

COMPUTER SCIENCES AND TECHNOLOGIES

STATE OF DESIGN DEVELOPMENT IN UKRAINE

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Over the last 12 years, Ukrainian design has been developing rapidly. Since 2009, Ukrainian designers have annually received the prestigious Red Dot Design Award. The positive dynamics of economic development, which has been observed in recent years, also stimulates business demand for professional design services. In the largest cities, sustainable design communities are being formed, specialized events are taking place, and niche publications are being launched.

In 2017, the PPV Knowledge Networks economic development agency commissioned by the European Bank for Reconstruction and Development conducted a study of the subject design market in Ukraine. The authors of the study interviewed representatives of small and medium-sized businesses in the relevant segment: design agencies, independent designers, and manufacturing companies in various fields. The survey involved 60 design agencies and independent designers and 56 manufacturing companies and brands from different fields and regions of Ukraine.

The study confirms the growth and development of the market of subject design in Ukraine but reveals the problems that arise under these conditions.

In Ukraine, design is still underestimated as a factor that can bring an added value to tangible and intangible products, due to the lack of a methodology for objective assessment of its quality.

There is also a problem of lack of relevant and complete information about the Ukrainian design market, its main and potential contributions to other sectors of the economy.

The UK Design Council singles out the term "design economics" which is a value generated using design in various industries. This term includes the work of designers in the actual design industries (e.g, graphic design), representatives of other professions in the design industry (e.g. managers) and designers in other areas of the economy (e.g, engineering).

To get a holistic picture of the development trends of the design market in Ukraine, the study covered different categories of respondents in the questionnaire, focus groups and in-depth individual interviews. We studied market participants through the prism of the work of designers, managers and founders of design agencies and other companies that include design development in their services / products. It is also important that the respondents have different experience in design and work in different regions of Ukraine. This allows us to consider the specific needs and problems of a wide range of market participants.

Observation:

- each private entrepreneur has two designers who operate without registration;
- freelancers work steadily in the market and are reluctant to work for the company;
- private entrepreneurship is the most common and profitable form of employment for both founders of design companies and their employees.

Perspectives:

- stimulating market participants to unite in other organizational and legal forms of doing business (limited liability companies (LLC) and private entrepreneurship (PE));
- strengthening the growth and financial stability of the design sector at the national level;
- facilitating the organization of cooperation with foreign customers, partners, providing better legal protection at the international level.

Conceptual projects and products are economically unprofitable, they are implemented mainly by design agencies as an additional area to enhance their prestige and participate in competitions.

The results of the study indicate the extensive nature of the growth of the design market in Ukraine, which is primarily provided by the growth of quantitative rather than qualitative indicators.

Given that design is a relatively young sector of the domestic economy and demand for it is just forming, such a situation is expected.

If the trend continues in the long run (5 years or more) and the market does not refocus on the intensive growth (due to competencies, technologies, high value-added products), the Ukrainian design sector risks becoming a center for low-cost standardized services with low competitiveness.

Observation:

- 45% of designers have their business grown significantly over the past 3 years, only 7% of businesses have declined;
- chaotic development of design businesses, lack of developed strategies and business models;
- lack of economic information about design at the macro level;
- limited growth opportunities due to lack of access to prototyping;
- the audience of customers (business owners) of design is gradually getting younger and better understands the value of design services;
- low, compared to foreign, domestic effective demand for a design product;
- customers do not understand the differentiation of design prices.

Perspectives:

–formation of a conscious demand for design: "education" by designers of the customer's understanding of the value and importance of a design product through interaction at all stages of its creation, rather than presenting ready-made decisions that he will make or reject.

Key problems of designers in the market:

- misunderstanding of business processes.
- limited access to material and technical base.
- access to knowledge about export opportunities.
- legal and financial aspects of interaction with foreign partners and clients.

A key issue for designers is the ineffectiveness of their copyright protection mechanisms and distrust of manufacturers regarding integrity of the calculation of royalties.

Observation:

- the predominance of verbal agreements between designers and manufacturers, rather than concluding contracts;
- designers do not use copy protection mechanisms by manufacturers of ideas and prototypes;
- a large share of production and sales are in the shadows, because of which designers cannot get fair amounts of royalties;
- conflicts in the distribution of rights to the created product, including when applying for competitions and exhibitions.

Perspectives:

–development of consulting support for designers concerning standardization of relations with manufacturers through the conclusion of contracts: separate contracts both at the stage of creation of prototypes, and at the stage of start in production;

–organizations and associations of manufacturers, such as the Ukrainian Furniture Manufacturers Association, can develop and implement a system to guarantee the integrity of the calculation of the piano by its members with appropriate mechanisms of arbitration and reputational influence.

Also, it is worth noting the difference between the standards of international and Ukrainian certification for product design products.

Observation:

- limited opportunities to work with foreign clients due to ignorance of standards in other countries and a long and expensive certification procedure in accordance with their legislation;
- subject designers underestimate the resources needed to certify products when trying to bring them to market in other countries.

–Perspectives:

–introduction of support by domestic organizations exports, for example, the Export Promotion Office, consultations for subject designers on standardization and certification of products for sale in foreign markets.

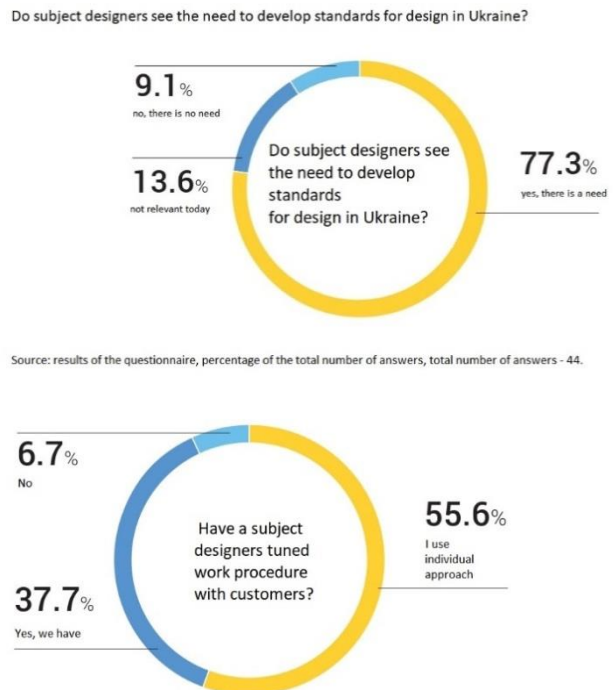


Figure 1 – Research diagrams

The study showed that design (including graphics) is actively developing, creating jobs and generating a tax revenue. We also found that subject design is in its infancy and suffers from a lack of market-based tools and a low level of customer education, the active development of non-formal education and the lack of whole classes of ecosystem participants. Taken together, these factors indicate, on the one hand, the active development of markets and, on the other hand, the existence of several market failures: when the free market is unable to solve the problem and when intervention at the state level can help.

Ukraine is actively forming a design ecosystem, mainly represented by private companies and public initiatives. State intervention should be positive for the development of this ecosystem – to involve existing participants as contractors, partners and experts (finance projects, involve contractors and experts), as opposed to creating parallel mechanisms and structures or undermining business models of private players through free services.

In conclusion, it should be emphasized that design is an important tool for many horizontal strategies: innovation, SME development, spatial development, education, regional development and more. At the same time, design is one of the 12 creative industries in Ukraine and needs an industrial (vertical) policy for development as an industry and a sphere. The existence of other thematic and sectoral policies, policy instruments and institutions (policy coordination) needs to be taken into account. Otherwise, you conflicts (wars for subordination, control and resources) can be created and functions can be duplicated.

Given the potential of the industry and the growth of design as an industry, at the institutional level it would be worthwhile to create the State Agency for Design Development (DARD) – a small government agency whose activities should be aimed at addressing key and significant issues hindering the development of the design industry in Ukraine, in interaction with market participants and ecosystems.

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ARE ALTERNATIVE ENERGY SOURCES REALLY EFFECTIVE?

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Energy exists and has not stopped its development for a long period of time. People have been looking for energy sources for their own purposes for a long time. The first sources of energy were, of course, thermal power plants [1]. People have been controlling fire for a very long time and using it for their needs. Thermal power plants were very inefficient and produced little energy, while consuming a lot of resources. Low efficiency occurs due to the large losses that take place at each of the stages.

The principle of operation of thermal power plants has a simple mechanism. At the initial stage, a certain type of fuel burns in the boiler and generates a large amount of heat. The heat energy increases the water's temperature to the boiling point. The water boils and the resulting steam drives a turbine with blades. In turn, the turbine is mechanically connected to an electric generator and generates electricity by its rotation [1].

This principle of operation is quite universal and is used in some other traditional power plants. These include nuclear and geothermal power plants.

One of the disadvantages of thermal and similar power plants can be attributed to the exhaustion of fuel for the combustion process [2].

If, for example, for nuclear power plants, uranium reserves are predicted to last for more than 1000 years, then for thermal power plants, the volume of coal and gas reserves is less. Such resources are restored for a very long time and are considered non-renewable.

If we talk about regenerative fuel stations, then hydroelectric power plants can be cited from the traditional ones. Their design also has a turbine connected to a generator. It is only activated under water pressure on dams of reservoirs. In such power plants, electricity can be produced for a very long time, since resources will not be exhausted.

For today, alternative energy sources are actively developing. These include wind and solar power plants. Their advantage is that they do not need any fuel. And since there is no combustion process in them, they do not produce any emissions [3], unlike, for example, thermal power plants.

In the world today, there is an increasing tendency to build alternative energy sources, such as solar or wind to replace traditional ones. The leaders in this regard are the countries of Europe. Every year the percentage of energy produced by alternative energy sources is getting higher [4].

One of the main reasons for the growing trend for such power plants is their environmental friendliness, since they do not emit anything into the atmosphere. However, it should be borne in mind that the blades of most wind farms are made from materials that are very difficult to dispose of. And therefore, for the most part, the blades that have spent their life are simply stored.

For comparison, nuclear power plants also do not emit harmful emissions during operation. Although they have a similar problem with the disposal of spent uranium rods. Wind and solar power plants also have a problem with limited efficiency. Because of it, in order to get enough energy, you need to occupy a large area with such installations. While nuclear power plants can produce the largest amount of energy of all possible power plants. Thus, it will not be necessary to occupy such a large area to generate a similar amount of electricity.