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**Article info:**  
Received 15.09.2020  
Accepted 10.02.2021

UDC – 005.336.3:347.836  
DOI – 10.24874/IJQR15.04-01



## **INDUSTRIAL AND MANUFACTURING ENGINEERING AND ITS CONTRIBUTION TO QUALITY OF DIGITAL LEGAL PROCEEDINGS IN THE EAEU AND BRICS: FROM DIGITAL EVIDENCE TO INTERNET COURTS AND E-COURT**

**Abstract:** *The purpose of this paper is to study the contribution of the factors of industrial and manufacturing engineering to quality of digital legal proceedings in the EAEU (Eurasian Economic Union) and BRICS and to develop recommendations for managing these factors for increasing the quality of services' provision in the form of digital evidence, Internet courts, and E-court. Originality of this research is ensured by the following competitive advantages as compared to the existing literature sources. Firstly, we specify the "wide" treatment of quality of digital legal proceedings' services and select the indicators, form statistical basis and offer a methodological approach to complex indicative evaluation of quality of digital legal proceedings' services. This provides a scientific basis for protecting business's interests in the court in the interaction with the state. This also forms a comprehensive scientific idea on creation of favorable conditions for doing business with the help of increasing the quality of digital legal proceedings' services. Secondly, we take into account the influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings' services. This allows developing detailed and precise applied recommendations for state management of quality of digital legal proceedings' services in the interests of their increase. Thirdly, we study the experience of countries of the EAEU and BRICS, which allows determining the differences in quality and influence of the factors of industrial and manufacturing engineering on digital legal proceedings' services among developing countries and the consequences for favorability of doing business.*

**Keywords:** *Quality; Digital Legal Proceedings; EAEU; BRICS; Digital Evidence; Internet Courts; E-Court; Industrial and Manufacturing Engineering.*

### **1. Introduction**

Quality and effectiveness of the judiciary system's activities largely determine the

conditions for the economic activities in economy. Providing the legal proceedings' services to population determines quality of

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life and, though it influences the movement of the international migration flows, it is internally-oriented on the whole, for not all countries are interested in attracting migrants – most of whom are unskilled workers involved in shadow, uncontrolled migration. Another direction of the judiciary system's activities is provision of legal proceedings' services to entrepreneurship. Accessibility, speed, and quality of economic disputes' resolution determine the level of development and effectiveness of institutions, thus defining favorability of economy for doing business. Legal proceedings' services, which are provided to companies, are largely externally-oriented, for they influence the international flows of capital. Most countries of the world are interested in attraction of foreign direct investments and use the judiciary system as a mechanism for achieving this goal.

The applied methods of raising the quality of legal proceedings' services during the Third (pre-digital) technological mode (e.g., increase of the number of judges, growth of requirements to their efficiency, demonstrative dismissals of judges for violation of the requirements on objectivity and independence of judgeship) are not very effective. That's why the perspectives of improving the judiciary practices of economic disputes' resolution are connected to digital legal proceedings. However, their implementation and development are hindered by economic theory's underrun from economic practice, which is shown by the following gaps in the scientific concept of digital legal proceedings.

The first gap is connected to the ambiguous role of courts in resolution of economic disputes. Some scholars think that courts have to regulate conflicts of interests that arise between companies in the process of competition and cooperation – which is a “narrow” treatment of the role of courts. Other experts point out that judiciary services have to fully cover and satisfy the needs of entrepreneurship and regulate

economic disputes of business and state (“wide” treatment). It should be noted that in countries which use the “narrow” treatment and provide a limited set of judiciary services the global competitiveness of the business environment and favorability of the conditions for doing business are much lower, for interests of business in the interaction with the state are not protected sufficiently and cannot be protected in court. Thus, quality of judiciary services for business is not determined.

The second gap consists in insufficient elaboration of the influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings' services. In most of the existing studies, digitalization is considered in a generalized manner, without any factors. This does not allow specifying recommendations for managing the development of digital legal proceedings. Stimulation of the general digitalization of economy allows creating infrastructure, but this is not enough for development of digital legal proceedings. That's why it is important to specify the causal connections of the change of quality of digital legal proceedings under the influence of the factors of industrial and manufacturing engineering.

The third gap is insufficient elaboration of the developing countries' experience. In developed countries, large and active civil society and liberalism and accountability of state regulation allow companies to protect the interests of business interaction (cooperation and competition) and the interests of obtaining state services and the interaction with state in the court. In developing countries, laws are less progressive, state regulation is less accountable, and civil society is less initiative. That's why companies can successfully protect the interests of business interaction in court, and protection of the interests of obtaining state services in court is difficult. Thus, experience of implementing the legal proceedings' services in the “wide” treatment in developing

countries is especially interesting for economics and requires thorough elaboration.

The purpose of this paper is to overcome the above gaps by studying the contribution of the factors of industrial and manufacturing engineering to quality of digital legal proceedings in the EAEU and BRICS and to develop recommendations for managing these factors for increasing the quality of provision of services in the form of digital evidence, Internet courts, and E-court.

Originality of this research is ensured by the following competitive advantages as compared to the existing literature sources. Firstly, we specify the “wide” treatment of quality of digital legal proceedings’ services and select the indicators, form statistical basis and offer a methodological approach to complex indicative evaluation of quality of digital legal proceedings’ services. This provides a scientific basis for protecting business’s interests in the court in the interaction with the state. This also forms a comprehensive scientific idea on creation of favorable conditions for doing business with the help of increasing the quality of digital legal proceedings’ services. Secondly, we take into account the influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings’ services. This allows developing detailed and precise applied recommendations for state management of quality of digital legal proceedings’ services in the interests of their increase. Thirdly, we study the experience of countries of the EAEU and BRICS, which allows determining the differences in quality and influence of the factors of industrial and manufacturing engineering on digital legal proceedings’ services among developing countries and the consequences for favorability of doing business.

The purpose of the paper predetermined the logic and structure of the research. The paper consists of the following parts: introduction, literature review, materials and method, conclusion Results include the following

parts:

- empirical study of detailed influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings in the EAEU and BRICS;
- methodological recommendations for generalized management of the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings and creating favorable conditions for doing business in the EAEU and BRICS;
- applied recommendations for managing the factors of industrial and manufacturing engineering for the purpose of increasing the quality of digital legal proceedings in the EAEU and BRICS based on digital evidence, Internet courts, and E-court.

## 2. Literature Review

The existing and perspective practices of digital legal proceedings, which include digital evidence, Internet courts, and E-court, are considered and compared in a lot of works, which include Devetyarova et al. (2020), Gritsuk et al. (2020), Inshakova et al. (2019). Granja and Rafael (2017) deem it necessary to accumulate and preserve digital evidence and substantiate their admissibility and lawfulness in court.

Trappey and Chang (2016) perform an analysis of court decisions on intellectual property and the use of digital inventions by the example of Apotex Pty. Ltd. vs. Sanofi-Aventis Australia Pty. Ltd. & Ors. Ward and Sipiior. (2010) specify the Internet jurisdiction (presenting an authors’ view by the example of the USA). Bossuyt and De Groote (2010) deem it necessary to exercise a right via Internet, for which it is offered to provide free access to laws and court decisions (by the example of decisions and problems from Belgium’s point of view).

Van Der Vyver (2017) analyzes a vivid example of Oscar Pistorius vs. state and perform a critical analysis of media coverage and public opinion. Hussain et al. (2010) note progressiveness and effectiveness of legal services' marketing on Internet and note that Malaysian lawyers remain behind the global tendency.

Quality of legal proceedings' services and its influence on business climate's favorability are studied in the following works. Hughes et al. (2018) note that the Hong Kong's court of appeal confirms wide authorities of SFC in prosecuting inside deals and fraud. The scholars consider the treatment of the court's role – as an inside dealer or unaware participant. Tang et al. (2018) point out that new management of SFC redefines cooperation in disciplinary and civil courts and tribunals on violations of market behavior.

Allen (2017) studies the problems of money laundering and thinks that there's a necessity for additional clarity, presented by the Court of appeal regarding the consent regime. Roth and Santolli (2019) note that the US Supreme Court ruled that SEC judges on administrative law fall under the provision on appointments. Hurd et al. (2019) write that the Supreme Court made a decision on responsibility of schemes according to federal laws on securities.

Pattnaik et al. (2018) reflect the most important factors of success in effective management of courts (performing two thematic studies on India). Mustapha et al. (2019) analyze the experience of applying to court and the Financial regulation council of experts of Nigeria (FRACE). Martins (2017) considers the practices of tax evasion, reservations on abusive practices, and the role of arbitration courts with a remark on capital growth.

Park (2018) considers the practice of the Supreme Court's interfering with the jurisdiction of arbitration court (by the example from the point of view of the Law on arbitration of South Korea in 2016). Ferro

et al. (2018) study the problem of measuring and provision of effectiveness of courts. The scholars offer estimate indicators and control values of these indicators. Mosweu and Kenosi (2018) dwell on the successful experience of implementing the system of court records management during administration of justice on the judicial circuit of Gaborone, Botswana.

The components of quality of legal proceedings' services and the perspectives of their increase based on the capabilities of digitalization are reflected in the works Alpidovskaya and Popkova (2019), Inshakova and Bogoviz (2020), Shulus et al. (2020), and Stolyarov et al. (2020).

Kalogeropoulou and Petrakos (2018) present the results of comparative analysis of the modern determinants of quality of the government sector as to the level of Greek court officials and civilians' satisfaction in civil, criminal, and administrative courts. Asif et al. (2016) develop a scale for measuring the quality of services in public sector. Fan (2012) performs an analysis of the terms of intellectual property rights in the Chinese international private law from the point of view of the latest regulatory acts.

Machado et al. (2018) outline the most perspective innovations in judiciary services and study the innovative models of judicial regulation of labor disputes. Pattnaik et al. (2018) deem it necessary to develop MBA in court administration and management (by the example of successful experience of a law university NALSAR, India). Kassem et al. (2017) outline the critical factors for the culture of judges' domination (based on a comparative study of the UAE courts). Paudel (2020) studies the practice of knowledge management in Nepal's judicial system by the example of the Supreme Court.

The overview of the existing research literature has shown that the theory and practice of digital legal proceedings is studied in detail on the whole, but, at the same time, elaboration of the set problem is

not sufficient – which is proved by the existing gaps. One of the gaps is the low level of detailization of quality of digital legal proceedings’ services, domination of the “narrow” treatment of quality, uncertainty of the indicators, and underdevelopment of the methodological approach for quantitative measuring of quality of legal proceedings’ services.

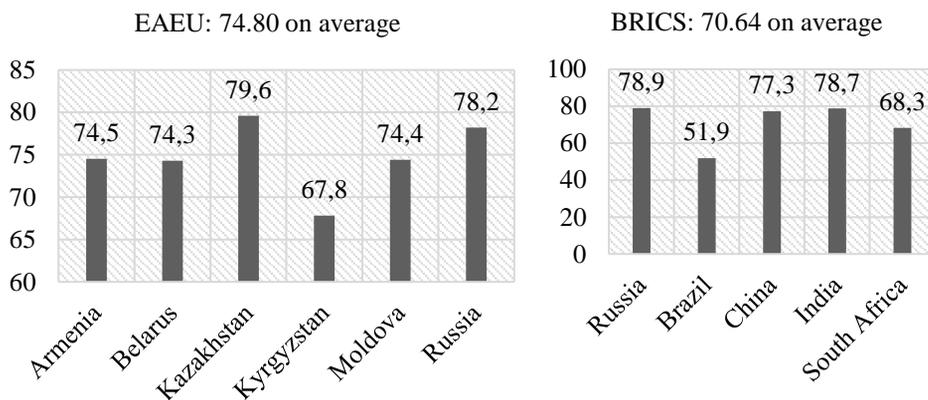
Another gap is insufficient elaboration of the influence of the factors of industrial and manufacturing engineering on increase of quality of digital legal proceedings’ services.

The research gaps also include inconsistency and poor elaboration of the experience of quality management in digital legal

proceedings in developing countries, in particular countries of the EAEU and BRICS. In this paper we aim to fill these gaps.

### 3. Materials and methodology

In this research, we focus on the role of legal proceedings in provision of a competitive and attractive business climate. To characterize a selection of countries from this point of view, let us use Figure 1, which shows the values of the index of favorability of conditions for doing business in countries of the EAEU and BRICS in 2020, according to the report “Doing Business 2020” prepared by the World Bank (2020).



**Figure 1.** Index of favorability of conditions for doing business in countries of the EAEU and BRICS in 2020, points 1-100.

Source: built by the authors based on World Bank (2020).

As shown in Figure 1, the most favorable conditions for doing business in 2020 among countries of the EAEU are observed in Kazakhstan (79.6 points). Russia is also characterized by a rather high level of favorability of conditions for doing business (78.2). In Armenia, this index constitutes 74.5 points, in Belarus 74.3 points, in Moldova 74.4 points, and in Kyrgyzstan 67.8 points (the lowest value among the EAEU countries).

In countries of BRICS, conditions for doing business are most favorable in Russia (78.9 points), India (78.7 points), and China (77.3 points) and least favorable in South Africa (68.3 points) and Brazil (51.9 points). On the whole in the EAEU, conditions for doing business (74.80 points on average) are more favorable than in BRICS (70.64 points on average).

Correlation analysis is used in this research for studying the influence of the factors of industrial and manufacturing engineering on

quality of digital legal proceedings in EAEU and BRICS. It is also important to study the groups of countries separately, for determining the differences between the most intensely developing countries, which are often used for studying the empirical experience of developing countries (BRICS), and ordinary developing countries, which experiences is less studied (EAEU).

We consistently determine correlation between quality of legal proceedings, which grows due to creation of Internet courts and E-court, and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS. The indicators of quality of legal proceedings' services are the following sub-indicators, calculated by World Bank (2020) and presented in the report "Doing Business 2020":

- Dealing with Construction Permits;
- Registering Property;
- Protecting Minority Investors;

- Trading across Borders;
- Enforcing Contracts;
- Resolving Insolvency.

The factors of industrial and manufacturing engineering are the indicators of the digital economy. The source of the data on these indicators is The Global Competitiveness Report for 2019, prepared by the World Economic Forum. The advantage of this source is accessibility of data for all countries of the selection (except for Belarus). We use three indicators from the report:

- Legal framework's adaptability to digital business model;
- ICT adoption;
- Digital skills among active population.

Statistics of these indicators for the selection of countries in 2020 are shown in Table 1.

**Table 1.** Statistics of quality of legal proceedings and the factors of industrial and manufacturing engineering in the EAEU and BRICS in 2020, points 1-100.

Group of countries	Country	Quality of legal proceedings, which grows due to creation of Internet courts and E-court						Factors of industrial and manufacturing engineering		
		Dealing with Construction Permits	Registering Property	Protecting Minority Investors	Trading across Borders	Enforcing Contracts	Resolving Insolvency	Legal framework's adaptability to digital business model	ICT adoption	Digital skills among active population
EAEU	Armenia	73.1	88.6	42.0	91.7	69.7	44.6	50.2	62.0	59.0
	Belarus	75.2	87.8	58.0	96.5	67.6	52.9	-	-	-
	Kazakhstan	76.5	82.4	84.0	70.4	81.3	66.7	50.5	68.0	61.5
	Kyrgyzstan	69.0	90.3	40.0	74.7	50.4	50.0	33.8	58.8	47.6
	Moldova	56.2	82.8	68.0	92.3	63.6	54.8	37.4	66.8	57.6
EAEU, BRICS	Russia	78.9	88.6	60.0	71.8	72.2	59.1	48.1	77.0	65.8
BRICS	Brazil	51.9	54.1	62.0	69.9	64.1	50.4	33.5	58.1	34.8
	China	77.3	81.0	72.0	86.5	80.9	62.1	59.5	78.5	61.0
	India	78.7	47.6	80.0	82.5	41.2	62.0	58.9	32.1	57.2
	South Africa	68.3	59.5	80.0	59.6	56.9	54.6	42.4	49.7	37.9

Source: compiled by the authors based on World Bank (2020), World Economic Forum (2020).

Regression analysis is used in this research for developing the methodological recommendations on the generalized management of the factors of industrial and manufacturing engineering for the purpose of raising the quality of digital legal proceedings and creating favorable conditions for doing business in the EAEU and BRICS. We determine dependence of the index of favorability of the conditions for doing business (Figure 1) on the factors of industrial and manufacturing engineering (Table 1) in countries of the EAEU and BRICS (separately).

Based on the compiled equations of multiple linear regression, we simplex method to determine the target values of the factors of industrial and manufacturing engineering at which their influence on quality of legal proceedings is optimal (maximum quality is achieved).

Then, based on the materials of Table 1 (direct averages and standard deviations), 100 random numbers are generated from which the forecast of the values of the factors of industrial and manufacturing engineering for the period until 2024 in countries of the EAEU and BRICS (separately) is formed.

Histograms of normal distribution of the compiled forecasts are built, which are used for determining probabilities of achievement of the set target values of industrial and manufacturing engineering in the period until 2024.

Based on the obtained probabilities, we compile applied recommendations for managing the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings in the EAEU and BRICS based on digital evidence, Internet courts, and E-court.

## 4. Results

### 4.1 Empirical study of the detailed influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings in the EAEU and BRICS

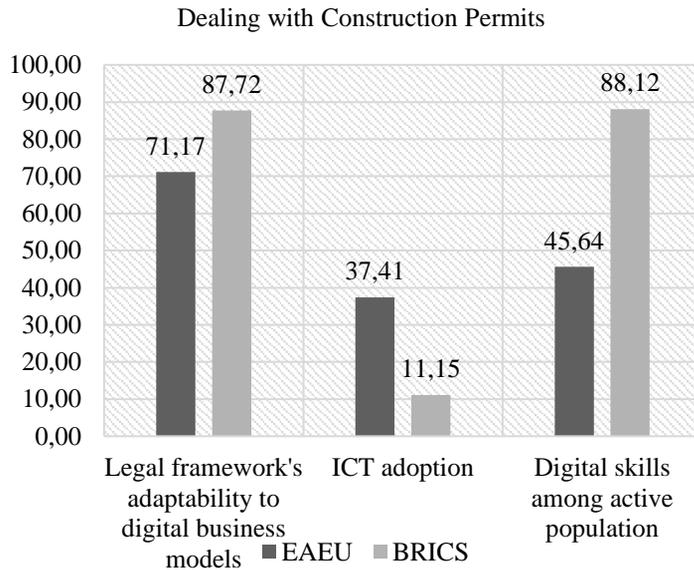
For an empirical study of the detailed influence of the factors of industrial and manufacturing engineering on quality of digital legal proceedings in the EAEU and BRICS, let us use the results of correlation analysis that are obtained based on the data from Table 1 (Figures 2-7).

As shown in Figure 2, dealing with construction permits (as an element of the legal proceedings' services) in countries of the EAEU grows in case of increase of legal framework's adaptability to digital business models (correlation - 71.17%), ICT adoption (37.41%), and development of digital skills among active population (45.64%).

In countries of BRICS, dealing with construction permits (as an element of the legal proceedings' services) grows in case of increase of legal framework's adaptability to digital business models (87.72%), ICT adoption (11.15%), and development of digital skills among active population (88.12%).

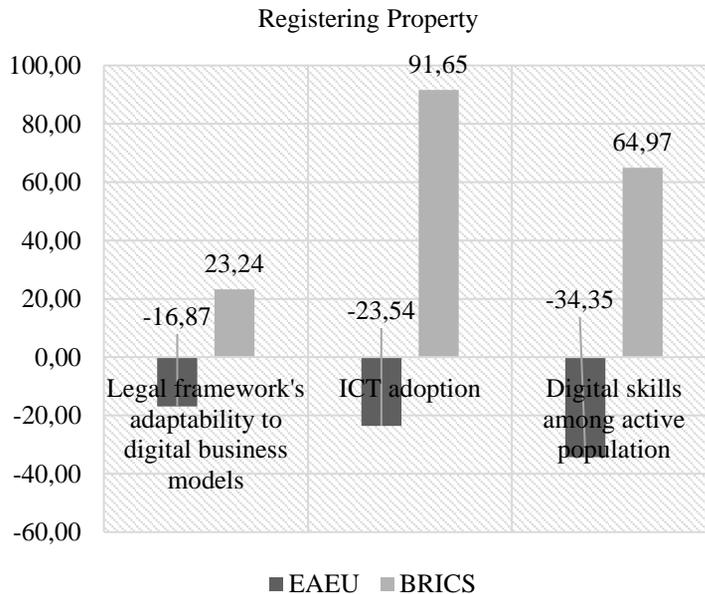
As shown in Figure 3, registering property (as an element of the legal proceedings' services) becomes complicated in countries of the EAEU in case of increase of legal framework's adaptability to digital business models (-16.87%), ICT adoption (-23.54%), and development of digital skills among active population (-34.35%).

In countries of BRICS, registering property (as an element of the legal proceedings' services) becomes simpler in case of increase of legal framework's adaptability to digital business models (23.24%), ICT adoption (91.65%), and development of digital skills among active population (64.97%).



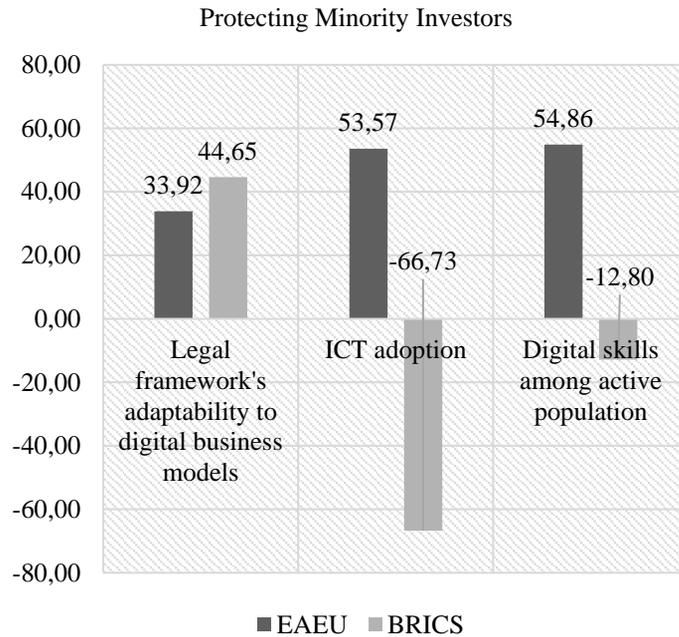
**Figure 2.** Cross correlation between Dealing with Construction Permits (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.



**Figure 3.** Cross correlation between registering property (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.



**Figure 4.** Cross correlation between protecting minority investors (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.

As shown in Figure 4, the level of protection of minority investors (as an element of the legal proceedings' services) in countries of the EAEU grows in case of increase of legal framework's adaptability to digital business models (33.92%), ICT adoption (53.57%), and development of digital skills among active population (54.86%).

In countries of BRICS, the level of protection of minority investors (as an element of the legal proceedings' services) grows in case of increase of legal framework's adaptability to digital business models (44.65%), but decreases in case of ICT adoption (-66.73%) and development of digital skills among active population (-12.80%).

As shown in Figure 5, accessibility and simplicity of trading across borders (as an element of the legal proceedings' services) in countries of the EAEU decrease in case of

increase of legal framework's adaptability to digital business models (-14.82%), ICT adoption (-35.95%), and development of digital skills among active population (-12.21%).

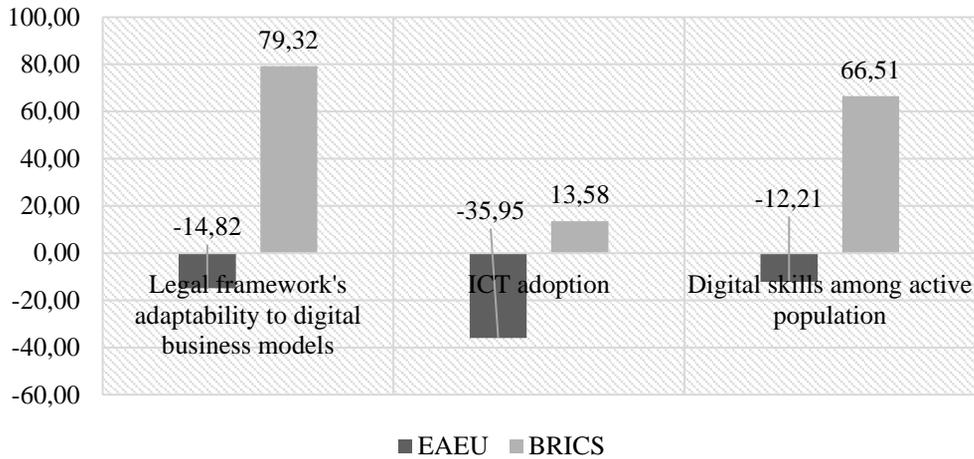
In countries of BRICS, accessibility and simplicity of trading across borders (as an element of the legal proceedings' services) grow in case of increase of legal framework's adaptability to digital business models (79.32%), ICT adoption (13.58%), and development of digital skills among active population (66.51%).

As shown in Figure 6, enforcing contracts (as an element of the legal proceedings' services) in countries of the EAEU grows in case of increase of legal framework's adaptability to digital business models (89.98%), ICT adoption (60.03%), and development of digital skills among active population (86.28%).

In countries of BRICS, enforcing contracts (as an element of the legal proceedings' services) decreases in case of increase of legal framework's adaptability to digital

business models (-1.90%), but grows due to ICT adoption (98.05%) and development of digital skills among active population (28.39%).

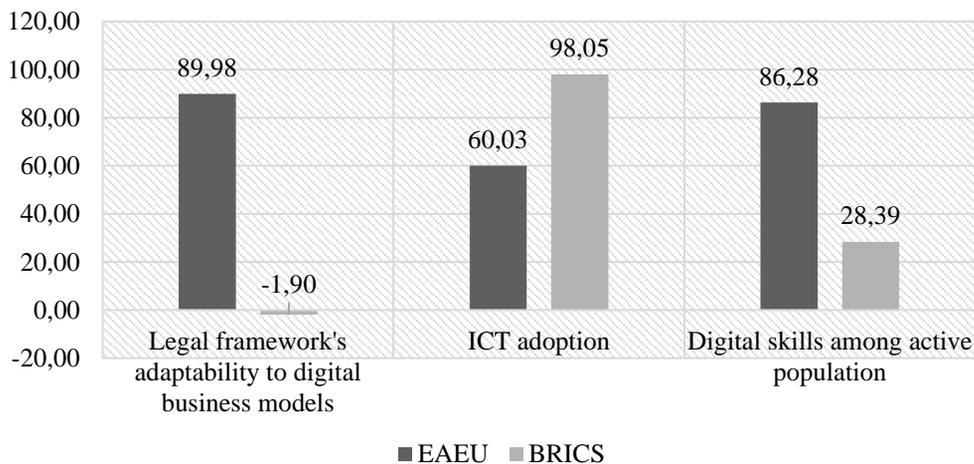
Trading across Borders



**Figure 5.** Cross correlation between trading across borders (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

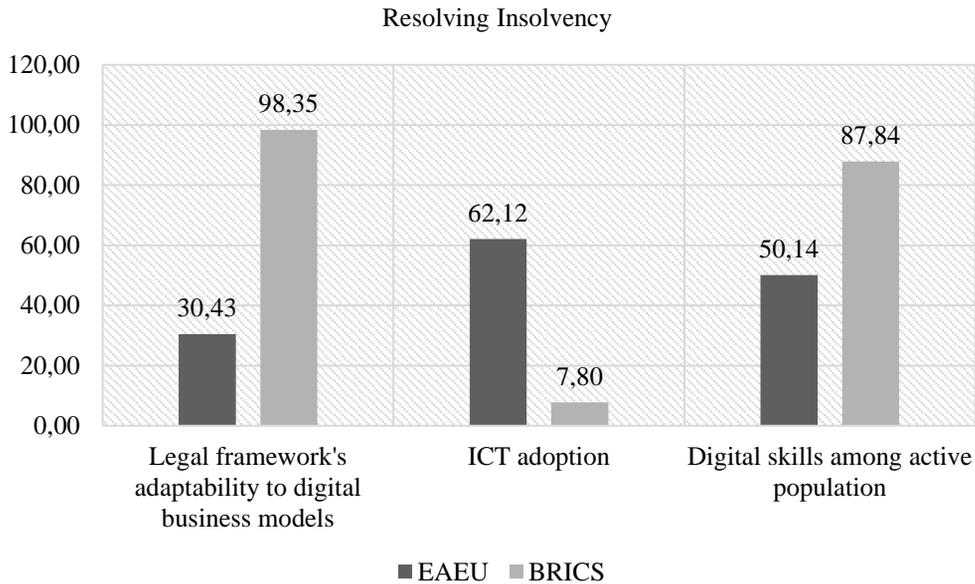
Source: calculated and compiled by the authors.

Enforcing Contracts



**Figure 6.** Cross correlation between enforcing contracts (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.



**Figure 7.** Cross correlation between resolving insolvency (as the indicator of quality of legal proceedings) and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.

As shown in Figure 7, accessibility of resolving insolvency (as an element of the legal proceedings' services) in countries of the EAEU grows in case of increase of legal framework's adaptability to digital business models (30.43%), ICT adoption (62.12%), and development of digital skills among active population (50.14%).

In countries of BRICS, accessibility of resolving insolvency (as an element of the legal proceedings' services) grows in case of increase of legal framework's adaptability to digital business models (98.35%), ICT adoption (7.80%), and development of digital skills among active population (87.84%).

Averaged cross correlation between quality of legal proceedings and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020 is shown in Figure 8.

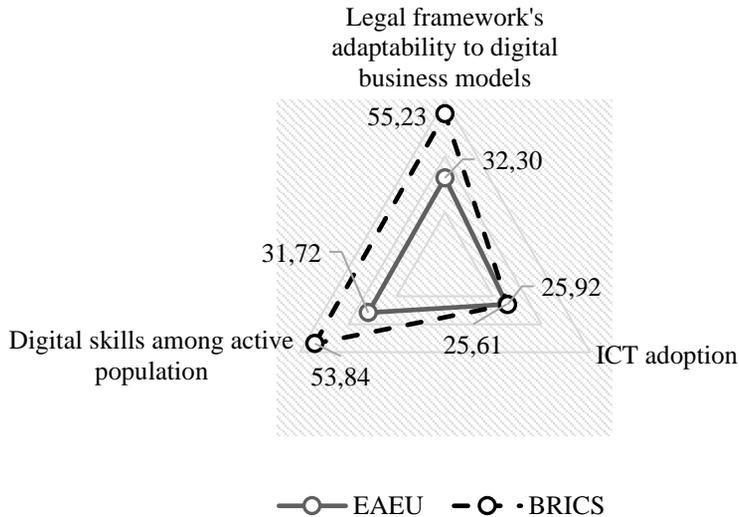
As shown in Figure 8, quality of legal proceedings' services in countries of the

EAEU grows in case of increase of legal framework's adaptability to digital business models (averaged correlation – 32.30%), ICT adoption (25.61%), and development of digital skills among active population (31.72%). Calculation of direct averages of correlation based on the data from Figures 2-7 has shown that the most vivid contribution of the factors of industrial and manufacturing engineering in countries of the EAEU is made to increase of such indicators of legal proceedings' quality as Enforcing Contracts (average correlation – 78.76%), Dealing with Construction Permits (51.41%), Protecting Minority Investors (47.45%), and Resolving Insolvency (47.56%).

In countries of BRICS, quality of legal proceedings' services grows in case of increase of legal framework's adaptability to digital business models (55.23%), ICT adoption (25.92%), and development of digital skills among active population

(53.84%). It has also been determined that the most vivid contribution of the factors of industrial and manufacturing engineering in countries of BRICS is made to increase of such indicators of legal proceedings' quality as Resolving Insolvency (64.66%), Dealing

with Construction Permits (62.33%), Registering Property (59.95%), Trading across Borders (53.14%), and Enforcing Contracts (41.51%).



**Figure 8.** Averaged cross correlation between quality of legal proceedings and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2020, %.

Source: calculated and compiled by the authors.

#### 4.2 Methodological recommendations for generalize management of the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings and creating favorable conditions for doing business in the EAEU and BRICS

For determining the perspectives of optimization of the influence of the factors of industrial and manufacturing engineering (indicators from Table 1: Legal framework's adaptability to digital business model -  $x_1$ , ICT adoption -  $x_2$ , Digital skills among active population -  $x_3$ ) on quality of digital legal proceedings' services ( $y$  in Figure 1), let us present regression equations for countries of the EAEU ( $y_1$ ) and BRICS ( $y_2$ )

separately:

- $y_1 = 38.94 + 0.10x_1 - 0.01x_2 + 0.54x_3$ .
- $y_2 = 35.64 + 0.24x_1 + 0.12x_2 + 0.32x_3$ .

The obtained regression equations show that the factors of industrial and manufacturing engineering stimulate the increase of quality of digital proceedings' services in both groups of countries. The only exception is ICT adoption ( $x_2$ ), which reduces the quality of legal proceedings in countries of the EAEU (in model  $y_1$ ). High correlation between regression equations (94.44% for  $y_1$  and 96.24% for  $y_2$ ) allows using them for further research.

As shown in World Bank (2020), the most favorable conditions for doing business in 2020 are observed in countries of the OECD

(78.40 points). Let us use simplex method for determining in the compiled regression equations the values  $x_1$ ,  $x_2$  and  $x_3$ , at which

$y_1$  and  $y_2$  (separately) achieve 78.40 points – the results are shown in Table 2.

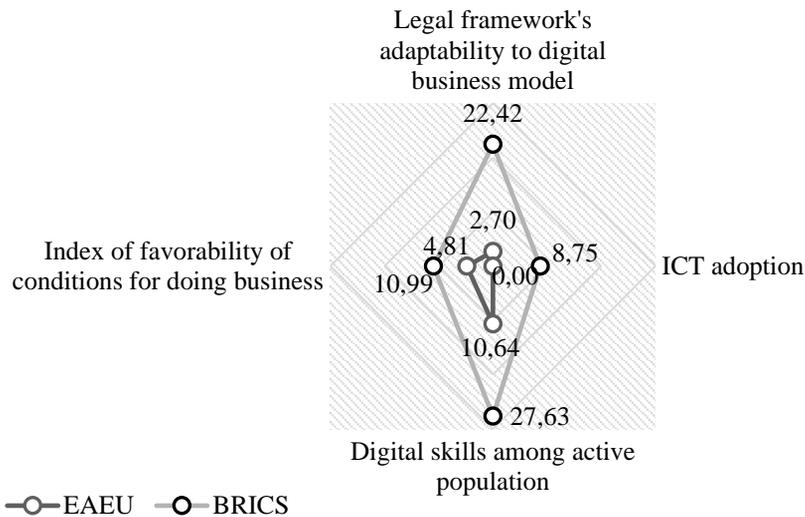
**Table 2.** Control values and growth of the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings in countries of the EAEU and BRICS in the period until 2024.

Indicator (variable)		Countries of the EAEU			Countries of BRICS		
		Average value in 2020, points 1-100	Control value in 2024, points 1-100	Growth in 2024 as compared to 2020, %	Average value in 2020, points 1-100	Control value in 2024, points 1-100	Growth in 2024 as compared to 2020, %
Legal framework’s adaptability to digital business model	$x_1$	44.00	45.19	2.70	48.48	59.35	22.42
ICT adoption	$x_2$	66.52	66.52	0.00	59.08	64.25	8.75
Digital skills among active population	$x_3$	58.30	64.50	10.64	51.34	65.52	27.63
Index of favorability of conditions for doing business	$y$	74.80	78.40	4.81	70.64	78.40	10.99

Source: calculated and compiled by the authors.

As shown in Table 2, legal framework’s adaptability to digital business model in countries of the EAEU in the period until 2024 should reach 45.19 points, ICT adoption – 66.52 points, and digital skills among active population – 64.50 points. In countries of BRICS, legal framework’s adaptability to digital business model in the period until 2024 should reach 59.35 points, ICT adoption – 64.25 points, and digital skills among active population – 65.52 points. For clarity, control growth of the indicators from Table 2 is shown in Figure 9.

As shown in Figure 9, in order for the index of favorability of conditions for doing business to grow by 4.81% in countries of the EAEU, legal framework’s adaptability to digital business model has to grow by 2.70%, ICT adoption should remain unchanged, and digital skills among active population have to grow by 10.64%. In countries of BRICS, in order for the index of favorability of conditions for doing business by 10.99%, legal framework’s adaptability to digital business model has to grow by 22.42%, ICT adoption by 8.75%, and digital skills among active population by 27.63%.



**Figure 9.** Control growth of the indicators of legal proceedings’ quality and the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in 2024, as compared to 2020, %.

Source: calculated and compiled by the authors

### 4.3 Applied recommendations for managing the factors of industrial and manufacturing engineering for increase of quality of digital legal proceedings in the EAEU and BRICS based on digital evidence, Internet courts, and E-court

In order to determine the probability of achievement of the determined control values of the factors of industrial and manufacturing engineering in countries of the EAEU and BRICS in the period until 2024, let us use histograms of their forecast values (Figures 10-15).

According to the forecast in Figure 10, the control level of legal framework’s adaptability to digital business models in countries of the EAEU in the period until 2024 (45.19 points) will be achieved and exceeded with the probability of 56% (20+23+9+4).

According to the forecast in Figure 11, the control level of ICT adoption in countries of the EAEU in the period until 2024 (66.52 points) will be achieved with the probability

of 26%.

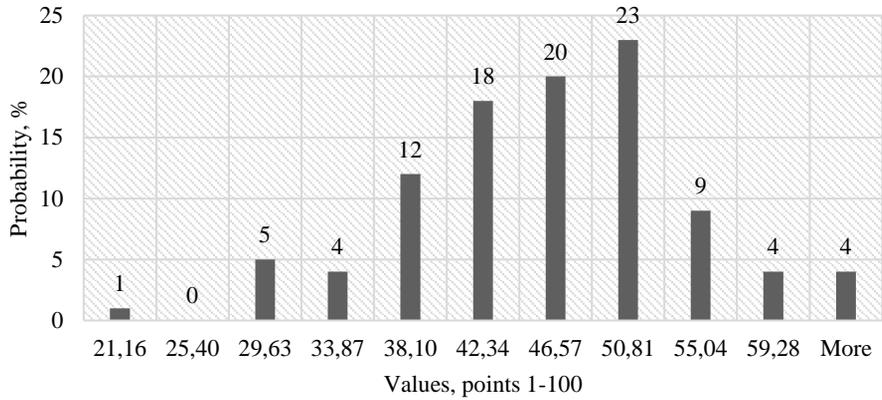
As shown in the forecast in Figure 12, the control level of digital skills among active population in countries of the EAEU in the period until 2024 (64.50 points) will be achieved and exceeded with the probability of 28% (17+8+3).

According to the forecast in Figure 13, the control level of legal framework’s adaptability to digital business models in countries of the EAEU in the period until 2024 (59.35 points) will be achieved and exceeded with the probability of 18% (9+9).

According to the forecast in Figure 14, the control level of ICT adoption in countries of the EAEU in the period until 2024 (64.25 points) will be achieved and exceeded with the probability of 39% (13+13+10+3).

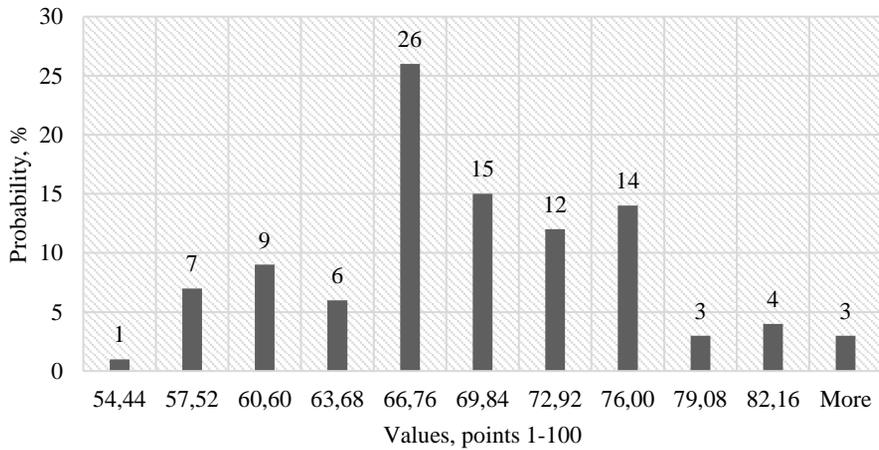
According to the forecast in Figure 15, the control level of digital skills among active population in countries of the EAEU in the period until 2024 (65.52 points) will be achieved and exceeded with the probability of 19% (11+8).

Histogram of the forecast of legal framework's adaptability to digital business models in countries of the EAEU



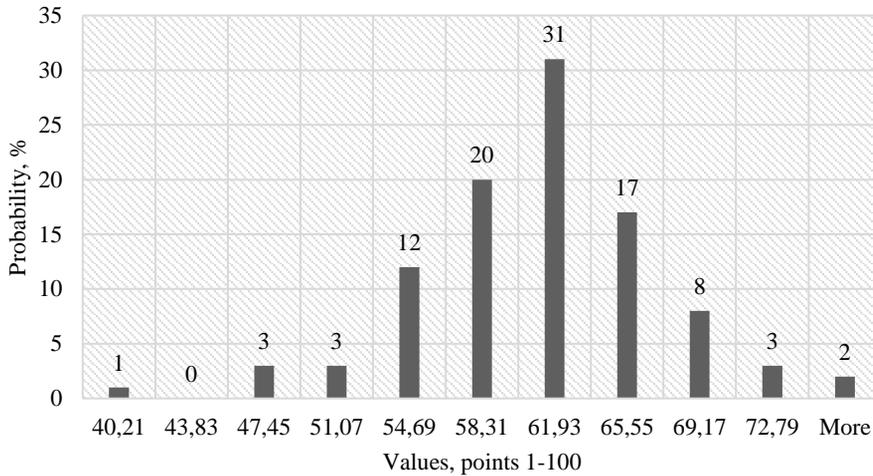
**Figure 10.** Histogram of the forecast of legal framework's adaptability to digital business models in countries of the EAEU in the period until 2024.  
Source: calculated and compiled by the authors.

Histogram of ICT adoption in countries of the EAEU



**Figure 11.** Histogram of the forecast of ICT adoption in countries of the EAEU in the period until 2024.  
Source: calculated and compiled by the authors.

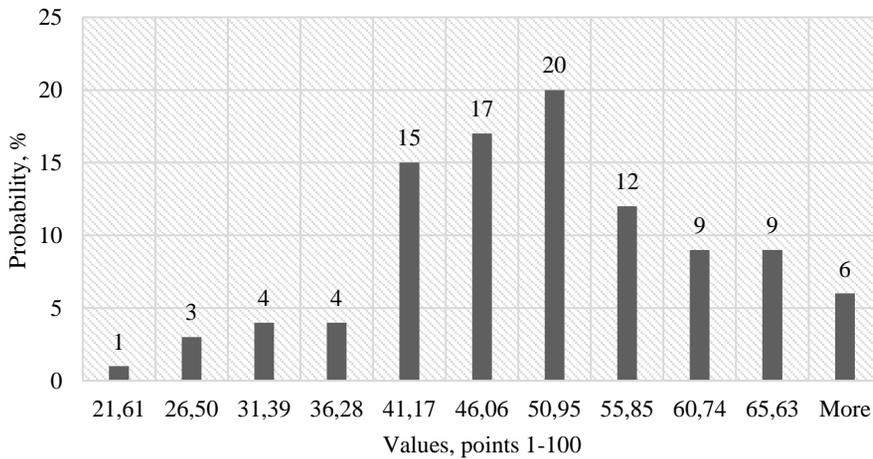
Histogram of digital skills of among active population in countries of the EAEU



**Figure 12.** Histogram of the forecast of digital skills among active population in countries of the EAEU in the period until 2024.

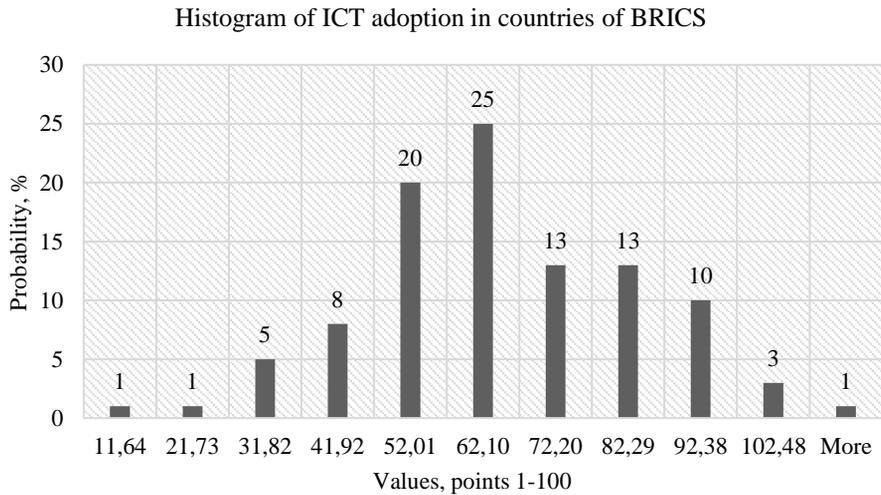
Source: calculated and compiled by the authors.

Histogram of the forecast of legal framework's adaptability to digital business models in countries of BRICS



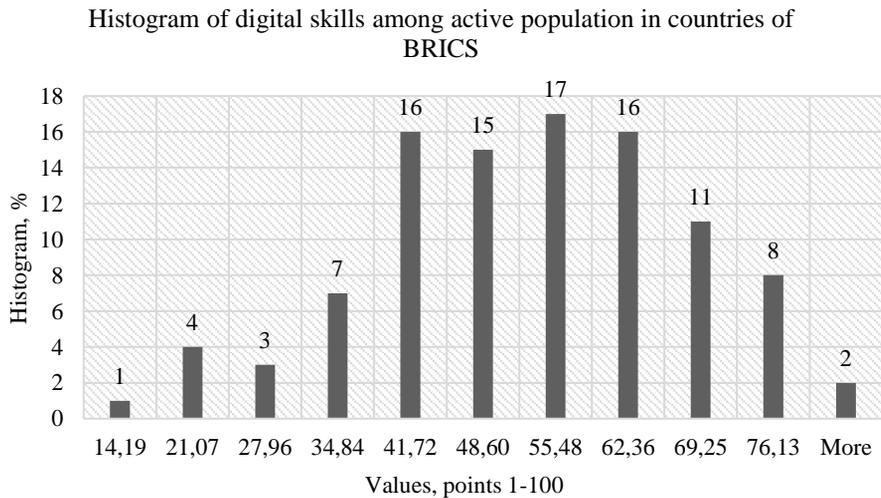
**Figure 13.** Histogram of the forecast of legal framework's adaptability to digital business models in countries of BRICS in the period until 2024.

Source: calculated and compiled by the authors.



**Figure 14.** Histogram of the forecast of ICT adoption in countries of BRICS in the period until 2024.

Source: calculated and compiled by the authors.



**Figure 15.** Histogram of the forecast of digital skills among active population in countries of BRICS in the period until 2024.

Source: calculated and compiled by the authors.

Thus, probability of achievement of the control value of the factors of industrial and manufacturing engineering in countries of the EAEU on the whole constitutes 36.67%  $((56+26+28)/3)$ . That's why applied

recommendations for managing the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings in countries of the EAEU based on digital evidence Internet courts and E-

court are connected to primary development of digital skills among active population and secondary legal framework's adaptability to digital business models.

Probability of achievement of the control values of the factors of industrial and manufacturing engineering in countries of BRICS is lower – 25.33%  $((18+39+19)/3)$ . That's why applied recommendations for managing the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings in countries of BRICS based on digital evidence, Internet courts, and E-court envisage the primary legal framework's adaptability to digital business models. Then comes the development of digital skills among active population. ICT adoption requires regulation least of all, for it is achieved due to the market mechanism.

## 5. Conclusion

Results of the performed research allow for the following conclusions. We see that factors of industrial and manufacturing engineering in countries of BRICS (44.99% on average) have more vivid influence on quality of digital legal proceedings than in countries of the EAEU (29.87% on average). In both categories of countries, the most significant factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings' services are legal framework's adaptability to digital business model (average correlation in countries of BRICS: 55.23%, in countries of the EAEU: 32.30%) and digital skills among active population (correlation - 53.84% and 31.72%, accordingly).

For raising the quality of digital legal proceedings and creating favorable conditions for doing business in the EAEU and BRICS (bringing the index to the level of the OECD countries – 78.40 points), we offer methodological recommendations on generalized management of the factors of industrial and manufacturing engineering –

their control values in the period until 2024 are offered. Thus, legal framework's adaptability to digital business model in countries of the EAEU has to grow by 2.70% - up to 45.19 points, which will happen with the probability of 56%. ICT adoption should remain at the level of 2020 (66.52 points), which will happen with the probability of 26%. Digital skills among active population have to grow by 10.64% - up to 64.50 points, which will happen with the probability of 28%.

In countries of BRICS, legal framework's adaptability to digital business model has to grow by 22.42% - up to 59.35 points (probability - 18%). ICT adoption has to grow by 8.75% - up to 64.25 points (probability - 39%). Digital skills among active population have to grow by 27.63%, reaching 65.52 points (probability - 19%). Based on the calculated control values and the evaluation of the probability of their achievement, we have compiled applied recommendations which reflect the preferable order (priority) of managing the factors of industrial and manufacturing engineering for increasing the quality of digital legal proceedings in the EAEU and BRICS based on digital evidence, Internet courts, and E-court.

Contribution of the performed research to development of the concept of digital legal proceedings consists in substantiating the significant contribution of the factors of industrial and manufacturing engineering to quality of digital legal proceedings in developing countries, substantiating the differences between the EAEU and BRICS, and developing the scientific & methodological and practical recommendations on management of the factors of industrial and manufacturing engineering for development of digital evidence, Internet courts, and E-court.

However, it should be noted that a lot of other developing countries have not been considered in this work, though their experience could be interesting for

specifying the perspectives of increasing the quality of digital legal proceedings based on management of the factors of industrial and manufacturing engineering. Thus, it is recommended to study the experience of other developing countries in future works in continuation of this paper.

**Acknowledgement:** The part of the reported study written by Agnessa O. Inshakova was performed by a grant from the Russian Science Foundation (Grant No. 20-18-00314).

The part of the reported study written by Ekaterina P. Rusakova was performed by a grant from the RFBR, project number 20-011-00276

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