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LANGUAGE INDUSTRY: OPPORTUNITIES, PERSPECTIVES AND PROBLEMS

The article examines the essence, features, current state and prospects of the language industry. The role of language services in the information society is displayed. Language industry is characterized as an important area of knowledge economy. In addition, key segments of the language industry are classified, their characteristic features are interpreted. The importance of linguistic communication formed on the basis of the language industry in the economy is analyzed. The perspectives of the application of information and communication technologies in the language industry are demonstrated. The role of language factor in the science innovation economy is determined. The economy of foreign language teaching, one of the leading segments of the language industry is interpreted. Future prospects of the global communication language and its impact on the development of the language industry are researched. Also, the current state of the language industry in Azerbaijan is studied and suggestions on the development of this sphere are put forward.

Keywords: *language industry, economics of knowledge, linguistic communication, linguistic technologies, machine translation, translation market, foreign language teaching.*

Introduction

The diversity of language in the modern world is rapidly globalizing with the effect of information and communication technologies (ICT). The global linguistic trends and the linguistic factor become more vital in the background of the expansion of the international trade, the formation of transnational mobile workforce, the rough competition for new markets, the knowledge economy in the forming information society, and significant growth of human capital.

More than 7.5 billion people live in 260 countries around the world. They use about 7,000 languages as a medium of communication. The most common 40 languages cover 2/3 of the world's population. Only 95 of these languages have state language status. Some languages are recognized as the official languages in several countries. English is an official language of 56 countries, French – in 29 countries, Arabic - 24 countries, Spanish – 20 countries, Portuguese – in 8 countries, German – in 6, Italian and Russian – in 4 countries, Dutch and Serbian – in 3 countries (Figure 1). Each of the other 12 languages is an official language in two countries. At the same time, there are countries with two or more official languages. For example, in the South African Republic, 11 official state languages are used in parallel. Note that the widespread English, French, Arabic, and other languages do not have a unique standard. Different versions of these languages are available in different countries. In some cases, the native speakers, using the same language but living in different countries, have difficulty to communicate with one another [1-3].

Consequently, at present, any language can be a common communication tool for people living in one country. Sometimes the language performs a communication mission in certain smaller region, city, or village. Even in some countries, there is no common language used by most people. Therefore, several official languages are used in these countries. Today, although English is a key language for the international communication, 75% of population does not speak this language.

All this shows that there is a great need for linguistic mediators to communicate, acquire and transfer the necessary knowledge and information in a rapidly globalizing world. Today, influenced by ICT, the world science, education, media, economics, culture, and other areas are rapidly globalized.

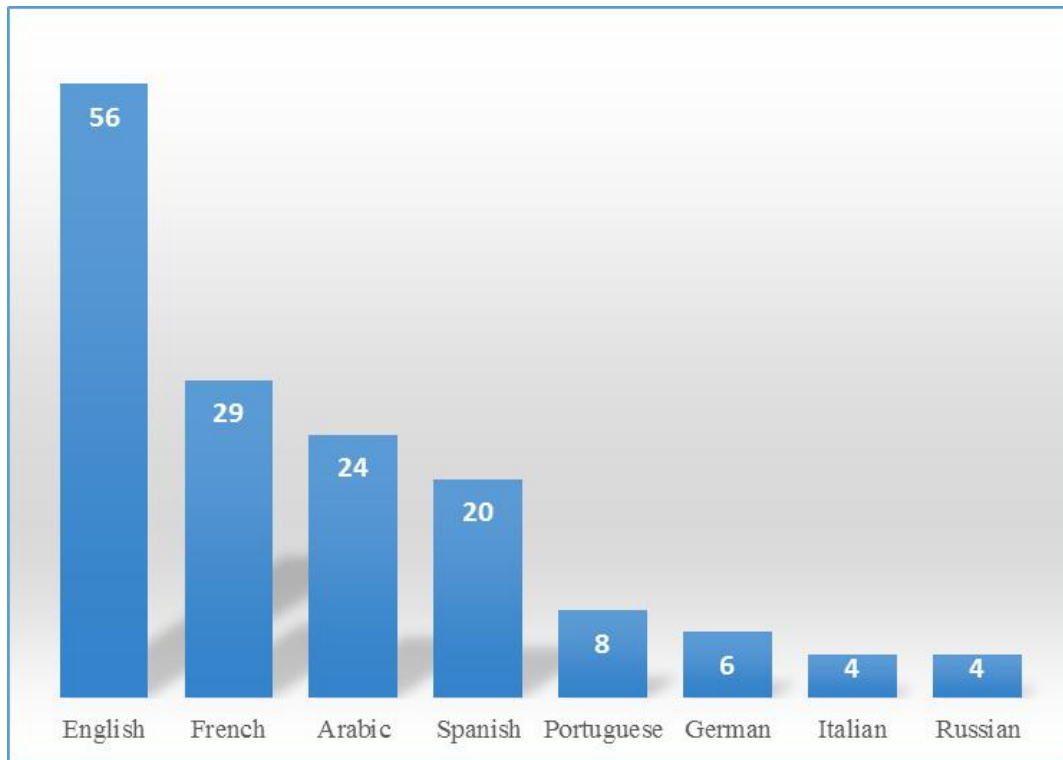


Figure 1. Languages with more official language status [1-3]

Young people from different parts of the world try to get education from leading universities, grow up as a skilled expert, and build a successful career. Transnational companies are constantly expanding their markets, claiming to operate in the multinational market and covering all language segments. The tourism sector is rapidly developing in the world, and the development of global transport and communications infrastructure, and the growth of the people's revenues accelerate the development of this sector.

With the help of the Internet, people are eager to meet their needs accessing the most diverse knowledge and information sources. One of the most pressing factors in the language industry is the problem of refugees and migration, which is one of the most painful issues in the globalizing world. They should solve the problem of language first in order to adapt to any country.

This necessity is gradually increasing the demand for communication tools - translation activities, including the need for learning the key languages of the world. A new intellectual service segment is formed around the world to meet these needs. This intellectual field is the language industry - a promising aspect of the knowledge economy. According to the estimates, in 2016, the share of English teaching was 60 billion USD, translation industry - 40 billion USD, and linguistic technology industry - 27 billion USD [5, 6]. The share of language service industry worldwide is increasing by 5.52% per year [5]. For the comparison, note that the overall economic growth in the world accounts for 3.2% (Figure 2) [7]. The language industry is now the 4th fastest growing business area in the United States, which has the world's most powerful economy [5].

At present, the rapid development of the language industry is based on the successful application of ICT. Teaching, translation, localization and other services in this area also serves to the formation and development of global information society.

The Role and Functions of the Language Industry in the Information Society

The main mission of the Information Society is to meet the needs of all people for information and knowledge, to create a social communication environment among them, to securely access and share the knowledge, ideas, and information they want, and to ensure the freedom of self-expression. Meeting these needs will guarantee the elimination of the problems of

information abundance, communication restrictions, and the solution of the problems faced by the mankind for thousands of years and the development of the society through these processes.

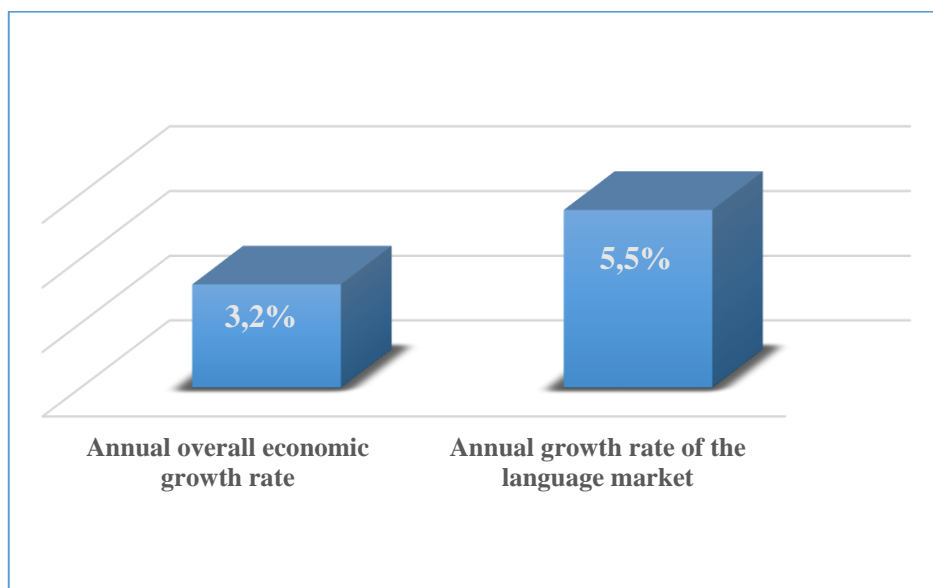


Figure 2. Comparison of the overall economic growth rate with the growth rate of the language market[5, 7]

In the information society, knowledge and information become material wealth and the main strategic resource. At this stage of the civilization, the development of the society is based on the information and knowledge-based economy. Together with technological bases, the language factor is crucial for ensuring the right to information, acquiring the information and knowledge, and establishing the necessary communication. From this point of view, the development of the language industry serves to the formation of information society and knowledge economy.

Provisions of the “Declaration of Principles” adopted at the first stage of the World Summit on Information Society held in Geneva in 2003 include the "information and knowledge access", "protection of cultural diversity and cultural identities", and "provision of language diversity and local content" [8]. The language factor plays a decisive role in ensuring above-mentioned priorities. The application of technology can provide access to any information and knowledge. However, if these resources are not written in an unfamiliar language, the importance of information access for that person equals to zero. In addition, the main guarantor of the cultural identification of any nation is its language. The mission of the language services includes the provision of language diversity and local content.

The second phase of the World Summit on Information Society held in Tunisia in 2005 discussed the issue of eliminating the digital divide [9]. One of the ways to overcome this problem is the localization (adaptation of the relevant content to local languages) in relation to the relevant software for every citizen to take advantage of the ICT opportunities.

The *UNESCO* Information Society Concept also highlights the role of multilingualism in terms of ensuring the cultural diversity and the total participation in cyberspace [10]. According to the organization, the language factor plays a distinct role in the spread of knowledge and the development of education, including the digital imbalance.

Obviously, the role of the language factor in the formation and development of the information society is also highly appreciated in other relevant international documents.

The language industry as an integral part of the knowledge economy

The term "knowledge economy" is incorporated into the academic lexicon by American scientist F.Machlup in 1962 [11,12]. He first coined this term in his work "Production and dissemination of knowledge in the US". According to Machlup, knowledge production is a process, in which anyone can learn anything unknown to him/her by that time. He believes that the both doctors writing prescriptions and counseling lawyers also participate in the production and dissemination of knowledge.

The Organization for Economic Cooperation and Development (OECD) defines the knowledge economy as an acquisition, creation, dissemination and use of encrypted and unknown knowledge for more efficient acceleration of economic and social development [12].

In general, the knowledge economy is one of the fields of economy where knowledge and human capital play a key role. The development of this sector of the economy is associated with the increase of the quality of the human capital and the level of living standards, and the expansion of production of high quality products, high technologies, and innovations.

In other words, the knowledge economy is the area where the weight of intangible assets, human capital, science and education, ICT, and intellectual services is high. The main products of this field are knowledge and information.

According to experts, the essence of the knowledge economy is determined by the following interconnected processes [13-15]:

- Information and knowledge become an important resource and driving force of socio-economic, technological and cultural development;
- Along with natural resources, labor and capital, information and knowledge are also the production factors;
- Specific weight of the sectors providing the generation, transmission and use of information and knowledge is rapidly increasing;
- Sophisticated information infrastructure is becoming a major factor in the international competitiveness.

The knowledge economy is also characterized as the aggregate of economic areas, in which the share of human capital is greater than of the material one. Technological realization of knowledge in these areas plays a crucial role, while knowledge is a source of economic development. In this approach, the knowledge economy covers scientific activity, education, ICT, innovation, and intellectual services.

Summarizing the relevant views and classifications, the main segments of the knowledge economy can be defined as follows [16-18]: scientific research; education; ICT; Mass Media; information technologies; information services; publishing and advertising; artistic creativity; show business (Figure 3).

Given the above, the language services can also be referred to information and knowledge building as an intellectual activity. Owing to translation service, which is the leading language service, people access new information and knowledge by reading books, articles and newsletters. Another example, people expand outlook and knowledge by watching dubbed movies. He/she also learns a new language after the appropriate teaching process, reads texts written in that language, and listens or watches audio and video materials, and thus gains new knowledge. Correspondingly, people can effectively use Internet resources through localization services.

A number of economists believe that the knowledge economy is characterized by the globalization. They verify it by the acceleration of the process of globalization of the economic system through the emergence of computers, the Internet, and mobile phones.

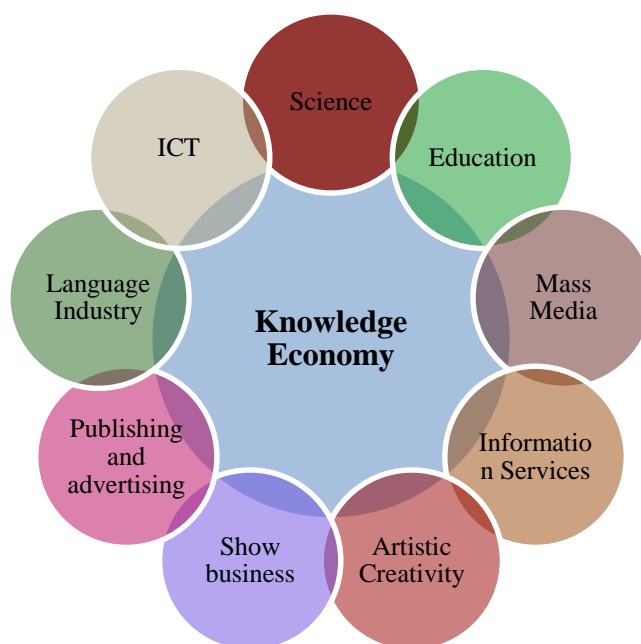


Figure 3. Key Segments of Knowledge Economy

In this aspect, the language services also promote the globalization process in economic and cultural fields. Thus, one of the main obstacles to the globalization process in any area is the language barrier. In the field of language services, the transnational economic entities are able to overcome the language barrier and penetrate the national segments of the global market. This is possible due to localization and translation services, including the knowledge of relevant specialists [14, 17].

It should be noted that the knowledge economy, above all, is an innovative ICT-based economy. ICT significantly enhances the generation and global use of new knowledge. From this point of view, the development and effectiveness of the language industry is ensured through the application of ICT. So far, machine translation based on ICT achievements is the major part of translation services around the world. ICT capabilities are also successfully applied in the teaching of foreign languages.

Evidently, education service is one of the leading fields of the knowledge economy. Today, the most demanded area of education throughout the world is related to the acquisition of different language skills. People acquire knowledge in different fields mainly in secondary and high schools. However, separate education centers are functioning to obtain language skills along with the relevant education systems of any country. These services constitute a major part of the education services market at national and international levels.

As we have noted, one aspect of the knowledge economy is its publishing activity. Thus, publishing houses are printing different types of newspapers, magazines, books and other information and knowledge carriers. One of the major functions of publishing activities are the editing and revision services. In particular, scientific publishing houses make huge income from language, translation and stylistic editing work. Note that scientists working in different fields of science are not the experts in linguistics. In many cases, translation and editing of scientific works by professionals are required.

For example, editing services of *Elsevier*, one of the most authoritative scientific publications in the world, are ranged from 100 to 500 USD, depending on the size of the text [19]. Since many submitted articles do not meet the language and stylistic requirements, they are first subjected to the appropriate paid revision. According to the official statistics, 1,3 million articles have been submitted to Elsevier journals in 2015 [20].

Comparative analysis shows that the characteristic features of the knowledge economy can be attributed to the language industry. Given these, language services can be considered as a part of the knowledge economy.

Key segments of the language industry

The language industry combines various interrelated intellectual services. Although each of these services has specific features, they have a common element as a decisive role of human factor. In other words, the quality of the services provided in each of these areas primarily depends on those professionals with relevant language skills. Simultaneously, these service segments are interconnected and interdependent. Thus, one provides or stimulates the activity of another. For example, the education sector in the language industry ensures staff training for other segments. The quality of the education segment depends on the level of scientific research in the language industry. Whereas, translation activities provide the access to the necessary content for research and education segments.

In general, the following segments of the language industry can be distinguished (Figure 4) [21-23]:

- *scientific-research* - provides the language industry with scientific-theoretical and methodological knowledge;
- *education*– trains human resources (educators, polyglots, interpreters, programmers etc.) for the language industry;
- *translation activity* – written translation of texts and simultaneous interpretation of speeches in various fields (scientific, pedagogical, artistic, legal, technical, economic, etc.) at different conferences and meetings;
- *linguistic information technologies* - covers the areas as machine translation, computer linguistics, creation of terminological bases, cloud services, etc.;
- *localization activities* – adapts the products and services to local requirements for their use of in the multinational market, i.e. accompanying content (including websites) is translated into the target audience;
- *publishing activities* - editing activities (grammar, style, spelling, unification of terms, readability, etc.);
- *tourism* – provides guide - interpreter and information services;
- *cinema, television, and entertainment industry* – provides the translation and reproduction of movies, television programs, games and other audio and video materials.

The features of some segments of the language industry are reviewed from wider aspect as follows:

Localization services are the process of adapting any product, website, or content to a particular region, country, or market [24, 25]. This process includes:

- translating the texts;
- modifying the content to meet the needs of targeted markets;
- adjusting the design and model for precise representation of the translated text;
- adapting to local requirements (e.g., currency, measurement units, etc.);
- using local formats of time, address and telephone numbers;
- complying with local legislation and other frameworks.

It is important to take into account the cultural characteristics when implementing the localization processes. Each small piece of advertising campaigns is sometimes discussed for hours. Hence, a small nuance can cause failure. Whenever any advertising material is presented to the international market, it is necessary to take into account many cultural nuances. It is necessary to evaluate how well it will be welcomed in each country. Therefore, the companies offering the language services should take into account the cultural characteristics when choosing the target

market, and adjust the relevant texts or other advertising materials to that market and, if necessary, prepare a new one.

Another important process during the localization is the name testing. Choosing the name of any company, product, or service is very important. Unquestionably, the names conveying the same meaning in multilingual markets are desirable. However, the analysis shows that the meaning or style of the name is not clearly expressed in its translated version. Sometimes the name may even give a wrong and non-ethical meaning in another language.

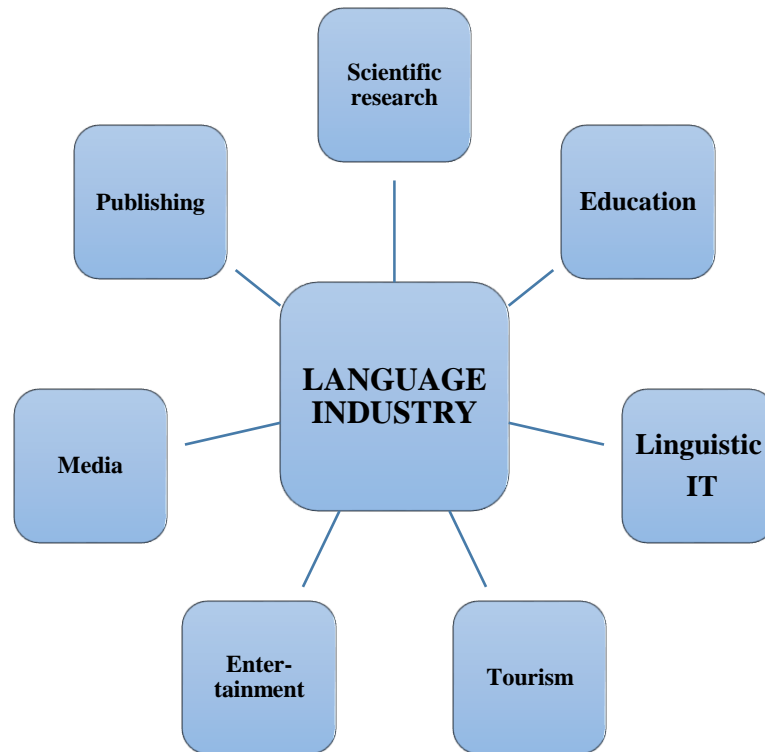


Figure 4. Segments of the language industry [21-23]

The development of the Internet and the formation of global information space has opened up new opportunities for the international business. Thus, any startup can go beyond the borders of its own country in a short period of time. Now a website is simply localized and the advertising is launched, while, many years ago, large investments and years of preparation were required before submitting the advertisement to the foreign market.

Cinema, Mass Media, TV, Entertainment Industry. Another area in which the demand for language services is high is Mass Media and Entertainment industry. Translation of TV shows, movies, games, and other audio and video content require special attention. There is a great need for language services to deliver news, entertainment and sporting events operatively and continuously to multilingual audiences. Literal translation is unnecessary when translating content for the international market. The main point is to preserve the original ideas and thoughts of the author, and to convey the cultural features of the source material correctly and clearly to the targeted audience. Generally, some language services, such as the adaptation of the text, transcription, subtitling, and translation of dubbed material in video-themes are delivered in certain fields [26].

Tourism services. Tourism industry is one of the areas in which there is a great need for language services. In the modern era, many travelers use online search of the necessary information and booking. Moreover, they prefer to talk to potential customers in airline, hotel, car rental agencies, maritime, lake and river travel firms, resorts, online ticket sales agencies and other tourism service sectors in a language comfortable for them. High quality of customer service in any language is one of the key conditions in the global competitive market [27, 28].

Today, professional language service companies of the world are dealing with the tourism industry: localization of the websites and their mobile versions, the international marketing activities; adaptation of traditional and digital advertising; development and implementation of the strategies for social networks; localization of booking facilities; multi-language online chats; translation of advertising-information materials for customers; localization of information and entertainment content on the aircraft, in other vehicles and hotel rooms; preparation of vocabularies in different languages for customers; simultaneous interpretation of video content in vehicles; translation of signs, maps and guidelines into the necessary languages in tourist stations and routes; provision of oral translation services to the tourists in different forms; provision of language support for emergency rescue services on vehicles; and provision of the language training of the air crew.

Manufacture of the industrial products. Today, linguistic accuracy is of great importance in cosmonautics, automotive industry, consumer goods, industrial equipment, chemical industry, mechanical engineering and other technical fields. Training and safety of the staff, marketing materials, documentation, approval of supervisory authorities, delivery of services, and support of several languages are crucial. In the enterprises manufacturing industrial products, in general, there is a need for translation services: translation of documents; verbal translation services; translation of patents; localization of e-learning and training courses; translation of sites; implementation of international marketing; call center services; juridical support services; recruitment services; and content preparation [29].

Software development and maintenance. The enterprises manufacturing equipment and software, technological products, applications and other technological innovations are operating in the constantly changing marketplace, where there are great opportunities for the development in the international arena. There is a great demand for the translation of technical products, technical documentation, Internet references, packaging texts, advertising and information products for website and marketing, license contracts and service terms signed with the end users, patent and legal documents, e-learning and training courses. Precise linguistic abilities and technical knowledge are required for the translation of such content for the accurate representation of the content and essence.

Localization and internationalization of software products. Localization is a technically complex process, which differs from a simple translation. When translating from one language into another, the size of the text often increases or decreases. This change can cause problems in software applications with a limited number of characters, depending on the length of the line or the size of the display. At present, there are language service companies specializing in the solution of such problems. They perform initial project analysis to prepare for localization, define the length of the strings, analyze the text field, translate the strings, verify the model, and conduct language tests [30, 31].

Internationalization involves the development of a new (or modified) product to be used in different languages and sold in different countries. Specific coding is used to provide unrestricted control of information in several languages.

Whilst **testing a software**, the following language problems arise: increasing or decreasing the size of the text, removing the strings, incorrect translation or order, coding of the characters, fonts, and completely non-translated strings. Translation services to the customers may include language support via phone, translation of emails, chats and social networks.

The role of linguistic communication in the economy

Evidently, communication plays an important role in the economy. Many successful scientific studies have confirmed this and several theories and approaches have been offered in this regard. Transmission and reception of the information on commodities, services, currency, delivery of various remote services, signing various contracts, ordering and receipt of products, and official document transactions are performed. All of these opportunities have a decisive impact on the growth of the operational efficiency, stability, flexibility and dynamics in the microeconomic activities. Due to this impact, the effectiveness of the economic activity is gradually increasing. This growth, in turn, is represented in the macroeconomic indicators [32].

Physical mail, telephone and transportation systems play a role of the traditional communication in the economy. With the emergence of the Internet, the communication capacities of the economy have grown dramatically. The global network has begun to effectively perform the functions of the traditional mails and all the features of phone. The Internet also performs previously unavailable social networking communications, which plays an important role in the effective marketing activities, one of the key pillars of the economic success.

It should be noted that one of the main motivation for the formation of information asymmetry in the market economy is the lack of the necessary linguistic communication. The Internet has a crucial position in eliminating the negative effects of information asymmetry in the market economy. Thus, the Internet provides market participants with the necessary information to increase the effectiveness of marketing activities, to create a fair competitive environment, to ensure consumer rights, to expand access to the options, to provide flexible adaptation to the market conditions, and to increase payment capacity [33].

The World Bank's surveys show that, due to the increase in broadband, the Internet access by 10% in the developing countries, their national GDP averagely grows by 1.38%. These results have become a major stimulus for the study of the impact of the broadband Internet, and for investing in the development of broadband Internet by the state agencies [34].

The International Telecommunication Union also provided the financial support to conduct an appropriate survey in 2012. It presents an analysis of the effects of broadband Internet on the economic growth, increased productivity, increased employment levels, and improved production volumes, and enlarged enterprise savings [34].

Apparently, communication is an important factor of production in the economy. In turn, the language factor is crucial in ensuring the effectiveness of the communication. Note that the globalization tendency taking place in the world is more evident in the economic sphere. In fact, one of the main reasons for the globalization is the global economic interests of the giant companies, and to expand their markets across the globe. Although the Internet is a key tool for achieving this goal, it is impossible without eliminating language barriers.

As mentioned above, although the role of communication in the economy is sufficiently studied by researchers, the importance of the language factor in this context has not been explored enough. However, lately, the interest in the study of the role of language factor in the economic development has considerably increased. For example, the studies conducted by the *British Council* have found that there is a link between the level of the English proficiency of the population and the national income per capita in any country [35]. Increasing level of English proficiency influences the increase in the wages, which in turn causes more spending on the study of the English language by the state and individuals. In many countries, the high level of English proficiency of young people is characterized as the main reason for the low level of unemployment [36]. Thus, English may be assumed as one of the key factors of the country's economic development.

The countries attracting foreign investment and developing entrepreneurship acknowledge that it is important to increase the English proficiency among the population for a favorable business environment. All transnational companies of non-English-speaking countries have

adopted English as a corporate language.

The German socio-linguist Florian Kulmas explores different methods of language and economic relationships, including the impact of the economic processes on the emergence, dissemination or destruction of languages in his book “Language and economy” [37]. The author writes that multilingualism and social well-being are interrelated, and language and money have similar functions in modern societies. He believes that the language proficiency ensures economic advantage, and an unequal distribution of languages in the multilingual societies leads to the economic inequality. According to him the economic value of the languages is measurable, since the languages have internal economy and, to some extent, comply with the requirements of the foreign economy. He supposes that language itself is a communication environment for business, however, when any language is unknown it becomes an obstacle for trade.

F.Kulmas analyzes the costs of the state and business related to language. The author also examines the features of language as commodities. Because, a language acts as an economic system. Social-economic ecology is favorable for certain languages, and unfavorable for others. The spread of languages depends largely on the economic conditions. The economic value of a particular language in the linguistic market is linked to the increase in its political status.

Knowing English has become one of the key factors of a state, individual and corporate economic competition. In the countries with a high level of English proficiency, income, quality of life, application of innovations, and business development are also high.

The level of English proficiency also positively affects the quality of life as an index of human development [38]. The index of human development characterizes the level of education, lifetime, literacy and living standards. In some countries, though the level of English proficiency is very low, the standard of living is very high. However, the level of human development is highly appreciated in all countries with a high proficiency (including English language proficiency).

Based on the findings, the English language is one of the key vocational knowledge in every country, along with native language and math. This means that the English should be mastered as a native language and math. Given the growing international role of English during the past 20 years, learning this language is more important for young people to access the global labor market [39].

Today, any professional has the opportunity to gain unlimited access to knowledge through studying English. In modern times, when the English language is an integral part of our lives, it has the potential to build bridges between cultures and generations throughout the world. No other know-how and skills have potential as much as English for a human being to get higher education and vocational training.

The British Council's 1968-69 report on the development of cooperation in the field of education, culture and arts, established in 1934 between Great Britain and other countries, highlights that each English teacher has a secret marketing element. i.e., they advertise some book, magazine, movie, or television channel. The British Council's 1983-1984 report states that "English has a greater advantage for Great Britain rather than its oil reserves in the North Sea, the latter is gradually exhausting, however, the former never, we have a monopoly position on this wealth" [40].

Perspectives of ICT application in the language industry

As in all fields, ICT is widely used in the language industry. Today, computer linguistics, which is a particular area of ICT in the world, is one of the main activities of relevant research centers. The main factor promoting the intensive scientific research in this area is the business prospects of computer linguistics. Machine translation systems, which are the main products of computer linguistics, are of great demand in the language services market. Even transnational companies specializing in language services are involved in the production and application of related software. In general, computer linguistics has a strong economic potential as an integral part of the language industry.

According to official statistics, the number of Internet users worldwide has exceeded 3.7 billion people [41]. The widespread expansion of the telecommunications infrastructure, the dissemination of smartphones and other mobile devices has stimulated the rapid growth of the Internet users which, in turn, leads to the increased demand for machine translation.

At present, the most profitable and fastest growing segment of the language industry is translation services. Studies show that most translation services are performed by small firms and freelancers. Translation services may include written translation, interpreting, machine translation, localization, dubbing, etc. Most of these services are supported by advanced linguistic technologies and software.

According to the estimates of *Common Sense Advisory*, the market share of the translation industry in the world for 2016 was estimated at 40 billion USD, 27 billion USD of which accounts for the segment of machine translation (Figure 5) [42]. The share of the technological sector is estimated to increase in the near future. According to the *Global Market Insights*, by 2022, the corresponding figure will increase by 18.6% [43]. This means that the need for traditional translation in the language industry is gradually diminishing, and the application of ICT, as in other areas, is increasingly aggravating the problem of unemployment in this area. Only scientists-linguists working with programmers will be able to maintain their positions to improve machine translation.

Most Internet users in the world are able to read texts in the global network only in their native language. This also stimulates the favorable technological opportunities for the elimination of language barriers in different regions of the world. The availability of free translation applications, such as *Microsoft Bing Translator* and *Google Translate*, creates a competitive environment, and encourages the development of better quality commercial applications. The main problem in this area is the lack of translation quality assessment mechanisms.

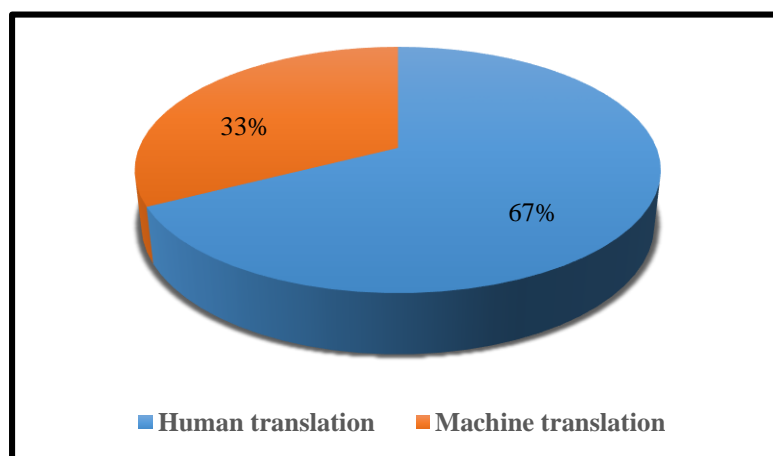


Figure 5. Share of human and machine translation in the global translation market [42]

In general, the main advantages of machine translation are as follows: [44]

- machine translation is faster, easier, and cost-effective;
- modern translation technologies enables the translation of texts with minimal mistakes;
- use of cloud services SaaS (software service) is estimated to give a strong impetus to the demand for machine translation and development of the relevant market;
- widespread broadband Internet and smartphones increase the market perspective of machine translation;

- free translation services, such as *Microsoft Bing Translator* and *Google Translate*, create a serious competitive environment for relevant commercial companies.

The need for translation of the content into different languages by the companies arises due to the need to prepare customer guidelines, marketing and commercial catalogs, press releases for the presentation of goods, and to develop the web content.

Currently, the main areas of machine translation are military, automotive, electronics, ICT and medicine. The share of the military industry in the machine translation is much higher – approximately 33% [45]. This is due to the need for more accurate and rapid translation of large volumes of content in the military industry.

One of the most important areas of the language industry is building a database, terminological base for the machine translation, text mining, and recognition of texts.

At present, there is a tendency that the leading translation companies are gradually establishing the collaboration with the manufacturers of the linguistic technology. These collaborations are based on both the traditional licensing model and the SaaS cloud service platform, which is currently in high demand.

The development of the Internet technology has led to the fact that all companies have the Internet representatives. The availability of broadband Internet at any point of the world has increased the demand for translation. Therefore, the quality of cloud technology, which has recently been used by the users to handle information, has significantly increased, whereas its cost has fallen. The world's leading translation companies optimize their business processes in order to increase their demand for services, i.e., they eliminate mediators and integrate the last ring of the chain through cloud infrastructure to work together on the translation. This infrastructure provides the most up-to-date translation services (machine translator learning, vocabularies and corporate glossaries, text editor, etc.).

Recently, ICT has been effectively implemented in the localization services: many companies focus on the centralized management of linguistic assets - corporate glossaries, style-guides, translation databases (corpuses), and machine translation technologies. It enables saving time and increasing performance.

ICT opportunities are also widely used in the education of foreign languages. For example, currently the share English language teaching in the world market is estimated at 60 billion USD. The share of online teaching accounts for 2%. However, the annual growth of the online segment is 30%. This also indicates that in the near future, online education can seriously compete with the traditional education [47].

The main reason motivating the development dynamics of the relevant online education is to save financial costs. Thus, the English language learners prefer using teaching services of English-speaking countries, such as the US, Canada, and the UK. As noted earlier, more than half of the expenses of the relevant education abroad are spent on transport and hotel services accounting for 61%. Therefore, online learning services are very useful [48, 49].

According to the expert estimates, online learning of foreign languages in the US, which has the largest market share in foreign language teaching, will increase by an average of 8.6% in 2017-2021 [50].

Scientific innovation activities and the language industry

Scientific innovation activity has a powerful development potential as one of the most promising areas of knowledge economy. Studies show that language factor is crucial for the development of this field.

Great thinkers and genius scholars have written their works in Latin, Arabic, French, German and other languages. Nevertheless, since the middle of the last century, the global scientific community began to write in English. Even in English-speaking countries such as Germany,

France, and Spain, scientific works in English are much more rather than in native languages. Even in the Netherlands, this figure is in favor of the English language at 40:1.

In the countries with higher level of English proficiency, more high-tech export products are produced and more attention is paid to the conduction of research (including space, ICT, pharmacy, electrical engineering). English plays a leading role in science and technology. In the countries with a high level of English proficiency, the number of researchers and technical experts per capita in research areas and the volume of funds allocated to this area per capita are high.

In the countries with high level of English proficiency, greater achievements are attained in the field of innovation. The proficiency of this language allows the specialist applying the innovation to access research directly, start international cooperation, attract talented professionals from other countries and attend conferences.

The *Research Trends's* bibliometric study of the scientific articles based on the *Scopus* database in 2012 revealed that 80% of 21,000 articles from 239 countries were written in English [51].

The research center has also explored the dynamics of the proportion of articles published in English and non-English in recent years in several countries. The ratio of the languages here also changes in favor of the former, year by year.

SCImago Journal Rank ranked scientific journals based on the references and the first ranked 50 journals are all written in English published in the United States and Great Britain [52].

According to a study conducted by the *Institute of Electrical and Electronics Engineers (IEEE)*, 8 of the 10 most popular programming languages in the world are based on the English language. Programming languages written on the basis of other languages are *Python* and *Ruby* [53].

According to statistics, most of the scientific articles in the world are published in the United States. China is ranked second and Britain third for the number of published articles. Although China is ranked second here, only 4% of all references to the scientific articles throughout the world accounts for this country. However, the corresponding figure is 30% in the United States, and 8% in Great Britain [55]. This shows that Chinese research community is integrated into the global knowledge economy less, the main reason for which is a language barrier.

In 2015, only 21% of scientific works published in China were cited by the foreign articles. For comparison, note that in Denmark, Finland, the Netherlands, Singapore and Sweden, where the level of English proficiency is high, the corresponding figure is 50% [56].

Studies show that international cooperation in the field of science is also poor in the countries with lower levels of English proficiency [57]. Failing to get acquainted with the results of researches published abroad and to participate in the international innovation projects is a serious problem even for high-tech specialists who do not speak English.

Foreign Language Teaching Economy

Today, young people with higher education are not only satisfied with certain qualifications, but also spend a great deal of money to speak fluently, write and read in many foreign languages. In the globalizing world, multilingualism is one of the most important conditions for achieving success in science, education, business, and career. Various centers offering educational services to teach highly demanded languages are available in different countries around the world. These profitable services are now one of the most important segments of the language industry.

Economic and occupational factors play a decisive role, although the choice of foreign language by the people depends on many factors as geography, personal interests, and family ties. In this regard, the population and economic growth are the important indicators that require learning foreign language.

A survey conducted in 2015 revealed the objectives of those attending the foreign language courses [58]. It was found out that 26% of them were studied foreign languages to achieve career growth, 23% - improve their professional skills, 12% - immigrate abroad, 8% - take exams at high school, 7% - take TOEFL and IELTS, and 4% - be able to communicate freely with people when they travel. But, 20% of the respondents noted that they did not have any specific goals to study foreign languages. The survey showed that the economic and social interests are critical for learning foreign language.

Unsurprisingly, the demand for English is at the highest level throughout the world. The position of this language in global communication, education, diplomacy, tourism and business is crucial. According to the statistics, it is the mother tongue for 300 million people, the second language for more than 100 million people, and foreign language for 600 million people [59].

Obviously, the English language was predominantly influenced by the British Empire as a language of international trade and diplomacy. After the Second World War, the economic development of the United States has led to the further strengthening of the international position of the English language. In many countries, English is replacing the French language as the language of well-educated elite.

At the same time, due to the intensified international commitment of the global economy, including trade, science and technology, English has become a global communication tool primarily for the representatives of these sectors. At present, English is the language of elites in all countries around the world, and this is no longer associated with the United States or the UK. Now, English has become the main communication tool for all global workforce (labor market). Individually, English is one of the key conditions for career development, and competitive advantage in the labor market.

The results of the studies conducted in India show that, compared to those who do not speak English, the salaries of the people with high level of English proficiency are higher by 34%, and of those with average language proficiency - by 13% [60].

In particular, the development of ICT, the transformation of the Internet into a global phenomenon provides the further strengthening of the position of the English language in the international arena. Therefore, Internet resources are primarily in English. According to the estimates, more than half of the websites are currently running in English - 51.1%. According to this indicator, other languages are far behind English (Figure 7) [61]. For example, English is followed by the Russian language with the indicator of 6.7%, whereas this figure for the Japanese and German languages is 5.6%, and for the Spanish language - 5.1%. At present, 985 million Internet users worldwide represent the English language, accounting for 25.3% of the total number of the users. Next come Chinese with 771 million users (19.8%) and Spanish with 312 million users (8%) (Figure 8) [62].

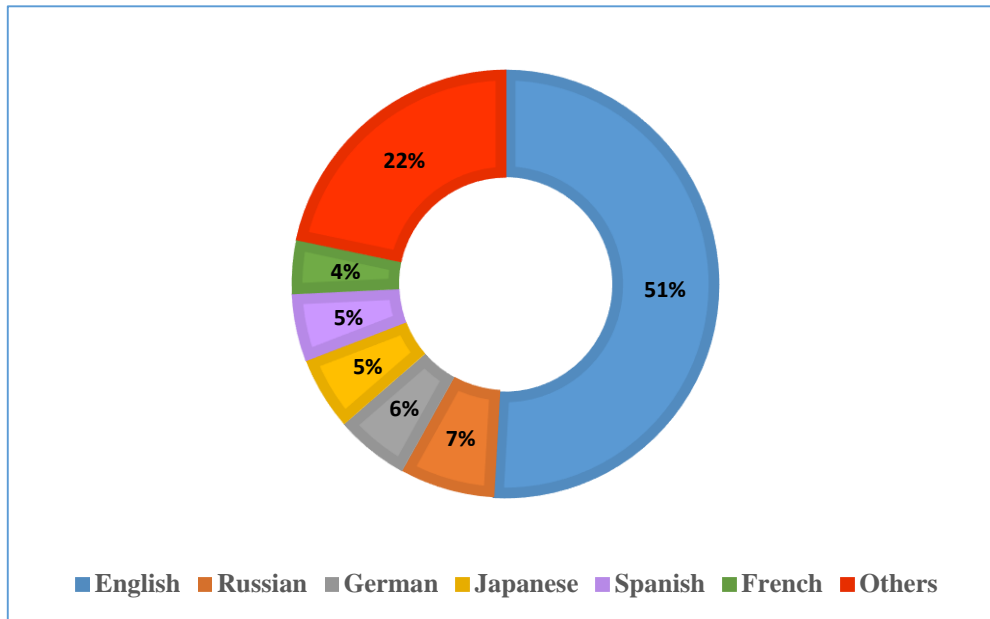


Figure 6. Distribution of web sites by languages [61]

Many potential individuals studying English from several countries are going to the United States, Great Britain and other English-speaking countries. Therefore, currently, 61% of the market share of the English language teaching is spent on transporting and accommodation expenses [48]. Thus, the linguistic industry is linked to the tourism industry. In many cases, the need for learning language also stimulates the demand for tourism services, as the need for comfortable communication with tourists and ensuring high-level service necessitate the language services.

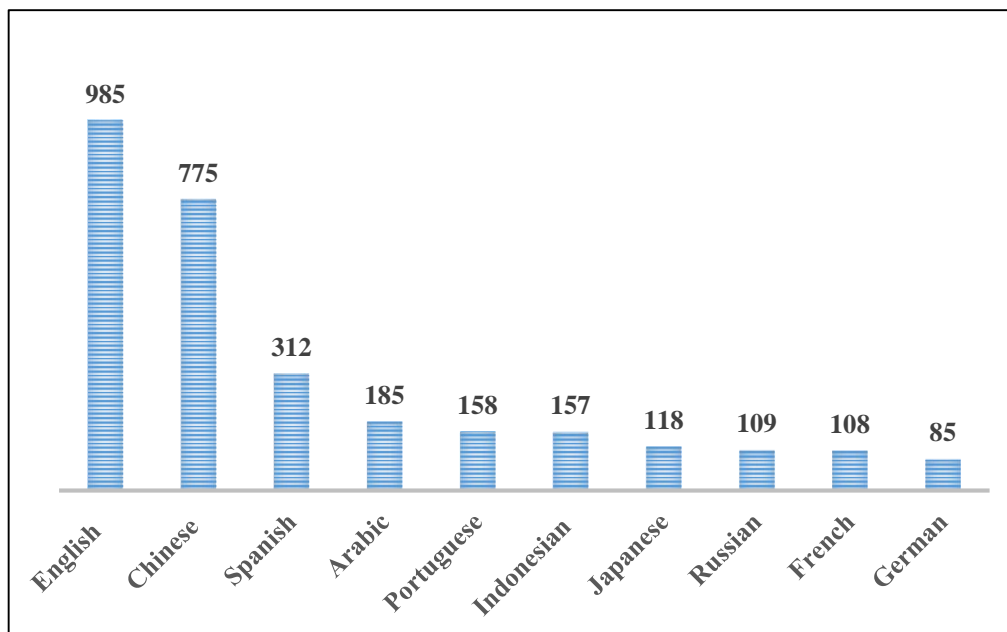


Figure 7. Most commonly used Languages by the Internet users [62]

At present, the following English-speaking countries are making profit in the global market: US 31.7% (3.7 billion USD), Great Britain 30.4% (3.56 billion USD), Australia 15.5% (1.8 billion USD), and Canada 13.5% (1.6 billion USD) [63].

China is leading in the global consumer market for learning English. In this country, 3.1 billion USD is annually spent on learning English. According to this indicator, the next places are occupied by Japan, Brazil, Mexico and India.

One of the factors that motivate foreign language learning is the problem of refugees and migration, which are the most painful issues in the globalizing world. In order to adapt to any country, the problem of language of the migrants should be solved, in the first place. In many countries, migrants constitute an important part of the labor market. It should be noted that some of these migrants are solving the problem of highly qualified specialists lacking in the relevant countries.

In many cases, migrants are more competitive in the labor market rather than the citizens of the relevant country. For example, the British economy is ranked second in Europe for its volume [64]. There is a strong competition in the labor market of this country. Thus, foreign citizens with high level of English proficiency are one step ahead of the citizens of the country in terms of employment opportunities after the graduation. Because, they know at least two languages and represent a certain country partnering with the transnational British companies. Whereas British citizens are not interested in studying foreign languages, given that their mother tongue is the main international communication language [65].

Future prospects of the language industry and global communication

As it is noted above, the main requirement for the development of the language industry is the English language. The status of this language as the main communication tool in political, economic, scientific, educational and cultural fields in the international arena, including the personal activity, is the key factor determining the market opportunities and prospects of the language industry. Therefore, the prospects for the global language industry are principally dependent on the future of the English language. The paradoxical situation here is that the language industry is mainly based on the needs of the people who do not speak English, and the needs of the countries where the English language is not widespread. At the same time, the number of English-speaking people in the world increases, and the scope of English-speaking countries and regions is expanding with the help of the language services. That is, the activity of the language industry restricts its market and scope of the customers.

There are various approaches to the future of English in the global environment, prospects for development [65, 66]. According to some approaches, the number of those fluently speaking English is estimated to reach 3 billion people in the nearest future. In all areas of activity, English will take the dominant position.

Other approaches focus on the different versions of the English language. It is believed that in the near future, the differences between these options will increase and the main competition will be between the British and American English. The military-political and economic-technological dominance of the United States in the world practically makes the latter most promising. A further trend is that English may soon become the second language as a result of a rapid aging of the population in the United States and Great Britain, with a growing demand in the labor force (including intellectual areas) and heavy migration flows to these countries. Some versions of English as Hinglish (Hindi + English), Japlish (Japanese + English), Chinglish (Chinese + English), and Spanglish (Spanish + English) are now available [67, 68]. This means that different versions of the English language can turn into independent languages in the future.

Those who review the issue from the historical point of view think that English is the dominant language of only modern stage of the civilization as once Greek, Arabic, Russian, French

and Spanish languages were. In the future, this position can be given either to Chinese or Arabic again [65, 69].

The US analysts believe that learning foreign languages should become a national priority for the citizens of the country [70]. This is based on the weakening position of the English-speaking world in the global economy since 1975, and the predicted dominance of the Chinese economy from 2030. The economy of Latin American (Spanish and Portuguese) and South Asian (Hindi and Urdu) countries is also estimated to be significantly enhanced. The future development of the US economy is predicted to depend largely on the possibility of the sale of its goods and services to foreign consumers. Moreover, the specialists with the appropriate language skills must already be trained in order to succeed in foreign markets.

Currently, the development concepts of language service companies are based on the features of the present global language palette, including the capabilities of the English language. These trends are also taken into consideration in the development and implementation of new technological platforms, software and staffing. In the future, the more demanding language segment of the linguistic industry will depend on the political and economic processes ongoing in the global environment.

State-of-the-art and prospects of the language industry in Azerbaijan

State policy on the Azerbaijani language. At present, around 50 million people speak Azerbaijani in the world [71, 72]. More than 40 million of them live beyond the borders of Azerbaijan. Azerbaijani-speaking people are densely living in Iran, Iraq, Turkey, Georgia and Russia. Apart from Azerbaijan, the Azerbaijanis living in Georgia have the right to study in their own language.

As the president of the Republic of Azerbaijan Ilham Aliyev stated, the Azerbaijani language is characterized by its rich capabilities, the fluent sounding and the stability of its grammatical structure [73]. Contemporary literary Azerbaijani is a language of a high literacy used in the political, social, scientific and cultural spheres, the vocabulary of which is persistently enriching.

The Azerbaijani language is the official state language of the Republic of Azerbaijan and one of the official languages of the Republic of Dagestan, which is a part of the Russian Federation. The status of the state language in Azerbaijan is regulated by the Law on the State Language in Azerbaijan dated September 30, 2002 [74]. The law states that the Republic of Azerbaijan considers the use of the Azerbaijani language as a state language as one of the main signs of its independent statehood, and oversees its application, protection and development, and creates the basis for the satisfaction of national and cultural self-expression needs of the Azerbaijanis around the world related to the Azerbaijani language.

In 2001, the President of the Republic of Azerbaijan signed the Decree "On the Improvement of the Application of the State Language" [75]. This decree represents the state care for the application and development of the Azerbaijani language, the encouragement of its learning and exploration, the enlargement of the language in the society and the strengthening of the control over this work.

The Decree "On the publication of the literary works of the prominent representatives of world literature in the Azerbaijani language" signed in 2007 by the President of the Republic of Azerbaijan is also of great importance [76]. This decree specifies a list of literary works by the prominent representatives of world literature included in the 150-volume World Literature Library to be translated into the Azerbaijani.

In 2012, The Art Translation Center under the Cabinet of Ministers of the Republic of Azerbaijan was established in regard to the proper use of the Azerbaijani language in the translated materials in the domestic and international arena. As a state body, it regulates the socio-political, scientific-technical and literary-cultural exchanges and relations in terms of language and translation, and executes the control over the organization and improvement of the translation process in scientific,

technical, medical, law and other fields [77]. Voluntary registration of the legal entities and individuals acting as translators in the country is implemented at this Center.

Furthermore, in 2013, the "State Program on the Use of the Azerbaijani language in Compliance with Time Requirements and Linguistics in the Country" was adopted [78].

State-of-the-art of the language industry in Azerbaijan. There is great potential for the development of the language industry in Azerbaijan. One of the key factors motivating the language industry in the country is the foreign investment. In Azerbaijan, 2464 foreign companies were founded by the investments from Turkey, 570 by Russia, and 541 by Great Britain [79]. The number of foreigners employed in Azerbaijan is more than 26,000. There is a high demand for studying the Azerbaijani language by the foreigners working here. Simultaneously, the foreign companies functioning in Azerbaijan require proper foreign language skills from the Azerbaijani citizens to be employed in foreign companies. This is one of the important factors that stimulate the development of the language industry in Azerbaijan.

Another factor that stimulates the development of the language industry in Azerbaijan is the recent rapid development of the tourism sector here. Consistent and purposeful work is executed by the government for the development of tourism. There are wide opportunities for the development of different types of tourism in Azerbaijan. Tourism infrastructure is being modernized and various projects are being implemented in all regions of the country.

Over the past 10 years, the number of hotels has increased several times. World-famous hotels are established in the capital Baku and other regions. The simplification of the visa procedure with many countries in recent years has given a great boost to the tourist flow to the country. In particular, the number of tourists arriving from Arabic countries in 2016 has increased 2-3 times compared to the previous years. Accordingly, many Arabic-speaking unemployed professionals have found jobs in tourism and service sectors [80].

In total, 2.2 million tourists visited Azerbaijan in 2016, which is 11% more than in the previous year. This dynamics is forecasted to grow even further in the coming years.

The translation business, one of the key sectors of the language industry in Azerbaijan, has a significant market share. More than 60 translation companies are registered only in Baku, the capital of Azerbaijan [81]. These companies perform written translations of the materials in technology, law, medicine, economics, and other spheres, including audio and video contents. They also provide editing and examination services. Moreover, they ensure consecutive and simultaneous interpreting, online translation of the webinars, Internet conferences and telephone conversations which are in demand in the country. Local translation companies also provide localization services for websites, multimedia resources and software. The providers of the relevant services also benefit from the synchronous translation equipment rental.

There is also a dubbing editorial on the TV channels in Azerbaijan. The movies in foreign languages are translated into Azerbaijani and presented to the audience. This field also shapes a special segment of the language industry in the country.

There is a high demand for the study of different foreign languages in the country. The main factor stimulating this demand is the high number of people going to work and study abroad, including the desire to work in various foreign companies operating across Azerbaijan. At present, more than 90 language training centers are registered in Baku alone [81]. The language training centers are functioning in different parts of the country as well.

At present, 4.2 thousand students from 63 foreign countries are studying in Azerbaijan [82]. Foreign students studying at the Azerbaijani universities start studying basic subjects after being trained in the appropriate training language. For this purpose, preparatory faculties, departments and centers are operating in 17 higher educational institutions.

At the same time, more than 2,000 Azerbaijani citizens are studying abroad with the state support. Many of them take language courses before going abroad [82].

Personnel potential in the language industry is also high in Azerbaijan. Annually, more than 7,000 students on 6 foreign languages and translators in 10 foreign languages graduate from the Azerbaijani universities.

Challenges of the language industry in Azerbaijan. One of the main problems in this area is the lack of relevant research. Comprehensible scientific views and approaches to the features of the formation of the national language industry, its structure and perspectives are not available. The study of political, organizational-legal, and socio-economic aspects of this field is an important scientific phenomenon.

Another important problem is the lack of measurement of the language industry in Azerbaijan and scientific-methodological grounds for it. Therefore, any statistical information about the state of the language industry and its separate segments is not available. There is no statistical reporting in this area. The freelancers with the significant share in the language industry do not operate on a legal basis and represent the shadow economy.

Additionally, there is no legal framework for the language services in Azerbaijan yet. Given the specific peculiarities of this field, there is a need to establish a specific legislation by referring to relevant external practices. In particular, information security, protection of state and professional secrets and personal data are of great importance for the provision of language services.

It is also important to develop a methodology for the assessment of the national translation standards and translation quality. At the same time, unlike many languages, the criteria for the level of the proficiency of the Azerbaijani language (reading, writing, speaking, translating) have not been developed. Therefore, the level of proficiency of the Azerbaijani language of any person is assessed on the basis of different individual considerations.

The relations of the official Azerbaijani language institutions with relevant international and foreign organizations are poor. Consequently, this does not properly represent the Azerbaijani language industry in the relevant international reports and ratings.

The introduction of ICT, including machine translation related to the language services in Azerbaijan is not applicable. This situation is not proper to the general tendency of the global industry. The quality of machine translation on the Azerbaijani language offered by a number of foreign companies, including Internet companies is also poor. This is mainly due to the fact that scientific and methodological linguistic support is not provided by the local linguists to the foreign companies that deal with the machine translation of the Azerbaijani language.

Conclusion

Research and analysis show that in the modern world, the role and importance of the language industry as a specific area of the economic activity is increasing. Interestingly, the relevant scientific approaches usually define the rapid development of ICT as the main driving force of the globalization. The language factor here is almost ignored. In fact, ICT creates mainly technological infrastructure for global environment of information and communication. The communication environment created through the technological tools, the Internet, and mobile phones would not be significant if people cannot communicate due to language barriers, if they cannot use information, articles, books, watch foreign movies. From this point of view, the language factor is crucial for shaping the information and communication environment.

Unquestionably, the role of communication in the economy has been sufficiently studied thus far. However, the dependence of the effectiveness of communication on the language factor has not been explored enough. The formation of a global information and communication environment promises new perspectives for science, education, trade, tourism and media. This is one of the key factors that stimulate the development of the language industry.

All of this shows that a language is also an important factor for the economic development. One of the main tools to succeed in a range of economic fields is the ability to use language skills effectively. However, the role of the language factor in the economy has not been studied.

High demand for the language services also motivates the rapid development of linguistic information technology. This has led to the strong competition in the field of machine translation, terminology information systems, foreign language learning applications, and cloud technology. At the same time, competition between the traditional language services sector and the technological language services sector is increasing. Statistical analysis shows that the trends in this area are in favor of the latter. The paradox here is that the emergence and gradual improvement of mobile simultaneous translation technologies weakens the motivation of people to learn foreign languages.

Language industry acts as a specific area of the intellectual activity. Human capital and linguistic information technologies are the most important resources here. Thus, the linguistic industry corresponds to the nature of the knowledge economy for its essence. However, scientific classifications of the knowledge economy do not focus on the language industry.

The English language is of particular importance in both the educational and translation segments of the language industry. High demand for English as an international communication language plays a crucial role in the formulation of demand and supply in the language industry. Studies show that the investments in the study of this language in non-English-speaking countries have a significant impact on the development of the national economies and human capital.

The development of the language industry in Azerbaijan is also promising. The knowledge economy is regarded as one of the priorities in Azerbaijan and the conceptual documents necessary for the development of this sphere have been adopted by the state. There are favorable political, economic and legal conditions for the development of the language industry as part of the knowledge economy in Azerbaijan. Market conditions that stimulate the development of this field are also high. There are various economic entities that provide language services in the country. The staffing in this area is also satisfactory. However, complex scientific and practical researches for the purposeful development of the language industry should be conducted in the country. Moreover, existing problems and relevant legal and economic situation should be deeply studied, the conceptual views for the development of this sphere and the appropriate ecosystem covering legal, economic and organizational areas and personnel training should be established.

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