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The Corporate Culture of the Enterprises of the Military-Industrial Complex

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Abstract

The relevance of researching the ways to improve the level of corporate culture in the military-industrial complex is based on the increasing role of the military-industrial complex due to the growing tension in the world. According to the Stockholm International Peace Research Institute (SIPRI) data published in March 2018, total global sales of a weapon in 2013–2017 rose by ten percent compared to the previous five years (2008–2012). Among the biggest exporters of armament are also United Kingdom, France, Germany, and China. The economic significance of the military-industrial complex is based on the fact that it fosters the development of related industries such as metallurgy, electronic engineering, instrument-making and so on. At the same time the military-industrial complex faces the following industry-specific challenges: - Rigid state regulation of production; - State control over export and import operations; - High sensitivity to political factors of the external environment; - Ambiguous and polarized public attitude towards weapon and its manufacturers, from massive support of patriotically-minded part of the population to absolute aversion of its pacifist part. It is interesting to identify those particular methods of improving company performance which are successfully put into practice and are really beneficial for the military-industrial complex enterprises applying them which may later serve as a basis for developing a set of measures to increase corporate culture level in the military-industrial complex enterprises in different countries. The analysis is based on comparing the corporate culture of global industry leaders in the USA, Russia and the UK, which are the world's biggest weapon exporters. The studies and conclusions presented in this analysis can be practically beneficial not only for the military-industrial complex enterprises the specificity of which is a stress test for corporate culture but also for other industrial sectors.

Keywords: corporate culture, fight against corruption, conflict of interest, corporate ethics, social policy

1. Introduction

Studying corporate culture is an up-to-date direction of research, already quite relevant in the modern complex of management sciences. In the 1980s the idea that effective leadership and long-term business success are connected with creating a healthy corporate structure in the company was first put forward in the book

“Corporate Cultures: The Rites and Rituals of Corporate Life” by Terence Deal [1]. The same ideas were outlined in the book “Organizational Culture and Leadership” by Edgar Schein [2]. The most comprehensive study of the interrelation between positive corporate culture and performance is considered to be the book “Corporate Culture and Performance” by John Kotter and James Heskett [3].

In the corporate governance theory, there are a number of approaches to defining corporate culture. For example, M. Albert and F. Khedouri [4] define corporate culture in the following way, “Atmosphere or climate in an organization is called its culture. The culture reflects prevailing habits, customs, and reflections in an organization.”

In Howard Schwartz’s and Stanley Davis’ opinion [5], corporate culture is a “complex of convictions and expectations shared by the members of an organization, these convictions, and expectations shape norms which sufficiently determine the behavior of individuals and groups in an organization.”

According to Elliott Jaques [6], corporate culture is a “way of thinking and mode of action which grew into the habit and became a tradition, is more or less shared by all employees of the enterprise, and which should be learned and at least partly adopted by new staff members to “blend in.”

According to A. Krylov [7], “Corporate culture is a set of a set of ideas, values, generally accepted patterns and norms of behavior typical for a particular organization; the joint experience of the members of an organization, formed in the course of collective activity and expressed in both material and spiritual forms.”

The Asia Pacific region is increasingly perceived as the century’s geopolitical center. With one-third of the world’s population, a significant share of the world’s trade and production, it seems that the weight of this region is going to be highly relevant in the foreseeable future.

Some countries in the Asia-Pacific region are major importers of conventional weapons, including South Korea, Taiwan, Singapore, and Australia. There are also defense industries in the region that are being developed towards a more self-sufficient production, such as the industries in North Korea and China. The growing economy of China, in particular, has facilitated an increase in military spending which provides consistent financial support to their defense industries.

The new data from SIPRI’s Arms Industry Database shows that sales of arms and military services by companies listed in the Top 100 have increased by 47 per cent since 2002 (the year from which comparable data is first available). The database excludes Chinese companies due to the lack of data to make a reliable estimate.

For the first time since 2002, the top five spots in the ranking are held exclusively by arms companies based in the United States: Lockheed Martin, Boeing, Northrop Grumman, Raytheon and General Dynamics. These five companies alone accounted for \$148 billion and 35 per cent of total Top 100 arms sales in 2018. Total arms sales of US companies in the ranking amounted to \$246 billion, equivalent to 59 per cent of all arms sales by the Top 100. This is an increase of 7.2 per cent compared with 2017.

A key development in the US arms industry in 2018 was the growing trend in consolidations among some of the largest arms producers. For example, two of the top five, Northrop Grumman and General Dynamics, made multibillion-dollar acquisitions in 2018. US companies are preparing for the new arms modernization program that was announced in 2017 by President Trump. Large US companies are merging to be able to produce the new generation of weapon systems and therefore be in a better position to win contracts from the US Government.

The combined arms sales of the 10 Russian companies in the 2018 ranking were \$36.2 billion—a marginal decrease of 0.4 per cent on 2017. Their share of total Top 100 arms sales fell from 9.7 per cent in 2017 to 8.6 per cent in 2018. This can be

explained by the higher Top 100 total in 2018 due to the substantial growth in the combined arms sales of US and European companies.

Among the 10 Russian companies listed in the Top 100, the trends are mixed: five companies recorded an increase in arms sales, while the other five showed a decrease. Russia's largest arms producer, Almaz-Antey, was the only Russian company ranked in the top 10 (at 9th position) and accounted for 27 per cent of the total arms sales of Russian companies in the Top 100. Almaz-Antey's arms sales rose by 18 per cent in 2018, to \$9.6 billion [8].

2. Research of corporations of the military-industrial complex

2.1 The theoretical basis for the research of corporate culture

Works of scientists have served as a methodological framework of this research. There are several typologies of corporate cultures, for convenience's sake, each of them will be represented in a table. Depending on the influence of an organization's activity on the final result positive and negative corporate cultures are discerned, their salient features are outlined in **Table 1** [9].

Typologies of cultures can also base on corporate structure flexibility. Corporate culture typology according to Jeffrey Sonnenfeld [10] is outlined in **Table 2**.

Organizational psychologists and managers use different variants of corporate culture typology. For instance, an Irish expert on organizational psychology Charles Handy identifies the following types of corporate culture [11]:

- Power culture
- Role culture
- Task culture
- Person culture.

Positive corporate cultures	Negative corporate cultures
Democratic Person-centered Integrated Stable	Authoritative Function-oriented Disintegrate Unstable

Table 1.
Positive and negative corporate cultures.

Type of corporate culture	Description
Baseball team	Decisions are made quickly; talent, innovation, and initiative are encouraged.
Club	This type is characterized by loyalty, devotion and good teamwork.
Academy	This type is characterized by a focus on the gradual growth of employees.
Fortress	This type is common for companies, which lost their former positions on the market as a result of wrong decisions or bad adaptation to the external environment changes.

Table 2.
Corporate culture typology according to Jeffrey Sonnenfeld.

One of the notable results of a strong corporate culture is low staff turnover thanks to the consensus among the staff on the mission and values of the organization [12].

Another important result is the improvement of the company's reputation among such stakeholders as shareholders, customers, suppliers, and the government.

Basing on the factors that influence corporate culture formation and development, it is analyzed through the "externalist" approach, where corporate culture establishment strongly depends on the national culture and is closely connected with the external environment, as well as through the "internalist" approach, where corporate culture is shaped in accordance with organizational culture.

The authors tried to study the experience of corporate culture formation in the largest corporations basing on generally accepted international standards.

The biggest companies of the MIC were chosen as the research base.

2.2 Research of the largest corporations of the military-industrial complex in the world

According to the ranking of hundred largest military-industrial companies in the world as of 2016 made by Stockholm International Peace Research Institute in 2019. THE SIPRI TOP 100 ARMS-PRODUCING AND MILITARY SERVICES COMPANIES, 2019. The world's largest military manufacturers are Lockheed Martin (USA) Boeing (USA), Raytheon (USA), BAE Systems (UK), and Northrop Grumman Corp (USA) according to SIPRI rating (**Table 3**) [13].

The SIPRI rating does not include Chinese companies, due to lack of data, but indirectly, we can conclude that one of the largest Chinese military-industrial complex companies is the Aviation Industry Corporation of China (AVIC) - a Chinese state-owned company, a manufacturer of aircraft, part of the Chinese military-industrial complex. It is ranked 159 in the Fortune Global 500.

The top 10 also does not include the Japanese corporation Mitsubishi Heavy Industries (MHI) (25th place).

Analyzing the corporate culture tools of the world's leading military-industrial complex holdings in the USA and Europe Lockheed Martin, Boeing, Raytheon, BAE

Position in SIPRI ranking	Name of the company	Annual volume of weapon sales, billion US dollars
1	Lockheed Martin (USA)	47.3
2	Boeing (USA)	29.2
3	Northrop Grumman Corp (USA)	23.4
4	Raytheon (USA)	26.2
5	General Dynamics Corp (USA)	22.0
6	BAE Systems (UK)	21.2
7	Airbus Group (Trans-European France-Germany-Italy)	11.7
8	Leonardo (Italy)	9.8
9	Almaz-Antey (Russia)	9.6
10	Thales (France)	9.5

Table 3.
The world's largest military-industrial companies according to SIPRI ranking [13].

Documents	Lockheed Martin	Boeing	Raytheon	BAE Systems	Northrop Grumman	Airbus	AVIC	MHI
Code of conduct	+	+	+	+	+	+	—	+
Code of corporate governance	+	+	—	—	—	+	—	+
Anti-corruption policy	+	+	+	—	+	+	—	+
Social reporting	—	—	+	+	+	+	+	+

Table 4. Corporate culture documents of largest military-industrial companies [14–21].

Systems, Northrop Grumman Corp, Airbus Group, one can see a standardized approach to corporate culture (**Table 4**).

Lockheed Martin, Boeing, Raytheon, BAE Systems, Northrop Grumman Corp companies have formed a single standard package of regulatory documents: Code of conduct and Anti- corruption policy the main theses of which coincide almost verbatim.

We should also note Raytheon’s Social responsibility report in a single document [14], BAE Systems Corporate responsibility report (2017) [15], Northrop Grumman’s Corporate responsibility report (2017) [16], AVIC Social Responsibility Report 2017 [17] while the rest of the companies post this information on the official website. BAE Systems’ Code of conduct [18] also contains anti-corruption clauses, with a provision that the Code of conduct contains General corporate rules that may be applied in accordance with the local legislation. Northrop Grumman’s standards of business conduct [19] contain anti-corruption standards, and the company has a separate Anti- corruption compliance program.

Airbus [20], MHI [21] have clear instructions for employees on how to behave in the most common typical ethically difficult situations (**Table 5**).

Lockheed Martin, Boeing, Raytheon, BAE Systems, Northrop Grumman Corp, Airbus, MHI have demonstrated a pragmatic approach, i.e. reflected in the codes of ethics theses and provisions that are binding by law (prohibition of discrimination, respect for human rights, prevention of conflicts of interest, fair competition, prohibition of insider information), or are a reflection of the political mainstream in the main host countries (anti-discrimination, protection minority rights, “gender choice,” anti-sexual harassment, inclusion) (**Table 6**).

Lockheed Martin, Boeing, Raytheon, BAE Systems, Northrop Grumman Corp have disclosed standard approaches to combating corruption in their anti-corruption policies, identified conflicts of interest and how to resolve them. In addition, it can be noted that the Raytheon Corporation, Airbus, MHI have formulated a clear policy regarding gifts, their limits, which makes it easier for staff to understand the acceptable limits (**Table 7**).

Lockheed Martin, Boeing, Raytheon, BAE Systems, Northrop Grumman Corp have all demonstrated a pragmatic approach to social policy, i.e. education was singled out as areas of social policy, in fact, creating a personnel reserve of students/schoolchildren, since the likelihood of recruiting young professionals who have already completed training in corporate programs is very high. A similar situation arises with a detailed examination of support programs for servicemen /veterans, they usually consist in professional retraining for civilian specialties of servicemen and veterans leaving the reserve. Because Since servicemen leave for the reserve at a young and middle age, they also form a personnel reserve for corporations, already trained in the necessary specialties. Supporting volunteering is also beneficial for

Directions	Lockheed Martin	Boeing	Raytheon	BAE Systems	Northrop Grumman	Airbus	AVIC	MHI
Fair treatment	+	+	+	+	+	+	+	+
Human rights protection	+	+	+	+	+	+		+
Intolerance for discrimination and harassment	+	+	+	+	+	+		+
Inclusiveness	+	+	+	+	+	+		+
Labor protection	+	+	+	+	+	+		+
Calculation of labor costs and other expenses	+	+	+	+	+	+		+
Responsibility for the use of assets	+	+	+	+	+	+		+
Protection of confidential information	+	+	+	+	+	+		+
Prevention of conflicts of interest	+	+	+	+	+	+		+
Fair competition	+	+	+	+	+	+		+
Fight against insider trading	+	+	+	+	+	+		+

Table 5.
Main directions of ethical policy largest military-industrial companies [14–21].

Directions	Lockheed Martin	Boeing	Raytheon	BAE Systems	Northrop Grumman	Airbus	AVIC	MHI
Prevention of conflicts of interest	+	+	+	+		+	—	+
Intolerance for corruption	+	+	+	+	+	+	—	+
Gift policy	—	—	+	—	—	+	—	+

Table 6.
Main directions of anti-corruption policy of largest military-industrial companies [14–21].

corporations because allows you to unite teams performing noble social tasks, and the bulk of the costs - time, effort, negotiations, organization - lies with the volunteer workers themselves. At the same time, social areas that do not bring direct benefits to corporations are ignored. Features of BAE Systems is that it implements programs of assistance to military personnel and their families in countries that are the main customers - Great Britain, USA, Australia, Kingdom of Saudi Arabia.

The Chinese corporation AVIC in its principles of CSR - citizen of the world, public welfare, one belt has demonstrated its commitment to the policies of the Government and the Communist Party of the PRC, such as.

- One belt - One way
- Building a welfare society.

Directions	Lockheed Martin	Boeing	Raytheon	BAE Systems	Northrop Grumman	Airbus	AVIC	MHI
Additional social guarantees	—	—	—	—	—	—	—	—
Staff training	+	+	+	+	+	+	+	+
Cooperation with universities, schools	+	+	+	+	+	+	+	+
Support for the military and their families	+	+	+	+	+	—	—	—
Volunteering	+	+	+	+	—	—	—	—
Sports support	—	—	—	—	—	—	—	—
Culture support	—	—	—	—	—	—	—	—
Child support	—	—	—	—	—	—	—	—
Culture support	—	—	—	—	+	—	—	—
Support for pensioners, disabled people	—	—	—	—	—	—	—	—
Local support	—	—	—	+	—	—	—	—
Trade union support	—	—	—	—	—	—	—	—

Table 7.
 Main directions of social policy of largest military-industrial companies [14–21].

Mechanisms	Lockheed Martin	Boeing	Raytheon	BAE Systems	Northrop Grumman	Airbus	AVIC	MHI
Bureau/Commission on ethics	+	+	+	+	+	+	—	+
Hotline	+	+	+	+	+	+	—	+
Obligatory training	+	+	+	+	+	+	—	+
Protection against accountability in case of reporting	+	+	+	+	+	+	—	+

Table 8.
 Mechanisms for implementing ethical policy of largest military-industrial companies [14–21].

This approach to CSR can be easily explained by the status of AVIC as a state company (**Table 8**).

The mechanisms for implementing ethical policies provided by Lockheed Martin, Boeing, Raytheon are highly effective because require a minimum of implementation costs, the creation of small divisions to resolve ethical issues at the same time removes significant risks from the line and senior management of the company, allows you to get faster feedback and is an additional control mechanism for lower-level managers and personnel, at Airbus these functions are assigned to the legal department (**Table 9**).

Authority and hierarchy are determined by the specifics of a large company; if we consider holdings belonging to the largest corporations, then these properties are manifested to a greater extent, since The very scale and complexity of large

Type/company	Lockheed Martin, Boeing Raytheon, BAE Systems, Northrop Grumman Corp, AVIC	Airbus, MHI
Authoritarian/ democratic/liberal	Moderately authoritarian	Authoritarian
Sonnerfeld type	Academy	Academy
Cameron-Queen type	Hierarchical	Hierarchical
Ch. handy type	Role culture	Role culture
Deal and Kennedy type	High-stakes culture	High-stakes culture

Table 9. *Diagnosing the type of corporate culture of largest military-industrial companies (developed by the authors).*

holdings presupposes a hierarchical organizational structure, a unified approach to managing all enterprises of the holding.

At the same time, the specificity of corporate governance balances authoritarianism, adding such elements of democracy as collegiality of the supreme governing body - general meeting of shareholders, collegiality of the Board of Directors, Committees of the Board of Directors, Management Board, the presence of independent control bodies - auditors, internal control services and bureaus/ethics commissions. The presence of uniform ethical rules for employees and additional rules for managers brings us closer to a democratic corporate culture and the presence of transparent accountability. The most stringent regulation of employee behavior is provided for by Airbus and MHI.

The culture of “High-stakes (we put on our company)” is a high level of risk and extremely slow feedback. This culture includes, as mentioned earlier, enterprises of the defense industry, which are aimed at obtaining the advantages of enterprises with this type of culture: extremely high investment, a solid approach and a long decision-making process, relatively low staff turnover, resilience and long-term prospects.

The type of corporate culture “Academy” is characterized by a focus on the gradual growth of employees who are ready for long-term cooperation with the company. In such companies, the traditions and customs of the company are highly respected. This is especially true for the Boeing Corporation, which shows pride in its more than 100 year history.

2.3 Research of the largest Russian corporations of the military-industrial complex

This study supports an inference that anti-corruption policy is developed and implemented by the majority of the companies under research.

As a comparison, the largest Russian military-industrial complex companies included in the SIPRI index were selected (**Tables 10** and **11**).

Anti-corruption mechanisms, such as regulation of receiving gifts and prevention of conflicts of interest are closely integrated with ethical norms and ethical policy mechanisms, almost all companies under research have hotlines and ethics commissions, which deal with both ethical issues and corruption violations (**Tables 12–14**). It should be noted that an essential gap in both global and national industry leaders is the lack of internal Corporate governance code, the fundamental document reflecting the quality of corporate culture and corporate governance, all the more so as its existence is recommended by the Corporate governance code approved by the Bank of Russia [22]. Another significant drawback is the absence of social reporting. The absence of such a single document is all the more surprising

Place in the SIPRI rating	Corporation	Arms sales per year, billion US dollars
9	Almaz-Antey	9.6
15	United Aircraft Corp	5.4
18	United Shipbuilding Corp	4.7
26	Tactical Missiles Corp	3.6
33	United Engine Corp.	3
43	High Precision Systems	2.6
52	Russian Helicopters	1.8
53	KRET	1.8

Table 10.
 The largest military-industrial companies in Russia according to the SIPRI rating in 2018 [13].

Documents	United Aircraft Corp	United Shipbuilding Corp	Almaz-Antey	Russian Helicopters	Tactical Missiles Corp
Code of ethics	+	—	—	+	—
Corporate governance code	—	—	—	—	—
Anti-corruption policy	+	+	—	+	+
Social report	—	—	—	—	—

Table 11.
 Documents of corporate culture of Russian military-industrial companies [27–30].

Directions	United Aircraft Corp	United Shipbuilding Corp	Almaz-Antey	Russian Helicopters	Tactical Missiles Corp
Prevention of conflicts of interest	+	+	—	+	+
Intolerance for corruption	+	+	—	+	+
Gift policy	+	+	—	+	—

Table 12.
 The main directions of anti-corruption policy of Russian military-industrial companies [27–30].

Mechanisms	United Aircraft Corp	United Shipbuilding Corp	Almaz-Antey	Russian Helicopters	Tactical Missiles Corp
Bureau/Commission on ethics	+	+	—	+	—
Hotline	+	+	—	+	+
Obligatory training	—	—	—	+	—
Protection against accountability in case of reporting	—	—	—	—	—

Table 13.
 Ethical policy implementation mechanisms of Russian military-industrial companies [27–30].

Directions	United Aircraft Corp	United Shipbuilding Corp	Almaz-Antey	Russian Helicopters	Tactical Missiles Corp
Fair treatment	+	+	—	+	+
Human rights protection	+	+	—	+	+
Intolerance for discrimination and harassment	—	+	—	+	+
Inclusiveness	—	—	—	—	—
Labor protection	+	+	—	+	+
Calculation of labor costs and other expenses	+	+	—	+	+
Responsibility for the use of assets	—	—	—	+	+
Protection of confidential information	+	+	—	+	+
Prevention of conflicts of interest	+	+	—	+	+
Fair competition	—	—	—	+	+
Fight against insider trading	+	+	—	+	+

Table 14.
The main directions of ethical policy of Russian military-industrial companies [27–30].

given that all the studied enterprises have a social policy that is implemented in practice.

Studying the ethical policy of Russian companies, we can conclude that companies are guided mainly by the mandatory rules adopted in Russia by the state and society, the emphasis is made on observing human rights, fairness, labor protection, protection of confidential information, prevention of conflicts of interest and fight against corruption, with lack of attention to issues of special rights of minorities and inclusiveness which are relevant in the society of the United States, the EU, the countries of the British Commonwealth.

The main directions of social policy were analyzed on the basis of corporate reporting data (Table 15).

The Almaz-Antey Air and Space Defense Corporation [23] does not provide internal documents and reports for public access, the information on social and personnel policy is posted on the official website of the corporation. JSC “Russian Helicopters” [24], United Aircraft Corp [25], United Shipbuilding Corp [26] reflect their social policy in their annual reports. JSC “Russian Helicopters” developed the Code of corporate ethics [27], Anti-corruption policy [28]. JSC “Corporation “Tactical Missiles Corp” developed the Anti-corruption regulation and the Basic social policy [29]. JSC “Concern” Almaz-Antey developed Human Resources and Social Policy [30].

In comparison with the reviewed best practices, it was found that insufficient attention is paid to the following corporate culture tools:

1. Development of corporate documents
2. Social reporting

Directions	United Aircraft Corp	United Shipbuilding Corp	Almaz-Antey	Russian Helicopters	Tactical Missiles Corp
Additional social guarantees	+	+	+	+	+
Employees training	+	+	+	+	+
Cooperation with universities and schools	+	+	+	+	+
Support for militaries and their families	—	—	—	—	—
Volunteering	—	+	—	—	—
Support for sports	—	+	—	—	+
Support for culture	—	+	—	—	+
Support for children	—	+	+	—	+
Support for pensioners and disabled people	—	+	+	+	+
Support for the local population	—	—	—	—	+
Support for trade unions					

Table 15.
 The main directions of social policy of Russian military-industrial companies [27–30].

3. Support for minorities
4. Inclusiveness
5. Support for volunteering
6. Support for military personnel and their families
7. Support for veterans, retirees and reservists
8. Educational activities for specialized schoolchildren and students

2.4 Analysis of the mechanisms of corporate culture

To assess the effectiveness of the mechanisms of corporate culture with the participation of the authors in 2018–19, an analysis of the mechanisms of corporate culture was carried out using the method of expert assessment.

When applying the method of expert assessments, 10 experts were involved, who are middle managers, specialists in large companies. The evaluation criterion is the effectiveness of the implementation of the corporate culture tool. The form of participation of experts is face-to-face, the type of answers is ranging, the main method is the Delphi method (Table 16) [31].

Step 2. Calculation of weight values of experts' opinions depending on their competence (Table 17).

$$K_i = \frac{K_3 + K_a}{2} \quad (1)$$

K_i -coefficient of competence of the i -th expert, considering the degree of familiarity with the question discussed (K_3) and substantiation of the answer (K_a):

Corporate culture tools / the expert's №	1	2	3	4	5	6	7	8	9	10
Corporate documents	8	7	7	8	7	8	7	8	7	6
Social reporting	7	6	8	7	8	7	8	7	8	7
Minorities	1	1	2	1	2	1	2	1	1	1
Inclusiveness	2	2	1	2	1	2	1	2	2	2
Volunteering	4	5	3	3	4	4	4	5	5	4
Militaries	5	4	6	5	5	6	5	3	5	5
Veterans	6	8	5	6	6	5	6	6	4	8
Schoolchildren / students	3	3	4	4	3	3	3	4	3	3

Table 16. Step 1. Results of the first step of evaluation of the effectiveness of the corporate culture tools implementation [31].

Calculation of weight values	1	2	3	4	5	6	7	8	9	10
Ki	2	2	2	1.5	1	2	1.5	2	1	1.5

Ki (average) 1.65.

Table 17. Step 2. Calculation of weight values of the experts' opinions depending on their competence [31].

Corporate culture tools/the expert's №	1	2	3	4	5	6	7	8	9	10	Weighted average
Corporate documents	9.6	8.4	8.4	7.2	4.2	9.6	6.3	9.6	4.2	5.4	7.3
Social reporting	8.4	7.2	9.6	6.3	4.8	8.4	7.2	8.4	4.8	6.3	7.1
Minorities	1.2	1.2	2	0.9	1.2	1.2	1.8	1.2	0.6	0.9	1.2
Inclusiveness	2.4	2	1.2	1.8	0.6	2.4	0.9	2.4	1.2	1.8	1.7
Volunteering	4.8	5	3.6	3.6	2.4	4.8	3.6	6	3	3.6	4
Militaries	6	4	7.2	4.5	3	7.2	4.5	3.6	6	4.5	5.1
Veterans	7.2	9.6	6	5.4	3.6	6	5.4	7.2	2.4	7.2	6
Schoolchildren/students	3.6	3	4.8	3.6	1.8	3.6	2.7	4.8	1.8	2.7	3.2

Table 18. Step 3. Calculation of the effectiveness of the corporate culture tools implementation, considering the experts' competence [31].

Kk and Ka are evaluated on a scale from 1 to 2, where 1 is the medium level of competence, 2 is the high level of competence; i = 1..m — sequential numbers of experts; m – the quantity of experts m = 10.

Step 3. Calculation of weight values of the experts' opinions depending on their competence (**Table 18**)

$$\bar{X}_j = \frac{\sum_{i=1}^m X_{ij} \cdot K_i}{\sum_{i=1}^m K_i} \quad (2)$$

Xij – evaluation of the relative importance (in points), set by the i-th expert to the j-th element; j = 1 ... n – sequential numbers of the studied elements; n — the number of elements of the objectives tree n = 8.

Step 4. Identifying the most promising ways to improve corporate culture.

To identify more accurately the importance of the corporate culture tools and to develop an algorithm for their implementation, an abstract economic model is suggested for consideration. This model determines the qualitative characteristics of the modeled object, which is the modernization of corporate culture. When building the model, the main approaches of the multifactor model are used, namely, the analysis of the individual factors influence separately and as a whole on the modeled object.

GfK Consumer Life conducted international research that identified 10 crucial types of corporate social responsibility from the consumers' point of view, which got top positions in the rating (**Table 19**) [32].

Within the framework of the study conducted by KPMG and Effie in 2018, the finalists of the competition between companies implementing the sustainable development goals Effie Awards Russia 2017 in their social projects were marked. The finalists pointed out in their projects the following sustainable development goals out of 169 sustainable development goals (**Table 20**) [33].

The corporate culture tools analyzed by the authors are currently highly recommended for all companies and mandatory for large businesses and companies with public ownership.

Internationally this is regulated by:

- The United Nations Convention against Corruption adopted by the UN General Assembly on 31 October 2003, which applies a broadside approach to identifying and preventing corruption risks in both public and private sectors;
- The Organization for economic cooperation and development (OECD) Convention on Combating Bribery of Foreign Public Officials in International Business Transactions;
- The US Foreign Corrupt Practices Act (FCPA);
- The UK Bribery Act 2010, etc.

In Russia, there are the following legislative norms that recommend and require to implement anti-corruption policy and prevent conflicts of interest:

- The Federal law of December 25, 2008, N 273-FZ “On Countering Corruption”;

No.	Type of corporate social responsibility	Importance Russia, %	Importance world, %
1	Providing good jobs	61	48
2	Production of high-quality goods and services	45	41
3	Fair prices of products and services	41	27
4	Protection of the employees' health and safe production	40	37
5	Participation in social programs	23	9
6	Being environment-friendly	20	37
7	Fair tax payments	12	19
8	Investments in research and technology	11	16
9	Supporting the local area	10	8
10	Educational support	9	8

Table 19.
Crucial types of corporate social responsibility from the consumers' point of view.

No	Sustainable development goals	% of the goal representation in the finalists' projects
1	Good health and well-being	30
2	Industrialization, innovation, and infrastructure	30
3	Quality education	8
4	Responsible production and consumption	8
5	Partnership for sustainable development	8
6	Decent work and economic growth	5
7	Peace, justice and effective institutions	5
8	Eradication of poverty	3
9	Clean water and sanitation	3
10	Sustainable cities and communities	3

Table 20.
Rating of sustainable development goals.

- The Corporate governance code approved by the Bank of Russia.
- Methodical recommendations of The Federal Agency for State Property Management (Rosimushchestvo) on the organization of risk management and internal control in the field of prevention and combating corruption and on the organization of the Board of Directors work in a joint-stock company;
- Anti-Corruption Charter of the Russian Business approved by The Chamber of Commerce and Industry of the Russian Federation.

Today there are three main concepts, on which modern theories of corporate social responsibility are based.

Stakeholders concept. A stakeholder is an individual or organization that exerts influence on or is influenced by the activities of another organization, its products, services, and related production performance indicators [34].

Corporate citizenship implies the responsibility of companies for what is happening in the country and the mutual responsibility of the state and business to the society [35].

The concept of corporate sustainability, which is the newest concept in the field of corporate social responsibility. Its founder J. Elkington introduced the concept of a triple bottom line of a corporation's activities, which includes financial and environmental dimensions complying with the idea of eco-efficiency with the addition of the assessment of social and broad economic impact [36].

In Russia, large companies and companies with public ownership are guided by the approach to social responsibility, defined by the Concept of long-term socio-economic development of the Russian Federation [37]. There are no binding forms of social reporting, similar to annual financial statements, but the most widely used ones in the world at present are the UN Global Compact, and The Global Reporting Initiative (GRI) [38].

The stability of the Asia-Pacific region is attracting major attention owing to its increasing relevance in the current globalized world. China has been predicted to be a world power in a few decades. The size and progress of the development of its defense industry are one of the most relevant factors influencing the current global arms market and the security stability in the region.

The region's nations place greater emphasis on foreign sales and exportation of their defense products. However, they face a highly competitive international arms market where a large number of companies compete to sell their products and only the development of niche technologies appears to have greater prospects for generating success.

Most South Korean defense companies have greatly diversified their production into the commercial sector, which may compensate for the above problems of overcapacity and poor economies of scale (and subsequent lack of competitiveness). The Chinese defense companies have similarly, although less significantly, achieved certain diversification of their production [38].

Conversely, Indonesian arms producers remain highly dependent on the state's procurement programs.

South Korea and Singapore have had unlimited access to modern weapons systems technologies and to the global arms market; China, on the other hand, has been under an arms embargo placed by the U.S.A. and the E.U. since 1989, and Indonesia was under a U.S. arms embargo between 1999 and 2005. In consequence, China relied on dual-use technologies and reverse engineering techniques applied to Russian weapons systems in order to then develop its defense sector, while Indonesia has been unable to develop its defense industrial base until recent years.

The mercantilist approach, in which the state exercises a large amount of control over the defense industry, may lead to extensive investments in the defense industry, lack of competitiveness, and an eventual decrease in the nation's security; whereas the application of liberal principles, in which there is minimum intervention by the state in the defense sector, may result in more competitive military equipment production and therefore greater security, although may also create certain vulnerability as there is greater dependence on foreign suppliers.

3. Conclusion

The study substantiates the relevance of the choice of the research object – the largest enterprises of the military-industrial complex, as the political instability in the world, has led to a significant increase in demand for weapons, besides, the military-industrial complex is one of the most important sectors of the economy because its development fosters the expansion in the related industries – metallurgy, electronics engineering, instrument-making, etc. With significant dependence of the industry on internal and external factors corporate culture is becoming increasingly important for the development of corporations in the industry.

The study revealed that introducing such tools as human rights protection policy, anti-corruption policy, fight against discrimination, protection of information and assets, prevention of insider trading is universal in nature and these tools are implemented by the largest corporations in all the countries under research, namely the USA, the EU, the UK, Russia, Asia-Pacific region.

Depending on the calculated rating it is suggested that the companies of the military-industrial complex introduce the corporate culture tools in the following order:

1. Development of corporate documents (first of all the corporate governance code)
2. Social reporting. Priority introduction in the short term up to 1 year.
3. Support for veterans, retirees, and reservists.

4. Support for militaries and their families. Introduction on a second-priority basis in the medium term from 1 to 3 years.
5. Support for volunteers.
6. Training events for profession-oriented schoolchildren and students. Introduction on a third-priority basis in the long-term period from 1 to 3 years.
7. Support for minorities.
8. Inclusiveness. The introduction is not recommended.

The implementation of the suggestions given in the article may have the following positive effects for the corporations of the military-industrial complex:

1. Creating a positive image in the host country and in the countries which are customers of the products.
2. Establishing a positive image in the eyes of the state customer, for instance, the support for military personnel/veterans creates a positive image in the eyes of the main consumer - the military department.
3. The development of the Corporate governance code, other important corporate documents, and transparent social reporting can increase credibility in the eyes of prospective shareholders.
4. Transparent social reporting, training programs for both personnel and future employees who are retiring militaries, students, schoolchildren will contribute to establishing a positive image among the staff.
5. Reducing, for the company, the risks from corruption losses.
6. Reducing for the company the risks from illegal/unethical behavior of the employees, as detailing ethical responsibilities,
7. procedures, training its employees, the company acts in good faith and reasonably.

The research and conclusions presented in this article can be beneficial not only for the enterprises of the military-industrial complex but also for corporations in other industries making adjustments for an industry specificity.

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