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# Executive Human Capital: Adaptive Efficiency of Russian IT Companies to Structural Crises

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## Abstract

Starting from March 2022 Russian companies are facing a structural crisis while IT industry was the most affected. The paper investigates the impact of qualities of top management's human capital (HC) in the domestic IT companies on the effectiveness of their adaptation to this crisis. The novelty of the paper is underpinned by (1) the rare investigation of the topic at times of crises; and (2) coverage of the entire top management team. The results showed that HC of top managers moderately and positively impacted the effectiveness of firms to adapt to the crisis. No difference in strength of impact of CEO HC and HC of the rest of the team was discovered. Such qualities of HC as (1) young age; (2) taking office before the crisis; (3) experience in international companies; (4) experience in IT industry; and (5) openness to stakeholders the most supported the adaptation to crisis.

**Keywords:** human capital, cancel culture, structural crisis, adaptation, information technology industry

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## Introduction

The influence of top management's human capital on corporate performance is studied extensively in academic literature, but is rarely considered from the viewpoint of different levels of stability of the economic environment. At the same time, the authors of the upper echelons theory believe that during crises top managers' personal traits become even more significant than in economically prosperous periods because they influence managers' decisions, which must be made quickly in the times of crisis [1]. Thus, the purpose of this research is to evaluate the influence of top management's human capital on the efficiency of adaptation of Russian IT companies to the structural crisis and the 2022 cancel culture.

In 2023, during the structural crisis and the cancel culture period in Russia, it is particularly significant to study the issue of influence of top management's personal qualities on the efficiency of companies' adaptation to the rapidly changing conditions.

To achieve our purpose, we have to accomplish the following objectives:

- 1) Analyze academic and practical literature dedicated to human capital and strategies of companies' adaptation to the structural crisis of 2022.
- 2) Define the characteristics and indicators of an efficient strategy of Russian IT companies' adaptation to cancel culture.
- 3) Develop an index of efficiency of Russian IT companies' adaptation to cancel culture and a calculation methodology.
- 4) Develop a human capital index and a calculation methodology.
- 5) Evaluate the efficiency of Russian IT companies' adaptation to cancel culture and their human capital using the developed indices.
- 6) Perform correlation analysis for the developed indices.
- 7) Draw conclusions and provide recommendations for their practical application.

The objective of the research is the human capital of Russian IT companies' top management, the subject of the research is the influence of human capital on the efficiency of companies' adaptation to the crisis of 2022. A sample of Russian IT companies was compiled on the basis of the information technology index of the Moscow Stock Exchange – MOEX IT. It is a case study.

We test the following hypotheses.

H1. Companies with better-quality human capital adapt more efficiently to cancel culture.

H2. CEO human capital has a positive impact on the efficiency of companies' adaptation to cancel culture.

H3. Top management's human capital (without the CEO) has a positive impact on the efficiency of companies' adaptation to cancel culture.

H4. CEO human capital produces a more powerful influence on the efficiency of companies' adaptation to cancel culture than the human capital of the rest of top management.

H5. Companies with a more heterogeneous top management team in terms of human capital demonstrate better efficiency in adaptation to cancel culture.

The scientific novelty of the paper is in the development of original indices of efficiency of companies' adaptation to cancel culture and human capital (exemplified by information technology companies) and in the combination of conclusions about the influence of human capital and its heterogeneity on corporate performance in the times of crisis in order to create the most complete model of an efficient top management team. The obtained results may be used by internal and external stakeholders of companies, educational institutions and researchers.

## How Top Management's Human Capital Assists in Adaptation to Structural Crises. Literature Review

### Human Capital and Corporate Performance

According to the OECD, human capital (hereinafter – HC) is “the knowledge, skills, competencies and other attributes embodied in individuals that allow them to contribute to their personal and social and economic well-being” [2]. HC of an organization has the characteristics of an intangible asset: it has no physical form, but contributes to the creation of company value.

In resource-light industries (e.g., IT), human capital is the main competitive advantage of companies, since it suffers from copying, transfer and replication less than other resources [3]. The whole HC is of significance for company development, however, the management team headed by the CEO makes the key contribution in profit generation. In 1984 D. Hambrick and P. Mason presented the upper echelons theory, which stated that the human capital of each manager influenced his decisions and thus produced an indirect impact on corporate performance. It is important that in the authors' opinion this dependence is most pronounced in an unstable economic environment [1]. In the most recent papers, V. Nazarkina and other researchers studied the way in which personal traits of a CEO influenced value creation in one of the largest emerging capital markets in Russia. The sample comprised the information on 111 Russian public companies and 235 CEOs over eight years (2013 to 2020). In order to evaluate corporate efficiency, the authors used economic value added (EVA). They found empirical evidence that CEO human capital had impact on value creation measured as the first-order difference with the annual adjusted EVA across the industry [4]. In their turn, E. Karnoukhova and A. Stepanova studied the influence of a CEO's personal qualities in such innovative industries as pharmaceuticals, biotechnology

and life sciences, software, services and manufacturing equipment. They used a generalized least squares model for the sample of 12,565 observations from 2004 to 2015. The obtained results showed that education, tenure and duality play a key role in explaining the company value [5].

In the present paper we suggested the following hypotheses on the basis of literature study.

*H1.* Companies with better human capital adapt more efficiently to cancel culture.

*H2.* CEO human capital has a positive impact on the efficiency of companies' adaptation to cancel culture.

*H3.* Top management's human capital (without the CEO) has a positive impact on efficiency of companies' adaptation to cancel culture.

*H4.* CEO human capital produces a more powerful influence on efficiency of companies' adaptation to cancel culture than human capital of the rest of top management.

*H5.* Companies with a more heterogeneous top management team in terms of human capital show a better efficiency in adaptation to cancel culture.

Literature analysis allows to define several gaps in research dedicated to the influence of various characteristics of top management's HC on corporate performance. They are 1) no studies on this topic under the circumstances of permanent structural crises; 2) a small number of studies for Russia and samples not divided by industry; 3) ambiguity of conclusions due to a large spread of influencing and dependent variables used in the studies; 4) insufficient number of studies on evaluation of influence of personal traits of the whole top management team. Also, team heterogeneity is only considered in literature by separate factors (e.g., by age, sex, education). In the present paper we will evaluate of the heterogeneity level of the HC management team as a whole.

### **Structural crisis, Cancel Culture and Company's Adaptation to It**

The phenomenon of "cancel culture" is not new, and it occurs in various historical periods [6], however, the term "cancel culture" has been in active use in the late 2010s – early 2020s due to social media development. Cancel culture is a social way of holding a person(s) and (or) brand(s) liable for unethical acts by means of a boycott of such person(s) and/or brand(s).

The 2022 structural crisis in Russia is often called cancel culture. Sanctions against Russian companies and banks, Russia's disconnection from the SWIFT payment system, geopolitical divides caused the exodus of many foreign companies from Russia and termination of cooperation agreements with Russian firms. In particular, non-cooperation with Russian companies is a distinctive feature of cancel culture.

The second distinctive feature of cancel culture is the fact that it immediately followed the crisis of 2020, overlapping the unsolved problems. By 2022 Russian business had not fully recovered from the crisis caused by COVID-19 and

the limitations related to it.

On the basis of the studied literature, in order to evaluate the efficiency of adaptation to cancel culture we determined two main strategies used by companies in down times: reduction and investment [7]. The reduction strategy implies the reduction of operating costs and non-core assets. The investment strategy involves the investment in improvement of existing products or development of new ones in order to enter new markets. A.V. Stepanyan concludes that the most effective solution is a combination of both abovementioned strategies or a "dual strategy", as it is called by the author [7].

Therefore, in this paper we will define the combination of the retention and investment strategy by companies as the most efficient strategy of adaptation to cancel culture. The main objective of this strategy may be described as "Retain everything you can retain and urgently create something new – markets, products, relations". This approach implies that companies will develop new business niches, expand or replace the product range, search for new suppliers and consumers, change supply chains drastically.

The main drawback of literature dedicated to the cancel culture crisis is the absence of methodology for evaluating the efficiency of companies' adaptation to it. It is due to the following factors: 1) absence of statistical and econometric research caused by a lack of information and a short time period since the beginning of the crisis; and 2) results of academic research of previous crises may not be extrapolated to the current crisis because of its unique nature.

In the present paper we will offer our own methodology for the evaluation of companies' adaptation to the crisis of 2022 and the methodology of evaluation of top management's human capital with regard to the above-mentioned gaps in academic literature.

### **IT Industry and Cancel Culture**

The present paper considers the influence of cancel culture on information technology companies because this industry was most noticeably exposed to the influence of the changed macroeconomic environment. It is important to understand that, on the one hand, the crisis of 2022 had a negative impact on the industry and, on the other, it brought about new opportunities for companies. This allows IT companies to preserve both the retention and investment strategies in order to continue operations and develop their products.

One of the central industry problems is the difficulty in purchase of the necessary foreign equipment and software because foreign suppliers have left the Russian market. Cooperation with foreign suppliers that have remained in the market is complicated by the disconnection of Russia from the SWIFT bank payment system. Industry experts also point out the staff shortage.

The opportunities of the Russian IT industry are underpinned by the government support of IT specialists and IT industry, as well as the decline in competition due to foreign companies exiting the market. Thus, the industry has

received an impetus for development: companies may copy foreign products as well as create their own know-how taking into consideration the needs of the Russian market.

A sample of Russian IT companies for this research was compiled on the basis of the information technology index of the Moscow Stock Exchange (MOEX IT), which comprises seven companies: Yandex N. V., Ozon Holdings Plc., VK Company Ltd., HeadHunter Group Plc., Cian Plc., Positive Technologies Pjsc., Softline Holding Plc. We also added Selectel Ltd. to the sample. The point to note is that although all companies belong to the IT sector, they serve different economy sectors and their product range differs significantly.

## Methodology

### Methodology of Calculation of the Index of Efficiency of Companies' Adaptation to Cancel Culture

As noted above, in order to function successfully companies need to employ both the retention and investment strategies. Thus, the index comprises the indicators that reflect the efficiency of each strategy.

Revenue was chosen as the indicator that reflects the company's ability to maintain the level of business activity. The EBITDA margin was chosen as the indicator that reflects how companies managed to reduce operating costs in order to stay profitable/prevent operating at a loss. Staff retention level will be used as the indicator of companies' ability to preserve the key resource.

In an unstable economic environment, it is important for

companies to avoid cash flow gaps and find the most efficient ways of using their funds. In this paper, absolute liquidity ratio is used as the indicator of efficient funds application, and receivables and payables turnover – as the indicator of efficient negotiations with contractors. The above indicators pertain to the evaluation of efficiency of *the retention strategy*.

Now we come over to the evaluation of the investment strategy. Many recent papers suggest that under cancel culture circumstances it is necessary to adapt the product to the current market conditions and try to enter new markets. Therefore, the first criterion of the investment strategy efficiency is the dynamics of capital investments made by companies.

Instability of the economic environment and floating credit rates during 2022 made short-term loan-based funding less attractive. Therefore, for companies in general the investment coverage ratio became important. It shows which share of assets companies can finance using sustainable sources of funding.

The third criterion is the actual fact of new product launches. Apart from changes in the product line, experts assert that it is necessary to rebuild the organization structure and business processes. This also entails cost optimization and allows to shift the focus to the most promising business development trends. Thus, the efficiency index comprised the criterion of "change in the company structure".

In spite of a reduction in the investment and broker operations in 2022, in this paper the share price dynamics is one of components of the investment strategy efficiency indicator. See the description and evaluation scale of each indicator in Table 1.

**Table 1.** Components of the index of efficiency of companies' adaptation to cancel culture

Criterion	Evaluation scale
<b>Retention strategy</b>	
1. Revenue dynamics	0 – company's revenue decreased;
	1 – company's revenue grew, the growth rate is less than the industry performance indicator;
	2 – company's revenue grew, the growth rate exceeds the industry performance indicator
2. Dynamics of the EBITDA margin	0 – the EBITDA margin is negative and decreased in 9 months of 2022;
	1 – the EBITDA margin is positive but decreased in 9 months of 2022 or is negative but increased in 9 months of 2022;
	2 – the EBITDA margin is positive and increased in 9 months of 2022
3. Staff retention level	0 – staff reduction;
	1 – no news of staff reduction or increase;
	2 – staff increase
4. Dynamics of the absolute liquidity ratio	0 – the ratio is above average, the ratio increased;
	1 – the ratio is below average, the ratio increased;
	2 – the ratio is below average, the ratio decreased

Criterion	Evaluation scale
5. Dynamics of receivables and payables turnover (hereinafter – receivables and payables turnover)	0 – receivables turnover increases, payables turnover decreases; 1 – receivables turnover increases, payables turnover increases or receivables turnover decreases, payables turnover decreases; 2 – receivables turnover decreases, payables turnover is unchanged/increases
Maximum score	10
<b>Investment strategy</b>	
1. Existence of capital investment in 2022	0 – the company froze capital investments in 2022; 1 – the company made capital investments in 2022 or the company did NOT make capital investments in 2022 but announced planned investments for 2023–2025; 2 – the company made capital investments in 2022 and announced planned investments for 2023–2025
2. Dynamics of the investment coverage ratio	If the industry-wide indicator decreases: 0 – the ratio has decreased more than the industry-wide indicator; 1 – the ratio has decreased less than the industry-wide indicator; 2 – the ratio has increased. If the industry-wide indicator increases: 0 – the ratio has decreased; 1 – the ratio has increased less than the industry-wide indicator; 2 – the ratio has increased more than the industry-wide indicator
3. Launch of new products	0 – the company has not launched new products; 1 – the company has announced new products, but has not launched them yet; 2 – the company has launched new products
4. Changes in the company structure	0 – the company structure has not changed; 1 – the company announced structural changes, but the changes have not been implemented yet; 2 – the company structure changed
5. Dynamics of share prices	0 – company share prices decreased more than the industry-wide indicator; 1 – company share prices decreased less than the industry-wide indicator; 2 – company share prices grew in 2022 as compared to 2021
Maximum score	10
Maximum score of the index	20

Source: Compiled by the author.

### Methodology of Calculation of the Human Capital Index and Heterogeneity Level of the Top Management Team

Based on the dual strategy of companies' adaptation to the crisis, the top management team studied in the present paper comprises seven persons (the official names of positions in companies may be different):

- Chief executive officer – the main decision maker;
- Chief commercial officer – solves the problems of reconstruction of sales channels when relations with foreign contractors have been severed;
- Chief financial officer – manages cash flows and takes measures to ensure corporate financial stability in an uncertain macroeconomic environment;
- Chief technology officer – is responsible for replacing critical IT infrastructure when Russian companies' licenses for use of foreign services, software are withdrawn and equipment maintenance is suspended;
- Chief HR officer – implements measures for staff retention and prevention of brain drain, moral support and motivation of employees in the circumstances of increasing stress level during crisis;



- Chief legal officer – manages redomiciliation (if needed) and structural changes (including executing transactions of mergers and acquisitions);
- Chief marketing officer – responsible for the correct use of market niches vacated by foreign companies and market launch of new products.

When in this paper we chose the qualities to be added to the human capital index, we took into consideration characteristics potentially useful in the implementation of the dual strategy of adaptation to cancel culture.

1. *Age*. In the times of crisis, a manager has to be ready to make nonstandard decisions and respond to situations as quickly as possible. Previous studies note that young CEOs are more prone to make changes in the company and in general adapt more quickly to the external environment than aged managers [8–10].

2. *Tenure period*. In a down economy, this quality may be of special importance if we consider it on terms of the number of tenure months because in unstable times staff turnover increases. It takes new employees from several months to half a year to integrate fully in corporate operations.

3. *Technical (STEM) education*. The research that studied changes in shareholders' preferences when selecting CEOs after the crisis of 2008 determined that CEOs with a STEM (Science, Technology, Engineering, Mathematics) education were more sought-after after the crisis than CEOs with humanities, business or arts education [10]. The same trend is observed in 2022: an increasing number of vacancies in the market requires a degree in mathematics, which may be related to an increased need in a rational and systematic approach to problem solution [11].

4. *Financial education*. The authors often find out that a CEO's financial education raises the company's risk level, increases the number of investments, and drives company growth [8; 12; 13].

5. *Education level*. The authors of the upper echelons theory assumed that there was a positive relationship between the managers' education level and innovations in a com-

pany [1]. Subsequently, the positive dependence between the education level and risk proneness was often revealed from empirical data. The reason for this is that the degrees obtained after the bachelor's/specialist's degree expand managers' cognitive capacities and horizons, making them more flexible and inclined to unconventional solutions [9; 12].

6. *Experience in foreign companies*. Managers who have previously been employed by international companies have specific skills and knowledge of business practices abroad, so they are of special value during a structural crisis.

7. *Experience of company management in the times of crisis*. While compiling the index, we also took into consideration the indicator of management experience during other crises because such experience may help to evaluate the situation quicker under current conditions. This criterion has not been previously considered by the authors in empirical studies.

8. *Relevant experience*. It should be noted separately that managers' experience in the information technology industry is of importance because an employee familiar with specifics of the sector has more relevant knowledge and connections. This reduces the likelihood of incorrect decisions caused by lack of understanding of the industry specifics.

9. *Openness*. The level of the upper echelon managers' openness is a quality necessary in unstable times. The managers have to be in the spotlight for the external world and employees in order to give moral support, define the current situation, new objectives and projects, the corporate development strategy for investors and employees.

10. *Political connections*. Top managers' political connections may be a useful characteristic in the times of crisis because it allows to solve issues quicker, handle problems related to licensing and patenting (which is of special importance in the IT industry)

Description of the logic of score assignment for the calculation of the HC index is presented in Table 2.

**Table 2.** Components of the top management's human capital index

Criterion	Evaluation scale
1. Age	0 – older age (60+); 1 – middle age (45–59); 2 – young age (18–44)
2. Tenure	0 – holds his position less than three months; 1 – holds his position for 3–9 months; 2 – holds his position more than 9 months (employed before the special military operation)
3. Technical (STEM) education	0 – no STEM education; 1 – the main STEM education; 2 –STEM education in addition to the main STEM education

Criterion	Evaluation scale
4. Financial degree	0 – no financial degree; 1 – main degree is finance-related; 2 – financial education in addition to another degree
5. Education level	0 – specialist's/bachelor's degree; 1 – master's degree; 2 – postgraduate study – doctoral degree (PhD)
6. Experience in foreign companies	0 – no experience in foreign companies; 1 – experience in foreign companies; 2 – experience in a foreign IT company
7. Management experience in the times of crisis	0 – did not occupy management positions during the previous crisis (crises); 1 – occupied management positions during the previous crisis in other companies; 2 – occupied management positions during the previous crisis in his company
8. Relevant experience	0 – no experience in the IT industry before the current position; 1 – relevant experience occupying other positions in the IT industry (including positions in the same company); 2 – relevant experience in a management position similar to the current position
9. Openness	0 – the manager has not been mentioned in mass media since February 2022; 1 – the manager has not been mentioned in mass media since February 2022 separately from the company or is mentioned in lists; 2 – since February 2022, the manager promotes company interests in mass media
10. Political connections	0 – no connections; 1 – one connection channel; 2 – more than one connection channels
The total maximum score	20

Source: Compiled by the author.

The data on personal qualities was collected for each top manager of companies in the sample using public sources where information was up-to-date as of 30 September 2022.

On the basis of the collected information on each criterion, the managers were assigned a score from 0 to 2, where 2 is the maximum usefulness for company's adaptation to the crisis of 2022, 0 – the minimal usefulness. If personnel changes took place in 2022, the HC of both managers weighted by the number of days of tenure was taken into consideration. Based on the obtained data, the human capital index of each IT company was calculated according to the following formula (compiled by the authors):

$$\text{Index } \text{HK}_a = \sum_{i=1}^n K_i, (1)$$

Where Index HK<sub>a</sub> – the human capital index of company a;  
n – number of personal traits for summing up;

K<sub>i</sub> – evaluation of human capital of company a by personal quality *i* (sum of the management team).

HC heterogeneity of the top management team is calculated using Blau's index, which is indicative of the diversity level. The values of Blau's index range from 0 to 1, where 0 means that the team is completely homogeneous, 1 – completely heterogenous.

$$B_i = 1 - \sum_{i=1}^k P_i^2, (2)$$

Where B<sub>i</sub> – Blau's index indicates the team diversity level;  
k – number of categories to which managers belong to;  
P<sub>i</sub> – the share of managers in the category *i*.

In this paper, the existence/absence of a relationship between indices will be defined by means of the Spearman's rank correlation.

## Research results

The results of evaluation of efficiency of Russian IT companies' adaptation to cancel culture are presented in Table 3.

**Table 3.** Evaluation of efficiency of IT companies' adaptation to cancel culture

No.	Company	Retention stage	Investment stage	Efficiency index
1	Positive Technologies Group	8	7	15
2	Selectel	7	8	15
3	Ozon Holding PLC	7	7	14
4	VK Group	6	8	14
5	Yandex PLC	7	6	13
6	Softline	4	7	11
7	Headhunter PLC	6	3	9
8	Cian PLC	4	3	7
The maximum value for the company		10	10	20

Source: Compiled by the authors.

**Table 4.** Correlation between personal qualities of top management and efficiency of IT companies' adaptation to cancel culture

No.	Quality	Corr Spearman		
		CEO	Management	The whole team
1	Age	0.67	0.10	0.61
2	Tenure	0.37	0.12	0.47
3	Technical (STEM) education	-0.37	0.25	0.15
4	Financial education	-0.33	-0.31	-0.57
5	Education level	-0.54	-0.63	-0.78
6	Experience in foreign companies	0.21	0.49	0.41
7	Management experience in the times of crisis	-0.25	-0.82	-0.76
8	Relevant experience	-0.28	0.30	0.30
9	Openness	0.46	0.42	0.41
10	Political connections	0.29	-0.17	0.10

In order to calculate the human capital index of companies and ensure correct further results we verified the trend of influence of each chosen quality from the HC index on the index of efficiency of companies' adaptation to cancel culture. Table 4 shows coefficients of correlation of managers' qualities and the index of efficiency of IT companies' adaptation to cancel culture.

Top managers' age (an average relationship), tenure period, experience in foreign companies, openness and rele-

vant experience (a moderate relationship) have the most powerful impact on adaptation efficiency. Such qualities as technical education and political connections have a weak positive relationship with the level of adaptation to the crisis.

We revealed a negative relationship between the index of efficiency of companies' adaptation to the crisis and some qualities. Thus, the financial education of the management team produces a negative average impact on adaptation



efficiency. This may be due to the fact that people with a financial education may be overconfident in their estimation of the company status and correctness of market analysis [12]. Under the constantly changing conditions of cancel culture this may result in incorrect decisions and an excessive risk increase. It is also important that the crisis of 2022 is a structural one and non-financial reasons are at its root. As a consequence, financial management skills are less useful for top managers than, for example, relevant experience, connections, ability to represent the company's interests before external stakeholders.

A higher education level of the top management team has a negative impact on the way in which an IT company copes with a crisis. This may be due to the length of the period spent to obtain an education. It should also be noted that an academic education focuses more on theoretical concepts or consideration of cases from companies' past experience. Under cancel culture conditions, standard or well-trying decisions may be ineffective because of drastic changes in the macroeconomic environment.

Company management experience of the whole management team during previous crises has also a negative influence on the results of adaptation to cancel culture. This fact may be explained by the intention of the top managers experienced in company management during crisis to apply the methods that have been effective in the past, and the fact that they make decisions on the basis of their previous

experience, ignoring the specifics of the current situation. Such well-trying decisions may be less risky, but are also less efficient. The absence of such experience may help to take more unconventional decisions.

The following also has a negative influence on successful adaptation to crises:

- CEO's technical education, which indicates that this type of education is not optimal for an IT company CEO;
- CEO's relevant experience in the industry – the previous experience in the industry probably makes a person make more familiar, well-trying decisions that sometimes are not in line with the current economic environment;
- Top management's (except the CEO's) political connections – functional managers' connections may result in shifting the management's responsibility on to external persons, thus causing a lack of effort in solving the existing problems.

The qualities for which a negative dependence was revealed in all three manager samples (financial education, education level, company management experience in the times of crisis) were excluded from the HC index. Table 5 presents the results of the evaluation of companies by the adjusted human capital index (7 qualities) and Blau's index (heterogeneity).

**Table 5.** Results of evaluation of corporate human capital

No.	Company	Human capital ratio			
		The whole team	CEO	Management	Heterogeneity
1	Ozon Holding PLC	0.684	0.509	0.720	0.6410
2	Positive Technologies Group	0.673	0.786	0.645	0.6408
3	Headhunter PLC	0.561	0.571	0.560	0.6584
4	Yandex PLC	0.523	0.482	0.530	0.6657
5	VK Group	0.513	0.643	0.488	0.6661
6	Softline	0.509	0.591	0.494	0.6621
7	Selectel	0.500	0.500	0.500	0.6448
8	Cian PLC	0.454	0.422	0.461	0.6660
The maximum value for the company		1	1	1	1

Source: Compiled by the authors.

**Table 6.** Correlation between the index of adaptation efficiency to cancel culture and HC indices

No.	Indices	Corr Spearman	Relationship strength
1	Team HC index	0.33	Moderate positive
2	CEO HC index	0.43	Moderate positive
3	Management HC index	0.42	Moderate positive
4	HC general heterogeneity	-0.55	Average negative

Ozon Holding and Positive Technologies have the highest human capital level, while Cian showed the worst results in this sample. VK, Cian and Yandex have the most heterogeneous management teams in terms of HC, while companies with the highest HC indicators (Ozon Holding and Positive Technologies) have the most homogeneous teams. Team heterogeneity levels of all IT companies are very close (range from 0.64–0.67), and above average. This may be due to the fact that all organizations belong to the same high-tech industry, which requires a diverse range of intellectual capital, hence, HC diversity is highly valued [8].

Analysis of the interrelation between the index of adaptation to cancel culture and the adjusted human capital index is presented in Table 6.

On the basis of the obtained results, we may conclude that the first three hypotheses are confirmed. There is a moderate positive relationship between the index of efficiency of adaptation to cancel culture, the team's human capital index, CEO HC and management HC. This means that companies with higher HC show better performance for 9 months of 2022 and cope with external threats and use opportunities more efficiently. The conclusion is consistent with the core upper echelons theory by D. Hambrick and P. Mason [1].

The fourth hypothesis of a stronger influence of CEO human capital on the efficiency of adaptation in comparison to the rest of top management is not confirmed. CEO and top management human capital exert almost the same impact on the results of IT companies' adaptation to the crisis of 2022 (Corr = 0.43 and 0.42 respectively). This allows to assert that top management's HC was excluded by many authors from consideration in their studies for no good reason.

At the same time, it should be noted that for some qualities a different relationship strength is observed (Table 4): in six cases out of ten CEO's qualities produce a stronger influence on the adaptation efficiency index. This may be related to the CEO's key role in decision-making, as well as to the fact that data concerning top management may be diluted because calculations are made on the basis of data on six employees. It is interesting that the exceptions are the education level and the whole set of industry-specific experience (experience in foreign companies, management experience in the times of crisis and relevant experience) of functional top managers. They are of high importance for corporate performance in comparison to the same qualities of a CEO.

The hypothesis that companies with the most heterogeneous teams adapt to crises most efficiently was not confirmed either. Analysis showed (Table 6) that in a cancel culture environment companies with more homogeneous total human capital on the team were more efficient (correlation –0.55 with HC heterogeneity). Thus, in spite of the assumption made by the upper echelons theory authors, i.e., that heterogeneous teams are more efficient in times of crisis, cancel culture dictates the rules. Probably, when decisions need to be made quickly, top management's HC homogeneity becomes more useful, which helps managers to understand each other better and come to an agreement

quickly. At the same time, the general level of HC heterogeneity for all IT companies is rather high anyway.

Let us also consider the influence of the heterogeneity level by individual qualities of the top management team on the efficiency of company's adaptation to cancel culture (Table 7). For a more successful adaptation to cancel culture the top management team should be homogeneous enough in terms of age and tenure, because a moderate negative correlation was revealed for these indicators.

**Table 7.** Correlation of the index of the efficiency of adaptation to cancel culture with team heterogeneity by individual qualities

No.	Quality	Corr Spearman
1	Age	–0.37
2	Tenure	–0.48
3	Technical (STEM) education	0.14
4	Financial education	–0.23
5	Education level	–0.17
6	Experience in foreign companies	0.11
7	Management experience in the times of crisis	0.67
8	Relative experience	0.44
9	Openness	–0.18
10	Political connections	0.18

At the same time, heterogeneity of top management is useful during a crisis for such qualities as management experience in the times of crisis and relative experience, where an average and moderate correlation was revealed. After all, the diversity of past experience expands the base of knowledge and skills available for use.

Besides, a weak positive correlation was discovered. It means that a company that is more heterogeneous in terms of STEM education, experience in foreign companies and political connections will cope with a crisis more efficiently. Also, a weak negative correlation with team heterogeneity was revealed (a homogenous team copes with a crisis better) in terms of education level, openness and financial education.

To sum up, we would like to emphasize that the majority of the relationships revealed in this research are of moderate or average power. This may be due to the fact that in this research we study the short-term influence of companies' HC on adaptation efficiency (9 months of 2022). In the long-term, stronger relations may be observed. Additional studies are required to determine it.

Besides, this research, even though it only takes the information technology industry into account, does not consid-

er the fact that IT companies are closely related to other industries that they serve. Therefore, companies from the sample are subjected to cancel culture to different extents, which may have an effect on the obtained results.

It is important to note that the described model of efficient HC is characteristic of Russian IT companies in the times of crisis. In order to extrapolate these conclusions to other samples and the external economic environment, it is necessary to perform additional studies.

## Conclusion

The purpose of this research was the evaluation of the influence of top management's human capital on the efficiency of adaptation of Russian IT companies to structural crises and the cancel culture of 2022. The results showed that managers' human capital has a moderate and positive impact on the effectiveness of adaptation of Russian IT companies to cancel culture. The moderate nature of these relationships may be due to a short research period and the influence of industries that IT companies serve.

The hypothesis of a stronger influence of CEO HC in comparison with the HC of the rest of the top management team was not confirmed, hence, it is reasonable to pay attention to the overall HC of corporate top management instead of personal qualities of CEOs.

The following personal qualities of the top management team are the most useful in the times of crisis: young age, assuming office before the crisis, top management's experience in foreign companies, relative experience, high level of openness of the top management to external stakeholders. At the same time, the qualities that exert a negative impact on efficiency of companies' adaptation to cancel culture were revealed: top management's advanced academic degrees, financial education and management experience during previous crises.

Besides, the hypothesis of importance of high heterogeneity of team HC in the times of crisis was rejected. It is generally better to have a more homogenous team for quick decision making in the constantly changing circumstances. However, it is desirable that the characteristics of the CEO and the rest of top management differed by the criteria of technical education (preferable for top management), previous experience in the IT industry (it is preferable for top management) and political connections (it is preferable for the CEO). It is also good when foreign companies in which managers have acquired experience are from different industries.

The results obtained in this paper may be used by external and internal company stakeholders for a more accurate forecasting of corporate performance in times of crisis, and the creation of a more efficient personnel development strategy and anti-crisis strategy with regard to HC specifics; by educational institutions to develop training programs; by scientists as the base for additional research (including the study of the influence of top management's HC on the efficiency of companies' adaptation to cancel culture in the long term).

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