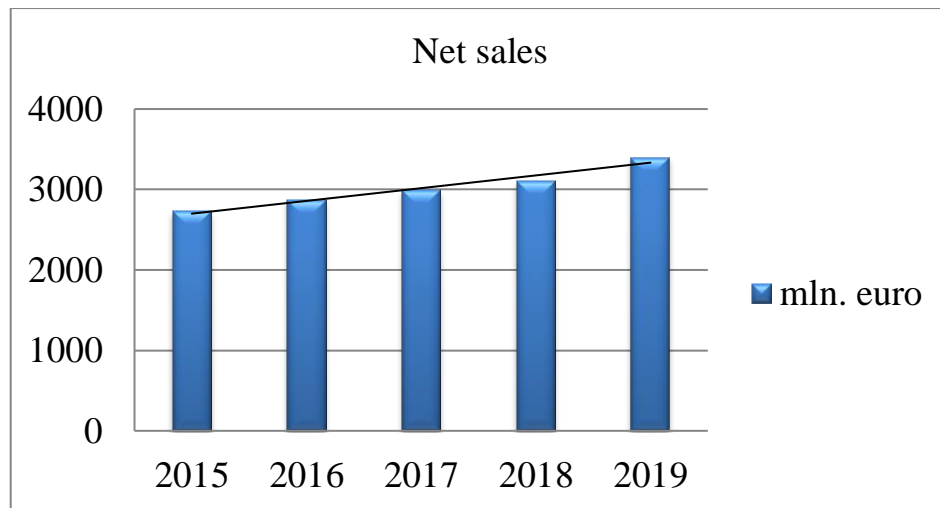


Figure 3.1 - Net sales of Huhtamäki Oyj in 2015-2019 [55].

Analyzing the data in Figure 3.1, we can conclude that the company has an annual increase in net sales of 2%, which indicates the gradual successful development of the company.

The second competitor for “Andrex” LTD is the Polish company BITTNER PACKAGING SP. Z.O.O, which has been manufacturing disposable tableware for 27 years [56]. One of the strengths of this company is its location, as Poland is a member of the Economic and Monetary Union of the European Union, which greatly facilitates foreign exchange between sellers and buyers of goods, strategic and logistical routes of sale. Another advantage of this company is a wide range of polystyrene products. However, in 2021 the “Directive (EU) 2019/904 - on reducing the impact of certain plastic products on the environment” [57] comes into force, which prohibits the production and sale of disposable plastic products (polystyrene), in particular - utensils, cutlery , straws for drinks of the European Union.

The third competitor for “Andrex” LTD is KRAM, a family company with Polish capital, which has been successfully operating on the market of polymer film for the production of blister packaging, which is analogous to paper and cardboard packaging and disposable tableware, since 1991. In 2019, the company's net income was \$ 5 million. In light of the changing environmental policy of the

European Union, KRAM has the greatest potential to strengthen its position in the disposable tableware market, as KRAM already specializes in the production of disposable paper tableware [58].

Thus, the main competitors of “Andrex” LTD are the above-mentioned Polish companies, which started their activity on the disposable tableware market much earlier and change their production more quickly in accordance with environmental legislative initiatives.

In Ukraine, in addition to “Andrex” LTD, there are two other companies that specialize in the production of disposable tableware: Alfa Pak and Unita.

Alfa Pak is one of the most reliable suppliers of plastic packaging and disposable tableware for companies operating in the food industry of Ukraine. The range of Alfa Pak products includes blister packaging, paper cups, paper bags, craft tableware, organic tableware, disposable tableware, which are made of quality materials of different colors.

Alfa Pak produces flexible packaging from polymer films, which is one of the most popular and sought-after products on the market. It has become widespread in the areas of food packaging directly on production lines, retail chains and more. In order to give the packaging a more attractive appearance, Alfa Pak actively uses flexographic printing [59].

The second competitor “Andrex” LTD is UNITA, which is currently the leader in the production of disposable tableware from solid materials on the Ukrainian market. The company supplies to the domestic and foreign markets such products as disposable forks, spoons, knives, glass cups and cups, plastic cups, a wide range of stirrers and tableware. All products are certified and recommended for use in catering establishments, cafes, etc [60].

The advantage of “Andrex” LTD is its wide range of disposable tableware made of polypropylene and polystyrene, while Alfa Pak focuses more on the market of flexible packaging made of polymer films, paper cups and craft tableware, and UNITA - on the market of tableware. solid materials (glassy glasses and cups).

Thus, we can conclude that in Ukraine there is no significant competition between the above companies, because each company has its own niche. As a result, today the main competitors for “Andrex” LTD are Polish companies that set the trend and price category for disposable tableware.

3.3 Strategy for “Andrex” LTD development in the context of the transformation of international environmental policy

In recent years, the market for disposable tableware has undergone significant changes and transformations. This is due to the fact that the amount of plastic in world trade has increased significantly, which has led to environmental pollution.

The most significant changes affected “Andrex” LTD due to significant transformations in the world legislation regarding disposable tableware in the EU countries, which are the main buyers of goods. The main market for goods is Poland, which is also making changes in its production range and is gradually abandoning disposable tableware made of some types of plastic.

The European Parliament has adopted Directive 2019/904 on reducing the environmental impact of certain plastic products and has introduced restrictions on the disposable tableware market. This forces “Andrex” LTD to decide on its future strategy in order to adhere to such directions in its activity, which would allow to resist the pressure from foreign competitors, which quickly adapt to the new standards of disposable tableware and were aimed at creating certain competitive advantages in the disposable tableware market. Ukraine to accumulate finances for further development.

Therefore, the development of enterprise development strategy to ensure competitive advantage is an urgent task for “Andrex” LTD.

Creating a successful enterprise development strategy is preceded by a thorough analysis, during which you need to study the company itself and its market. As sources of information for the analysis of the company were used:

- interviews with the founders and employees of the company;
- regulatory documents in force at the enterprise;
- results of the company's activity for the previous period.

Let's define a stage of a life cycle of the investigated enterprise according to the concept of I.Aizedis [44]. To do this, we use the characteristics of the stages of the life cycle on the basis of: management, marketing, finance, control, innovation.

We will evaluate the areas of study of the stages of the life cycle in "Andrex" LTD Table (3.1) [61].

Table 3.1 - Characteristics of the studied elements

Management	The management style is democratic. There is both regular management and project. There is a clear system of plans and a mechanism for their implementation. There is a clear process-oriented organizational structure.
Marketing	Services are in demand, the number of customers is increasing, sales are growing. The company partly anticipates market actions and partly controls them. The company's activities are focused on the result that meets both internal and external needs.
Finances	The company has sufficient material potential. The costs of the organization cover not only the minimum needs, but are well thought out and aimed equally at improving the efficiency of the organization and strengthening its image
Control	Top management is testing a new management control system.
Innovations	The spirit of innovation is maintained.

Next, we compare the above characteristics of "Andrex" LTD with the stages of the life cycle of I.Aizedis, listed in Table 3.2 [62].

Table 3.2. - Assessment of the stage of the life cycle of “Andrex” LTD

Stage	Management	Marketing	Finance	Control	Innovations
Origin	-	-	-	-	-
Childhood	-	-	-	-	-
Maturity	-	+-	+-	+	+
Blossoming	+	+	+	+-	+
Stability	+-	-	-	-	-
Aristocracy	-	-	-	-	-
Early bureaucracy	-	-	-	-	-
Bureaucracy	-	-	-	-	-
Death	-	-	-	-	-

Annotation: "+" - indicates full compliance with the characteristics of "Andrex" LTD description of the element of the stage of the life cycle according to I. Aizedis; "-" - discrepancy; "+ -" - partial compliance.

As can be seen from Table 3.2, “Andrex” LTD is in transition from the stage of maturity to the stage of prosperity. At the same time, there are already indicators that reflect the beginning of the stage of stability. The company can be in the "Prosperity" stage indefinitely if it takes certain measures.

The stage of maturity or optimal functioning is characterized by successful highly efficient operation of the enterprise on the basis of the developed technology and organization of production, progressive forms and methods of enterprise management, active marketing activities [63].

The development of the organization at this stage is in the interests of balanced growth based on a stable structure and fair management. During this period, as a rule, the head of the organization is satisfied with the logic and coherence of the management system, which reduces his interest in adapting to changes in the external environment, as well as to renewal and decentralization. Thus, the maturity of the organization is associated with its penetration into new

areas of activity, expansion and differentiation, however, it is during this period that bureaucracy in management is actively emerging [64].

The period of maturity occurs as a result of exertion of all forces of the enterprise. There is full employment of all resources. With full production should be formed efficient use and allocation of resources (use of the best technologies, equipment, etc.). Until now, it can be argued that the company has withstood the competition, and now the most important in ensuring efficiency are internal factors. The firm begins to strive to reduce prices, create discount systems, provide service. To maintain the effective functioning of the enterprise in the period of maturity it is necessary to monitor the state of profitability of sales, return on assets and equity, turnover. However, if the indicators of financial and production risks are high, it is necessary to stabilize the indicators of financial stability and solvency. Deviation of financial indicators from normal industry averages in the period of maturity indicates the financial and economic instability of the enterprise and, if no measures are taken for financial and economic recovery, the company may soon find itself in a very difficult situation [65]. The main signals indicating a decrease in the efficiency of the enterprise in the period of maturity may be indicators of moral and physical depreciation of fixed assets, the renewal of which requires additional investment. However, a well-planned strategy to respond to increasing values of these indicators allows you to move to a qualitatively new technical and technological level, increase production, while improving the quality of goods. In other words, a company can move to a new life cycle curve during a period of growth and avoid a period of decline. Another signal of declining efficiency of the enterprise is the death of working capital, ie the accumulation in warehouses of large quantities of raw materials, materials and finished products. As a result, the turnover of current assets and profitability of sales decreases. In this case, it is also necessary to move to a qualitatively new technical and technological level of production, and an active marketing policy [66].

If the company is capable of change, responds flexibly to the dynamics of the external environment, quickly adapts to market needs, it can operate successfully for many years without fear of falling profitability and bankruptcy.

If the company does not respond in a timely manner to the requirements of different stages of the life cycle, the case will be steadily approaching a decline in business activity and bankruptcy [67].

To prevent the negative elements of the life cycle, the second step in building a strategy for “Andrex” LTD is to study the external environment and the general characteristics of the market using PEST analysis [68].

PEST analysis is a simple and convenient method for analyzing the macroenvironment (environment) of “Andrex” LTD.

Table 3.3 - PEST analysis

Factor	Degree of influence (1-10)	Description
Political		Factors of the political and legal environment of the company.
Current legislation on the market	5	Laws № 9507 “On reducing the amount of certain types of polyethylene waste in civil circulation”, which proposes to limit the use of plastic bags, and – 2051–1 “On reducing the number of plastic bags in civil circulation”, which aims to limit the use of plastic bags in civil circulation. retail, catering and service facilities.
Future changes in legislation	8	According to the trends of the European Parliament, Ukraine may also ban the production and sale of disposable tableware in the future.
New political trends	5	Increasing attention is being paid to the plastics industry and its impact on the environment, which may lead to the introduction of new bills to reduce the production of disposable tableware.
Economic		Factors of the economic state of the market.
Exchange rate changes	9	“Andrex” LTD is very much tied to the exchange rate, as the prices for foreign raw materials and foreign equipment are directly related to the exchange rate.

Continuation of Table 3.3

Inflation	2	Prices for disposable tableware on the market of Ukraine and the world always vary in the average price segment. The main trend will be biodegradable tableware, which will be able to change the price segment and the economic situation, because not all companies will be able to transform their production to new standards. The direction of biodegradable tableware is only gaining trends, so it is difficult for investors to invest in projects that are not sufficiently tested and can fail.
Economic situation and trends	6	
Dynamics of the refinancing rate	3	
Investment climate in the industry	5	
Taxation specific to this market	0	“Andrex” LTD produces disposable tableware made of polypropylene and polystyrene, which does not require licensing.
Seasonality	7	There is seasonality in the production of disposable tableware. The most successful in terms of profits are the spring and summer seasons.
Social		Factors of social and cultural state of the market
Changing the level and lifestyle	7	Due to the increase in the income of citizens, the segment of the premium class is gaining popularity.
Technological		Factors characterizing technological progress in the industry.
Technology development	8	“Andrex” LTD has formed production lines for the production of disposable tableware made of polypropylene and polystyrene of European standard, but the lines for the transition to biodegradable tableware have been little studied.

The PEST analysis revealed the factors of future changes in legislation, changes in exchange rates and the development of technologies that most strongly affect the company's activities. These factors are further investigated and used as opportunities and threats in SWOT analysis [69].

After the SWOT-analysis, attention is paid to the probable threats and opportunities facing the manufacturer. The company needs to focus on those that can be key to success or failure. SWOT analysis of “Andrex” LTD is given in Table 3.4.

Table 3.4 – SWOT analysis of “Andrex” LTD

Strengths	Weaknesses
<ul style="list-style-type: none"> • Compared to the European Union, the company has the opportunity to attract cheaper labor and pay lower electricity tariffs, which reduces the cost of production, and thus increase its competitiveness in international markets. • Experience in the market of disposable tableware for more than 15 years, which allows “Andrex” LTD to be guided in choosing the right strategy for the future development of the company. • Ability to store large stocks of raw materials and finished products due to low rents and prices for the construction of warehouses compared to foreign companies. 	<ul style="list-style-type: none"> • Competitors located in the European Union have the ability to provide more flexibility and faster logistics processes compared to “Andrex” LTD located in Ukraine. • Product certification requires a lot of time and financial resources, as Ukraine has a limited number of laboratories that can carry out certification that meets all sanitary standards of the European Union. • Existence of special conditions for obtaining documents confirming raw materials and for crossing the border (EURO1 and permits issued by the Ministry of Transport and Communications of Ukraine). • High interest rates on loans. This does not allow “Andrex” LTD to attract long-term credit resources on acceptable terms.
Opportunities	Threats
<ul style="list-style-type: none"> • Production of a new product from new biodegradable raw materials, which in the future will strengthen its position in the market of disposable tableware, taking into account changes in environmental policy of the world. • Ability to study the demand for new competitive products with access to new international markets. • Ability to maximize production by finding new partners and opening branches in different countries. 	<ul style="list-style-type: none"> • Adoption of the European Union Directive 2019/904 on the ban on the sale of disposable plastic utensils on its territory, which in the near future will lead to the loss of markets. • High cost of equipment for the production of paper and biodegradable utensils. • Lack of knowledge about trends in demand for disposable paper utensils in the European Union.

Based on the SWOT analysis, we can conclude that the main challenge for “Andrex” LTD was the adoption of Directive 2019/904 on the prohibition of the sale of disposable plastic utensils, as a significant share of profits for the company is provided by exporting goods to the European Union.

Based on the company's audit, we have drawn up a plan of recommendations for the company's development [70].

Table 3.5 consists the most important strategic initiatives identified as a result of SWOT analysis.

Table 3.5 - Strategic initiatives identified as a result of SWOT analysis

	Strategy
In the field of marketing	<p>Strategy of undifferentiated (mass or standardized) marketing associated with advantages in production costs. In this case, "Andrex" LTD ignores the differences in the segments and addresses the entire market with the same product, ie engaged in mass production and sale of the same product to all buyers at once.</p> <p>A significant advantage of this strategy is the low level of costs due to mass production (minimum unit costs and low prices) and a single marketing concept. "Andrex" LTD seeks to create a product designed for the largest market segments.</p>
In the area production	<p>Analysis of current trends and preconditions for the development of the disposable tableware industry in Ukraine and the world does not make it possible to outline a single non-alternative option for the development of production strategy. There may be several options for the possible development of the disposable tableware industry in the future, where industrial production will play a key role. The most likely of these are the following scenarios - inertial and innovative development options. Each of them has its own characteristics and specifics that determine the role of the enterprise in the region, country and world, the state of the environment, the main characteristics and living standards of the population.</p> <ol style="list-style-type: none"> 1. The inertial variant of "Andrex" LTD development on the territory of Ukraine is connected with a rather probable preservation - preservation of the current state of production. This option is based on the fact that changes in industrial policy are virtually non-existent: slow reforms continue, aimed at the gradual deepening of market transformations, as well as the slow process of structural transformations of industrial production. 2. The innovative variant of "Andrex" LTD development is connected with its comprehensive modernization, structural transformation of the industry and integration with innovative ideas. Solving this complex and large-scale task requires the maximum use of all possible resources - material, financial, intellectual, organizational.

Continuation of table 3.5

In the field of financial management	<p>“Andrex” LTD must adhere to the effective use of the company's financial capabilities in the long run.</p> <p>The company cooperates with Kredobank and has a good credit history due to timely repayment of debts, so the bank pays a 50% prepayment for the purchase of equipment with an extended loan repayment period with a lower interest rate.</p> <p>“Andrex” LTD uses the Overdraft credit line, which provides short-term loans within the limits set by the bank, which allows to make payments when the company has insufficient funds on the current account [34].</p>
In the field of personnel management	<p>The search for qualified specialists for the main jobs is carried out. “Andrex” LTD is looking for the necessary specialists among its employees, assessing and developing their potential.</p> <p>Internal recruitment allows those wishing to participate in the development of new areas of activity.</p> <p>The development of new competencies and training are of great importance because the company plans to achieve advantages over competitors by concentrating technical, financial and human resources in specific areas of activity.</p> <p>Their employees are mastering new areas of activity, promotion and career development.</p>

Thus, analyzing the situation of changing the legal framework in the global and domestic disposable tableware market and defining the methodology of strategy research in the context of transformational changes in environmental policy, we can conclude that “Andrex” LTD takes a promising position to adapt to new world market standards. The implementation of these strategies will help “Andrex” LTD to remain a competitive enterprise, and innovative ideas and sustainable development will help find new partners in the disposable tableware market.

CONCLUSIONS

The results obtained in the qualification work allowed us to draw the following conclusions:

1. The production of disposable tableware is a rather difficult and high-tech process that requires significant investment to purchase high-quality equipment and hire highly skilled workers to service the production line at each stage of production to ensure high-quality production of disposable tableware to meet customer needs.

2. Areas of use of disposable tableware are fragmented. Depending on the specifics of consumption and the consumer, different types of disposable utensils are used - from colorful cutlery, to "hot" and "cold" containers. An important criterion for different types of consumers is the shape, quality and design of disposable tableware, which are selected according to individual preferences and purposes. Such tableware now occupies a premium segment, which is dynamically developing in the Ukrainian market.

3. The environmental problem of plastic microparticles formed as a result of decomposition of plastic products has become one of the main challenges of the world community and states. The environmental and economic consequences of the widespread use of plastic products have forced states to revise legislation on the production and sale of disposable tableware from certain types of plastics.

4. International governments are tackling the problem of overproduction of plastic by banning the use of certain plastic products. One of the most important laws implemented by the European Parliament is Directive 2019/904 on reducing the environmental impact of certain plastic products, which has become one of the many future steps to reduce the production and distribution of disposable tableware.

5. The Ukrainian government has only recently begun to address the problems of plastic pollution and to respond by introducing a ban on the production of individual packaging and plastic bags. The purpose of the law №

9507 “On reducing the amount of certain types of polyethylene waste in civil circulation” and № 2051–1 “On reducing the number of plastic bags in civil circulation” was to bring Ukraine closer to European Union standards so that in the near future our companies can adapt to the new environment and the laws of the world market for plastics and disposable tableware.

6. The main competitors of “Andrex” LTD on the world market are such companies as: Huhtamäki Oyj, Bittner Packaging Sp. Z Ltd., Kram Family Company. The main and biggest competitor is Huhtamäki Oyj, which has subsidiaries in more than 30 countries, including Poland, the main buyer of export goods. Bittner Packaging Sp. Z O.O., Kram Family Company are secondary competitors, because they produce their products directly in the sales area of “Andrex” LTD. These companies have started their activities in the disposable tableware market much earlier and are rapidly transforming their production in accordance with environmental legislative initiatives. The Ukrainian market, on the contrary, does not compare with the competition for “Andrex” LTD, because the main companies for the manufacture of goods from some types of plastics occupy an excellent niche of goods.

7. Based on research and study of strengths and weaknesses of “Andrex” LTD using the methodology of studying the state of the company's life cycle, SWOT analysis and PEST analysis, “Andrex” LTD takes a promising position to adapt to new world market standards. Implementation of development strategies will help “Andrex” LTD to remain a competitive enterprise, and innovative ideas and sustainable development will help to find new partners in the disposable tableware market.

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SUMMARY

Meilnikov V.S. Prospects for the production of biodegradable tableware in the context of the transformation of international environmental policy. – master’s level qualification paper. Educational and Scientific Institute for Business Technologies “UAB”, Sumy, 2020.

Master’s level degree qualification paper is dedicated to the prospects for the production of biodegradable tableware in the context of the transformation of international environmental policy. Modern technologies of production of disposable tableware are investigated. The current trends in the development of the national and world markets for disposable tableware and legislative changes to ban the production and consumption of disposable plastic tableware are analyzed. The development strategy of “Andrex” LTD has been developed taking into account transformational changes in international environmental policy.

Keywords: disposable tableware, economic policy, competitors, biodegradable tableware, strategies.

АНОТАЦІЯ

Мельников В. С. Перспективи виробництва біологічно розкладного посуду в контексті трансформації міжнародної екологічної політики. – кваліфікаційна робота магістерського рівня. Навчально-науковий інститут бізнесу та технологій “УАБС”, Суми, 2020.

Магістерська робота присвячена перспективам виробництва біорозкладаного посуду в контексті трансформації міжнародної екологічної політики. Досліджено сучасні технології виробництва одноразового посуду. Проаналізовано сучасні тенденції розвитку національного та світового ринків одноразового посуду, законодавчі зміни щодо заборони виробництва та споживання одноразового пластикового посуду. Розроблено стратегію розвитку ТОВ «Андрекс» з урахуванням трансформаційних змін міжнародної екологічної політики.

Ключові слова: disposable tableware, environmental policy, competitors, biodegradable tableware, strategies.