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## Section 1. Marketing

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### MARKETING IN TOURISM

**Abstract.** The article discusses a modern approach to marketing in tourism. The author's own approach is based on the judgments of Western researchers. He considers marketing in tourism as a system and proceeds from the fact that tourism contains its constituent parts. Having highlighted and examined them in interrelation and interaction, the author outlines the main outlines of the implementation of the marketing concept in a tourism enterprise.

**Keyword:** travel product, marketing functions, marketing mix.

Currently, tourism is one of the leading and most dynamic sectors of the economy and for its rapid pace, it is recognized as the economic phenomenon of the century. Tourism is a complex, multidimensional and multifaceted concept, it is simultaneously a type of activity, and a form of recreation, and a branch of the national economy, and a way of spending leisure time.

A tourist product in the narrow sense is the services of each specific sector of the tourism industry (for example, a hotel product, a tour operator's product, a transport company, and so on). In a broad sense, a tourist product is a complex of goods and services that together form a tourist trip (tour) or are directly related to it. The main tourist product is a comprehensive service – a standard set of services sold to tourists in one “package”.

The tourist product, along with the general specific characteristics of services, has its own distinctive features:

1. It is a complex of services and goods, characterized by a complex system of relationships between various components.

2. The demand for tourism services is extremely elastic in relation to income levels and prices, but largely depends on political and social conditions.

3. The consumer, as a rule, cannot see the tourist product before its consumption, and the consumption itself, in most cases, is carried out directly at the place of production of the tourist service.

4. The consumer travels the distance separating him from the product and the place of consumption, and not vice versa.

5. Tourism product depends on variables such as space and time, it is characterized by fluctuations in demand.

6. The tourism product is created by the efforts of many enterprises, each of which has its own working methods, specific needs, and different commercial goals.

7. The quality of tourism services is influenced by external factors of force majeure (natural conditions, weather, tourism policy, international events, etc.).

8. The high quality of tourist services cannot be achieved if there are even minor drawbacks, since

tourist service consists of these very little things and small details.

These specific features of the tourism product have a significant impact on tourism marketing. Some authors put global content into the concept of tourism marketing, such as the Swiss specialist J. Krippendorf: "Tourism marketing is a systematic change and coordination of the activities of tourism enterprises, as well as private and public policy in the field of tourism, carried out by regional, national or international plans. The purpose of such changes is to best meet the needs of certain groups of consumers while taking into account the possibility of obtaining the corresponding profit". In general, such a definition can be agreed in the context of assessing general public policy.

Marketing functions in tourism can be considered at three levels: public, regional, and individual. From the point of view of society, tourism marketing should ensure the normal functioning of the tourism market and the appropriate tools for the activities of travel companies: availability of credit, the loyalty of taxes, relevant laws, etc. At the regional level, tourism marketing is designed to regulate tourist demand, prices, advertising activities, and encourage the population to get acquainted with their region.

At the level of the individual consumer, tourism marketing performs the following functions:

- Formation of new needs of tourists;
- Conviction about the expediency of using the services of this company;
- Formation of the need for frequent use of the company's services;
- Motivation to use the services on an ongoing basis.

The World Tourism Organization offers a slightly different approach to defining marketing functions in tourism:

- Establishing contacts with clients;
- Development;
- Control.

Establishing contact involves convincing the client that the proposed destination and the services available there, attractions, and everything else meets his needs.

Development involves the design of innovations, new services, and products that can provide new marketing opportunities, as well as better meet the needs of tourists.

Control involves analyzing the results of activities to promote services to the tourism market and checking how these results reflect the use of the capabilities of the travel company.

We highlight the following main functions of travel marketing:

- Creation of a tourism product and services for subsequent promotion to consumers;
- Tourist product to market, advertising, and sales;
- Organization of direct sales;
- Obtaining an appropriate level of income.

By integrating modern approaches to the definition of this concept, tourism marketing can be interpreted as a system for coordinating the activities of a tourism enterprise in the process of developing, producing, selling a tourism product and services in order to maximize profit through the most complete satisfaction of the consumer.

Developing tourism is distinguished by a number of important features in terms of the characteristics of the tourist product, service, and organization of production. So, the system of the tourism industry includes specialized enterprises, organizations, and institutions:

- Travel companies for the development and sale of a tourism product;
- Enterprises providing accommodation services (hotels, motels, campings, boarding houses, rest houses, etc.);
- Catering establishments (restaurants, cafes, bars, canteens, etc.);

- Transport enterprises (auto enterprises, aviation enterprises, railway departments, sea and river transport enterprises, etc.);
- Advertising and information tourist institutions (advertising agencies, advertising bureaus, information and tourist centers, etc.);
- trade enterprises;
- Enterprises in the sphere of leisure in tourism (cinema and concert halls, halls of slot machines, etc.);
- Public tourism organizations and associations, etc.;
- Coordinating and regulating bodies in tourism at the national, regional, and municipal levels.

All of the listed enterprises, organizations, firms of various scales are engaged in marketing activities. It should be borne in mind that for a travel agency, restaurant, or transport company, the ultimate goals, and content of marketing are not the same. Thus, a travel agency seeks to increase its profits by meeting the needs of its clients. The national, regional, or municipal administration wants to attract as many tourists to the region as possible. The public tourism organization wants to raise its profile and show the usefulness of its professional activities.

The study allows us to distinguish the following levels of marketing in the field of tourism:

- The first two levels are related to commercial marketing.
  1. Marketing of tourism enterprises (tour operators, travel agents), which are the main link in entrepreneurial activity in the tourism sector, is a process of coordinating their capabilities and consumer demands. The result of this process is the provision of services to tourists that meet their needs, and the enterprise receives the profit necessary for its development and better satisfaction of consumer needs in the future.
  2. Marketing of manufacturers of tourist services (hotels, restaurants, transport organizations, etc.) is considered as a system of a comprehensive study of needs and demand in order to organize the provision

of services, maximally focused on meeting the needs of specific consumers, and ensuring the most effective forms and methods of service.

- The next two levels characterize the field of non-profit marketing in tourism.
  3. Marketing of public tourism organizations (unions, associations, etc.), representing and protecting the collective interests of entrepreneurs in the tourism sector, is understood as activities aimed at creating, maintaining, or changing a favorable public opinion. Opinion building is essentially marketing management, shifted from the product level to the entire organization level.
  4. Marketing of territories and regions – activities are undertaken with the aim of creating, maintaining, or changing customer behavior in relation to specific settlements, regions, or even countries in general.

Thus, various institutional units (state, national, regional, and local tourism authorities, sectoral and inter-sectoral public organizations, enterprises) are integrated into the tourism marketing system. This raises the problem of vertical coordination of activities necessary in order to avoid duplication and to achieve optimal consideration and respect for the interests of customers, enterprises, and society as a whole.

It should be noted that marketing in tourism, like any economic phenomenon, requires for its application and effective development such conditions as:

- Deep saturation of the market with services, i.e. the existence of a buyer's market;
- Intense competition between tourist firms for consumer preferences;
- Free-market relations, i.e. the ability, without administrative restrictions, to choose sales markets, business partners, set prices, conduct commercial work, etc.;
- The free activity of the administration within the tourist enterprise to determine the goals of the company, strategies, management structures, the distribution of funds by budget items, etc.

The first two conditions determine the possibility and necessity of using the marketing concept. The latter determine the effectiveness of the implementation of the marketing concept at a specific tourist enterprise, which is the main link in entrepreneurial activity in the field of tourism. Economically independent travel companies in market conditions are forced to use a systematic approach to the implementation of the marketing concept since fierce competition deprives the right to life of any unsystematic activity. The essence of marketing lies in the fact that the offer of tourist services must be oriented towards the consumer and the capabilities of the enterprise are constantly coordinated with the requirements of the market.

**Conclusion:**

Based on the essence of tourism marketing as a system, we can formulate its basic principles, i.e. provisions, circumstances, requirements underlying the marketing, and disclosing its purpose:

1. Aiming at achieving the final practical result of tourism activities. Effective implementation of tourist services on the market and mastering a certain share of this market.

2. The focus of the tourist organization is not on the momentary, but on the long-term strategic result of marketing work. This requires special attention to predictive research, the development on their basis of the results of new tourism services, ensuring highly profitable company activities.

3. Application of tactics and strategies of active adaptation to the requirements of potential buyers with a targeted simultaneous impact on them.

Considering marketing in tourism as a system, it is necessary to proceed from the fact that it contains its constituent parts. By highlighting and considering them in interrelation and interaction, it is possible to outline the main outlines of the implementation of the marketing concept in a tourist enterprise.

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## INSTAGRAM IS NETWORK OF THE FUTURE

**Abstract.** The prospects of Instagram and its importance in marketing sphere are examined in the article. Also, there is an analysis of keeping a blog in a right way which shows some nuances and pitfalls.

**Keywords:** Instagram, blogger, story, post, algorithms, target audience.

Instagram is an application for sharing photos and videos with elements of the social network, which allows you to shoot photos and videos, apply filters to them, and distribute them on Instagram itself and several other social networks [1]. According to official statistics, 1 billion people use Instagram monthly, 500 million users watch Instagram stories daily. Currently, three main types of profiles are available on Instagram: personal (personal use), creator (influencers, public or notable figures, and all kinds of content creators), and business (brand management, conversions, and marketing). The numbers are astonishing, so what is the reason for such incredible popularity of this social network? Firstly, people like sharing events with others. Eye-catching photos in the newsfeed and stories capture followers' interest; thus, people start blogs to share their life and partly enjoy a flavor of success. Recently many entrepreneurs, companies, brands have rushed on Instagram to get the desired audience [2, 353]. Secondly, Instagram facilitates profit-making for ordinary users, namely bloggers.

- What exactly do bloggers make money on:
- Product advertising;
- Advertisement of another blogger;
- Information products release;
- Collaboration with brands.

Everything sounds simple enough: shoot a video, take pictures, and get your money, but Instagram has its own rules, and you need to play according to the laws of this social network. The rules mean algo-

rithms without which any even the most fascinating and informative blog will not be a success. Instagram algorithms will be discussed in this article.

Let's start with stories' algorithms, as now they success on Instagram. For the audience to be familiar with a blogger, he needs to shoot from 10 stories per day; each story lasts a maximum of 15 seconds. There are 5 kinds of stories:

- text story (no video, text only);
- animation (program edit video);
- "talking head" (a blogger films himself);
- shooting from the other side (creates an impression of watching a blogger's life);
- Screenshot (e.g., correspondence).

The five most basic rules for keeping stories should be presented.

The most important rule is that all these types of stories should be mixed among themselves. If a blogger wants to shoot a story to the audience, then the consecutive videos of the "talking head" should be no more than 3; otherwise, followers will swipe stories, which will lead to a decline in coverage. In this case, it is best to combine the "talking head," text stories, and shooting from the other side, and then it will look more diverse and capture the attention of the audience.

The second rule of having stories is to involve the audience as much as possible. Engagement means provoking followers to write in direct or to have quick story reactions. Engagement is when the audience participates in the quizzes and polls and

asks questions; thus, interaction with the audience increases and views grow. Instagram begins to show the blogger to more followers. The third rule of stories is to encourage followers to view stories several times. The most popular techniques are considered:

- finding 5 differences (a blogger posts several photos, one of which is photoshopped and asks the audience to find differences between pictures, thereby followers flick back several dozen times. Usually, the blogger also leaves a questionnaire where he asks to write those differences down, and one of the guessers gets a cash bonus);
- a large amount of text on a quick story (a blogger instead of a photo posts a text story on a short video, simply removing the sound and making it one-tone. Consequently, the follower returns to the story several times to finish reading);
- «Have you noticed that on the first story?» (at the end of the day, the blogger posts a story with the words “you have also noticed something bizarre on the first story” or “remember what color I had the hat on the first story” and leaves a questionnaire, so followers return to the very first story, and then back to answer the question itself). The fourth rule is to obtain one style only. All stories should use the same process (or none at all) and the same font. Thus, stories will reflect individuality, and the follower will understand whose story he has viewed even before looking at the upper left corner. Thus a personal brand begins to develop. The fifth and final rule for stories is their regularity. Stories should be told daily. As a rule, if a blogger decides to take a day off from Instagram, he warns the audience about this. Although someone also uses this to engage followers, the blogger suddenly disappears, and followers start worrying about writing him some messages if everything is fine.

Let's look at the subject of posts. The post contains a photo/video or several photos/videos (up to 10) and text. To draw followers' attention, a beautiful picture and an informative or a simply touching text with an interesting story are implied.

These are posted according to the blog's theme. For example, if the blog is about psychology, then these are posts about raising self-esteem or working out childhood injuries. If the blog is about cooking, then we will talk about some dish recipes or life-hacks for confectionery.

Information divided into several posts is extremely popular; for example, the history of acquaintance with her husband or the top 10 tips for proper nutrition.

Thus, thanks to the posts that the target audience of the blog is selected. Target audience is a term used in marketing, referring to a group of people united by common features or united for the sake of any goals or tasks. In the blog, the main theme is childbirth and parenting; the target audience is women from 25 to 35 years of the country/countries in which language(s) the blog is conducted.

An important point for a successful post is the time when the blogger posts it. As a custom, the post has a go when followers have already finished working/studying, that is, in the evening. Thus, they have the opportunity to view and read the post, which results in high coverage.

It is vital to note that Instagram has all the necessary functionality, especially when the profile is a business account, since there is an access to statistics, namely, engagement, coverage, information about the target audience, the number of followers who followed and unfollowed, and so on. Also, the Direct feature has made it quite convenient to communicate with potential customers. Besides, the use of hashtags facilitates the search for goods and events [3, 386–404]. By the way, hashtags continue being one of the free promotion methods on Instagram, as followers have the opportunity to look for pages/posts by hashtags, so the blogger needs to note the



most popular and suitable hashtags under the post so that the user can read it and follow in the future.

Of course, this method is not as effective as, for example, target ads. Target ads are an online advertising method that uses methods and settings to search for the target audience according to people's specified features (characteristics and interests) [4]. Target ads are a good way to promote; bloggers usually advertise either very useful and informative posts to show users the value of their blog, or a very intriguing and hype post. However, there are disadvantages: firstly, target ads should be paid, the blogger makes payment to Instagram itself, and secondly, a specialist is required to set up advertising – a target specialist.

The most effective way to promote is to advertise a blog from another blogger. So far, this method is popular only in Russia, and bloggers from other countries are practically not promoting this way, but the truth is it is the best way to promote today. How this interaction occurs:

The blogger agrees on advertising and selects a site – a story or post. As a rule, bloggers are advertised through stories, and brands through posts. A blogger who wants to promote provides all the necessary information for advertising (the scenario of what another blogger should say in his stories), while a blogger who includes advertising shares information about his statistics (target audience and views). Next, the cost of advertising and the number of stories are discussed. In Russia, the advertising cost is calculated from the average number of views multiplied by 0.33, but the blogger himself has the right to set the price for advertising in his blog. Further, on the appointed day, the blogger posts 3–4 stories on advertising, on each marking a blog that advertises with an appeal to follow, then

part of the audience of this blogger follows to the one who bought the ad.

In this matter, the most important thing is to choose a blogger with a similar target audience. No one will sign if a beauty blogger advertises the blog about tires. And it is also important to correctly formulate the main thoughts of the blog, so that for several stories it hooks the audience; this is called “filing.” It is also important to note that more people follow a private profile instead of an open one.

Besides posts and stories there are some more nuances in registering a profile: Instagram bio and highlights. It has become fashionable to design the covers of highlights in a single style. It is important that they also fit the profile. As for the profile hat, it already depends more on the blog itself. But here are the most important rules:

- the bio should reflect the main essence of the blog;
- theses should not be repeated with theses in the advertisement;
- must be short and enticing, so that when they see their person wants to subscribe even to a closed profile;
- the first line should tell what this blog is about, for example, a beauty blogger or a fitness blogger. This is also necessary because the search on Instagram is carried out precisely on the first line. The correctly formulated beginning of the profile bio will go the way that followers themselves will find the blog.

Of course, in Europe and many other countries, Instagram is not as popular and developed as in Russia. However, the sooner bloggers begin to use these tips, the faster and more they will have the opportunity to earn because bloggers and information products are not yet overpowered.

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## Section 2. World economy

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### IMPACT OF FOREIGN FRANCHISES ON THE ECUADORIAN ECONOMY

**Abstract.** Franchises are considered one of the most advanced and efficient business systems due to their great success when expanding businesses or entering them. Ecuador being a developing country has been seen as a fertile economy for the entry of different foreign franchises. In this research, the impact that foreign franchises generate on the country's economy is presented, showing that they not only help to promote a dynamic economy and generate jobs, but also act as a motivation for local businesses to innovate and offer better products and services to the population.

**Keywords:** Franchising, Economic development, Ecuadorian market, International business, Developing country.

#### 1. Introduction

Over the years, franchises have proven to be one of the most successful economic models on the market, since, being an already established and proven business, it generates greater confidence since the risk of failure is lower. In addition, the basis of this model, which propagates a two-party partnership with the commitment to collaborate for a common purpose (profit), makes this type of business have a high degree of acceptance throughout the world. Foreign franchises have proven to be a very accepted

business model in developing countries since they not only create jobs but also create the possibility of helping a country's economic growth.

Ecuador, is a developing Latin American country, and represents a great focus for foreign franchises that want to expand their business and enter new economies. For a decade, this country has been seen as a fertile market by investors, which has caused several businesses to expand and establish themselves in it, and consumers have positively accepted this system.

However, this issue has also become controversial, since it is also believed that, when a foreign franchise enters Ecuador, local production, small companies and entrepreneurs that are just starting in the market and seek to attract attention are affected. A franchise is a brand that has its recognition and in many cases that can be a determining factor when choosing between a local or foreign brand, but it is also worth mentioning that the fact of establish greater competition can generate greater concern for the quality of the products or services offered, helping to promote the local standard.

In this research, the author seeks to establish the impact of a foreign franchise on the economy of a country with a developing economy such as Ecuador, and establish certain guidelines that can foresee the positive or negative effects that are generated in the country. The main focus areas of this research will be governed by the economic aspect, analyzing the income that is generated in the country, the influence on job creation, and the contribution to the growth or failure of local brands.

## **2. Conceptual Framework**

### **2.1. Franchises**

The IFA, International Franchise Association, defines franchises as “a method of distributing products or services involving a franchisor, who establishes the brand’s trademark or trade name and a business system, and a franchise, who pays a royalty and often and initial fee for the right to do business under the franchisor’s name and system” [1].

Feher Ferenz, in 2017, relates franchises with work, since he says that they are synonymous with stability, which also help the prosperity of a country. In addition, he says that the franchise system is very effective in creating jobs swiftly and efficiently, which turns out to be very advantageous for developing countries, since many of this are currently experiencing great growth and therefore hence, a great demand from its population [2].

In Ecuador, Guido Santillán, General Manager of AEFran, the Ecuadorian Franchise Associa-

tion, points franchises as a method of commercial expansion where the two parties involved in the business, franchisor and franchisee, support each other in order to replicate the yourself and make it work, all this following the parameters established in the contract [3].

It is important to understand that franchises are not only a business model, but also represent a brand that over time has managed to gain recognition in the commercial field and, therefore, attract various consumers from around the world. A brand represents a doctrine, and this is adapted to the needs of the people who are going to buy it. In developing markets, global brands manage to establish themselves since they present the latest generation products, in addition to bringing innovation and quality. While local brands offer more harmony with the needs and tastes of consumers in their country. So, it is important to have both parties in the market.

### **2.2. Ecuador’s economy**

Ecuador is a small country located in South America, which according to the INEC (National Institute of Statistics and Censuses) until July 2019 had a population close to 17.3 million inhabitants. With regard to the economy, it represents an open economy that is highly dependent on the production and export of primary products such as bananas, cocoa, shrimp and flowers. However, the greatest income falls on oil exports. Since 2000, Ecuador has been dollarized, which has made the country “cannot implement an active and independent monetary policy, which limits its ability to respond to external risks, although it does contribute to securing macroeconomic adjustment” [4].

The Gross Domestic Product (GDP), being one of the most important macroeconomic indicators, allows the people to understand the behavior of the economy and also know if it is growing or declining. Regarding this, it can be seen that in Ecuador, in 2017 the GDP grew by 2.4% compared to 2016. In 2018 the country’s GDP continued to grow with 1.3%. And in 2019, GDP shows a growth of only 0.1% [5].

By 2020, due to the impact of the economic crisis caused by the COVID19 pandemic, GDP evidently showed a decrease in the country. In the first quarter of the year, GDP falls by  $-1.8\%$ . For the second quarter, months in which the country is kept in quarantine with the suspension of productive activities, the GDP is even more affected, decreasing by  $12.4\%$ . However, for the third quarter, months in which the country resumes economic activities, a growth of  $4.5\%$  is seen compared to the second quarter, but with the same contraction of  $8.8\%$  compared to the third quarter of 2019 [6].

By 2021, the World Bank estimates a reestablishment of the economies, including the Ecuadorian, however, it will continue to be one of the lowest GDP in the South American context and, therefore, it shows to be one of the hardest hit economies in 2020.

### **2.3. Franchises in Ecuador**

In Ecuador, the franchise system has been applied for several years, with the international Martinizing franchise being the first to arrive in the country in 1967. From then on, several franchises have entered the market and over the years they have managed to establish themselves in it, in addition to gaining the approval of the consumer, who undoubtedly represents one of the most important factors for a franchise to succeed or fail. In general, the success of this sector has been based on its dynamism, its rapid expansion, the generation of new jobs and the drive that the development of the country's economy represents. Reasons why several investors, businessmen and entrepreneurs have decided to opt for this model either to transform their businesses and seek their national and international expansion, or to bring different successful concepts that have already been developed in another country.

Currently, of the total number of businesses that operate as a franchise in the country, it is estimated that there are around 300 franchises in Ecuador.  $86\%$  are foreign, while only  $14\%$  are national brands. Of this total,  $50\%$  of franchises come from the United States, and the other  $50\%$  come mainly from countries such as Colombia, Argentina, Venezuela, Swit-

zerland and Spain, among others [7]. On the other hand, the main places where the largest and most notable number of franchises are housed are in Quito, Guayaquil and Cuenca, the three most important cities in Ecuador.

The franchise model, in this country, is generally distributed in three main sectors: Retail, Services and Food, and without a doubt, the latter is the one that generates the most income. According to AE-FRAN, in 2020,  $50\%$  of the franchises present in Ecuador correspond to restaurants. The sale of fast food in Ecuador is one of the markets with the greatest emphasis for franchises, so the company Int Food Services, which manages the foreign franchise KFC and national GUS, had revenues of more than 250 million dollars in the year 2019. It is estimated that the Fast-Food sector alone raises more than 500 million dollars [8].

## **3. Methodology and data**

### **3.1. Methodology**

The methodology used for the present work is based on an exploratory research, that is, it is based on the interpretation or observation of the current situation of the study context for its subsequent analysis and the eventual obtaining of concrete deductions about the subject. For this purpose, interviews were used, obtaining qualitative results. On the other hand, a quantitative descriptive research applied through surveys was carried out. In addition, both primary and secondary sources were used to obtain the information. The primary sources were obtained through books, scientific journals, official documents from public and private institutions, degree works. While the secondary sources were obtained from newspaper articles and information on websites in Spanish and English.

### **3.2. Limitation**

The information was collected in Ecuador during 2020, however, it is important to add that, at the time of starting this investigation, there were not yet all the harmful effects of the COVID19 pandemic. During the entire year 2020, both Ecuador, like all countries in the world, were severely affected due to the seri-

ous economic situation that the pandemic caused. It is remarkable to see that this year's data shows a decline, but it is expected that with the resumption of economic activities, the economic outlook for 2021 will change and improve. For this reason, the analysis was done between the years 2017 to 2020 with a focus on the economic sector of Ecuador. Only people of Ecuadorian nationality were taken into account to participate in the surveys.

In general, three methods were used to collect the information necessary for the investigation. First, surveys were conducted in order to provide a more up-to-date picture of what people think about the topic being analyzed. For this, the website Survermonkey.com was used, and different social networks were used to distribute the surveys. It was decided to use this method since, in general, people feel more willing to give their opinions anonymously and online, than in person. Second, experts in the investigated topic were contacted to conduct online interviews, in order to provide current, more accurate and reliable information. The questions asked were focused on the current situation of franchises

in Ecuador and its economy, in addition to the possible influence of these on economic activity. Third, the collection of data through the different primary and secondary sources available both physically and electronically, this in order to analyze existing information, since in this way it is possible to see the changes that have occurred over the years with respect to the subject analyzed.

#### 4. Analysis and Results

##### 4.1. Surveys

Most of the people who took part in the survey were in the range of 26 to 40 years of age (Figure 1), which represents an adult and economically active population, this means that they have or have had employment and have received money in exchange for providing their services, whether in the public or private sector. In addition, they are people who have completed the school and have possibly already completed their third level studies. These characteristics allow the participants to be characterized as people who are capable of acquiring products and services based on their tastes, personal experiences and conveniences.



Figure 1. Range of age of the participants

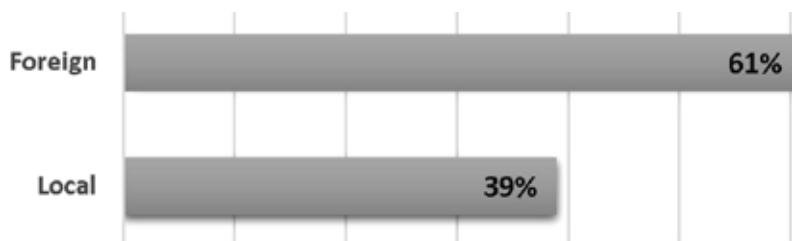


Figure 2. Preference between foreign and local products or services

When choosing a product or service, 61% of people choose foreign brands over national ones

(Figure 2). This may be due to the fact that many of the foreign brands that are offered in the market

have several years of experience, which has generated a high degree of recognition, generating more confidence on the part of the consumer. In addition, currently people are very interested that the product or service that is acquired is of good quality. In this regard, Crespo, in his research about

franchises in Ecuador, states that for a brand to become exportable and acceptable in the world market, it must comply with extremely high-quality parameters and guidelines, giving it a good degree of quality [9], and, in effect, make it more accepted by consumers.

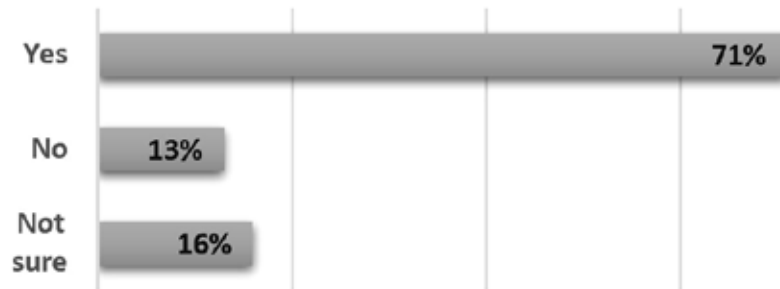


Figure 3. The presence of foreign brands affects the growth of national brands

The survey showed that 71% of Ecuadorian citizens think that the presence of foreign brands affects the growth of national brands (Figure 3), which is relevant when examining the results of the previous

question. More than 60% of citizens choose to buy brands from abroad, and it is something of general knowledge in the country. There is still a distrust on the part of people towards the local.

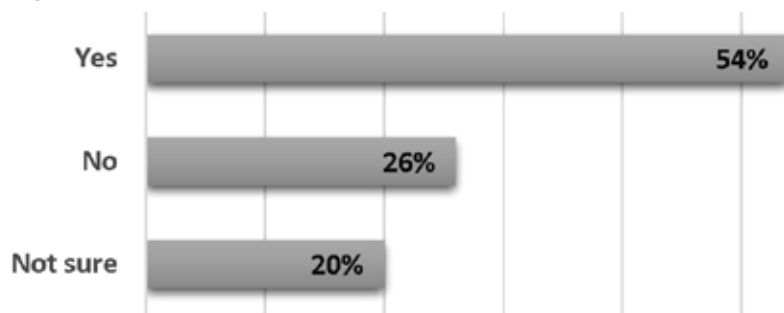


Figure 4. The presence of foreign business supports the economy

However, 53% of people believe that the presence of foreign companies in the country effectively supports the country's economy (Figure 4). This suggests a positive perception about the foreign by consumers and is represented in the high demand that exists in Ecuador for foreign products or services. It is also because the "Franchises in turn create more jobs, and society starts to see them as something beneficial" [10].

**4.2. Interviews**

The interviews were conducted both with experts on the subject of franchises in Ecuador and the most relevant conclusions are presented below.

Those interviewed agree that franchises have presented a favorable growth in the market in recent years

and this has been largely due to the construction of shopping centers, which have undoubtedly been one of the main factors for expansion and income of several franchises to the country since they offer the necessary conditions for this sector to prosper.

The international franchises that currently praise in this sector come from the United States and this is because of the fact that Ecuador is dollarized, which generates more security in the negotiations since the same currency is maintained. In addition, also brands from Colombia, Mexico, Venezuela, among others, are very well positioned in the market since they have managed to win the approval and preference of Ecuadorian consumers.

The generation of employment and the reduction of poverty, in addition to the economic independence that is generated when obtaining a franchise, have been the main factors to give an important boost in the franchise sector in Ecuador. It is undeniable to note the contribution of franchises in the Ecuadorian economy, especially when talking about employment, since they generate direct employment to a large number of Ecuadorians at the same time that they move millions of dollars of money, allowing fluidity in the country. Also, the generation of indirect employment by hiring services or acquiring products was highlighted, which helps several people to sustain their homes.

Finally, it was stated that foreign franchises are indeed seen as something positive for both entrepreneurs and the country, however, it is expected that local franchises will continue to develop, not only nationally, but also internationally. Furthermore, it is considered that the presence of foreign franchises has helped to generate innovation in local businesses, by the fact of wanting to stand out in the market and improve their sales, the quality of both local products and services has been improved. Therefore, this has made the consumer experience much better, which helps national brands continue to expand and franchise their businesses.

### **4.3. Data collection**

#### *Foreign or local brands*

According to a study carried out by Nielsen, in general, in developing countries, local brands are considered to have greater affinity with respect to their personal needs and tastes, while foreign brands are chosen because they consider themselves to be better in innovation or have better quality [11], which could indicate the reason for the preferences of consumers when purchasing products and services.

*Foreign Franchises create competition and bring knowledge*

Steven Michael, in his research on franchising as an economic development strategy, says that franchising creates competition, which helps reduce costs, but improves quality and variety, which also

encourages local businesses to seek stand out and, therefore, offer a better product or service to the consumer, which evidently increases efficiency and quality standards in all sectors of the country [12].

In the same way, it is evident that foreign franchises provide a vast knowledge to developing countries, since when entrepreneurs from different countries enter, they collaborate with experience in the economic sector, debugging, optimizing and cloning successful business models, serving as a reference for local entrepreneurs seeking to establish themselves in the Ecuadorian market and allowing sales to grow, and consequently, improving profits [13]. With all this, it can be seen that franchises are an engine to spread prosperity and fight poverty.

#### *Job generator*

Franchises undoubtedly create jobs, not only directly but also indirectly, and underemployment, since the employees of these businesses are not the only beneficiaries. There are also the people involved in transportation, the distribution of supplies, workers who are part of different companies or businesses that have agreements with these franchises to supply products or services, which shows that franchises provide work to many types of people, with different degrees of preparation, and even without it. "Through their everyday ordering of supplies or the use of local services, the franchise is putting money back into the community and supporting the local economy" [14].

It is important to add that if a franchise is successful, it will seek to continue expanding in the country and reach more cities, which creates the need for more inputs and services so that they can function effectively, and this promotes the hiring of more personnel, evidencing the generation of jobs for Ecuador [15].

#### *Impact on the National Economy*

Franchises in Ecuador are an independent entity that has local tax obligations; therefore, they have to comply with the payment of taxes, fees and special contributions, which represent tax revenues for the State. This money raised supports the local economy, since they serve to finance public needs [9].



Likewise, another benefit of franchises is the continuous preparation they provide to their workers, which makes “the local economy gains more skilled and semi-skilled workers that earn an income and create an output of labor. Other consumers then take advantage of the employee’s training by purchasing a service or product that they created” [14].

#### *Unemployment in Ecuador*

According to data from the National Institute of Statistics and Censuses (INEC), in 2018, Ecuador presented one of the lowest unemployment rates with 3.7%, and by the end of 2019, unemployment rose 0, 1 percentage points, standing at 3.8. Unfortunately, due to the difficult situation experienced by the COVID19 pandemic, the unemployment rate in 2020 will undoubtedly increase, but it is expected that with the activation of the economic sector, this

will change. It is even considered that the franchise system will be one of the most adopted types of business after the pandemic, as it represents a business with a lower risk of failure.

#### **5. Conclusion**

Franchises are a business model that, due to their high profitability and the low risk they represent, help boost the country’s economy. Ecuador, being a growing economy, has benefited from the entry of various foreign franchises since they not only increase the supply of jobs, lifting many people out of poverty, but also the creation of new local businesses that thanks to the experience of this system can consolidate their brand in the local market, they also offer superior quality products and services, improving the country’s standard and pay taxes that help pay for public expenses of the State.

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## **PROBLEMS OF APPLYING BLOCKCHAIN TECHNOLOGY IN THE HOSPITALITY INDUSTRY**

**Abstract.** The article provides an overview of the existing problems in the applying of blockchain technology at the enterprises of the hospitality industry; gives a brief description of each of the problems; describes promising development of blockchain technology.

**Keywords:** blockchain technology; hospitality industry, hotel, ОТА.

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## **ПРОБЛЕМЫ ИСПОЛЬЗОВАНИЯ ТЕХНОЛОГИИ БЛОКЧЕЙН В ИНДУСТРИИ ГОСТЕПРИИМСТВА**

**Аннотация.** В статье представлен обзор существующих проблем в развитии применения технологии блокчейн в деятельности предприятий индустрии гостеприимства; представлено краткое описание каждой из проблем; определены перспективы развития технологии блокчейн.

**Ключевые слова:** технология блокчейн; индустрия гостеприимства, гостиница, ОТА.

Блокчейн представляет собой новейшее развитие в цепочке технологических инноваций, которые несут в себе потенциал для значительного формирования индустрии туризма и гостеприимства в недалеком будущем.

Блокчейн (в пер. с англ. «blockchain» – цепочка блоков) – это распределенная база данных, у которых устройства хранения данных не подключены к общему серверу. Эта база данных хранит постоянно растущий список упорядоченных записей, называемых блоками [1]. Каждый такой блок содержит метку, указывающую дату и время внесения записи, и ссылку на предыдущий блок. Иначе говоря, блокчейн – это база данных, охватывающая физическую цепочку блоков фиксированной длины, включающую определенное количество транзакций, где каждая транзакция, добавленная в новый блок, проверяется и затем вставляется в блок. Когда блок завершен, он добавляется в конец существующей цепочки блоков.

Forbs в январе 2019 г. опубликовал статью, в которой сообщалось, что каждые три месяца через блокчейны проходит более 525 млн. долл. США, и 88% из них обрабатываются на блокчейне Ethereum. Начиная с 2018 г. более 500 тыс. новых пользователей регистрируются на блокчейн платформах и активно используют возможности этой технологии разных сферах жизни. По оценкам Всемирного банка, к концу 2020 г. 15% мирового ВВП будет храниться в блокчейне. Примерно 7,6% пользователей приходят на блокчейн через индустрию гостеприимства. Это достаточно высокий процент, т.к. до сих пор основной сферой использования технологии является финансовый сектор и майнинг криптовалют [2].

Технология блокчейн имеет ряд преимуществ для предприятий индустрии гостеприимства, к числу основных из которых относятся безопасность и стабильность передачи информации [3]. Блокчейн позволяет сделать доступ и хранение информации гораздо проще и прозрачнее, что обе-

спечивает гарантию улучшения общего опыта путешествий для потребителей и поставщиков услуг.

Несмотря на наличие определенных преимуществ, необходимо отметить, что технология блокчейн в настоящее время сталкивается с некоторыми проблемами, которые не позволяют ей успешно использоваться предприятиями индустрии гостеприимства.

К числу проблем, в первую очередь, следует отнести необходимость интегрирования нового оборудования и программного обеспечения в существующую систему управления предприятием, а также налаживание взаимодействия между всеми элементами этой системы. Очевидно, что на момент внедрения технологии блокчейн гостиница или ресторан уже используют набор CMS (Система управления содержимым (англ. – content management system. CMS) – информационная система или компьютерная программа, используемая для обеспечения и организации совместного процесса создания, редактирования и управления содержимым. В данном случае – информацией о гостинице), включающий существующие и, возможно, устаревшие системы, которые должны функционировать параллельно с ультрасовременными приложениями нового поколения и перспективными реализациями использования технологии блокчейн [4; 9].

Система распределения блокчейн должна заменить имеющиеся системы, а не просто взаимодействовать со многими из этих устаревших систем, что означает большие инвестиции в разработку новых программ, приложений и текущее обслуживание существующих.

Вторая проблема заключается в получении доступа к реестру гостиниц, что, в свою очередь, является основным барьером для входа в облачное пространство. Перед пользователями технологии стоит вопрос о достигаемости: как система бронирования блокчейн получит доступ к сотням тысяч гостиниц, чтобы хотя бы соответствовать Booking.com, у которого этот доступ уже имеется.

Индустрия гостеприимства – это индустрия отношений с высокими входными барьерами. Крупные системы бронирования существуют на рынке уже почти два десятилетия, сформировав высокий уровень доверия у своих потребителей. Технология блокчейн, являясь несколько инновационной и мало известной, большой популярностью среди потребителей пока не пользуется. Чтобы клиенты узнали об этом новом канале бронирования и приняли его, а не бронировали через веб-сайты отелей или OTA, требуется время и значительные инвестиции как материальных, так и нематериальных ресурсов, что могут позволить себе пока немногие. Конкурировать с OTA крайне сложно. К примеру, объем ежегодных инвестиций в потребительскую рекламу со стороны трех ведущих OTA в мире (Booking Holding, Expedia Group, Strip) составляет 10 млрд. долл. США [5].

*Отсутствие возможности формирования мгновенного подтверждения бронирования* также относится к числу проблем внедрения технологии блокчейн в деятельность предприятий индустрии гостеприимства. По определению данной технологии, каждая транзакция должна быть проверена пользователями распределенной сети блокчейн. Среднее время для одного подтверждения операции в приложении на базе блокчейна колеблется от 30 минут до 16 часов в крайних случаях. Очевидно, что потребители гостиничных или ресторанных услуг не готовы ожидать часами подтверждения бронирования. И в этом случае OTA и иные каналы продаж имеют значительное преимущество, так как могут сделать это гораздо быстрее [8].

*Невозможность внесения изменений в блокчейн без изменения всех последующих блоков* является

еще одним препятствием в развитии применения блокчейн в индустрии гостеприимства, даже если предыдущие проблемы удастся устранить и повысить скорость обработки операций [9]. Дело в том, что от 15 до 30% бронирований услуг в деятельности предприятий индустрии гостеприимства подвергаются корректировке со стороны потребителей (изменение дат заезда/выезда, изменение фамилии гостя, внесение дополнительного человека в бронирование и т.д.). Иными словами, блокчейн может регистрировать покупку номера, но не дает возможность отменить бронь без потери гостем денежных средств или моментально изменить номер по запросу гостя: на это нужно время и изменение данных в уже записанной транзакции [6].

Совершенствование деятельности в вышеобозначенных направлениях может способствовать повсеместному применению технологии блокчейн в деятельности предприятий индустрии гостеприимства. Пока точно неизвестно, когда это произойдет. По мнению генерального партнера шведской венчурной кампании VI Partners Дэниела Гутенберга, пик применения технологии придется на 2025 г. [7].

Несмотря на существование ряда проблем и ограничений, препятствующих повсеместному развитию технологии блокчейн, важно помнить о постоянно запускающихся новых стартапах, предлагающих решения для существующих проблем. Существует вероятность, что технология блокчейн в ближайшее десятилетие может оказать на индустрию туризма и гостеприимства такое же сильное влияние, как появление сайтов онлайн-бронирования в конце XX века.

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## Section 3. Finance, money circulation and credit

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### GRAPH-BASED REPRESENTATIONS OF CREDIT PORTFOLIOS AND THEIR ANALYSIS

**Abstract.** Financial institutes have to be in a position to describe and to analyze the networks of obligors in their credit portfolios. If one obligor defaults who is numerously connected with other obligors in the portfolio there can be effects of credit contagion. We suggest a graph-based modeling of micro-structural relationships of obligors in credit portfolios. Analyzing the graph topology, we identify the most important obligors and the weightiest relations. In addition, information is provided on possible credit contagion and risk concentration. This may help to examine potential implications of defaults on the rest of the portfolio.

**Keywords:** credit portfolio, credit risk, graph, graph topology.

**JEL Codes:** C10, C44, G21

#### 1. Introduction

As a consequence of the increasing industrial digitalization not only humans, machines, materials, and so on will be increasingly cross-linked but also the firm itself with its suppliers, customers, and partners (A review of digitalization in industries give [14]). Inversely, financial institutes need to ask for the relevance of the intensification of multi-firm co-operations within supply chains for their credit portfolios. To be in a position to adequately judge risks, financial institutes have to be up to describe and to analyze the networks of obligors for credit assessment and credit risk measurement. Credit risk not only depends on the quality of the single obligor but on a network of contributors with different credit ratings and weights in the supply chain.

Given this background, one of the questions being in the center of credit portfolio analysis is: What implications on a financial institute's credit portfolio and its credit risk position would it have, if one obligor defaults who is numerously connected with other obligors within the portfolio? The connection of obligors can consist in operational supplying and purchasing interrelations and in partnerships with an equitable interest. Other important questions, arising from the connectedness of obligors, deal with possible credit contagion effects (For credit contagion see [5]), and (for contagion in financial networks see [6]). Does the creditworthiness of other obligors downgrade as a result of one obligor's default? Do the probabilities of default rise for other obligors then? Does the institute's remaining credit risk increase? Further aspects

finally deal with risk concentrations within the credit portfolio (For risk concentration problems see [13]).

Following these issues, the paper uses graph theory to model the above mentioned micro-structural relationships of obligors in credit portfolios. Graphs seem to be a suitable instrument to mirror the complex relations of obligors. Established credit portfolio models usually neglect micro-structural relations and use highly aggregated information for modeling stochastic dependencies of obligor's profit and loss variables. We suggest including graphs into the common models. This enables financial institutes fairly to consider changes of an obligor's situation affected by economic distress of a supplier or client. Analyzing the graph topology, we can examine the implications on the credit portfolio and on the credit risk position if one obligor defaults who is numerously connected with other obligors within the same portfolio. In addition to that, information is provided on credit contagion and on risk concentration which the banking supervision demands (See e.g. [1]). In summary we expect a significant improvement of credit risk models.

The paper is organized as follows. In Section 2 there is given a brief review of common credit risk models and their properties. In Section 3 we shortly describe the necessary fundamentals of graph theory. The application of graphs to obligor networks is described in Section 4. In Section 5 we discuss the analyses of graph topology with implementation to obligor networks in credit portfolios. Finally, in Section 5 we summarize the findings and propose further extensions of this work.

## 2. Credit risk models

The above-mentioned questions are hardly answerable with currently used credit portfolio models. These models are concentrating on modeling default correlations of obligors and exhibit some weaknesses regarding obligor's diverse micro-structural relations. In general, we can differ mainly two types of credit risk models (For comprehensive comparisons of credit risk models see [2; 7]).

Asset value models based on the CreditMetrics™ framework have become a kind of an industry stan-

dard in the major, international institutes (The basic characteristics of CreditMetrics models are outlined in [12]). They describe a latent asset value process  $R_i$ ,  $i = 1, \dots, m$  of an obligor. A default occurs if the process falls short of a limit  $c_i$ , so that  $R_i < c_i$ . Asset correlations deduced from systematic factor dependencies are converted into default correlations.

Default rate models based on the CreditRisk+™ framework are mostly applied by the majority of smaller sized financial institutes (A broad review of CreditRisk+ models in banking give [9]). Within these models, obligors are assigned to divers stochastically independent sectors  $S_k$ ,  $k = 1, \dots, N$  with different sector weights and variances. For the sectors there are deduced default rates which are again converted into default correlations.

The portfolio models give closed form solutions of portfolio loss distributions and individual risk contributions. The mapping of business activities to sectors is more individual than systematic factors. But the simplified and aggregated modeling of correlations for the most part does not satisfy the real complexity and inconstancy of economic dependency types. The widely used sector definitions according to industries and countries seem to be oversimplified. The assumption of stochastically independent sectors is hardly to hold up. In addition, sector assignments of obligors are increasingly not clear cut. Very much like the interrelations of obligors, the assignments are variable in time. To be able to answer the questions regarding credit risk and contagion effects, networks of obligors have to be modeled in more detail.

## 3. Graph theoretic fundamentals

Graph theory provides a suitable instrument for mapping and analyzing obligors and their relations with other obligors, customers or suppliers. The theory is well established in Mathematics, Informatics, and Operations Research. It generally deals with the analysis of cross-linked systems and structures (See for the following [4, 71 ff.; 11, 99 ff.; 16]).



**Definition 1.** A graph  $G$  is a construction consisting of non-empty and finite sets of nodes  $N$  and edges  $E$  on  $N$ . Every edge  $e \in E$  is associated with exactly one pair of nodes  $(n_i, n_j) \in N$ .

The graph is called undirected if there is no order between the nodes. If there exists a special node order, the graph is referred to as directed graph. Edges are then represented by arrows, and we write  $G = (N, E)$ . When edges additionally exhibit a certain valuation or weighting, the graph is then referred to as weighted graph. The edge weighting is understood to be a function  $f(n_i, n_j)$ , relating a real number to every arrow. It is usually quoted next to the edges of the visualized graph.

The structure, the order, and the weighting of a graph can be represented and recorded by an adjacency matrix  $A$ . In case of an undirected graph, this  $n \times n$  matrix contains entry one at the two nodes of an edge, otherwise zero. For a directed graph the entry is in the direction of arrow only (row  $\rightarrow$  column). In case of a weighted graph, the entry is the corresponding edge weighting instead of one. Because of the matrix representation, methods of linear algebra become applicable to graphs.

**Example 1.** To the set of nodes  $N = \{A, B, C, D\}$  belongs the set of edges  $E = \{(A, C), (B, A), (B, C), (C, D), (D, A)\}$ . It is about a directed graph, and the five arrows get assigned the following weightings by function  $f$ :  $f(A, C) = 7$ ,  $f(B, A) = 5$ ,  $f(B, C) = 6$ ,  $f(C, D) = 9$  and  $f(D, A) = 8$ . The resulting graph and the associated adjacency matrix are shown in (Fig. 1).

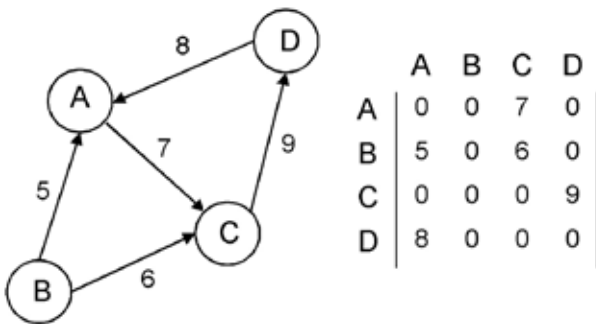


Figure 1. Example of a directed weighted graph and its adjacency matrix

**4. Obligor networks**

Applying graphs to networks of obligors within credit portfolios it seems likely to interpret the nodes as single obligors and the edges as economic links between them. Thinking in change analyses, the modeling could be extended to potential obligors and potential linkages. The edges may represent supply chain relations, financing relations, and partnerships. Their weighting is determined by sales revenues, cash flows, receivables and similar parameters. It describes absolute or relative shares in them. Their orientations represent the main directions of supplier-customer-relations and capital participations between obligors. Financial institutes can extract such information from financial statements and other disclosures and announcements of their obligors. Even modern methods of data mining could be used for that (See Section 5).

The whole information is then represented by a graph and recorded in an adjacency matrix.

**Example 2.** For five manifold linked obligors the directed and weighted graph could appear like given in Fig. 2. Obligor  $D$ , which is in danger of default, holds supplier relations to the other obligors  $A$  and  $E$  with revenues of 18 and 27 million euros per year. The main customer relation comes from obligor  $C$  and has an annual volume of 65 million euros. In addition to that,  $D$  holds an equity participation of 34 million euros in obligor  $B$ .

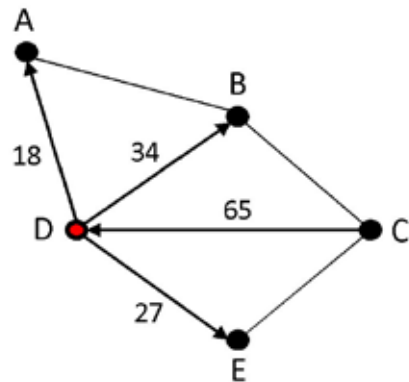


Figure 2. Representation of a graph for an example of five obligors

## 5. Analyzing the graph

Once the obligor interrelations are described by a graph we can analyze the graph topology. For this purpose, there are available different metrics and algorithms (See for the following e. g. [11, 99 ff.; 3]). We want to apply some fundamental and functional methods.

**Size of  $k$ -neighborhood.** The size of the  $k$ -neighborhood describes the number of nodes not further away from a given node than  $k$  edges. Applying such examinations, we can evaluate interrelations of obligors, their relative importance, and possible contagion paths within the portfolio.

**Grade of a node.** A comparable information delivers the grade of a node. It gives the number of edges the node is connected to other nodes in the graph. For  $k = 1$  the  $k$ -neighborhood and the grade of a node produce the same statistics. The higher the grade of an obligor in the credit portfolio the stronger it is connected to other obligors. A high grade signals a particular importance of the credit rating of that obligor. At the same time, the high grade can indicate a special sensitivity for contagion.

**Shortest path, distance.** The shortest path between any two nodes of weighted graphs gives the path with minimal sum of edge weightings. Occasionally, the minimal sum of edge weightings is also referred to as distance.

**Adjacency of a node.** The sum of distances to any other node in the graph gives the adjacency of a node. The smaller the adjacency the more important the node. Using these methods, we can keep records for the importance of obligors in the portfolio, too. Furthermore, we can identify concentrations.

**Center, centrality.** The center or centrality of a graph determines that node with the feature that the maximal distance to any other node of the graph is minimal. Regarding to their connectedness the most important obligor(s) can be identified this way.

In most of the typical Operations Research applications there is searched for sub graph whose sum of edge weightings is minimal. It contains the

shortest paths only. Such a sub graph is referred to as minimum spanning tree. Regarding the analysis of dependencies and contagion effects in credit portfolios, a sub graph with maximal sum of edge weightings would be more meaningful.

**Maximum spanning tree.** A maximum spanning tree refers to as the graph with maximal sum of edge weightings and identifies the weightiest relations in the obligor network. It indicates the most important paths of potential contagion.

The initial question to the implications of a default of a connected obligor within the credit portfolio is answerable more easily now. The graph in detail shows both what relations a potential default candidate holds to other obligors and what relative importance the connections exhibit. We are enabled to identify whether the candidate is just a small supplier to other obligors or the main supplier, respectively. Additionally, we see what volume of supply is at risk for the connected obligors. All this information has to be connected to the rating model and the credit portfolio model in a suitable way (See [15]). Rating migrations of interconnected obligors could be newly evaluated. Also, the assessments of creditworthiness and default probabilities could be adjusted. Quantifying credit risk, we can explicitly model stochastic dependencies between obligors. The risk assessment is improved by this.

Due to the technique of data mining it becomes possible to include up-to-date information regarding the own obligors and their interrelations into the graph from news announcements (For an overview of applicable data mining techniques see [10]). The graph then is no longer a static mapping but a dynamic one. Its shape, directedness and edge weightings become continuously adaptable. The dynamic sampling of the graph is important to be able to map and to analyze current changes in the obligor network but also to conduct sensitivity analyses and stress tests for the credit portfolio. A dynamic graph can also develop to an early-warning system when it shows potential rating downgrades and imminent defaults based on recent information.

Beyond the economic interrelations of corporate obligors, graphs consequently have to include employees of the interconnected firms. Whose mortgages are often retrieved in the credit portfolio, too.

Of course, graphs of big credit portfolios can reach a considerable size and complexity. To keep it manageable, known complexity reduction techniques have to be applied if necessary (For techniques of complexity reduction see e.g. [8]). The segmentation into sub-graphs could be such a means.

### 6. Summary and outlook

For exact mapping and analyses of interrelations between obligors of a credit portfolio graphs can be used. Due to graphs we are able to model partly complex networks, to illustrate them graphically, and to record them in data processing. Analyses of the

properties of graphs help financial institutes in understanding obligor networks and project structures. They help to assess credit ratings, they point risk concentrations and contagion risks. The question of default contagions due to insolvency of a certain numerously connected obligor is easier to answer. The properties of a graph help to identify the relative importance of single connections and the weight of single obligors in the network.

Connected with credit portfolio models, graphs can be a meaningful methodical instrument for examining dependencies between obligors in more detail. Further research in the topic has to apply and to test the estimation of default correlations on graphs. The dynamic sampling of graphs using data mining techniques would also be a field of further research.

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## CAUSE-EFFECT RELATIONSHIP BETWEEN PROFESSIONAL LIABILITY AND OPERATIONAL RISKS ON THE EXAMPLE OF AN INSURANCE COMPANY

**Abstract.** An enterprise operating on the principles of a market economy, in parallel with organizational problems, faces risks caused by internal and external factors. Depending on the level of risk culture in the country, it is therefore difficult or easy to achieve risk management effectiveness. Among the many risks posed by various factors, one of the most important is operational risk. Operational risk is a risk directly related to staff behavior and is determined by its competence and personal characteristics. Insurance companies that take the risks of individuals and legal entities in insurance themselves are exposed to high quality risks. Risk protection depends on the formation of the insurance fund, hence the number of potential insurers. The role of human capital in insurance activities is high compared to other institutions. The basis for this is the specificity of the activity. The article discusses the problem of risk management of insurance companies, which will focus on operational risk as one of the consequences of the realization of personnel responsibility.

**Keywords:** Operational risk, Insurance fund, Professional liability, Staff behavior.

### 1. Introduction and aim of the study

Civilization of society, scientific and technical progress, efficient use of limited natural resources and the growth of the role of human beings as important capital in it are the basis for the emergence of new risks and the quality of existing risks. This process is constantly ongoing and it is difficult to frame it. That's why the task of science is to analyze the nature of diverse risks, accurately classify them, and develop management mechanisms.

Risks exist in nature themselves, but the object of research it becomes in the case of connection with human action, because the impact of the damage or loss received is only perceived and assessed by human.

The aim of the paper is to analyze the degree of responsibility of the insurance company's staff for the occurrence of operational risks as a key factor based on the analysis of historical aspects of operational risks, scientific research and the current situation.

### 2. Literature review

William Petty, a representative of classical political economy in the history of economic opinion, in his work "Political Arithmetic" described human capital as "the living active force of man" (William [10]) and noted that it is part of national wealth. Pete by this definition views human capital among the factors of production as the driving force of other factors. Human Capital researchers: John Miner

Clark, Tunen, I. F., Marshall A., Fisher, S. and others Focus on workforce qualifications. The attention of economic thinkers is less focused on the results of production by human capital, on the study of risk impact, on their psychological portrait, even on the possibility of generating operational risks in the case of high qualification. Research on operational risk management issues has come to the fore in the last decade. The term “operational risk” was first used in 1995, when the UK’s most famous bank “Baring” went bankrupt as a result of an operation by one of its traders, Nick Lyson. In 1992, Lawson entered into unauthorized speculative transactions, which initially contributed greatly to the profits of “Baring” Bank. Lison became a star for that period and gained the greatest trust of the London authorities. He has been arbitrating “NIKKEI 225” futures transactions between the Osaka Stock Exchange of Japan and the Singapore Stock Exchange. In order to make high profits, Lossin decided to delay futures trades, but received unhedged losses due to internal and external circumstances. To compensate, Lison sued for fraud and opened an account at 88888 at the Singapore branch, thereby delaying the sending of daily trading reports to the London office, launching aggressive trades in futures and options in the Singapore market, as well as falsifying trading data in bank accounts and using other payments.

Lyson fraud was opened by a bank auditor, though after \$827 million pound was wasted, which has provoked the bankruptcy of the bank. From the real example given, it can be seen that the financial result was caused by the operations carried out, which were managed by the decisions of highly professional but low-responsibility staff.

According to philosophical science “uncertainty is the state of the decision-making brain of its level of knowledge about a particular situation” (Днев B.C...) This definition clearly shows the activation of the decision made in the human subconscious as a risk factor. The person as a decision maker in risk management theory is considered as a subject of op-

erational risks. The occurrence of operational risk is considered in two directions:

1. Risks related to facilities (buildings, machinery).
2. Risks related to human capital.

In the first case, the risk assessment based on the ability to measure can be done using mathematical methods and is managed using risk management methods.

In the second case we are dealing with a subject whose quality of performance depends on several factors: level of education, level of professionalism, personal qualities, psycho-emotional characteristics.

In the countries of the post-Soviet space, where the 70-year period (1921–1990) was characterized by total employment, the compensation for various risks was offset by the state. In the modern period, the state is almost not involved in regulating the negative financial consequences of private property-based activities. This is the reason why economic entities paid more attention to the processes within the company, identified the factors of loss and managed them. The effectiveness of management mechanisms depends on an in-depth analysis of the nature of the management object, in this case operational risk. Operational risks by their nature belongs to the risks, against which preventive measures are taken, to eliminate the generating factors and not to create reserves to cover the already incurred losses.

The source of operational risk is not yet specified in the risk management literature. Corg Magnum (Corg Magnum [11]) in the article “Operational Risks are a global Focus 2019” notes that the challenge of risk management in 2019 is operational risks for the following reasons: outdated IT infrastructure, talent acquisition/retention, cybersecurity management, ability to adapt to change, and more. Named for raising and retaining social responsibility by employees towards employees to attract and retain talent. In the US in 2019, it becomes clear that those companies are leaders in the labor market with high social responsibility. According to the current situation in Georgia, the reason for the operational risk

is mainly unprofessional staff and low social responsibility of entrepreneurs.

The diversity of risks in non-financial companies makes risk management difficult. Parera et al. In his study "Operational Risk Management in Non-Financial Institutions: A Case Study in Brazilian Companies" (Parera, L.C.J... [10]) point out that managers pay less attention to operational risk management because it is difficult to quantify the damage caused by it. In real production, it can be caused by the various risks incurred in the production process and the operational risk, as the accumulation of these risks is reflected in the final financial result of production, for which there are quantitative valuation mechanisms. As for insurance companies, it is difficult to quantify operational risks because the underlying cause is largely staff action. In determining the internal factors of operational risk, the risk arising from the problems arising during the technological operation during the production process should be separated from each other: power outages, low quality of raw materials and the risk of losing contractors, potential insurers, etc. Despite the risk management methods and models created by modern science, it is impossible to be aware of the risk, analyze it accurately and predict the expected outcome accurately.

Operating risks for insurance companies are no less significant than the losses incurred by insurance cases under contracts entered into.

In order to fulfill its obligations, the company creates reserve capital according to the risks taken and is somewhat ready to pay the losses, and as for the risks caused by the staff or the company, it is difficult to determine the probability of their occurrence and the expected loss. Risks caused by staff are manifested in fraud, non-performance of assigned functions, indifference in performing functions, etc. Nobel Laureate Oliver Williams in his study "Behavioral Preconditions for Modern Economic" notes that the staff opportunistic behaviors can be viewed in both active and passive forms, manifested as "ex ante" and "ex post" forms. Opportunism in these forms

is mainly considered in the insurance literature, directly in the section "risk selection" and "moral risks". Ex ante" risks arise in insurance companies due to the inability of the company's staff to differentiate the real risk expected from the insured object at the time of concluding the contract from the risk that may arise from the provision of incomplete information by the insurer, and in the form of "ex post" the risks are manifested in the inability to fulfill the obligations under the contract, which may lead to the loss of the client. As we can see, the operational risks incurred by the staff can arise both as at the stage of concluding the contract and as at the stage of contract implementation.

Previous contractual opportunism may arise as a result of low staff qualifications. For example, if an employer pays a salary at the level of an average productive worker, then more experienced workers will refuse the contract and the company will be equipped with middle and low level specialists. In such a case, the company specialist cannot reveal the asymmetric information provided by the client in order to carry out the pre-conceived opportunistic intentions. This poses an operational risk to the company. Because of this, employees who already have their own customer base are valued by the insurance company.

One of the mechanisms of protection against personnel negligence is to find information about it when hiring, it is better to sign standard contracts when concluding contracts with agents and brokers. Writing out rights and obligations when selecting reduces operational risks but increases monitoring costs.

The source of the operational risk is post-contract problems caused by incomplete information. It is not possible to write all the information about all the requirements in the contract, it is also difficult to explain all the rules provided by the regulatory legislation to the client.

One of the reasons for the emergence of operational risks is the indication of incorrect information in the insurance contract by the agent or broker, misappropriation of part of the premium,

etc. It should be noted that no less reason for the occurrence of operational risks is the actions of contractors. This is especially felt in the relationship between insurance companies and pharmaceutical companies, in the relationship between insurance companies and medical institutions. In both cases, the reputation of both the insurance company and the contractor is damaged, which is reflected in the number of contracts concluded.

In order to assess the impact of operational risks on the financial condition of the insurance company, the financial statements of companies operating in the Georgian insurance market were examined ac-

ording to the audit findings, which provide court costs (tax after the company's fraud) partially confirm the existence of operational risks.

Obviously, we do not claim that all disputed losses are the result of operational risk, but due to the causes of disputes (incorrect information about the object of insurance, incomplete information of the insurer, incorrect risk assessment, negligence by the insurer, fraud of the insurance agent) a large part of operational risk. To study the issue, the reports of the Georgian Mediation Service for 2015–2019 were analyzed, according to the data of eight insurance companies that are members of it.

Table № 1. – Analysis of mediation service appeals by types and content of insurance

	2016	2017	2018	2019	2020
<b>Total dispute / disagreement</b>	177	310	284	161	91
<b>Health insurance</b>	138	217	212	133	82
<b>Agro insurance</b>	25	78	56	14	4
<b>Other</b>	14	15	16	14	5

Source: Georgian Association of Insurance Companies, *Insurance Mediation Report* <http://www.insurance.org.ge/index.php?a=main&pid=348&lang=geo>

As can be seen from the table data, the relationship problems with the insurance company are most evident in health insurance. According to the mediation report, frequent referrals according to the typology are: receiving / financing hospital services, receiving / financing outpatient services, receiving / financing medical services in provider and non-provider clinics, financing of medicines.

The operational risk arising in the considered cases can be considered in two directions: Risk caused by low professional liability or low qualification of the insurance agent or broker, which caused the contractor company to fulfill its obligations on time. In both cases we are dealing with operational risk, which represents different categories of liability according to the factors of generation and will ultimately hurt the insurance company in the form of risk to the company reputation, reducing the number of clients.

Analysis of operational risk factors has shown that insurance companies often face unforeseen costs as

a result of disputes arising from clients, contractors. Costs are negatively reflected in the level of solvency. With solvency level dynamics it is possible to quantify the impact of operational risks with high probability. The solvency of insurance companies is managed according to the standard developed by European sponsoring organizations with Solvency II. The standard obliges companies to assess and regulate not only insurance and financial risks, but also operational risks, and to do so, the risk must be taken into account in equity. The amount of risk weighted capital is determined by the sum of the underlying solvency capital and the operating solvency capital. Solvency capital includes reserves created for all types of insurance (life, health, non-life), as well as capital adjusted for losses caused by market risks, risk assessment (underwriting) and losses expected by contractors' default. Underwriting and contractor default risk capital are used to regulate operational risk from the above. It is clear here that Solvency II addresses the operational risk that may



arise in assessing the risks of the insured entity/entity. This standard assumes that there is a 100% correlation between different types of risks. According to this assumption, an error made by the staff of the insurance company in the performance of key activities (intentionally or unintentionally), which manifests itself in the event of an insured contract, becomes a source of new risk. In particular, misrepresentation by the agent in the performance of the obligations under the contract becomes the basis for high demand from the client, which leads to the risk of losing a given client in the future, but also to potential clients associated with it. Ultimately this will result in a reduction in the number of contracts and the company will face financial risk (liquidity, profitability, sustainability, market).

Thus, in order to determine the operational risks to ensure the solvency of insurance companies, the company's risk management should annually examine the extent of losses caused by human capital and comply with the standard set by Solvency II. Specify the cost of operating risk losses in the financial statements. The Company's management should focus on preventing operational risk factors rather than using the resources available in the reserves to cover losses. Prevention includes timely training of staff, timely detection and replacement of indifference, fraud, irresponsible attitudes. Such an approach will reduce the risk of "ex ante" operational risks during the contract process "ex ante", as well as during the term of the contract and after the occurrence of the insurance event.

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## Section 4. Economics, organization and management of enterprises, branches, complexes

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### THE ORIGIN OF THE FOOD PROVISION DISPARITIES IN UKRAINE

**Abstract.** In this article presents an analytical review of imbalance between branches, which leads to food provision disproportion for Ukrainian population. Attention is focused on the mechanistic contradictions of the demand and supplies' formation in its domestic food market.

**Keywords:** price disparity, economic imbalance, food provision, solvency.

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### ПРИРОДА ДИСПРОПОРЦИЙ ПРОДОВОЛЬСТВЕННОГО ОБЕСПЕЧЕНИЯ В УКРАИНЕ

**Аннотация.** В данной статье представлен аналитический обзор межотраслевых дисбалансов, приводящих к диспропорциям продовольственного обеспечения населения Украины. Внимание акцентировано на механистических противоречиях формирования спроса и предложения на ее внутреннем рынке продовольствия.

**Ключевые слова:** ценовой диспаритет, экономический дисбаланс, продовольственное обеспечение, платежеспособность.

Процессу продовольственного обеспечения населения Украины свойственно несправедливое распределение экономических выгод и затрат, в результате которого наблюдается усиление диспропорций между участниками рыночного взаи-

модействия, что в конечном итоге может подрывать социальную стабильность в стране. С механистической точки зрения, все события есть следствием влияния факторов, выявление которых, в качестве причин разбалансирования внутреннего рынка

продовольствия Украины следует начать с изучения принципов формирования спроса и предложения продуктов питания, тогда станет понятным, какие рычаги стоит использовать на государственном уровне для обеспечения социальных гарантий.

Предложение отечественного рынка продовольствия формируется сельскохозяйственными производителями, предприятиями пищевой и перерабатывающей промышленности, продовольственным импортом, взаимодействующими между собой непосредственно или через субъекты инфраструктуры. Продукты питания находят своего потребителя через оптово-розничную торговую сеть, что требует координации материальных и товарных потоков, а также своевременного обмена актуальной маркетинговой информацией, поэтому к взаимодействию привлекаются логистические компании, эксплуатируются информационные, транспортные и энергетические коммуникационные сети.

Производители аграрной продукции функционируют в условиях рынка чистой конкурен-

ции, которому свойственно наличие большого количества продавцов и покупателей, что существенно снижает эффективность государственного регулирования агропродовольственных рынков. Полное отсутствие монополии в сельском хозяйстве исключает возможность влияния аграриев на ценовую политику. Это объясняет их стремление к увеличению масштабов бизнеса, которое позволит им не только задавать тренды цен, но и взаимодействовать с оптовыми покупателями сельскохозяйственной продукции на равных. При этом им следует учитывать длительный период окупаемости капиталовложений, а также быть готовым к ухудшению манёвренности относительно динамизма продовольственного рынка. Для малого агробизнеса более актуальна диверсификация, благодаря которой удастся увеличить ассортимент продовольственных прилавков и сформировать сырьевую базу легкой, фармацевтической и косметической промышленности.

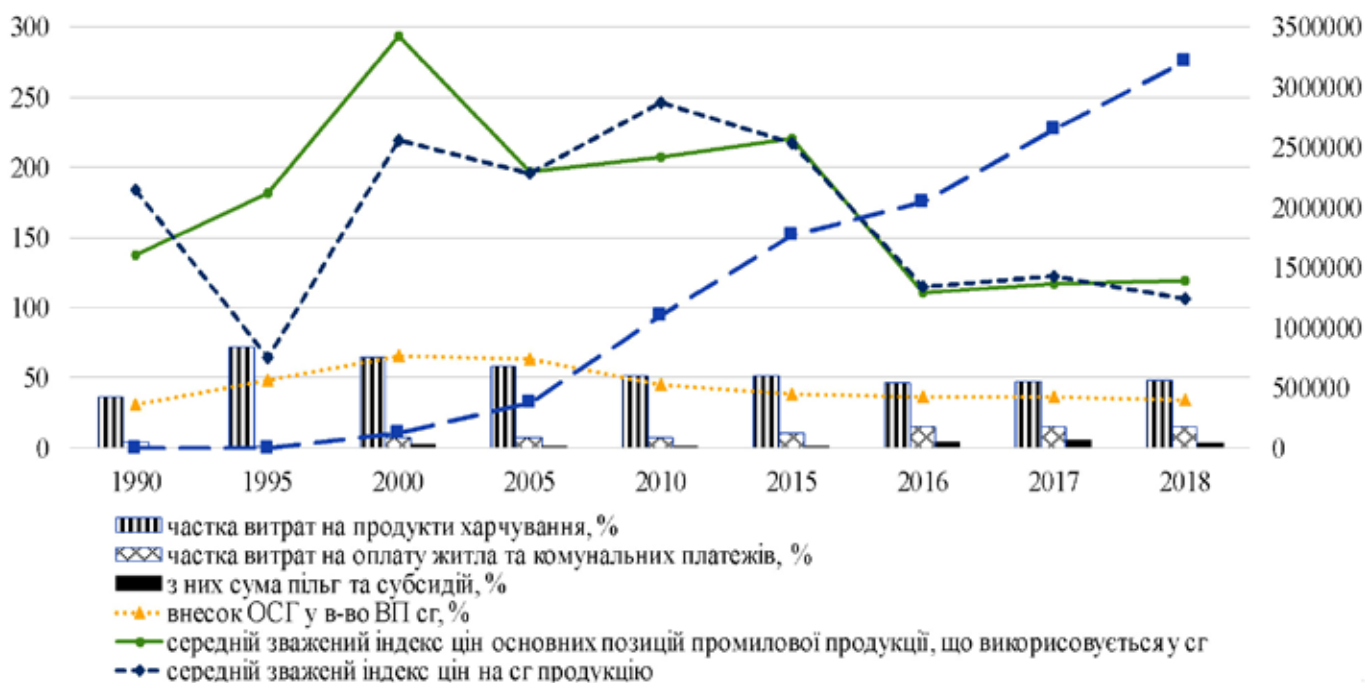


Рисунок 1. Последствия диспаритета межотраслевого товарообмена в Украине

Сегодня сельскохозяйственный предприниматель в основном ориентирован на экспорт, кото-

рый гарантирует ему получение прибыли, что существенно важно для него после долгого периода

кризиса, обусловленного доминирующей позицией отечественных предприятий пищевой и машиностроительной промышленности, монополия которых послужила причиной финансового коллапса сельхозпроизводителя Украины в 90-х годах (рис. 1). Неэффективность межотраслевого товарообмена послужила причиной ухудшения его материально-технической базы, в следствии чего понизилась производительность труда в сельском хозяйстве, что обусловило обвал объёмов производства пищевой промышленности, которая вынуждена была перейти на импортное сырьё.

В конечном итоге экономический эгоизм предприятий сырьевой и материально-технической зоны обошёлся очень дорого для всех трех сторон рыночного взаимодействия: для производителя – увеличением затрат на производство, которые обернулись убытком; для потребителя – ростом расходов на продукты питания, что привело к однообразию пищевых рационов; для государства – повышением расходов на финансовую поддержку предприятий пищевой цепочки из-за угрозы продовольственной безопасности страны. Достичь снижения диспаритета удалось после 2000 года благодаря повышению закупочных цен на продукцию сельского хозяйства в следствии увеличения объёмов ее экспорта.

Таким образом, экспортно-импортный дисбаланс, наступивший после образования зоны свободной торговли в рамках Соглашения об ассоциации между Украиной и Европейским Союзом, выполнил роль регулятора цен на рынке сельскохозяйственного сырья гораздо эффективнее, чем это делало государство, применяя административные рычаги влияния.

Деятельность логистических компаний, предприятий-производителей сложной сельскохозяйственной техники и других материально-сырьевых ресурсов, используемых в процессе аграрного производства в условиях монополистической конкуренции, а производителей сельскохозяйственной продукции в условиях свободной,

является причиной нарушения баланса межотраслевых отношений, который, приобретая очертания диспаритета товарообменных операций, как следствия диспаритета цен, приводит к аритмическому, диспропорциональному, несинхронному и неоптимальному режиму работы всех звеньев одной технологической цепи, замедляя темпы товародвижения продуктов питания [3, С. 56].

Поскольку процесс продовольственного обеспечения населения является сложной пространственно-экономической системой, которая состоит из большого количества взаимосвязанных составляющих, то роль связующего звена между продуцентом и консументом продовольствия выполняют коммуникационные системы, прежде всего те, которые используются для товарного трафика. Поэтому колебания цен на рынке нефтепродуктов чувствуют все стороны рыночного взаимодействия. Следовательно, конфронтацией рыночное взаимодействие материально-сырьевой [2], перерабатывающей и сбытовой сфер наделяет олигополия поставщиков нефтепродуктов, электроэнергии и газа. Их подорожание – основная причина диспаритетного разрушения платёжеспособности украинского потребителя на фоне одновременного снижения покупательной способности его доходов, которое служит основой разбалансирования внутреннего рынка продовольствия, поскольку доходы населения формируют структуру расходов, анализ которой позволяет сделать выводы об объёмах и структуре потребительского спроса. Излишняя озабоченность участников рыночного взаимодействия максимизацией выгоды при минимизации затрат, не может гарантировать экономический рост национальной экономики Украины, обуславливая тройное ограничение: для консумента – в потреблении продуктов питания, что негативно сказывается на его здоровье; для продуцента – в привлечении инвестиций в реальный капитал, тормозящий его прогресс; для государства – в качестве поступлений в госбюджет, недостаточных

для стимулирования экономического и социального развития украинского общества.

Таким образом, причиной сбоя работы продовольственного рынка Украины являются различные экономические ритмы функционирования хозяйствующих субъектов, приобщающихся к взаимодействию из других отраслей, а именно дисбаланс провоцируют структуры, функционирующие в условиях олигополии, что объясняется их стремлением влиять на государственные процессы через политическое лобби и усиливать свою экономическую власть на внутреннем и внешнем рынках. Это побуждает олигополистов к увеличению цен на свою продукцию, что запускает процесс повышения цен на продукцию по всей технологической цепочке опережающими темпами по сравнению с ростом реального капитала национальной экономики и увеличением золотовалютных резервов Национального банка Украины. С целью сохранения платёжеспособности экономики, финансово зависимые чиновники вынуждены делать выбор в пользу увеличения национального долга или дополнительной эмиссии

национальной валюты, что неизбежно приводит к её девальвации, тогда как государство, регулируя ситуацию в агропродовольственной сфере экономическими методами, на самом деле воюет с ветряными мельницами. Поэтому, устраняя функциональный дисбаланс, следует учитывать ситуацию во всех отраслях национальной экономики, в том числе и на сырьевых рынках, иначе на экономическую модернизацию механизма продовольственного рынка, который должен коррелировать с рынком кормов, минеральных удобрений, полуфабрикатов, семян, материально-технического обеспечения, готовой продукции, а также энергоносителей, являющегося залогом гармонизации рыночного взаимодействия, способной сбалансировать процессы продовольственного обеспечения населения Украины, можно не рассчитывать. Однако этого будет недостаточно, поскольку первопричина диспропорций находится не в экономической, а в политической плоскости, что обуславливает необходимость поиска более совершенных моделей работы политикума государственного уровня.

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## **SOME ISSUES OF IMPROVING OF MATERIAL AND TECHNICAL RESOURCES MARKET IN AGRICULTURE**

**Abstract.** Agriculture plays an important role in protecting of the strategic interests of the country, being the most important and leading area of the national economy. Agriculture, along with the growing demand for food products, also supplies raw materials for many processing industries. Carrying out these important strategic tasks, first of all, ensures reliable employment in the national economy, raising the incomes of the population and forming the state's food independence.

**Keywords:** logistics, logistics system, ASE implementation, high level of service infrastructure, application of leasing, expansion of entrepreneurship in agriculture.

Agriculture plays an important role in protecting of the strategic interests of the country, being the most important and leading area of the national economy. Agriculture, along with the growing demand for food products, also supplies raw materials for many processing industries. Carrying out these important strategic tasks, first of all, ensures reliable employment in the national economy, raising the incomes of the population and forming the state's food independence. From this point of view the development of the agrarian sector directly depends on strengthening its logistics, increasing the level of mechanization of production, and the satisfaction of material and technical resources with agricultural producers.

As mentioned above, the transition from the planned socialist economic system to the market relations has been liberalized by the dominant logistic system for the previous system, after the transformation process has been initiated, and the agricultural commodity producers have access to machinery, equipment, spare parts, mineral fertilizers, toxic chemicals, lubricants and other production-oriented resources. Excessive centralized delivery of material resources of the centralized logistics system, which is an important attribute of socialist production relations, is a lack of some of the nomenclature resources, and so on. in line with the revenues of agricultural enterprises, the resources and product sales were continuously uninterrupted with appropriate

resources, and the state was constantly paying attention to the regulation of equivalence between agricultural products and industrial products.

In the previous farming system annually 4000 tractors, 3950 trucks, 300 quatts, 2000 cultivators, more than 56 thousand disks and gear, 3,500 seeders, 1500 grain, corn and feed combine, 1100 cotton machines, 850 grain, seed cleaners and over 3500 sprayers and dusters, more than 2,500 mineral and organic fertilizer seedlings, 500 potatoes, more than 2,500 thousand tons of mineral fertilizers and pesticides, livestock equipments, storage and other production facilities in a centralized manner was delivered.

In the last year of the USSR, in the beginning of 1990, 41,000 tractors, 38,000 trucks, 6500 grain and feed combine, 18,000 pots, 9500 seedlings, 11,000 seedlings machine, 17,000 sprinkler-polishing machines and so on that all of these, ultimately, aimed at meeting the demand for high quality and mechanized agrarian jobs in the field of optimal agro-technical material resources, ultimately increased the mechanization of labor in agriculture, sufficient electricity and chemicalization of the agrarian sector has led to an increase in labor productivity in agricultural enterprises, the population's demand for agricultural products was met by cheap prices. As a result of meeting the demand for agricultural material and technical resources, the use of grains in the grain industry is as high as 98%, in cotton processing – by 95%, in vineyards – by 50%, in gardening – by 30%, fruits – by 80%, tea – in the field of livestock – 65% and so on.

In the 1970 and 1980, technical and chemical service production units in 65 regions of the country, 15 provinces and specialized training bases, 65 service centers for livestock services in the region, 12 repairs, providing agricultural machinery and trucks plant, special laboratory establishing chemical composition of soil, seeds and oak in each region, etc. was opened up; activated.

At the same time, due to the strengthening of the material and technical base of the agricultural sector

and the high level of service infrastructure in Azerbaijan, average 700,000 tons of cotton, 1.5 million tons of grapes, 345,000 tons of fruits, 900,000 tons of vegetables, 200,000 tons of vegetables, tons of tobacco, 26,700 wedding tea, 246,000 tons of meat, 870,000 tons of milk, 11,400 tons of wool, 835,0 million pieces and other agricultural products, improved material welfare of the rural workers, electricity, gas and roads have been raised to the highest mountainous peaks [31, p. 326–327].

The collapse of the centralized socialist economy has led to the collapse of economic relations between the agricultural enterprises and supply agencies for a long period of time, strengthening the monopoly of enterprises and organizations sending material resources and sharp increase in prices for material and technical resources, as well as the crisis of the post-soviet space and the resource crisis it is conditioned. As a result of this, the level of mechanization in agriculture has dropped dramatically, and the use of manual labor has been preferred in newly created enterprises. Naturally, all these factors have led to the decline in labor productivity in agriculture and the increase in the value of the product unit.

At present, almost all of the material and technical resources necessary for the development of the agrarian sector are imported, namely, tractors, cars, harvesters, cereals and corners, potato suppressors and extractors, cotton mowers, weed-in and closers, livestock equipments and other villages. agricultural machinery – 100%, technical rubber products – 98%, spare parts – 97%, metal and non-timber products – 98,5%, construction materials – 98%, etc. CIS and other foreign countries.

Surveys show that in 1993–2003, agricultural enterprises were repaid to demand for tractors, combines, agricultural machinery, mineral fertilizers, fuels and lubricants, spare parts and material resources at a rate of 0.1–10%.

In 1992–1996 there was a sharp discrepancy between the prices of agricultural products and the prices of industrial products, the price of agricultural



products increased by 2,000 times, while the prices for industrial products increased by 4,1 times.

Requires the search for new forms and methods of agrarian supplies among past logistics facilities.

It should be noted that, almost all of the techniques that are at the disposal of the entrepreneurial organizations created as a result of the agrarian reform, have expired, the technological processes in the agrarian field can not be implemented in the optimal time because these techniques are physically and morally outdated, thereby reducing the volume of production. The practice of transitional countries shows that technical assistance and grant projects of international organizations play an important role in meeting the demands of agricultural commodity producers for material and technical resources.

Thus, the grant of the Government of Japan for the period of 1998–2002 has brought to our Republic 773 modern equipments of 71.2 milliard manat, produced in England, Italy, Germany and other countries. 207 units of combine harvesters, 212 tractors, 186 pumps and 148 seed slabs were 10 rotational tractors. These techniques were leased to 312 legal and physical entities operating in 39 regions for a lease over a period of 4 years. It should be noted that the Decree of the President of the Republic of Azerbaijan “On Additional Measures for Expansion of the Leasing Area in the Agrarian Field” was adopted on 23 October 2004 in connection with the leasing service expansion and leasing for the population.

It should be noted that the rules of exploitation of overseas techniques at the expense of international assistance have already been mastered by newly established farmers and private organizations, leasing and management of machinery and equipment have been established, economic relations with leasing companies have been established. The terms of the contract with the producers of agricultural products to the country’s agricultural producers have been determined and the issues related to the organization of the service were specified.

One of the existing problems in the study of the agrarian sector’s needs for material and technical resources is the privatization of past collective farms and sovkhozs as a result of agrarian reforms, and the low level of land plots at the disposal of private entrepreneurship entities, which is the result of efficient use of highly efficient agricultural products does not allow it to. In our view, the priority of the problems could be to give preference to the co-operation of less-than-owned land ownership and the establishment of technical services in the regions.

One of the factors that creates problems in improving material technical supply of agricultural commodity producers is the lack of spare parts of these techniques. Naturally, there is a need for spare parts of agricultural machinery after a certain maintenance period. From this point of view, it would be better to organize the production of necessary and possible agricultural machinery and their spare parts throughout the country through assistance and assistance.

In order to realize this process, foreign countries, including milking collectors, manure cleaners, food-stuffs, carriers, etc. there are shortcomings, which reduces the level of mechanization of livestock. The calculations show that in the 1990, 27 tractors were cut into 1,000 hectares of land, in 2002 this figure dropped to 17. In the year 1990, the tractors were 6 years old (instead of norm 8 years), the use of a tractor reached 17 years in 2002. The wear and tear of the technique does not allow the agricultural work to be carried out in agro-technical terms. As a result, the sown area per tractor (a tractor load of 37 ha compared to 1990) increased to 56 ha in 2002 or tractor load increased by 51.3%. The same can be said about other agricultural techniques. In 1990, when the grain area was 7.8 barrels per hectare per hectare, the number of combine harvesters decreased by 38.5% or 4.8 combs per 1,000 hectares in 2002. The calculations show that at present, more than 120000 agricultural machinery, including 100,000 units of general purpose machinery, are lacking to meet the demand of farmers. In addition, 15,000 units of

cereal crops are available for entrepreneurs to invest in cotton fertilizers, 4330 for cigarettes, 2,000 for potatoes, 2200 for vegetable and horticulture, 240 for tobacco growing, 1500 for feeding, 30 on agricultur-

al equipment for tea, or on demand This technique is needed to pay. Therefore, taking into consideration the demand of the regions, we consider it necessary to accelerate the creation of this service.

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