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## **ЦИФРОВЫЕ ТРАНСНАЦИОНАЛЬНЫЕ КОРПОРАЦИИ ДЛЯ ПРИВЛЕЧЕНИЯ ПРЯМЫХ ИНОСТРАННЫХ ИНВЕСТИЦИЙ В ЦИФРОВУЮ ЭКОНОМИКУ**

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В течение последнего десятилетия наблюдается тенденция к цифровизации во всех сферах жизни, включая экономическую сферу. Все больше стран становятся ориентированными на развитие цифровой экономики и цифровизацию внешнеэкономической деятельности. В данной статье анализируется роль прямых иностранных инвестиций (ПИИ) в стимулировании цифровой экономики. Цифровые многонациональные предприятия играют главную роль в привлечении ПИИ. Авторы отмечают, что развитие транснациональных корпораций характеризуется новым витком перехода к цифровой экономике, который меняет способ ведения бизнеса и ориентирует предприятия на создание и использование цифровых платформ, технологий. Цифровые транснациональные корпорации начали выходить на зарубежные рынки практически без инвестиций в физические активы. Отношение доли зарубежных продаж к соответствующей доле иностранных активов (индекс легкости ПИИ) для топ-100 цифровых транснациональных корпораций в сегменте цифровых решений растет. Прямые иностранные инвестиции (ПИИ) являются катализатором цифровой экономики. Тем не менее правительства, пытающиеся создать в стране благоприятные условия для привлечения ПИИ, должны руководствоваться стратегическими, а не тактическими национальными интересами. Государства должны поощрять инвестиции в цифровую экономику с целенаправленным подходом. Инвестиционная политика должна соответствовать конкурентным преимуществам страны – человеческому капиталу, бизнес-экосистеме, технологическим возможностям. В этой статье рассматривается случай с АСЕАН.

*Ключевые слова:* цифровизация, многонациональные предприятия.

## **DIGITAL MULTINATIONALS FOR ENGAGING FOREIGN DIRECT INVESTMENTS IN DIGITAL ECONOMY**

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There has been a trend towards digitalization in all areas of life, including the economic sphere, for a last decade. More and more countries are becoming oriented towards the development of

digital economy and digitalization of foreign economic activities. The role of foreign direct investment (FDI) in boosting the digital economy is analyzed in this article. Digital multinational enterprises play the main role in FDI attraction. The development of multinationals is characterized by a new round of transition to the digital economy, which is changing the way of doing business and orienting businesses towards the accretion and use of digital platforms, technologies, solutions and related products and services. Digital multinationals began to enter foreign markets with little to no investment in physical assets. The ratio of the share of foreign sales to the corresponding share of foreign assets (FDI lightness index) for the top-100 digital multinationals in digital solutions segment is raising. Foreign direct investment (FDI) is a catalyst for the digital economy. Nevertheless, governments trying to create favorable environment in the country for FDI attraction should be guided by strategic rather than tactical national interests. States should favor investment in digital economy with goal-oriented approach. Investment policies must resonate with the country's competitive advantages – human capital, business ecosystem, technological capabilities. ASEAN case is explored in this article.

*Key words:* digitalization, multinational enterprises.

### Introduction

COVID-19 has given a boost to attracting better foreign direct investment (FDI) in the digital economy. High growth rates of FDI in the digital economy and a fundamental shift towards the intangible economy were observed before the events of 2020. This is evidenced by the growing role of FDI in information and communication technologies (ICT) and related sectors: the software and IT services sector accounted for 1,7% of total FDI in 2003, its share had risen to 5,3% in 2020 [1].

Investment in ICT grew from 2,7% in 2003 to 10% in 2020 worldwide [1]. The increase in FDI in ICTs has counterweighed almost two thirds of the decline in FDI in natural resources. Attracting FDI is becoming a strategically important part of governmental policy, as FDI is widely recognized as an industry growth driver that leads to positive GDP growth rates. In addition to attracting capital, FDI catalyzes various positive effects, e. g. lower unemployment rates, greater access to technology, etc. According to a linear regression analysis conducted by experts based on the data from 90 countries, there is a correlation between the level of FDI and the ICT sector at the global level: the average ratio of jobs to investment is 3,23 [11]. It means that 3 jobs are created for each 1 mln USD in FDI. For example, between 2010 and 2020, China's ICT industry attracted about 137 bln USD, creating 422,000 new jobs in the sector [2].

The FDI stimulates the growth of digital markets, that gives a boost to the digital economy. Developed countries, especially those with a high-quality digital infrastructure, continue to attract more FDI.

It is worth noting that the digital economy is not limited to the ICT sector. In recent years, the processes of digitalization have covered supply chains (including procurement, manufacturing, coordination between operating unit networks) across all sectors of the global economy, and these processes had huge economic impact. To date, the impact of digitalization on the international presence (foreign assets and sales) of non-digital multinational enterprises

(MNEs) has been limited, but the trend towards lighter forms of international production and alternative management practices has begun to emerge.

### Structure of the Digital Economy and MNEs

Let's analyze the architecture of the digital economy. Two types of MNEs can be distinguished in the digital economy: digital and ICT. The main difference is that ICT create the necessary digital infrastructure to provide Internet access to economic agents. Consequently, this type of MNEs includes IT companies (manufacturers of devices and components (hardware), software and other IT services (Figure 1).

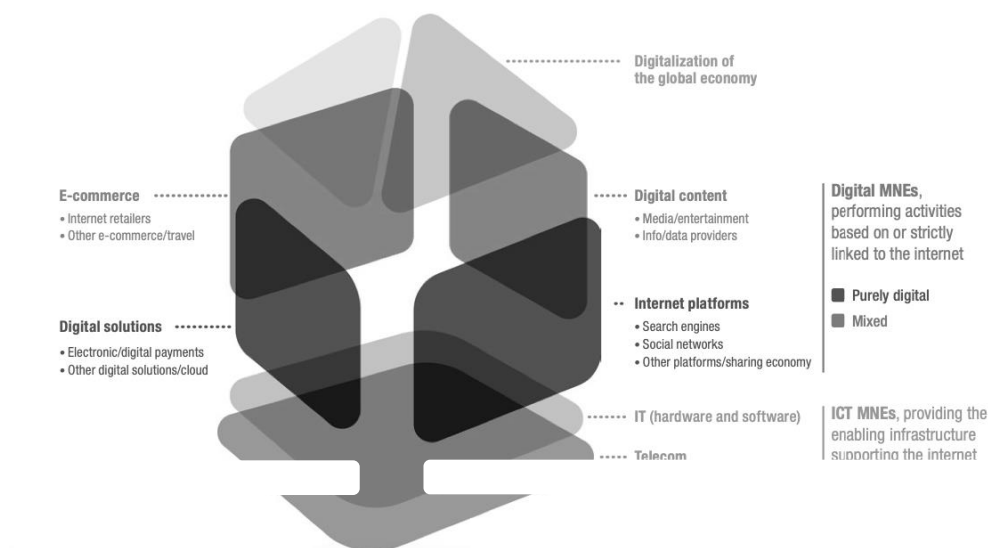


Figure 1. The architecture of the digital economy and multinational enterprises [15. – P. 167]

Internet and infrastructure that is created by ICT becomes integral part for digital MNEs functioning. Digital MNEs, in turn, can be of two varieties:

- pure digital MNEs (internet platforms and digital solution providers), that operate only in digital environment;
- mixed digital MNEs (e. g. e-commerce), that are the mix of digital and traditional enterprise.

Digital MNEs showed sales growth by 158% in 2021 compared to 2016 with an average annual growth rate of 21% over this period (Figure 2). The total net revenue for the year (2020 to 2021) grew by more than 60%. By comparison, the top 100 traditional MNEs (excluding technology sector) showed no growth in revenues.

The ranking of the top 100 digital MNEs is still dominated by developed countries, in particular the USA (their share was 59%) and EU countries (22%).

But as of 2021, there is diversification among the countries whose companies have been included in the ranking. The share of China, for example, has reached 4%. China's Alibaba, for example, accounts for 34% of the top-100 digital MNEs total revenue [6].

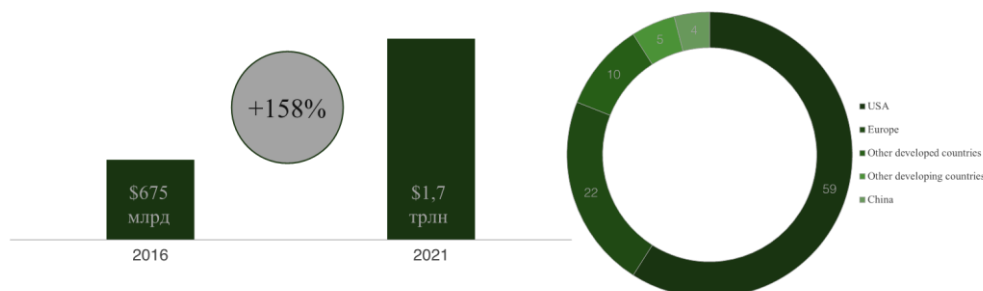


Figure 2. Top-100 digital MNEs: sales growth rate and geographic distribution of their headquarters, % [5]

Another specificity of digital MNEs is that such corporations enter foreign markets with little to no investment in physical assets [13]. The FDI lightness index, which illustrates the ratio of the share of foreign sales to the corresponding share of foreign assets, has been introduced to determine the extent of investment in physical assets. Digital MNEs sell 70 per cent of their products abroad, while only 40 per cent of their assets are located outside their home country.

#### Analysis of the FDI lightness index for digital and traditional MNEs

The FDI lightness index for the top 100 digital MNEs rose from 1,37 in 2016 to 1,45 in 2020. This indicates that the overseas sales of these companies grew faster than their physical foreign assets. It is worth noting that the digital solutions segment experienced the largest increase in lightness index in 2020 compared to 2016 from 1,85 to 2,46 (growth by 33%). The index for the "internet platform" segment decreased by 3% (Table 1).

Table 1  
Sales growth and FDI lightness index: a comparative analysis  
of the top 100 traditional and digital MNEs, 2016-2020\*

	Total sales, % increase	FDI lightness		
	2016-2020	2016	2020	Change, %
Traditional MNEs	10	1	0,99	-1
Internet platforms	212	2,25	2,19	-3
Digital solutions	110	1,85	2,46	33
E-commerce	222	1,03	1,08	4
Digital content	68	1,32	1,28	-3
Top digital	108	1,37	1,45	6

\* Source: [5].

The difference between digital and traditional MNEs becomes even more noticeable when we look at FDI lightness index: the traditional MNEs' index is 1,46 times lower than the digital MNEs' index (Table 1).

As a rule, digital MNEs do not invest FDI in new projects; most FDI are in the form of mergers and acquisitions (M & A) – the takeover of competitors or start-ups. The most active MNEs in greenfield investments are those in e-commerce. This is directly related to their line of business: their demand for warehouses and distribution centers (Figure 3).

In particular, e-commerce MNEs increased FDI in the form of greenfield investment by 120% in 2020 and another 10% in 2021, due to their growth during the pandemic. Most of them came from digital giant of e-commerce, Amazon (USA).

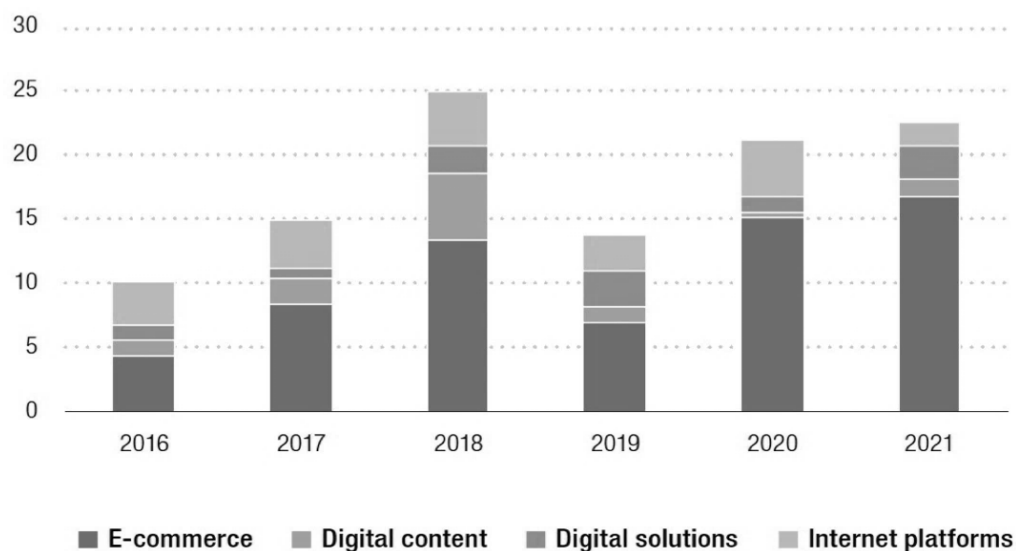


Figure 3. Greenfield investments by digital business sector, billion USD, 2016–2021 [5]

While FDI in e-commerce has been increasing, other segments show a different picture. For example, FDI attracted in the digital solutions and digital content segments declined in 2020 compared to 2019, but recovered as early as 2021 (Table 2). FDI in online platforms also declined from 2019 from 2,5 billion USD to 1 billion USD.

Table 2

## Top 5 digital companies, 2021\*

Company	Head-quarter	Digital segment	Main operations	Total sales (mln USD)	Total assets (mln USD)	Share of foreign sales, %	Share of foreign assets, %
Alphabet	USA	Internet platforms	Search engine	257,6	359,3	54,2	27,5
Meta Platforms*	USA	Internet platforms	Social network	117,9	165,9	56,3	20,7
DIDI global	China	Internet platforms	Other platforms – shared economy	21,7	22,6	7,5	n/a
Baidu	China	Internet platforms	Search engine	196	598,3	n/a	8,2
Uber Technologies	USA	Internet platforms	Other platforms – shared economy	174,6	387,7	45,4	7,9

\* Source: [12]

\*\* Meta products and its activity recognized as extremist and banned in Russian Federation according to the Tversky Court of Moscow decision at 21.03.2022.

**Stimulating FDI in the Digital Economy**

The countries, which orient investment policies and instruments towards areas closely related to digital technology, are more successful in attracting FDI. Of the top five countries that attracted almost 50% of FDI in software and IT services in 2010–2020, four were centers of excellence in channeling FDI to strengthen their position in the ICT value chain.

According to experts, a comprehensive approach to stimulating FDI in the digital economy should consist of three levels (integral parts of the digital economy):

1. The traditional ICT industry – telecommunications infrastructure, ICT manufacturing and ICT services. MNEs, which usually invest in this industry, are closely linked to telecommunications companies, software and service providers, and manufacturers of devices and components.

2. New digital services (digital solutions segment). Represented by MNEs operating in search engines, shared economy and e-commerce.

3. Digitalized industries – industries that have not traditionally been digital, but have been transformed by digital adoption (“became digital” rather than “born digital”). For example, e-health.

At the first stage of attracting FDI in the national economy, the main challenge at the strategic level has been to shape responses to the new challenges: changing patterns of international investment and the factors that determine its inflow.

Traditional factors, such as cheap labour, take a back seat to digital economy attraction strategies. Infrastructure and human capital become more relevant.

UNCTAD experts have developed a comprehensive regulatory framework that will create favorable environment in the country for FDI attraction (Figure 4).

This set of measures aimed at analyzing the competitive advantages for attracting investment by digital MNEs, assessing potential challenges and risks, identifying strategic opportunities.

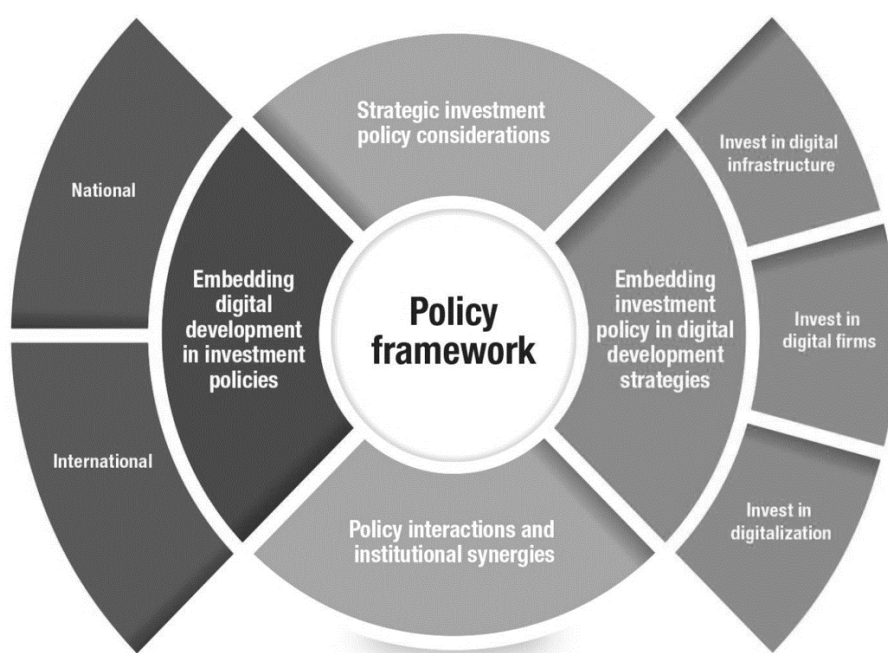


Figure 4. Regulatory framework for investment in the digital economy [14]

Policies to attract FDI in the digital economy must meet relevant requirements at national and international levels. If necessary, it is worth modernizing investment legislation, which should combine investment promotion and facilitation instruments with measures to mitigate the risks associated with digital operating models.

#### **Encouraging FDI in the Digital Economy: ASEAN Case Study**

Long-term increase in the use of online services (e-commerce, e-games, communications technology, telemedicine) has become a key consequence of COVID-19 pandemic and associated restrictions. The increased demand for these services has spurred even greater investment in digital technologies.

The key MNEs, that have actively invested in ASEAN countries, are listed in Table 3.

**New investment/expansion of MNEs in selected areas  
(IT, digital economy, e-commerce) in ASEAN, 2020\***

Table 3

Company	Headquarters	Host country	Investment activity
Hino Motors	Japan	Indonesia	Opened online store on e-commerce platform
Kargo Global	USA	Singapore	Opened office
PCCW	Hong Kong	Malaysia	Opened delivery centre
Skyworth Group	China	Philippines	Opened online store on e-commerce platform
TravelWiFi	USA	Indonesia	Acquired provider of mobile Wi-Fi solutions
Unicommerce	India	Singapore,	Opened office
UST Global	USA	Malaysia	Opened innovation lab

\* Source: [3].

ASEAN is actively developing the digital economy and creating favorable environment to attract FDI in various sectors through institutional and policy support at the national (through national plans and strategies) and supranational (regional plans and strategies) levels (Table 4).

**Selected strategies and their key messages in ASEAN digital adoption\***

Table 4

Strategies	Key messages
Brunei's vision (Wawasan) to 2035	Three key aspects: education, life quality and sustainable economy. Economic diversification through private and public sector efforts to digitalization of economy and make the country a physical and digital "regional gateway" to ASEAN
Cambodia's Digital Plan 2023	Additional investment in the integral elements of the digital economy: human capital, basic and digital infrastructure, implementation and adaptation of digital technologies in enterprises and government
Making Indonesia 4.0, roadmap in 2018	For industries: direct access to more investment in technology and R&D For manufacturers: opportunity to transform their operations, increase productivity and competitiveness, introduce new business models
Malaysia's Digital Economy Blueprint	Step 1: 2021–2022: Strengthen the foundation for digital adoption. Step 2: 2023–2025 promote inclusive digital transformation, Step 3: 2026–2030. Malaysia as the regional market leader in digital content and cybersecurity

\* Source: [7; 8. – P. 80–97; 9; 10. – P. 25–46].



The level of FDI in Industry 4.0 is conditioned by favorable environment, which in turn depends on the policy for attracting investment. It generally consists of three tiers:

1) First level: cyber laws, cyber security, data storage and data protection are important determinants of the favorable investment environment in the digital sectors.

2) Level Two: The strategic direction of investment policy, which effective development and implementation (by investment authorities or agencies), will depend on a number of key questions, e. g.:

a) which FDI should be attracted to create digital infrastructure,

b) in which sectors of manufacturing equipment and Industry 4.0 solutions ASEAN and individual members have a competitive advantages.

3) Level 3: Implementation of investment policy instruments. These include measures to strengthen the Industry 4.0 ecosystem and promote investment, encourage SMEs, effective innovation policies, and support for regional cooperation on digitalization.

### **Conclusion**

COVID-19 boosted FDI in digital sphere and stimulated the growth of digital markets, that gave enhance to the digital economy. The key direct investment actors are digital MNEs. Both pure digital MNEs and mixed digital MNEs have showed sales growth in pandemic period. Unlike traditional MNEs, digital MNEs implement projects that are notable for their lightness (digital MNEs enter foreign markets with little or no investments in physical assets).

The countries, which orient investment policies and instruments towards areas closely related to digital technology, are more successful in attracting FDI. Government policies to attract FDI have been modified by the global trend of digitalisation. The focus now is on creating a favorable climate for attracting FDI in the digital economy, as it is the catalyst for economic growth.

The level of FDI in Industry 4.0 is conditioned by favorable environment, which in turn depends on the policy for attracting investment. ASEAN is actively developing digital economy and creating favorable environment to attract FDI in various sectors through institutional and policy support.

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