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Assessing the Level of Enterprise Reengineering in the Context of Global Digitalization

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Abstract. ***A simulation of the level of re-engineering organization is presented on the example of a selected group of four enterprises. It is assumed that in the conditions of the experiment there is an occurrence of an event of effective re-engineering in the field of financial relations of enterprises forming a complete group of independent events - incompatible hypotheses of quantitative and qualitative measurement of the statistical likelihood of relevant indicators of experimental events in the organization of enterprise re-engineering. The probabilities of full group events were determined using an expert evaluation matrix by the principle of pairwise comparison of the importance of each event using a 5-point scale of intensity of significance of the items in the hypothesis group. The conditional probabilities of quantitative and qualitative measurement of the statistical probability of relevant indicators in the plane of action of the factors of influence on the organization of re-engineering of the enterprise are established. The formula of full probability presents the visualization of the dynamics of the level of organization of reengineering in financial relations of enterprises in the conditions of global digitization in four time intervals since 2012. by 2019. It has been proven that the reengineering process remains an effective tool for companies seeking to operate in a competitive world; companies are required to re-engineer their business processes to deliver breakthrough results and a long-term strategy for company development.***

Keywords: BPR, IT, conditional probability, full probability, inverse-symmetric matrix, intensity scale.

I. INTRODUCTION

Through business process reengineering (BPR), companies are changing their business processes to become more efficient and modern in management and corporate culture. This leads to improved criteria such as cost, efficiency, quality and service. BPR solutions optimize the business process lifecycle to increase added value and reduce revenue leaks. Here are some of the benefits of using BPR: reducing lead time; increased productivity; improving competitive position; introduction of new technologies.

BPR projects include state-of-the-art methodologies and technologies designed to facilitate, maximize expected results and provide maintenance and adjustments. Additionally, they can extend to IT adoption by providing broader analytic tools. This makes it possible to better analyze the effectiveness of the business. Therefore, such solutions combine business and technological experience with data streams to create strategic decisions and include profitability systems, information management systems and reporting tools that can help: prepare more accurate forecasts; introduce a customer profitability system; create the necessary financial statements; take into account point trends in business impact; apply strategic models.

Note that smart enterprises are considering the implementation of BPR as optimizing work efficiency by improving business processes and operational management. The practice of business process reengineering can be deployed at any point in the selection or implementation of software. For example, a company can understand the baseline of its current business process, BPR can improve and optimize key business processes, or it can improve and optimize every business process throughout the business.

So, business process reengineering helps organizations fundamentally rethink and fundamentally redesign their existing business processes to increase efficiency and flexibility. At the same time, the organization of reengineering of financial relations of business entities under global digitalization has not been sufficiently studied. Therefore, the development of new approaches and economic and mathematical modeling for assessing the level of organization of reengineering is an urgent problem. The well-known concept of re-engineering requires new methodological approaches to assess the level of its organization.

The definition of enterprise reengineering is to rethink and achieve a radical overhaul of business processes to increase cost efficiency, quality, and service and speed [7]. The authors of the scientific work note that reengineering also relates to the reconstruction of internal corporate processes that should focus on innovation [1]. In the scientific work [3] sufficiently and systematically reveal the concept of reengineering, which is sometimes equated with the concept of restructuring

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which changes management concepts from functional to process management, as well as an innovative approach to production. In turn, restructuring changes the concept of property management, aimed at improving the efficiency of equity.

Zott, C., Amit, R., and Massa, L. emphasize the relationship between reengineering and restructuring issues in the realm of reengineering to the use of modern management results in strategic restructuring [11]. Other authors show that the main types of reengineering are transformation (rethinking the mission, company strategy), integration (creating a new company architecture, enhancing integration effects in structure, functions of the company) and streamlining (simplifying company processes to improve quality) [10]. To determine the levels of reengineering, Wen L. and other authors distinguish the following types of reengineering: general; business processes; changes to the organizational architecture to enhance integration and synergies; workflows [9]. Reengineering in the concept of workflow integration, streamlining, and reengineering are all part of the restructuring of a company that supports the restructuring process [2]. The authors in scientific work [6] emphasize that business process reengineering is a significant change that includes the following measures:

- reorientation of the company's value to the needs of the customer;
- use of information technology to improve basic processes;
- business reorganization through cross-functional teams;
- review of basic organizational issues;
- improve business processes throughout the organization.

Generally, companies use business process reengineering to [5]:

- reduction of cycle cost and time (elimination of unproductive activities, acceleration of information flows);
- quality improvement (by reducing work fragmentation and establishing clear ownership of processes. Employees are responsible for their products and can measure their results based on quick feedback).

Author Van der Aalst W. emphasizes that BPR is a comprehensive and comprehensive analysis of the current state of the business with detailed recommendations for improving the efficiency and excellence of work consistent with the overall executive and operational strategy of the enterprise [8].

It should be noted that information technology has historically played an important role in the concept of reengineering. However, the negative effects of the use of information technology in the reengineering processes presented in Table 1 are noted in the scientific literature.

Table- I: Negative consequences of IT application in reengineering processes

Application of IT	Negative consequences in reengineering processes
Shared databases	make information available in many places
Expert systems	allow you to perform the tasks of a specialist
Telecommunication networks	allow businesses to be centralized and decentralized at the same time
Decision Support Tools	allow you to make the decision to be part of everyone's work
Wireless data communication and laptops	allows field staff to work independently of the office
Interactive Video Disk	directly communicates with potential buyers
Automatic identification and tracking	allows things to determine where they are, not to search for them

Janse, B. highlights the main areas of business process reengineering [4]:

A. Test evaluation.
B. Process mapping.
C. Analysis of the impact of change.
D. Redesign of the organizational structure.
E. Assessment of financial position.
F. Investment Analysis.
G. Continuous improvement of processes.
H. End-user training and guidance.
I. Supporting leadership and organizational change management.

Thus, analysis of contemporary economic literature proves that the business reengineering process will be successful only if the activity underlying the processes is directly related to the needs and tasks of the business.

Formulating the goals of the article

To present modeling of estimation of level of organization of reengineering of financial relations of economic entities in the conditions of global digitization on the example of the selected group of four enterprises.

II. METHODOLOGY

The following methods were used in the simulation process: analytical analysis (when analyzing expert pairwise comparisons); probabilistic and statistical methods of analysis (to find the value of the probabilities of incompatible hypotheses of quantitative and qualitative measurement of the statistical probability of the relevant indicators of experimental events in the organization of reengineering); economic and mathematical modeling (when creating a model of enterprise reengineering in the context of global digitalization).

III. RESULTS

To model the assessment of the level of enterprise reengineering in the context of global digitalization, four enterprises have been selected, which we will designate as P1, P2, P3, and P4. We distinguish the main hypotheses of factors influencing the organization of re-engineering in the space of financial relations of enterprises P1-P4. Indication of incompatible hypotheses of these factors is presented in Table II.

We assume that under the conditions of the experiment of events on the organization of enterprise reengineering, the occurrence of the event R - effective reengineering in the field of financial relations of enterprises is observed.

This event forms a complete group of independent events $RE_i, i = \overline{1,16}$ -

incompatible hypotheses of quantitative and qualitative measurement of the statistical likelihood of relevant indicators of experimental events on the organization of reengineering in the plane of the factors influencing the organization of enterprise reengineering.

Events $RE_i, i=\overline{1,16}$ are defined by a complete group of events. Sum of event probabilities $RE_i, i=\overline{1,16}$ is:

$$\sum_{i=1}^{16} P(RE_i) = 1. \quad (1)$$

Table- II: The main hypotheses and their designation of factors of influence on the organization of re-engineering in the space of financial relations of enterprises P1-P4

	The main hypotheses of factors influencing the organization of enterprise re-engineering	Indication of incompatible hypotheses $RE_i, i=\overline{1,16}$ of factors influencing the organization of reengineering
1	The level of cybersecurity at the enterprise	*RE1*
2	Big Data Personnel Competencies	*RE2*
3	Awareness of enterprise management staff about the value of the Internet of Things	*RE3*
4	Need for retraining of employees of the enterprise	*RE4*
5	Provision of IT personnel (specialists, engineers)	*RE5*
6	State of innovative activity with involvement of scientific developments of domestic scientists	*RE6*
7	Stimulation of formation and realization of new business models of the enterprise	*RE7*
8	Use of business models of business organization	*RE8*
9	Use of logistic business models	*RE9*
10	Use of business models of production efficiency	*RE10*
11	Application and implementation of a clear software-defined architecture for the use of cloud technologies	*RE11*
12	Using virtualization of physical infrastructure IT systems	*RE12*
13	Change in the initial capital expenditure of the enterprise	*RE13*
14	Change in the amount of enterprise costs for leasing computing capabilities and services	*RE14*
15	Utilization of capacities of the enterprise on protected technological sites	*RE15*
16	Operational quality of enterprise management	*RE16*

We determine the probabilities of events $RE_i, i=\overline{1,16}$ by compiling an expert evaluation matrix by comparing the importance of each event in pairs.

The scheme of expert pair comparison of events of the full group is presented in Fig. 1.

As can be seen from Figure 1, each element in the group of sixteen elements (Table 2) is compared by experts in terms of significant intensity in preference and vice versa. The outer circle in Fig. 1 illustrates the movement both for and counter-clockwise in pairwise comparisons.

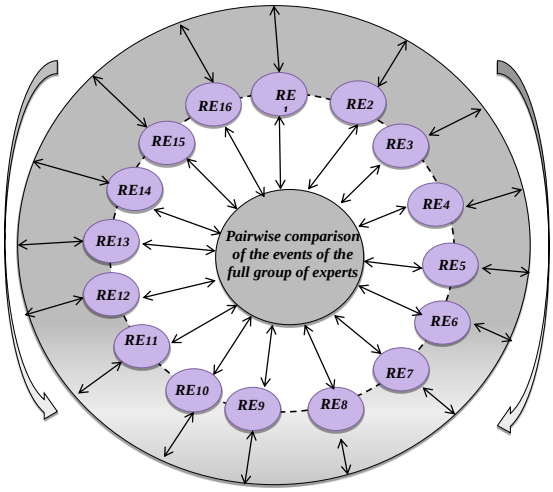

Fig.1. Scheme of expert pairwise comparison of the events of the full group

To compile a matrix of joint expert judgments, we apply a 5-point scale of intensity of significance of the elements in the group of hypotheses of factors influencing the organization of enterprise re-engineering, which is given in Table III.

Table- III: The scale of intensity of significance of the elements in the group

Intensity (weight) of significance of group elements	Linguistic interpretation of the corresponding intensity of significance of the group's elements	Explanation of the appropriate linguistic interpretation of the appropriate intensity of the group's elements
1	Equally intense	Both elements are equal in importance
2	Not much more intense	There is an almost overwhelming advantage of one element over another
3	Significantly more intense	It is true that one element is more important
4	Much more intense	The importance and weight of one element in comparison with another is considerable
5	Absolutely intense	Clear maximum advantage of one element over another

In order for the composite expert matrix to be acceptable, the following check is made, the steps of which can be reproduced as follows:

1. As a result of transformations with elements of the matrix by the method of Krylov the maximum value of the eigenvalue of the inverse-symmetric matrix is found, which is λ_{MAX} = 18,23921.

2. The adequacy table of composite random matrices by simulation method is used. The number of adequacy χ_N (N is the order of the generated matrix) for the 16th order matrix is equal.

3. The formula used to regulate the error of the composite expert matrix with its coordination with random matrices of the 16th order in the form:

$$\frac{(\lambda_{MAX} - N)}{(N-1)\cdot \chi_N} \le 0,1 \quad , \qquad (2)$$

the calculation error should not exceed 10%. In our case it is found that the error of calculations does not exceed 0.0933.

Therefore, after multiple adjustments by paired estimation experts, a matrix with an error of 9.33% <10% was compiled, which is within the established standard of 10% (Table IV).

Table- IV: Expert inverse symmetric matrix of the 16th order

	RE_1	RE_2	RE_3	RE_4	RE_5	RE_6	RE_7	RE_8	RE_9	RE_{10}	RE_{11}	RE_{12}	RE_{13}	RE_{14}	RE_{15}	RE_{16}	
RE_1	1	3	3	3	3	4	4	4	4	4	4	4	4	4	3	4	RE1
RE_2	0,33	1	2	4	1	3	3	2	3	4	2	4	2	4	3	4	RE2
RE_3	0,33	0,5	1	4	3	2	4	3	2	4	2	2	2	4	2	4	RE3
RE_4	0,33	0,25	0,25	1	4	2	1	2	2	3	2	3	2	4	4	3	RE4
RE_5	0,33	1	0,33	0,25	1	3	4	2	4	3	2	2	3	3	4	3	RE5
RE_6	0,25	0,33	0,5	0,5	0,33	1	3	3	2	3	4	2	4	3	4	3	RE6
RE_7	0,25	0,33	0,25	1	0,25	0,33	1	4	1	3	3	2	2	2	3	3	RE7
RE_8	0,25	0,5	0,33	0,5	0,5	0,33	0,25	1	3	3	2	3	2	1	3	3	RE8
RE_9	0,25	0,25	0,5	0,5	0,25	0,5	1	0,33	1	2	1	4	2	4	3	2	RE9
RE_{10}	0,25	0,25	0,25	0,33	0,33	0,33	0,33	0,33	0,5	1	2	2	2	3	3	1	RE10
RE_{11}	0,25	0,5	0,5	0,5	0,5	0,25	0,33	0,5	1	0,5	1	4	3	2	3	3	RE11
RE_{12}	0,25	0,25	0,5	0,33	0,5	0,5	0,5	0,33	0,25	0,5	0,25	1	1	2	2	3	RE12
RE_{13}	0,25	0,5	0,5	0,5	0,33	0,25	0,5	0,5	0,5	0,5	0,33	1	1	1	1	2	RE13
RE_{14}	0,25	0,25	0,25	0,25	0,33	0,33	0,5	1	0,25	0,33	0,5	0,5	1	1	2	2	RE14
RE_{15}	0,33	0,33	0,5	0,25	0,25	0,25	0,33	0,33	0,33	0,33	0,33	0,5	1	0,5	1	3	RE15
RE_{16}	0,25	0,25	0,25	0,33	0,33	0,33	0,33	0,33	0,5	1	0,33	0,33	0,5	0,5	0,33	1	RE16
	RE_1	RE_2	RE_3	RE_4	RE_5	RE_6	RE_7	RE_8	RE_9	RE_{10}	RE_{11}	RE_{12}	RE_{13}	RE_{14}	RE_{15}	RE_{16}	

Thus, the values of the probabilities of incompatible hypotheses of quantitative and qualitative measurement of the statistical probabilities of the respective indicators of experimental events on the organization of reengineering in the plane of influence of factors on the organization of enterprise reengineering are found, which are presented in Table V.

TABLE- V: Probability values of incompatible hypotheses

Designation of incompatible hypotheses $RE_i, i=\overline{1,16}$ of factors of influence on the organization of enterprise reengineering	Value of probabilities of incompatible hypotheses $P(RE_i), i=\overline{1,16}$
RE1	0,173328
RE2	0,116432
RE3	0,105985
RE4	0,080269
RE5	0,085921
RE6	0,075449
RE7	0,056723
RE8	0,051089
RE9	0,047378
RE10	0,03527
RE11	0,043767
RE12	0,029934
RE13	0,029185
RE14	0,026076
RE15	0,023085
RE16	0,02011

Table V shows that the condition of a complete set of probabilistic events is fulfilled (the sum of the probabilities of incompatible hypotheses of quantitative and qualitative measurement of the statistical likelihood of the corresponding indicators of experimental events in the reengineering organization is one): (1).

To establish the conditional probabilities *P (R / REi)* of quantitative and qualitative measurement of the statistical probability of the relevant indicators in the plane of effect of factors of influence on the organization of reengineering under the condition of a complete set of inconsistent hypotheses of factors of influence on organization of reengineering of enterprises, we make Table VI.

Table- VI: Measuring the statistical likelihood of relevant indicators in the plane of influence of factors on the organization of enterprise re-engineering

	Quantitative and qualitative measurement of the statistical likelihood of relevant indicators in the plane of influence of factors on the organization of enterprise reengineering	Indication of conditional probabilities *P (R / REi)*, $i=\overline{1,16}$
1	The average number of cyberattacks displayed per hour before the total cyberattacks per event RE1	P(R/RE1)
2	Qualitative assessment scale according to the RE2 event	P(R/RE2)
3	Qualitative assessment scale according to the RE3 event	P(R/RE3)
4	Qualitative assessment scale according to the RE4 event	P(R/RE4)
5	The ratio of skilled IT personnel to the total number of personnel according to the RE5 event	P(R/RE5)
6	Use of patents, inventions and implementation in cloud technology according to the RE6 event	P(R/RE6)
7	R&D expenditures up to the total cost of the event RE7	P(R/RE7)
8	Quantification on the scale of importance according to event RE8	P(R/RE8)
9	Quantification on the scale of importance according to the RE9 event	P(R/RE9)
10	Quantification on the scale of importance according to the RE10 event	P(R/RE10)
11	Quantification on a scale of importance according to the RE11 event	P(R/RE11)
12	Quantification on a scale of importance according to the RE12 event	P(R/RE12)
13	The average monthly rate of change in the initial capital expenditures of an enterprise according to the RE13 event	P(R/RE13)
14	Monthly rate of change in the enterprise cost of leasing computing capabilities and services according to the RE14 event	P(R/RE14)
15	Qualitative assessment scale according to RE15 event	P(R/RE15)
16	Qualitative assessment scale according to the RE16 event	P(R/RE16)

To effectively evaluate the level of reengineering at an enterprise, we introduce a scale for the conditional probabilities P (R / REi) of the relevant indicators in the plane of action of the factors influencing the organization of reengineering. Table VII presents the gradation of the probability values, the corresponding qualitative estimation and the explanation of the qualitative estimation.

Table- VII: Scale for conditional probabilities P (R / REi) of relevant indicators in the plane of action of factors influencing the organization of enterprise re-engineering

Quality Score (Probability Value)	Explanation
The minimum (0–0.33)	The value of the conditional probability P (R / REi) for the ith corresponding indicator is low, as a component of the reengineering process
Average (0.33 – 0.66)	The value of the conditional probability P (R / REi) for the i-th corresponding indicator corresponds to the average level as a component of the reengineering process
High (0.66 – 1)	The value of the conditional probability P (R / REi) for the i-th corresponding indicator is high, as a component of the reengineering process

In Table VIII for qualitative estimation we will give correspondence between intensity of significance of elements in group and qualitative estimation of values of probabilities corresponding to points from 1 to 5.

Table- VIII: The correspondence between the intensity of the significance of the elements in the group and the qualitative estimation of the values of the probabilities

Probability	Value Quality Score	Score
0–0.2	Catastrophic	1
0.2–0.33	Critical	2
0.33 – 0.66	The minimum	3
0.66–0.8	Average	4
0.8 – 1	High	5

In the Table IX for four time periods from 2012 to 2019,

Table- IX: The value of the conditional probabilities of the relevant indicators in the plane of action of the factors influencing the reengineering organization for P1

Conditional probabilities	*Value P(R/REi)* $, i = \overline{1,16}$			
	2012-2013	*2014-2015*	*2016-2017*	*2018-2019*
P(R/RE1)	0,017141	0,173794	0,398222	0,513913
P(R/RE2)	0,015015	0,18018	0,25025	0,45045
P(R/RE3)	0,025025	0,15015	0,35035	0,45045
P(R/RE4)	0,015015	0,15015	0,35035	0,45045
P(R/RE5)	0,013236	0,100432	0,373401	0,450485
P(R/RE6)	0,00645	0,015371	0,152763	0,256626
P(R/RE7)	0,007139	0,180214	0,282627	0,430465
P(R/RE8)	0,003003	0,12012	0,25025	0,3003
P(R/RE9)	0,002113	0,134344	0,225635	0,48094
P(R/RE10)	0,001001	0,089389	0,211411	0,354079
P(R/RE11)	0,004004	0,07007	0,26026	0,3003
P(R/RE12)	0,007007	0,04004	0,1001	0,25025
P(R/RE13)	0,004004	0,05005	0,22022	0,3003
P(R/RE14)	0,001001	0,08008	0,12012	0,2002
P(R/RE15)	0,018018	0,19019	0,3003	0,47047
P(R/RE16)	0,027027	0,15015	0,38038	0,48048

the values of the conditional probabilities of the relevant indicators in the plane of influence of the factors on the reengineering organization for P1 are presented.

Table **X, for the four time periods from 2012 to 2019, presents the values of the conditional probabilities of the relevant indicators in the plane of action of the factors influencing the reengineering organization for P2.**

Conditional probabilities	*Value P(R/REi)* $, i = \overline{1,16}$			
	2012-2013	*2014-2015*	*2016-2017*	*2018-2019*
P(R/RE1)	0,017672	0,179181	0,41056	0,52984
P(R/RE2)	0,01548	0,185765	0,258007	0,464413
P(R/RE3)	0,025800	0,1548046	0,3612108	0,4644139
P(R/RE4)	0,0154804	0,1548046	0,3612108	0,4644139
P(R/RE5)	0,0136431	0,1035457	0,3849764	0,4644500
P(R/RE6)	0,0066504	0,0158478	0,1574982	0,2645817
P(R/RE7)	0,0073604	0,1858006	0,2913887	0,4438094
P(R/RE8)	0,0030960	0,1238437	0,2580077	0,3096093
P(R/RE9)	0,0021788	0,1385081	0,2326301	0,4958496
P(R/RE10)	0,0010321	0,0921603	0,2179649	0,3650551
P(R/RE11)	0,0041281	0,072242	0,2683280	0,3096093
P(R/RE12)	0,0072242	0,041281	0,1032031	0,2580077
P(R/RE13)	0,0041281	0,051601	0,2270468	0,3096093
P(R/RE14)	0,0010320	0,082562	0,1238437	0,2064062
P(R/RE15)	0,0185765	0,196085	0,3096093	0,4850545
P(R/RE16)	0,0278648	0,154804	0,3921717	0,4953748

In the Table IX for the four time periods from 2012 to 2019, the values of the conditional probabilities of the relevant indicators in the plane of influence of the factors on the reengineering organization for P3 are presented.

Table- XI: The value of the conditional probabilities of the relevant indicators in the plane of action of the factors influencing the reengineering organization for P3

Conditional probabilities	*Value P(R/REi)* $, i = \overline{1,16}$			
	2012-2013	*2014-2015*	*2016-2017*	*2018-2019*
P(R/RE1)	0,01788	0,18128	0,41538	0,53606
P(R/RE2)	0,01566	0,18794	0,26103	0,46986
P(R/RE3)	0,02610	0,15662	0,36545	0,46986
P(R/RE4)	0,01566	0,15662	0,36545	0,46986
P(R/RE5)	0,01380	0,10476	0,38949	0,46990
P(R/RE6)	0,00672	0,01603	0,15934	0,26768
P(R/RE7)	0,00744	0,18798	0,29480	0,44901
P(R/RE8)	0,00313	0,12529	0,26103	0,31324
P(R/RE9)	0,00220	0,14013	0,23536	0,50166
P(R/RE10)	0,00104	0,09324	0,22052	0,36934
P(R/RE11)	0,00417	0,07309	0,27147	0,31324
P(R/RE12)	0,00730	0,04176	0,10441	0,26103
P(R/RE13)	0,00417	0,05220	0,22971	0,31324
P(R/RE14)	0,00104	0,08353	0,12529	0,20882
P(R/RE15)	0,01879	0,19838	0,31324	0,49074
P(R/RE16)	0,02819	0,15662	0,39677	0,50118

In the Table XII for the four time periods from 2012 to 2019, the values of the conditional probabilities of the relevant indicators in the plane of influence of the factors on the organization of reengineering for P4 are presented.

Table- XII: The value of the conditional probabilities of the relevant indicators in the plane of action of the factors influencing the reengineering organization for P4

Conditional probabilities	*Value P(R/REi)* $, i=\overline{1,16}$			
	2012-2013	*2014-2015*	*2016-2017*	*2018-2019*
P(R/RE1)	0,01813	0,18383	0,42123	0,54361
P(R/RE2)	0,01588	0,19059	0,26471	0,47648
P(R/RE3)	0,02647	0,1532	0,3686	0,46348
P(R/RE4)	0,01588	0,15882	0,3706	0,47648
P(R/RE5)	0,01400	0,1062	0,3949	0,4765
P(R/RE6)	0,00682	0,01626	0,1615	0,2714
P(R/RE7)	0,00755	0,19063	0,2989	0,4553
P(R/RE8)	0,00317	0,1270	0,2647	0,3176
P(R/RE9)	0,00223	0,14210	0,23867	0,50873
P(R/RE10)	0,00105	0,09455	0,22363	0,37454
P(R/RE11)	0,00423	0,07412	0,27530	0,31765
P(R/RE12)	0,00741	0,04235	0,10588	0,26471
P(R/RE13)	0,00423	0,05294	0,23294	0,31765
P(R/RE14)	0,00105	0,08470	0,12706	0,21177
P(R/RE15)	0,01905	0,20118	0,31765	0,49766
P(R/RE16)	0,02192	0,15882	0,40236	0,50825

Thus, by the formula of full probability we find the dynamics of the level of organization of re-engineering in financial relations of enterprises in the conditions of global digitalization (Table 13).

Table- XII: Dynamics of the level of organization of reengineering in financial relations of enterprises in the conditions of global digitalization

Enterp-rises	**The value of the full probability** $P(R)$			
	2012-2013	2014-2015	2016-2017	2018-2019
P1	0,012382 (Catastrophic level)	0,129958 (Critical level)	0,292514 (Minimum level)	0,413664 (Average)
P2	0,012766 (Catastrophic level)	0,133987 (Critical level)	0,301582 (Minimum level)	0,426488 (Average)
P3	0,012916 (Catastrophic level)	0,135559 (Critical level)	0,305122 (Minimum level)	0,431493 (Average)
P4	0,013098 (Catastrophic level)	0,13747 (Critical level)	0,309422 (Minimum level)	0,437574 (Average)

It has been found that efficiency is achieved by accounting and finance departments at P1 and P2 enterprises through automation, content management and collaboration. By implementing a corporate content management solution, financial and accounting processes are improved. The software has facilitated faster inter-agency processing, better decision-making and allows other departments (even in different locations) to easily share critical information. In addition, the establishment of certain levels of access has made it possible to securely exchange financial documents with auditors, creditors and other parties to facilitate the exchange of information.

In P3, accounting and finance departments have problems that can be solved through automation. One of the key problems is the collection of critical information. Therefore, with the introduction of the automation of traditionally paper or file processes, departments will be able to achieve faster and more accurate processing.

On P4, invoices are still in paper form, such as email prints, mail, and more. An electronic management solution is required that will store records online, organize and deliver critical documents, and automatically share information with relevant persons for review, coding and approval.

It should be noted that corporate content management maximizes the ability of employees to perform time-consuming administrative tasks, access information and initiate staff approval processes. Managing people is important to every business, and the reengineering solution optimizes these processes with automation of human-error-prone tasks and provides tracking of key HR processes such as appraisals, leave requests and form-based tasks. By replacing outdated and potentially useless manual processing at all P1-P4 enterprises, it will systematically create a more hassle-free, secure, cost-effective and faster operational flow.

Another key process for considering P1-P4 reengineering is contract management. Businesses see the benefits of regaining more control over the life of the contract, while reducing the risk. Enterprise content management solutions better equip organizations to manage the contract lifecycle from request and approval to expiration and renewal. This is done by automating predictable steps and providing the information and tools the enterprise needs to mobilize their workflows. The reengineering of the contract management process involves the safe storage of contracts and supporting documents, while maintaining the full audit trail of each engagement. Finally, it will provide legal staff with a holistic view of all contract related information, tasks and correspondence.

IV. CONCLUSIONS

Modeling of estimation of level of organization of reengineering of financial relations of economic entities in the conditions of global digitization is presented on the example of a selected group of four enterprises and it is proved that the reengineering process remains an effective tool for companies seeking to act in a competitive world; companies are required to re-engineer their business processes to deliver breakthrough results and a long-term strategy for company development. In order to succeed, business process reengineering projects need to be involved in full organization and fully completed processes.

It should be supported by tools that facilitate the tracking and analysis process. Most of the goals of business performance reengineering are to redesign business practices to improve performance. Finally, business process reengineering has become a useful weapon for any corporate company seeking to improve their current organizational performance and intend to achieve a cost leadership strategy in their existing industry and environment. The reengineering process remains an effective tool for companies seeking to operate in a competitive world; companies are required to re-engineer their business processes to deliver breakthrough results and a long-term strategy for company development.

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