

INTANGIBLE ASSETS IN MODERN TRANSNATIONAL CORPORATIONS IN SERVICE INDUSTRY

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Abstract: An analysis of the activities of leading transnational corporations (TNCs) for the period from 2000 to 2020 showed that the transformation of the world economic order leads not only to new rules for conducting international business, but also to the occupation of prevailing positions in the world market by TNCs engaged in the service sector. Therefore, the purpose of the study was a systematic analysis of the impact of intangible assets on the growth of the competitiveness of the service sector and the increase in their market capitalization, revenue and asset value. Based on an in-depth study of statistical data, the authors identified trends that led to an increase in the share of intangible assets in the value of companies; an analysis was made of the presence of TNCs in the service sector in the ratings for assessing the level of revenue and market capitalization (based on the Fortune Global 500); comparison of indicators related to intangible assets with the human development index and the business environment, formed taking into account the existing investment climate (based on AON Empower Results, GIFT, World Investment Report); identified the most promising sectors for the use of intangible assets. Based on the results of the study, uniform principles were formed according to which the management of intangible assets of TNCs should take place, in which an important place is occupied by the use of the potential of intangible assets and the advantages of the triple helix of innovations (education - business - government).

1 Introduction

Due to increasing globalization, the beginning of the XXI century was marked by the emergence of a large number of transnational companies that dominated almost all industries. At the same time, they face the increasing need both to maintain their existing competitive advantages and to form new ones based on emerging trends inherent in the entire global market, including: changing market conditions and business models, rapid digitalization and new forms of globalization, change in technological

patterns and transition to a new stage of the industrial revolution.

One of their features is increased role of intangible assets, including those that make up a significant part of the value of modern companies. About 40 years ago, according to AON and LLC Ponemon Institute experts, the share of intangible assets in the value of companies included in the Standard & Poor's (S&P) 500 index was about 17% (122 mil. USD); currently it exceeds 85% (21 tril. USD) (Table 1).

Table 1 Share of tangible and intangible assets in S&P 500 companies

Period	Index	Intangible assets	Tangible assets
1975	Share, %	17	83
1985	Share, %	32	68
	Rising cost	+ 360 bil. USD	+ 471 bil. USD
1995	Share, %	68	32
	Rising cost	+ 2 638 bil. USD	+ 450 bil. USD
2005	Share, %	80	20
	Rising cost	+ 6 160 bil. USD	+ 850 bil. USD
2018	Share, %	84	16
	Rising cost	+ 11 750 bil. USD	+ 1 680 bil. USD
2020	Share, %	90	10
	Rising cost*	+ 8 000 bil. USD	+ 1 000 bil. USD

* preliminary estimates

Source: compiled by the authors according to AON Empower Results [1]

Despite this, accounting for intangible assets and the degree of data disclosure about them by companies still remains a problem. Experts have different ideas about what is included in intangible assets. In Russia since 2021, the Federal Accounting Standard for Public Finance 'Intangible Assets' is in force, changing the accounting procedure and fixing the main criteria under which an object can be equated to an intangible asset. At the same time, the question of the very 'subject' composition of intangible assets still remains open.

Moreover, despite the high importance and relevance of this topic, as well as a significant amount of statistical data in the studies of leading foreign and Russian scientists, the aspects of the impact intangible assets have on increased competitiveness of TNCs and on increased market capitalization, revenue and asset value are not fully systematized. E.A. Shutaeva *et al.* and P.V. Pavlov *et al.* consider only the issues of service companies functioning in the modern conditions of digitalization [2,3]. I.T. Rustamova, T.P. Danko and A.S. Vyazovikova pay more attention to aspects of managing intangible assets of service companies [4,5].

In this regard, the present research aimed at a systematic analysis of the impact intangible assets have on increased competitiveness of TNCs and the increase in their market capitalization, revenue and asset value. The objectives are: identifying trends that lead to increased share of intangible assets in the value of companies; analyzing the presence of TNCs in the service sector in the ratings for assessing the level of revenue and market capitalization; comparing indicators related to intangible assets with the human development index and the business environment formed in the country; identifying promising sectors for the use of intangible assets in TNCs.

2 Methodology

Thus, to achieve the goal of the study and solve the identified problems, the research used works of leading scientists in the field of intangible assets and the behavior of companies in a transforming economy as basis. Thematic statistical and analytical collections from leading rating agencies and expert communities (including statistical collections of AON Empower Results, GIFT, World Investment Report, and Fortune Global 500 [1,6-9]), as well as information on the activities of multinational companies from open sources were selected as practical data.

An extensive instrumental and methodological apparatus was used: system analysis, synthesis and analogy, classification, quantitative and qualitative analysis, and graphical interpretation of data.

3 Results

The existing global trends indicate that TNCs engaged in the service sector acquire greater weight in the global economy, since they can take fullest advantage of competitiveness due to intangible assets in their structure.

Currently, there are more than 82,000 TNCs that create a network of 810,000 branches worldwide [2]. Comparison with similar data of 1991 reveals the number of TNCs over the past 30 years increased almost 2.5 times, and of their branches 5.5 times [8]. At the same time, the core of the world economy is formed by 500 companies that (according to the Fortune Global 500 rating [9]) received more than 33 trillion USD of income, more than 2 trillion USD of profit and provided about 70 million jobs in 32 countries for 2020 [9]. The largest number of companies during this period is traditionally noted in America, China and European countries. A retrospective analysis by years of implementation of the Fortune Global 500 rating shows that this geographical trend was not always observed. In 1995, the top 5 leaders were Japan (148 companies), the USA (148 companies), Germany (42 companies), Great Britain (35 companies) and France (37 companies). In 2005, the leaders were as follows: the USA (176 companies), Japan (81 companies), France (39 companies), Great Britain (37 companies) and Germany (37 companies). In 2015, Chinese companies forced out a large number of recent leaders, and the balance of power was as follows: the USA (128 companies), China (98 companies), Japan (54 companies), France (31 companies), Great Britain (29 companies). Currently, in 2020, the geographical representation is as follows: China (124 companies), the USA (121 companies), Japan (53 companies), France (31 companies), Germany (27 companies).

At the same time, considering the distribution of companies by sectors reveals a trend towards an increase in service companies not only in quantitative but also in qualitative terms (taking leading positions in the ranking) (Table 2).

Notably, according to the World Bank, the contribution of TNCs in the service sector to world GDP exceeds 75%, and the share of TNCs in the service sector in the Fortune Global 500 rating is more than 50%, the largest number of which is noted in the banking sector [9]. At the same time, during the period under review, TNCs emerged in the service sector related to new industries:

- 2005 (leaders): Healthcare – McKesson Corporation (26th place, revenue 80,514.6 mil. USD); Entertainment – Time Warner (100th, revenue 42,869 mil. USD); Security – leader company Morgan Stanley (107th place, revenue 39,549 mil. USD); Hotels, Casinos and Restaurants – Hilton Group (260th place, revenue 21,792.5 mil. USD); Employment Assistance – Adecco (265th place, revenue 21,441.2 mil. USD); Construction – Centex Corporation (481st place, revenue 12,859.7 mil. USD).
- 2015 (leaders): Internet services and retail trade – Amazon (88th place, revenue 280 511 mil. USD); Real Estate – Greenland Holding group (250th place, revenue 42,515 mil. USD); Apparel – Christian Dior (261st, revenue 60,071 mil. USD); Packaging – International Paper (450th, revenue 26,221 mil. USD); Travel services – TUI (469th place, revenue 142 mil. USD).

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- 2020 (leaders): Diversified outsourcing services – Randstand (479th place, revenue 26,500 mil. USD).

Table 2 Distribution of companies from the Fortune Global 500 by industry [9]

Companies involved in the industry	Number of companies			
	1995	2005	2015	2020
Aerospace	9	11	11	13
Airlines	9	7	7	6
Drinks	6	4	3	4
Building materials, glass	3	4	3	5
Chemicals	17	9	8	8
Banking	60	55	55	50
Computers, office equipment	8	13	10	12
Diversified financial institutions	7	4	5	10
Electronics, electrical equipment	31	29	32	26
Engineering structure	14	10	13	16
Product area	35	9	12	11
Food services	1	3	3	2
Pharmaceutical companies	22	21	20	19
Forest and paper products	5	4	-	-
General sales	15	11	7	3
Industrial agricultural equipment	10	7	8	11
Delivery of mail, parcels and cargo	7	9	7	7
Metal products and metals	20	12	16	18
Mining industry, oil products	2	5	25	23
Vehicles and spare parts	25	31	33	34
Network and other communication equipment	-	5	5	3
Oil refining and pipelines	28	31	42	42
Medical products and equipment	10	13	10	15
Publishing, printing	4	2	-	-
Railways	8	4	4	3
Rubber and plastic products	3	-	-	-
Semiconductors and other electronic components	-	5	4	2
Scientific, photographic and control equipment	5	2	-	1
Transportation	2	1	2	3
Cosmetics	3	-	-	-
Specialized retailers	7	12	13	10
Telecommunications	20	23	18	16
Textile	-	-	1	2
Tobacco	4	3	1	2
Trade	21	10	12	19
Public utilities	16	23	25	15
Wholesale	8	11	12	11
Other	62	84	80	92
Total service sector enterprises (out of 500 companies)	269	285	275	314

Source: compiled by the authors according to Fortune Global 500 [9]

All of this contributed to a paradigm shift in the top TNCs in the Fortune Global 500 and the industries they represent. In 2000, the leader of this rating was General

Motors Corporation with the revenue of 176,558 mil. USD; in 2020, Walmart (the scope of which is trade) took the first place with the revenue of 523,694 mil. USD (Figure 1) [3].

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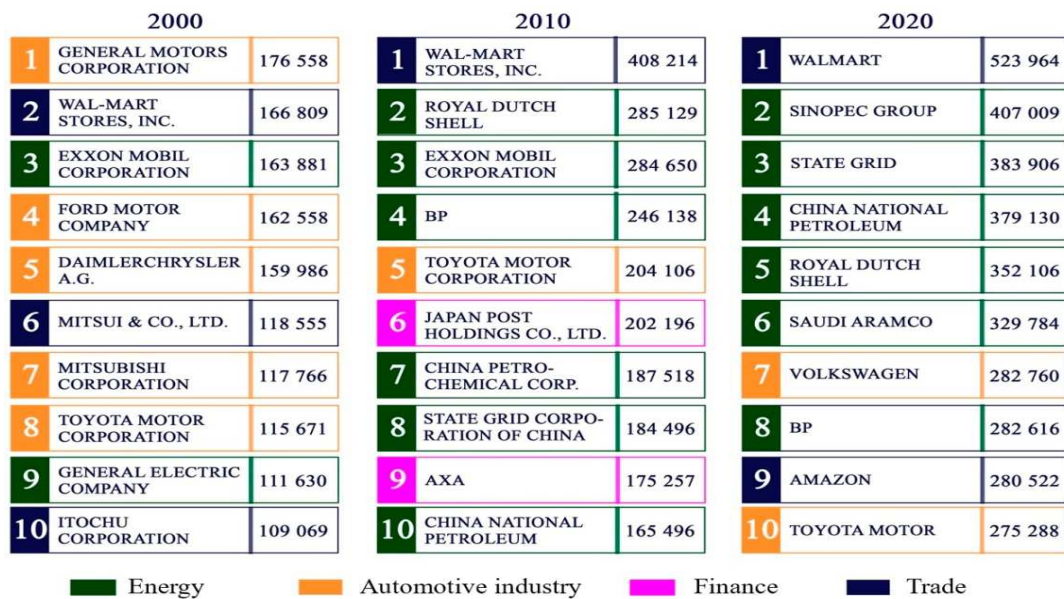


Figure 1 Retrospective analysis of the top TNCs in the Fortune Global 500 [9] by revenue (mil. USD)
 Source: compiled by the authors according to Fortune Global 500 [9]

Notably, in 2020, almost all TNCs in the energy industry (Figure 2) lost in revenue compared to 2019, while TNCs in trade, automotive industry and finance, on the

contrary, grew. Thus, it will be of interest consider the change in the value of TNCs (value of assets) and their profits depending on the sector of the economy (Table 3).

Table 3 Analysis of the representation of TNCs in the Fortune Global 500 by sectors of the economy [9]

Sector	2015			2020		
	Quantity	Profit, mil. USD	Asset value, mil. USD	Quantity	Profit, mil. USD	Asset value, mil. USD
Space and defense	11	27 241	705 738,9	13	27 256,6	1 018 844,7
Apparel	3	5 776,4	125 719,7	3	9 529,1	152 243
Business services	-	-	-	3	2 908	39 665,5
Chemical products	8	29 546,2	484 802,5	7	12 474,3	457 374,7
Energy	107	228 114,9	10 507 095,9	82	285 098,5	10 704 644,6
Design and construction	13	16 930,1	874 817	13	21 440,9	1 396 339,8
Finance	111	612 650	93 331 579,9	121	784 342,2	102 475 696,8
Grocery store	20	12 803,4	710 677,5	19	17 950	784 678,3
Food, drinks and tobacco	16	65 031,4	878 511,7	17	66 748,6	1 166 351,9
Healthcare	23	104 123,5	1 443 598,3	29	148 662,7	2 772 963,1
Hotels, restaurants and leisure	4	7 845,2	96 582,8	1	3 599,2	19 219,6
Household goods	2	18 156,5	183 059	3	14 390	237 005,4
Industry	19	36 798,7	984 469,5	19	48 069,6	1 235 214
Raw materials	20	6 681	1 053 848,1	23	7 567,9	1 294 472,5
Media	4	22 135,1	245 478,2	3	14 498,4	306 705,5
Automotive industry	34	118 900,9	3 282 252,7	34	83 942,4	4 054 105,7
Trade	15	43 640,5	854 762,8	16	80 217,8	1 203 917,1
Technology	32	184 571,6	2 122 916	35	292 312,7	3 389 142,2
Telecommunications	18	85 778,7	2 394 209,7	15	81 138,6	3 154 630,2
Shipping	20	28 425,2	2 320 734,9	19	25 209,2	3 093 794,2
Wholesale	19	14 461,6	766 096,3	24	21 865,2	1 054 336,2
Total	500	1 669 616,9	123 367 951,4	500	2 049 222,6	140 011 345
TNCs in the service sector and share of the total	275	1 140 367,7	104 595 415,1	314	1 496 623,8	118 683 997,1
	55%	68.3%	84.8%	62.8%	73.03%	84.7%

Source: compiled by the authors according to Fortune Global 500 [9]

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Table 3 shows that the largest value of companies both in 2015 and 2020 was noted in the financial sector, and in general, the value of all TNCs in the service sector is almost 85% of the value of all TNCs included in the Fortune Global 500 rating [9]. At the same time, singling out companies with the highest asset value reveals that the first 50 will be companies exclusively in the financial sector (the maximum volume of Industrial & Commercial Bank of China is 4,322.5 bil. USD, 7 times more than that of China National Petroleum, the largest TNC in terms of asset value in the energy sector with 608.1 bil. USD).

Intangible assets in any TNC are important both in assessing the value of the company and in highlighting its strong competitive sides (for instance, business reputation). At the same time, according to Brand Finance experts, the share of intangible assets is the highest in TNCs in the service sector. In 2020, TNCs in cosmetics, Internet and software, health, drinks and Media are more than 70% (taking into account the value of disclosed and undisclosed intangible assets and goodwill), and 7 of the 10 most intangible sectors are represented precisely by industries from the service sector (Figure 2).

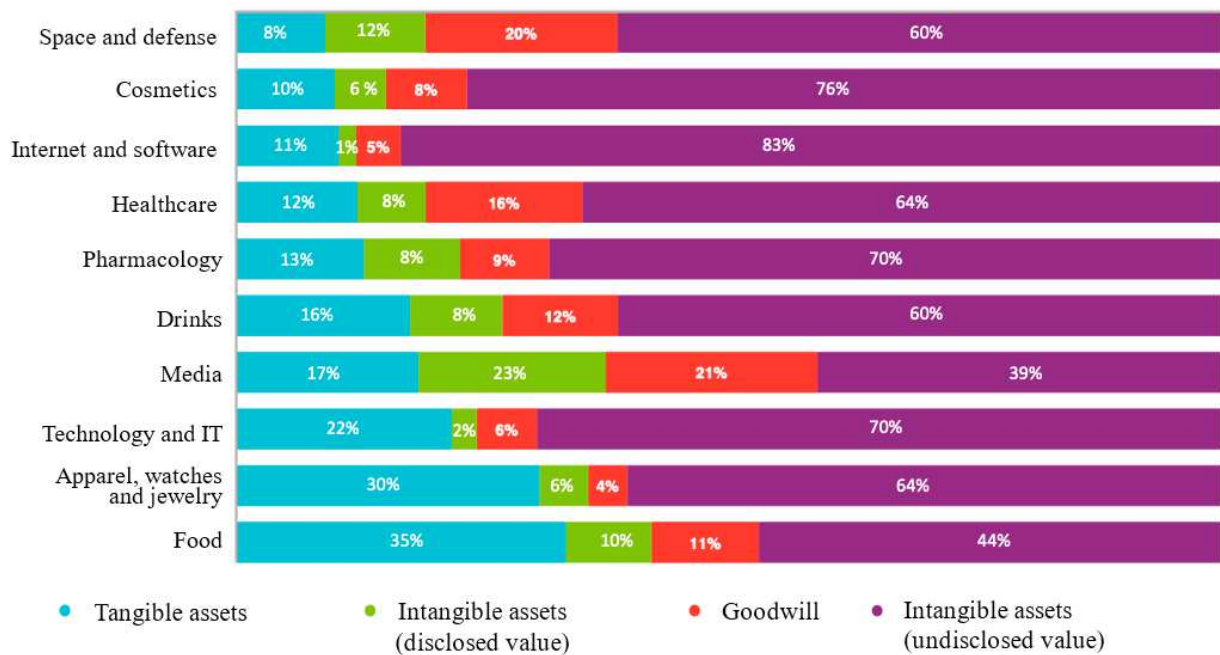


Figure 2 Sectors of the economy with the largest share of intangible assets in their structure, 2020
 Source: compiled by the authors according to GIFT [6]

The remaining service sectors for the period under review in terms of the share of intangible assets in the structure of their value have the following values: commercial services – 64%, retail trade – 62%, telecommunication services – 60%, household goods – 60%, leisure, tourism, gambling – 55%, logistics – 42%, utilities – 30%, air transportation – 23%, insurance – 17%, real estate – 14%, banking sector – 10%. Comparing similar values over the past 20 years reveals that the largest increase in the volume of intangible assets is observed in the TNCs of the banking sector (6.7 trillion USD).

The largest TNCs in terms of intangible assets in 2020 were Apple (2,151 bil. USD), Amazon (1,694 bil. USD), Saudi Aramco (1,651 bil. USD), Microsoft (1,598 bil. USD) and Alphabet (838 bil. USD). In turn, the overall rating of the 100 largest TNCs in terms of intangible assets in 2020 included 18 TNCs from the Internet and software sector; 14 TNCs each from the pharmacology and technology and IT sectors; 7 TNCs from the retail trade sector; 6 TNCs each from the telecommunications and

healthcare sectors; 5 TNCs from the beverages sector; 4 TNCs from the banking services sector; 3 TNCs each from the media, cosmetics, space and defense, and food sectors; 2 TNCs each from the oil and gas, design and construction, Apparel, watches and jewelry, and logistics sectors; 1 TNC each from the automotive industry, commercial services, insurance, chemical products, real estate, and utilities sectors. In 2020, there was rapid growth in this rating not only for TNCs in the service sector but also for those engaged in production processes, for example, Saudi Aramco, a TNC from the oil and gas sector; Tesla from the automotive industry sector; Bristof Myers Squibb from the pharmacology sector; Reytheon Technology the space and defense sector; and Wuliangue from the beverages sector.

Despite the understanding of the importance of intangible assets in the value of TNCs, there are still great difficulties in their accounting, cost calculation and disclosure of full information. Moreover, companies themselves often do not fully understand how exactly the presence of intangible assets (for example, a recognizable

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brand, relationships with customers and suppliers, the company's human resources) affect the company's value. The studies of intangible assets presented by Brand Finance experts, conducted on more than 58.8 thousand companies from 120 countries, indicate that about 15% of the value of companies is closed intangible assets and closed goodwill, and in a number of industries this value approaches a quarter of the company's value (for example, the media sector, see (Figure 2).

Often the influence in disclosing all information about intangible assets is at the level of the country as a whole. Thus, the following countries with the largest share of intangible assets in the value of companies in 2020 can be singled out: the USA (75%), Denmark (73%), Ireland (73%), Saudi Arabia (71%), Finland (62%), Sweden (60%), Switzerland (59%), France (57%), Morocco (56%), and Argentina (56%). In these countries, as well as in a number of other European countries (including Belgium, Italy, Portugal, and Germany), there are companies with the largest value share of disclosed intangible assets.

At the same time, a number of the above countries also have the best financial performance, the best values of the human capital index (for example, Finland – 2nd place, Switzerland – 3rd place, the USA – 4th place, Denmark – 5th place, Germany – 6th place, and Sweden – 8th place) and the greatest prospects for doing business, including data on the speed of registering property and the speed of starting a business (New Zealand – 1st place, Denmark – 4th place, the USA – 6th place, and Sweden – 10th place) [10,11].

A key feature of intangible assets is the fact that due to support and development mechanisms, they do not lose but multiply their value and can create a multiplier effect during operation. This significantly increases the competitive advantages of TNCs, especially in times of crisis (for example, the well-known problems that befell companies in the service sector in connection with COVID-19. At the same time, they were able to restore their former positions in the best possible way and even increase the volume of value, profit and revenue).

TNCs in the service sector can be divided into three main types [4]:

- TNCs in the consumer services sector, including TNCs of individual services (retail sales, trade, food services, utilities), and TNCs of public services (health, education, media and entertainment, consulting), developing at the expense of human capital, goodwill and general company reputation;

- TNCs in the infrastructure services sector, including TNCs of physical infrastructure (airlines, railways, transportation, wholesales), TNCs of information infrastructure (banking, diversified financial institutions, telecommunications), developing through innovation and cost reduction;

- TNCs in the KIBS (Knowledge Intensive Business Services) sector, including TNCs in the engineering and

scientific sector (IT companies, scientific and educational organizations, engineering, pharmaceutical companies), developing through the active introduction of new innovations and economies of scale.

At the same time, accounting for intangible assets at the global level is carried out based on the International Financial Reporting Standard IFRS 3, on the basis of which intangible assets are divided into 5 main categories: related to marketing, related to customers, received on a contract basis, having a technological base, related to works of art. In turn, a number of foreign experts use their specified categories of intangible assets (Table 4).

Thus, in addition to the traditional categories that are part of the company's intangible assets, including sources of intellectual property, the presence of property rights and business reputation, it is possible to include the human capital available in the company (knowledge, skills, connections of the company's employees), due to which formation of all other tangible and intangible assets of the company often occurs.

In connection with the presented division of TNCs according to the IFRS 3 classification, as well as the classification of intangible assets based on the International Financial Reporting Standard IFRS 3, it is possible to single out those intangible assets that have a greater impact on the value of companies. For TNCs of the first type, the most 'valuable' will be intangible assets associated with marketing, for TNCs of the second type, intangible assets based on customer relationships, and for TNCs of the third type, intangible assets based on technology and documented. Yet for all TNCs in the service sector, regardless of their belonging to any of the above sectors, human resources will be of great importance in the formation of final financial indicators, allowing the formation of all these types of intangible assets to one degree or another.

An important aspect of the growth of efficiency and profits of TNCs in the service sector, which is particularly affected by intangible assets, is logistics. This is justified by the fact that the logistics of the service sector has a number of features that distinguish it from traditional logistics. So, among the main features of the logistics of TNCs in the service sector, the following should be highlighted [12]:

- planning and regulation of working time, but not of transportation;
- storage of information and accumulation of knowledge (staff training), rather than storage of raw materials, materials and goods;
- information processing, not stock management;
- collection of information, not delivery of materials;
- planning and organizing the work of personnel, not production processes;
- control of the communication cycle, not the distribution and delivery of products.

Table 4 Classification of intangible assets

<p>Report on Comparison of the Impact of Financial Statements of Intangible Assets (Ponemon Institute LLC Report, AON Empower Report)</p>	<p>Intellectual property</p>
	<p>Patents, copyrights, trademarks, trade secrets, know-how</p>
	<p>Rights that may be protected by intellectual property</p>
	<p>Marketing rights, usage rights, franchise agreements, royalty agreements, licensing agreements, mortgage service rights</p>
	<p>Brand that can be protected by intellectual property</p>
	<p>Brand value, its degree of inclusion in social networks</p>
	<p>'Hard' intangible assets that may be protected by Intellectual Property</p>
	<p>Goodwill, software licenses, internet domains</p>
	<p>Data that may be protected by Intellectual Property</p>
	<p>Information stored: program code, data (others), databases, customer lists, video/audiovisual materials, confidential information</p>
	<p>Non-income rights</p>
	<p>Intangible assets that generally do not affect income generation: non-competitiveness agreements, suspension agreements</p>
	<p>Connections and relationships</p>
<p>Relationships with customers, relationships with suppliers</p>	
<p>Public rights</p>	
<p>Drilling rights, import quotas, planning/zoning permit, water rights, wireless spectrum rights, carbon exhausts rights</p>	
<p>Categories of intangible assets according to IFRS 3 (Brand Finance GIFT report)</p>	<p>Marketing related intangible assets</p>
	<p>Trademarks and names; service marks and collective marks, certification marks; trade uniform (unique color, shape or package design); newspapers; internet domain names; headings; agreements on non-competition</p>
	<p>Intangible assets based on customer relationships</p>
	<p>Client lists; order or production of unfulfilled orders; customer contracts and related customer relationships; non-contractual relationships with clients</p>
	<p>Intangible assets secured by documents</p>
	<p>Agreements on licensing, royalties, moratoriums; contracts for advertising, construction, management, maintenance or supply; lease agreements; building permit; permissions; franchising agreements; operation and broadcasting rights; usage rights such as drilling, water, air, minerals, logging and route management; service contracts; employment contracts</p>
	<p>Technology based intangible assets</p>
	<p>Patented technology; computer software; database; trade secrets such as secret formulas, processes, recipes</p>
<p>Intangible assets associated with works of art</p>	
<p>Plays, operas and ballets; books and magazines, newspapers and other literary works; Musical works such as compositions, lyrics and commercials; maps and photos; video/audiovisual materials, including films, music, videos</p>	

Source: compiled by the authors according to AON Empower Results and GIFT [1,7]

Thus, it can be noted that for TNCs in the service sector, logistics costs not only have a fundamental impact on the company's productivity, but also make up a large share of the costs, since they include almost the entire cycle of "production" of services [13]. Thus, one of the options for reducing logistics costs is the use of logistics platforms, i.e. special business models developed to improve the efficiency of all logistics operations of supply chains [13]. And another option is to use the methodology of the intellectual capital management process (ICMP), which allows you to build management and logistics processes for

all intangible assets, both in the internal environment of companies and in the external one [14].

This is due to the fact that the purpose of the logistics operations of TNCs in the service sector is to ensure the supply and production for the end consumer of the necessary basic and related services at the set time and place, in the requested volume and at the set price (taking into account cost reduction for the service TNC itself). In this regard, one of the basic principles of logistics at TNCs in the service sector is the organization of a continuous process of providing all departments with the necessary

resources (information, labor, temporary and administrative), primarily those that are intangible assets for companies.

At the same time, approaches in logistics, as in all other areas of TNC activity, also need to be revised due to the need to comply with the concept of sustainable development and the global imbalance in the world economy caused by the COVID-19 pandemic, as well as the growing role of digital technologies and the widespread development of the industry. 4.0, which contributes to the complete transformation of business models for the functioning of companies. These trends are also confirmed by AL-ABABNEH H.A., who, in the course of his research, identifies the main trends in the development of the logistics industry in the world, taking into account new trends in the development of the world economy [15].

Scientists-economists T.P. Danko and A.S. Vyazovikova in their study confirmed the hypothesis that the revenue of companies depends on the value of its intangible assets. Apple was chosen for the assessment, which has the highest value of intangible assets and is in the top 3 in terms of revenue of the world's leading TNCs. Calculating the correlation coefficient revealed that the market value of the company is highly dependent on the value of intangible assets ($R=0.760$), but an even greater dependence was observed between the amount of revenue and the value of intangible assets ($R=0.816$) [5]. According to the value of disclosed intangible assets, the company pays great attention to interaction with consumers and maintaining their loyalty to the brand (40% of the value of all intangible assets), marketing components of intangible assets (23% of the value of all intangible assets), and then the development of technologies, know-how and patents (21%).

Financial TNCs have a different strategy; they are represented by the only company from Russia which was among the world's leading companies in 2021 [9] – Sberbank PJSC. The company built its work on intangible asset management by creating a diversified ecosystem that includes various services which allow customers to receive services in the field of finance, entertainment, food, real estate, healthcare, transport, consulting, and education. This position allowed Sberbank to increase its net assets almost 3 times during the formation of the ecosystem, becoming the largest bank in Russia and the strongest banking brand in the world with a Brand Strength Index (BSI) rating of 92.0 out of 100 and an elite AAA+ rating. Despite this, PJSC Sberbank is actively involved in the development of the company's human potential and supports the corporate university which forms a knowledge bank and trains tens of thousands of company employees in more than 300 educational programs to develop flexible skills and professional competencies.

The trend of creating corporate universities among the leading TNCs, as well as their interaction with scientific and educational structures, is quite strong. According to Deloitte, the cost of corporate training in the world is about 150 bil. USD annually, and collaborations between

scientific clusters, universities and TNCs allow achieving a synergistic effect for all participants. For example, the Shenzhen-Hong Kong cluster, which is in the top 3 clusters represented in patent and scientific activities, according to the Global Innovation Index, and which united the University of Hong Kong and the company Huawei, allowed to significantly increasing the volume and quality of innovations companies and the share of market sales.

Indicators of monitoring, management and development of intangible assets are taken into account when implementing the development strategy of companies; this is a feature of intangible assets management by leading TNCs in the service sector. At the same time, intangible assets management is based on a number of general principles, for example:

- incorporating the intangible asset management strategy into the overall development strategy of TNCs;
- using tools for assessing the value of intangible assets;
- consistency, complexity and synergy in the formation, management and development of intangible assets;
- building up the innovative potential of TNCs based on the company development strategy, including building its business reputation;
- intangible assets management should increase the company's competitive advantages.

4 Conclusion

Thus, we can conclude that at present, TNCs engaged in the service sector are becoming increasingly important in the global economy, which can be conditionally divided into TNCs in the consumer services sector, TNCs in the infrastructure services sector and TNCs in the intellectual services sector. In many respects, this trend is due to the fact that it is TNCs in the service sector that can fully use the advantages of intangible assets that have received the greatest impact due to globalization, the development of digitalization (Industry 4.0), and also taking into account other trends in the world economy. This is also confirmed by the fact that the World Bank estimates that the contribution of TNCs in the service sector to world GDP exceeds 75%, and the share of TNCs in the service sector in the Fortune Global 500 rating is more than 50%, of which the largest number is represented by TNCs in the financial sector.

At the same time, there are still certain difficulties in accounting for intangible assets in the value of TNCs. This situation is sometimes associated with the policies of countries in general, and their investment potential, as well as shortcomings in the application of financial reporting standards (IFRS 3) for specific industries and types of intangible assets.

Undoubtedly, at present, intangible assets make up a significant share in the value of modern multinational companies, especially those in the service sector. At the same time, the issue of competent accounting remains

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important, which allowed increasing the disclosure of intangible assets by companies, as well as developing strategies to increase the volume of intangible assets and competently manage them. Of help here are digital technologies and collaborations with scientific and educational organizations, which will allow (through a synergistic effect):

- attracting new talents and building up the necessary skills and competencies for the company;
- implementing new approaches to innovation and integrating new technologies into existing workflows;
- studying market changes and hedge risks to identify new products and services, as well as the most competitive market segments;
- including integrated change management programs, flexible organizational structures and flexible working methods in their activities.

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