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CULTURAL DIALOGUE IN THE POST-COLD WAR ERA: POWER AND THE STRATEGIC DISCOURSE

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***Abstract**: The present paper aims at analyzing the cultural dialogue in the post-Cold War era, the Cold War being perceived as a security dilemma. The study makes a clear-cut distinction between the political differences regarding the United States of America and Russia laying emphasis upon concepts, such as: security and risk. This work tries to highlight if the cultural dialogue between the United States and Russia is a failure or a success. Another important issue is diplomacy related to the Soviet ideology and the American response. The concept of power is of paramount importance being viewed as a cultural device in the post-Cold War era. Politics is presented as an instrument of power. Both the United States and Russia fought to be the most powerful nations having the power to rule the world.*

Key words: culture, dialogue, power, strategy, post-cold war.

1. INTRODUCTION

The post-cold war era can be perceived as a very important age in the political field. We can say that throughout this period of time the political relationships between the United States of America and Russia have improved.

However, if we analyze this issue in depth, we will find out that even though the cultural dialogue between the previously mentioned two nations has improved, they are still guided by the same ideologies.

Nationalism is a very interesting concept and it might greatly influence the behavior of very important states.

Another key term is diplomacy. In both cases, the diplomacy of the states has improved, but the focus should also be laid on security and risk.

The concept of power is of paramount importance. When we refer to power, we should mention two important dimensions: hard power and soft power. They have their own tools which have a certain impact, be it stronger or weaker, on the behavior of a certain state. The best tip for a successful strategic discourse might be cooperation.

Understanding the differences of their political cultures can lead to a fruitful cooperation.

Power is the concept which brings together the two very important players against a very interesting international background as power guides every move of each and every important nation.

The concept of power should be analyzed as a cultural device, too, politics being used as an instrument of power.

It is worth to look in the mirror of power to see how it is connected with security and the cultural dialogue.

2. THE COLD WAR – A SECURITY DILEMMA?

Living in a bipolar world, there is no authority which has the power to bring together the states into a commonly accepted pattern. In other words, when one state begins to increase its security, a certain effect is exerted on the other one, namely, it makes the other state insecure.

One state's intention can turn into the other state's need for protection. Thus, intention might be understood as threat. We can see the effects of bad state-to-state communication and notice how hard it is to have a secure interaction (Herz, 1950: 157-180).

Secure interaction can be interpreted as the situation in which when sharing a lack of understanding the reasons behind one move of a state might endanger the participation of the other state in a common global goal. And this can be perceived as a security dilemma.

Why? Because even if the two states share the same goal, that is, mutual security, each and every state's behavior confers a certain political position which might be very far to its purpose.

The word "dilemma" refers to a situation which requires a certain choice, generally between equally undesirable alternatives. If we bring together the word "dilemma" and the Cold War, the equally undesirable alternatives might refer to the costs and risks of a specific movement.

The Cold War was a new type of war, a war which was not based on armed conflict. It was based on different ideologies: on the one hand, there was democracy, and on the other hand, totalitarianism.

Meeting new situations and especially new ways of dealing with conflicts had as an outcome communication misunderstanding.

It is sometimes impossible to meet a common alternative and share the same vision of achieving the same goal into such a manner that should be satisfying at the international level.

The difficulty in this situation arises when the definition of security is understood as the status quo – that is, the state before the war (quoted in Ulam, 1968:5).

Even if the Cold War was not an aggressive war, based on armed conflict, it had a lot of potential insecurity for both the United States and the Soviet Union.

3. POLITICAL DIFFERENCES BETWEEN THE UNITED STATES OF AMERICA AND RUSSIA

It is very important to understand the political differences between the United States of America and Russia. They have two different geographical locations on the world's map and two opposing political cultures.

On the one hand, American nationalism values the individual above anything else and on the other hand, Russia is a nation concerned with the welfare of the state.

The United States' foreign policy has traditionally been focused on important values, such as: freedom, capitalism and human rights whereas Vladimir Putin's foreign policy was concerned with power and respect.

Their specific nationalism is rooted in their political cultures, which continues to have a great impact today.

Since the beginning of the 21st century, the relationship between the United States of America and Russia has been influenced by the political culture of each nation.

If there are disagreements between the two nations they can be interpreted not only as conflicting interests but also as differences in their understanding of certain situations.

The American politicians are constrained to see the world through the lens of the American political culture based on democracy and individual rights whereas the Russian understanding is constrained as its fundamentals are the principles of the Russian political culture.

The American officials are puzzled when Russia acts in a certain way which contradicts the American worldview whereas the Russians might meet difficulties in understanding why the United States said or did something in particular. All these cultural

differences are present on both sides and can explain under what circumstances the conflicts between the United States of America and Russia start (Gaddis, 1990:129-132).

The American paradigm for international relations after the failure of communism was rooted in the belief of the triumph of the liberal democracy and emergence of global markets. Accordingly, the United States of America did not win the Cold War, democratic capitalism did and Russia did not lose the Cold War, communism did.

4. SECURITY AND RISK. THE CULTURAL DIALOGUE: SUCCESS OR FAILURE?

Policy-makers in the United States and Russia view security through a multitude of risks rather than threats. They no longer see a world of existential challenges. On the contrary, they operate in a world of complexity in which the existence of their nations is no longer threatened as it was during WWI, WWII and the Cold War. In this context, the security of the citizens cannot be fully guaranteed.

In the context of globalization, risks are often transnational and do not apply to a particular territory.

The policy makers must take into consideration that their efforts to counter a risk can be understood as the potential to create more risks. Any act of risk management consumes a given resource in order to offset a certain risk – which might "boomerang" into another one – by making decisions in a world of risk (Crow, 2011:4-5).

Risk is perceived subjectively and also culturally. What we may consider to be a risk for a nation may not be for the other.

Sociologist Philip Windsor argued that the potential for cultural dialogue is set in between norms and values (Windsor, 1995:86).

It is really important do define what do "culture", "norms" and "values" mean in the given context.

Culture refers to society, to its traditions, its beliefs, be those religious, moral or national ones, to its historical experience.

Cultures are dynamic, they are in a continuous transformation, shifting, adjusting and developing.

One specific moment in the history of the American-Russian relationship raised fear among the Russians. This is the moment when

the United States has disregarded the United Nations and invaded Iraq. From that moment, Russia feared of the tendency towards the creation of a unipolar world under the economic and military domination of the United States. Russia feared that the United States had too much power and would intervene in its affairs (Ellison, 2003:88-89).

This attitude can be perceived as an attempt to refrain the American power. This attitude reflects Russia's deeper political values.

Vladimir Putin hoped that a change of political strategy would bring the growth of the country, welfare, security and revive the global power image. He structured the entire political system in Russia according to his own belief with reaching progress and stability (Kasymov, 2011:76-88). A hard-liner stance is maintained on many domestic and foreign policy issues.

Another important moment in the American–Russian relationship resulted when former US President George Bush announced his plans to station anti-ballistic missile systems in the former Soviet Union. In 2007, President Bush signed deals to build a missile defense shield in Poland along with a radar station in the Czech Republic. This was justified as it would protect the United States and Europe from a nuclear threat posed by states such as, Iran and North Korea. The Russian officials perceived this move as a hostile intrusion in their sphere of influence. Putin considered that there was no justification for installing a missile defensive system in Europe. The missile defense system would strengthen US position while diminishing the Russian one.

The cultural dialogue between the United States and Russia after the Cold War depicts its own definition of diplomacy illustrating the interactions between the two states.

5. DIPLOMACY: SOVIET IDEOLOGY AND AMERICAN RESPONSE

Diplomacy refers to the art of conducting international relations by negotiating agreements, treaties and alliances.

The diplomacy held throughout the Cold War era between the United States and the Soviet Union was similar to a game.

While the Americans took small steps hoping to succeed in installing the democratic principles

in the Soviet region, the Russians feared they will lose the game of power and this reaction could be perceived as an attack to the effectiveness of the American game strategy.

Both the American and the Russians wanted to win the pot by applying different radical strategies.

Because of the Soviet ideology, the national pride and effort to increase the sphere of influence, it was really hard to find a common purpose with the United States.

The United States was more concerned with achieving the highest level of security and managed to follow more realistic goals and use their resources at the maximum potential.

The United States' diplomats believed that the Soviet Union was more likely a political threat to their vital interests in Europe rather than a military threat.

In fact, this is what the Cold War represented, namely, a political and cultural war, which denies military impact.

6. POWER AS A CULTURAL DEVICE IN THE POST-COLD WAR ERA

Power is a highly important cultural device by means of which both the United States of America and Russia tried to achieve certain goals.

Each nation has its own perception of what power means and for what purposes it can be used. The United States perceived power as a means to prove their unique role in the international system. The Russians took advantage of power in order to create a strong national identity in the post-Cold War international system. Both nations have something in common: national pride.

Once with the dissolution of the Soviet Union, the Americans valued themselves as being superior to the Russians. The Americans valued their ideology of democracy as being superior to communism and so they valued the American identity as being superior to the Soviet one.

This superiority was also fueled by the fact that democracy won after the Cold War ended. Thus, Russia experienced a sort of inferiority complex due to the fact that communism lost the battle and the Russians could not succeed in imposing their political tradition in the international system. However, this loss of the Soviet Union did not decrease the strength of the nation.

After the Cold War ended, Russia started to be more open to the Western ideas, that is, more diplomatic. Russia started to rethink its political strategy in order to achieve the state's main goal, namely, enlarging the Russian sphere of influence.

Once with the ending of the Cold War, the United States' state of affair acquired a new dimension, more powerful than ever. They started to rethink their methodology and to rebuild their strategy in order to develop a successful dialogue with the Russians.

However, Russia was still considered a threat for the democrats and they decided that the best ideology to promote was liberalism.

The Post-Cold War era brought greater imbalance of power. The American state was at its highest level of strength adopting an imposing attitude towards the international political system. The Russian state's reaction to this new order consisted of a greater struggle for its national identity and uniqueness in the international system.

7. POLITICS AS AN INSTRUMENT OF POWER

According to an unwritten law, who has the power has the control. Who has the power can influence the foreign policy.

Regarding the communication between the two superpowers, there are certain gaps, such as: the lack of understanding the intentions and the lack of interpreting certain reactions. Such gaps are consciously created so that the states could have some kind of social protection of their own political culture.

We can say that none of the two states managed to use power as an instrument of achieving national goals. It is just a game of winning something. There is no winner and it will never be. This happens due to the fact that even though they have good intentions, they do not use power properly in order to achieve their goals. Instead, they involve in a never-ending race about who is the winner rather than who to win the pot.

The relation between the United States and Russia is based on poor quality information. The real image is distorted through politicians and media lens. The media channels offer poor quality information and they do not inform the citizens about the real events.

Can politics be an instrument of power? Yes, it can. One state which has immaculate discourse can influence their receptors and, in this way, it can become more powerful in the political system. How can politics become such an instrument? It can by means of diplomacy.

The most important elements involved in the analysis of how diplomacy works are the culture and politics of a state. Diplomacy goes hand in hand with negotiation and it implies international cultural dialogue.

Since the dissolution of the Soviet Union, the US-Russian relations have known several stages. The first step was to create a strategic alliance but since they were struggling for global supremacy, there was no energy left for alliances. Each nation followed its own interest and diplomacy was used when their spheres of influence interfered.

The phrase "soft power" was developed by John Nye in the 1980s and it suggests the ability of a state to use its persuasive skills in order to determine other states to act how it wants without using coercive power (Nye, 1990:10-23).

Nye argues that in order to have a successful interaction, one state must use both soft and hard power. He states that the United States struggles to win as many hearts as possible like if it fought to win a war. Hard power can help with the physical dominance while the soft power accompanies it on the other levels, such as: culture and economy.

Soft power is mainly based on diplomacy. With a good cultural dialogue strategy, one state can determine the other state to perceive the security in the same way. Cooperation would be more accessible even between the United States of America and Russia.

Politics is used as an instrument to gain power and security was used as a tool of defending a cultural idea rather than protecting a realistic threat.

8. QUESTIONNAIRE AND RESULTS

In what follows, the focus will be laid on the questionnaire itself, on the respondents who answered the ten questions of the questionnaire, on the interpretation of the results as well as on a few general conclusions.

8.1 The questionnaire itself

Here is the questionnaire consisting of 10 questions:

1. Do you think the Cold War fed a security dilemma?

a) Yes, historical events prove that a bipolar world equally made nations feel both secure and insecure;

b) I am not sure, both states had a mutual goal – security – yet none of them reached that level;

c) No, the Cold War was only about the fight between democracy and communism and ended with democracy as a winner;

d) I do not know.

2. What do you think are the features that result from the contradiction between the United States and Russia's political cultures?

a) Organized crime networks and international terrorism, which threaten the international security;

b) Violent cultural movements, which disable the opportunity to cross-cultural education;

c) Instability in the international political system, which stimulates undesirable reactions from the other nations;

d). The insecurity of world peace that results from their fight for power.

3. What do you think is the most important cultural difference that contributes to the state of depression in the United States-Russia relationship?

a) Their opposing political cultures, which promote contradictory ideologies in the international system;

b) Their mutual struggle for attaining more power and become the sole superpower nation;

c) Their bad conflicting interests which resulted from the difference in their understanding of events;

d). All of the above.

4. What is your understanding of the political position of the United States in the post-Cold War era?

a) A new approach with respect to bilateral relations;

b) A preoccupation with the rise of a global market;

c) Spreading the liberal democracy;

d) Improving global security.

5. What is your understanding of the political position of Russia in the post-Cold War era?

a) A new approach with respect to bilateral relations;

b) Preoccupation with the growth of the country's welfare;

c) Intensive promotion of communism as ideology;
d) Improving global security.

6. In your opinion, what of the following statements could supply the best explanation for the high potential of risk in the United States – Russian relationship?

a) Security is viewed through a multitude of risks rather than focusing on specific realistic threats;
b) In the context of globalization, risk becomes transnational and does not apply to a particular territory;
c) Bad risk management can generate undesired results and bring unintended consequences:
d) The perception of risk is very subjective, thus what may be considered to be a risk for a nation may not be the same for the other one.

7. How do you perceive *the concept of power?*

a) A cultural device used to achieve a particular aim;
b) A means through which a nation proves its unique role in the international system;
c) It inspires authority in global security concerns;
d) A tool to suggest a strong national identity.

8. What do you *suggest as a main reason for the post-Cold War era's greater imbalance of power?*

a) The United States' status as the world's superpower;
b) Russia's greater fight for its national identity rather than focusing on cooperating with the United States.
c) The condition of the American state that suggests all nations should take into consideration to adhere to liberal democracy;
d) Russian refusal to accept dependency on the American policy.

9. Do you think that the ineffective communication between *the United States and Russia is a result derived from their opposing political ideologies?*

a) Yes. I consider their opposing ideologies carry their poor and unsuccessful interaction;
b) Not really, I think that pride is what maintains the two states far away from a future successful cooperation;
c) No, I suggest that their mutual goal – being the most powerful nation – is what maintains unstable collaboration;
d) I am neutral to this question.

10. According to you, what should today's Russia do in order to fit in the international system?

a) To repattern its political system;

b) To adjust its governing to the new type of society;

c) To take a break from extreme nationalism;

d) To do nothing: the other nations should change to fit in the Russian model.

8.2. Subjects of the Questionnaire

The previously presented questionnaire has been distributed to a number of 30 subjects aged in between 19 and 55, as follows: 5 subjects being 19 years old and representing 16.6%; 11 subjects being 22 years old and representing 36.6 %; 5 subjects being 24 years old and representing 16.6%; 2 subjects being 31 years old and representing 6.6%, 2 subjects being 36 years old and representing 6.6%, 1 subject being 40 years old and representing 3.3 %, 3 subjects being 47 years old and representing 10% and 1 subject being 55 years old representing 3.3%, as it can be seen in Figure 1:

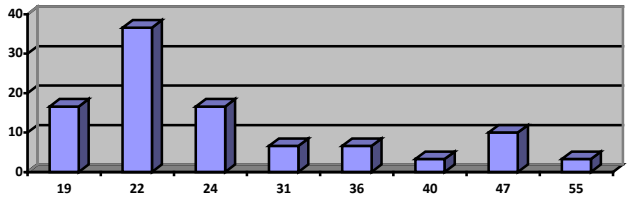

Figure 1. Subjects' Age.

In order to achieve a balanced result, the gender of the subjects was the following: 15 out of 30 are male subjects and 15 out of 30 are female subjects, each category representing 50% as shown in Figure 2.

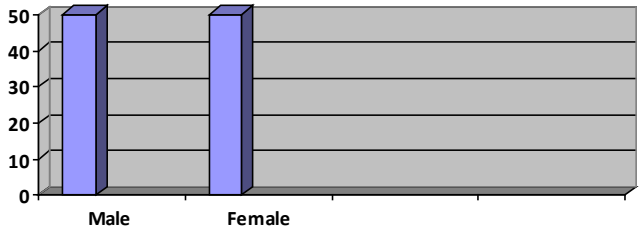

Figure 2. Subjects' Gender.

Subjects' occupation varies from student to unemployed and finally retired. Out of 30 subjects, 16 are students representing 53.3%, 10 subjects are employed representing 33.3%, 3 subjects are unemployed representing 10% and 1 subject is retired representing 3.3% as it is shown in Figure 3

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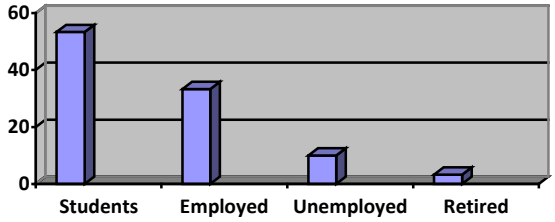

Figure 3. Subjects' Occupation.

Concerning the subjects' education, out of 16 students, 11 have already graduated from another higher education institution representing 36.6 while the other 5 are students at the present time representing 16.6%. Out of the remaining 14 subjects, 3 have as their last education the high school representing 10%, 8 subjects graduated from a higher education institution and they stand for 26.6%, 2 subjects had home education representing 6.6% and 1 subject had no education, standing for 3.3 % as it is shown in Figure 4

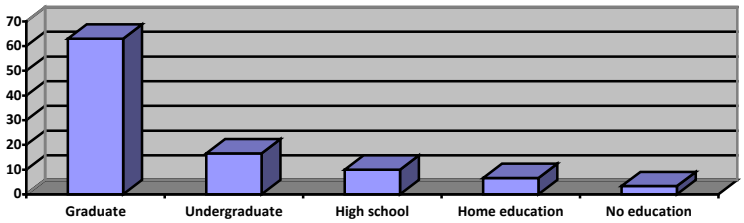

Figure 4. Subjects' Education.

The residence environment splits into 24 subjects coming from the urban environment representing 80% and 6 subjects living in the rural environment representing 20% as it is shown in Figure 5.

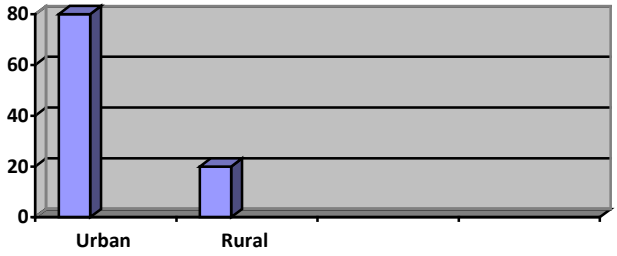

Figure 5. Subjects' Residence Environment.

Regarding the subjects' nationality, 10 subjects have Romanian nationality, 10 subjects have American nationality and 10 subjects have Russian nationality, each of them representing 33.3 as it is presented in Figure 6.

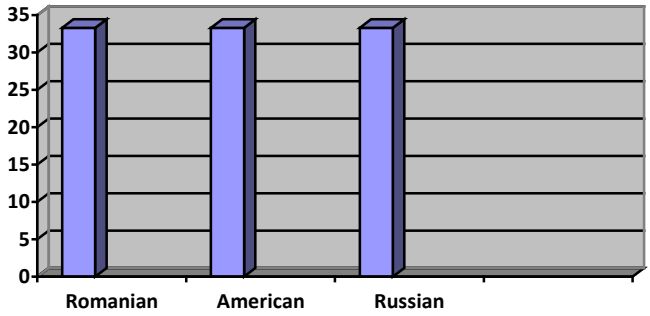

Figure 6. Subjects' Nationality.

Regarding the subjects' religion, I will split them according to their nationality. Out of 10 Americans, 4 subjects are Protestant representing 40%, 5 subjects are Roman Catholic representing 50% and 1 subject has no religion representing 10%. Out of 10 Russians, 7 are Russian Orthodox representing 70% and 3 are spiritual but not religious representing 30%. 10 out of 10 Romanians are Christian Orthodox representing 100% as it is shown in Figure 7.

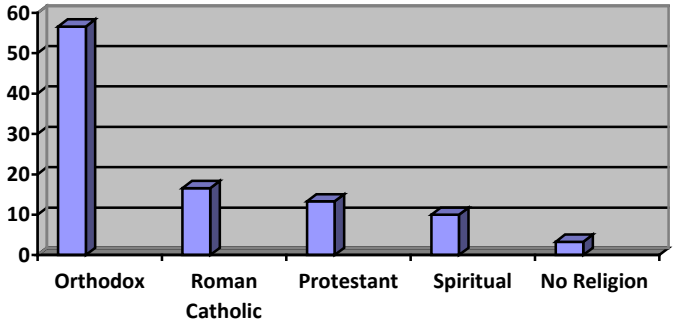

Figure 7. Subjects' Religion.

This study is based on 30 respondents, carefully selected to supply a balanced result. I have chosen an equal number of respondents from both genders and also an equal number of

respondents from each geographical area.

Given all these facts, it can be noticed that the respondents come from very different cultures, thus they meet diversity in their cultural background.

8.3. The Interpretation of the Results

The first question brings the Cold War into discussion. At the question "Do you think the Cold War fed a security dilemma?", the majority of subjects, that is 21, representing 70% preferred variant a) believing that the historical events prove that a bipolar world equally made nations to feel both secure and insecure, 6 subjects representing 20% picked up variant b) answering that they are not sure, both states had a mutual goal – security – yet none of them reached that level. 2 respondents (6.6%) have chosen variant c) disagreeing with the question, thinking that the Cold War was only about the fight between democracy and communism as ideologies and ended with democracy as a winner and only 1 respondent (3.3%) confirmed variant d) meaning he/she does not know.

The second question concerns the features that result from the contradiction between the United States and Russia's political cultures. To this topic, 10 respondents (33.3%) suggested that variant a) organized crime networks and international terrorism, which threaten the international security, is the most suitable answer, 4 respondents (13.33) picked variant b) suggesting violent cultural movements, which disables the opportunity to cross-cultural education as major factors, 10 respondents (33.3%) picked up variant c) meaning the instability in the international political system, which stimulates undesirable reactions from the other nations and the last 6 respondents (20%) have chosen variant d) the insecurity of world peace that results from their fight for power.

The third question concerns a problematic issue consisting of the most important cultural difference that contributes to the state of depression in the United States – Russian relationship. Surprisingly, all respondents (100%) favored

variant d) all of the above answers.

The fourth question highlights a new topic, that is, the subjects' perception of the political position of the United States in the post-Cold War era. 3 respondents (10%) preferred variant a), a new approach with respect to bilateral relations, 7 respondents (23.3%) favored variant b), preoccupation with the rise of global market, the majority of 15 respondents (50%) understood that spreading the liberal democracy is the most accurate answer, whereas the last 5 respondents (16.6%) have chosen variant d) improving global security.

The fifth question refers to the subjects' perception of the political position of Russia in the post-Cold War era. None of the respondents has chosen variant a), a new approach with respect to bilateral relations, and d) improving global security. The majority of 20 representing 66.7% voted for variant b) and the rest of 10 subjects representing 33.3% picked up variant c) standing for an intensive promotion of communism ideology.

The sixth question ends the discussion about political culture with the following question: "In your opinion, what of the following statements could supply the best explanation for the high potential of risk in the United States – Russian relationship?"4 respondents (13.33) believe that variant a) according to which security is viewed through a multitude of risks rather than focusing on specific realistic threats is the most suitable, 6 respondents (20%) considered that in the context of globalization, risk becomes transnational and does not apply to a particular territory as variant b) states, only 2 respondents (6.67%) picked variant c), which states that bad risk management can generate undesired results and bring unintended consequences and the majority agreed with variant d), 18 respondents (60%) believed that the perception of risk is very subjective, thus what may be considered to be risk for a nation may not be the same for the other one.

The seventh question refers to the subjects' opinion concerning the concept of

power. Therefore, 6 respondents (20%) think that it is a cultural device used to achieve a particular aim (variant a), 4 respondents (13.3%) believe that it is a means through which a nation proves its unique role in the international system, the majority of 20 respondents (66.7%) suggested variant c) according to which the concept of power inspires authority in global security concerns. None of the respondents picked up variant d), that is, a tool to suggest a strong national identity.

The eighth question deals with the subjects' view on the main reason for which the post-Cold War era brought greater imbalance of power. 2 of the respondents (6.6%) picked up variant a) the United States' status as the world's superpower, 11 respondents (36.6) suggested variant b) according to which the main reason might be Russia's greater fight for its national identity rather than focusing on cooperating with the United States, 10 of the respondents (33.3%) think that variant c) fits better while the last 7 respondents (23.3%) agree that Russian refusal to accept dependency with American policy leads to imbalance of power.

The ninth question aims at finding out if the ineffective communication between the United States and Russia occurs because of their opposing political ideologies.

The majority of 43.3% (13 respondents) voted affirmatively to the question (variant a), 7 respondents representing 23.3% are not sure if that was the real reason, suggesting variant b), pride is what maintains the two states far away of a future successful cooperation, none of the respondents suggested variant c) according to which their mutual goal – being the most powerful nation – is what maintains unstable collaborations. 33.3 % of the respondents decided to remain neutral to this question (10 respondents).

The tenth question of this questionnaire requests the subjects' opinion on the following question: "What should today's Russia do in order to fit in the international system?" Variant a) suggests repatterning its political system

and there was only one subject who has chosen this answer (3.33%). Variant b) was majority's favorite answer (18 respondents – 60%) according to which Russia should adjust its governing to the new type of society. 6 respondents (20%) picked up variant c) according to which Russia should take a break from the extreme nationalism and finally there were 5 respondents who agreed with variant d) that Russia should do nothing; the other nations should change to fit in the Russian model (16.6%).

The interpretation of the results is given in Figure 8.

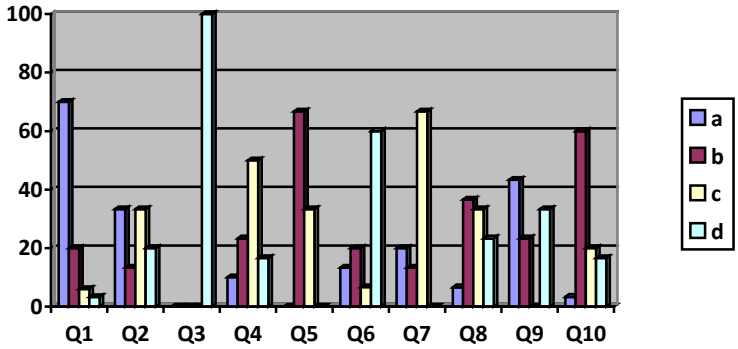

Figure 8. Interpretation of the Results.

In the following, I will present the conclusions drawn after the interpretation of the data of the questionnaire.

The Cold War was a security dilemma because a bipolar world equally made nations fell both secure and insecure.

The contradiction between the United States of America and Russia's political cultures generates organized crime networks and international terrorism, which represent threats to international security. It also generates instability in the international political system, which stimulates undesirable reactions from the other nations.

The major cultural difference that generates a state of depression in the United States – Russian relationship consists of their opposing

political cultures, their mutual struggle for power as well as their bad conflicting interests; all of these resting upon their different ways of understanding the events and situations.

The political position of the United States in the post-Cold War era is based on the spread of liberal democracy. The political culture of Russia in the post-Cold War era is concerned with the growth of the country's welfare.

The potential of risk in the United States - Russian relationship rests upon the fact that the perception of risk is very subjective, thus what may be considered to be a risk for a nation may not be the same for the other one.

The post-Cold War era brought greater imbalance in the international system because of Russia's greater fight for its national identity rather than focusing on cooperating with the United States.

The ineffective communication between the United States and Russia occurs due to the fact that they have opposing ideologies which carry their poor and unsuccessful interaction. In order to fit in the international system, Russia should adjust its governing to the new type of society.

9. CONCLUSIONS

As a conclusion, it is clear that security is used as a cultural device of one nation and it has an imperative role regarding the common political interests shared by nations.

In the post-Cold War era, the United States and Russia have used their own political cultures as security strategies in order to avoid risk.

A very important parameter consists in fighting for global supremacy.

Lacking communication and understanding, both superpowers will open more doors to the possibility of giving birth to conflicts.

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USING CULTURAL PRAGMATIC SCHEMAS IN IMPROVING STUDENTS' COMMUNICATIVE SKILLS

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Abstract: *This study investigates the usefulness of using cultural pragmatic schemas in improving Arab students' communicative skills. Linguistic behavior is reflected through repetitive patterns of highly organized cultural repertoires. To better understand the relationship between such repertoires and actual language used by interlocutors, Sharifian suggested a new framework for studying cultural pragmatic schema. A group of Gulf University for Science and Technology students in Kuwait was given sets of specific speech acts and were asked to apply them in pertinent contexts. Having discerned the synergy between speech acts, as action verbs, pragmemes, as contextualized speech acts, and practs, as concrete manifestations of such acts, students have become more aware of the use and effectiveness of pragmatic schemas. They have become more confident in using pragmatic schemas in achieving their communicative goals. There is a great amount of cultural knowledge that is deliberately ignored in the English classroom because of prioritizing monolingualism. This erroneous technique erodes time and effort in the process of teaching and learning English as a foreign language. Making use of cultural pragmatic schema would give students a better opportunity to compare cultural strategies in manifesting a particular linguistic structure. As David Crystal emphasizes Pragmatics is the study of language from the point of view of users, especially of the choices they make, the constraints they encounter in using language in social interaction and the effects their use of language has on other participants in the act of communication. Such a stance clearly means that teaching cultural pragmatic strategies in L1 would buttress and improve the teaching and learning of L2. Non-native English students need to know how to opt for the right word, phrase, and structure when speak in English. They need to understand the rationale behind selecting a particular linguistic structure rather than another. Using one's cultural repertoires would help one anchor appropriate meanings and as such appropriate structures in the appropriate context of situation. The conceptual knowledge that students bring to the ELT classes may best be viewed as assets and resources that could be drawn upon in developing metacultural competence in learners. This knowledge should be given to learners at an appropriate stage where they can perceive the difference between the two cultural systems. I asked a group of 30 Kuwaiti students at the*

Gulf University for Science and Technology in Kuwait to provide sets of culturally accepted sayings and to engage in conversations, in which situated speech acts, pragmemes, play an important role in manifesting action in conversations using the Kuwaiti dialect. Introducing students to several cultural schemas and letting them compare those ones with their English counterparts, if any, helped them understand the difference in cultural repertoires in both Arabic and English.

***Keywords**: Cultural Schemas, Pragmatic schemas, Pragmemes, Practs, Allopracts*

1. INTRODUCTION

The 20th century has witnessed a rising interest in the complex relation between culture and language and the way language is constantly affected by culture. It started with the anthropologist Malinowsky (1923) who coined the term "functions of language" emphasizing the presence of communicative goals behind linguistic choices. The school of functional linguistics was then formed by scholars like John Firth (1890-1960) and Michael Halliday (1925- present), until we reach modern pragmatics and John Austin (1911-1960) who brought to light how people enforce cultural codes in their everyday language. Culture is mostly ignored in English classrooms rather than used to create links and relations between the various cultural concepts and expressions that the students engage with or belong to. Due to teaching and viewing English as a foreign language and prioritizing monolingualism in class instead of focusing on the various cultural schemas deeply rooted in language, students lose an important opportunity to analyze, compare, and comprehend different cultural concepts and strategies.

By relying on Sharifian's (2011) Cultural Linguistic Theory and Mey's concept of the "Pragmeme" as micro-products that lie at the intersection between language and society and are schematically and discursively controlled, this paper will investigate the importance of cultural or conceptual knowledge in developing students' metacultural competence when it comes to learning languages.

2. BACKGROUND

Adhering to functional linguistics, the works of both Palmer and Sharifian have highlighted language as a social activity and argued for an anthropological linguistic paradigm of Cultural Pragmatic Schema, Speech Acts, Pragmeme, and Practs. Drawing on the concept of Cultural Pragmatic Schema as discussed in the works of various scholars (D'Andrade, 1995; D'Andrade and Strauss, 1992; Rumelhart, 1980; Shore, 1996; Strauss and Quinn, 1997; Lakoff, 1987; Rosch, 1978), Sharifian carried out studies that investigated the connection between linguistic choices and expressions and the enforcement or utilization of cultural conceptualizations in any given conversation.

Sharifian (2014) states in his study on the Aboriginal Australians: "In the case of Aboriginal English, many features of this indigenised dialect of English appear to dwell in conceptualizations that are derived from the beliefs, practices, norms and experiences specific to Aboriginal people (Malcolm and Rochecouste, 2000; Malcolm and Sharifian, 2002, 2007; Sharifian, 2001, 2002a,b)" (Sharifian, 2010) Linguistic interaction, therefore, is based on knowledge of the cultural schemata, and the communicative goal can be reached through an awareness of the power and functionality of these choices deeply rooted in language.

Speech acts, the second element of this analytical framework, has been understood as an action verb, a definition that Mey (2003) has rejected in favor of emphasizing the power and effect of the context, or what Sharifian understands as the cultural schemata, and its effect on the speaker's discourse formation and negotiation, which leads to the production of effective pragmemes. Al Sharoufi (2013) explains: "A pragmeme is a sociocultural product, rather than a stern-fixed linguistic term, as some linguists mistakenly believe. Interlocutors in different cultures use their sociocultural background knowledge to use the appropriate pragmemes as such achieve their communicative goals" Al Sharoufi (2013) adds:

Speakers and listeners are actively involved in a negotiating process that leads to creating a cycle of actively changing contexts in which speech acts win their

legitimacy of being real doers of action in real-time situations. Particular cultural repertoires in human societies facilitate language with a wealth of contextual resources that can help anchor meaning by favoring particular speech acts to other ones. (Al Sharoufi, 2013)

The *pract* comes at the end of our framework as the final product that establishes social order and normalizes different societal relationships. A simple example would be the choice of certain honorifics or courteous titles when addressing one's elders as part of the cultural schemata of "adab" or good manners, which is a big part of the Arab culture. Discourse becomes digestible and legitimate because it is based on the right cultural schema. Motion and Leitch (2007) argue that "discourse is the vessel that carries power/knowledge," and our linguistic choices reflect this when we turn speech acts in a certain context into powerful or effective pragmemes" (Motion and Leitch, 2007)_Therefore, for a discursive practice to fulfil its communicative goal is has to be entrenched in a specific cultural pragmatic schema, which explains the pragmatic aim of discourse.

On the importance of the context in creating effective and powerful pragmemes to execute a certain action, Mey (2010) explains: "We cannot refer in and by ourselves alone: reference is only satisfactory and complete when a common interpretation for all referred items has been established. In other words, referentiality presupposes a collaborative effort, and by that token, it is a true pragmatic act" (Mey, 2010) Capone (2005) adds that pragmemes "are situated speech acts in which the rules of language and of society combine in determining meaning" (pp.13-55). Our linguistic choices are directed by the context; a pract that is not entrenched in a cultural schema has no meaning.

Therefore, we constantly work with a certain context that shapes our message through the right codes of reference so as to ease the targeted audience's digestion and comprehensibility of the message. Sharifian delineates the mission of cultural linguistics by saying: "Cultural linguistics is based on the premise that many features of human languages encode or instantiate cultural conceptualizations-or, in other words, that cultural conceptualizations are entrenched

or embedded in many features of human languages." (Sharifian, 2011: 7) Language as such is nothing but a social product in which many cultural conceptualizations are engraved in it and are enacted for in social context. Teaching English as a foreign language should bear in mind this crucial precept. Teaching language as a set of rules only would definitely deviate language from its genuine course. English teachers, therefore, ought to teach English as part of its own culture and compare it with students' native culture. Cultural determinants play an important role in shaping language and its structures, which be taught to foreign students with complete awareness. This was the main launching premise of this study. I have tried to teach my students at the Gulf University for Science and Technology English through contextualizing in its cultural environment. Drawing a cultural comparison between Arabic and English paved the way for creating a strong awareness of linguistic choices based on cultural selections.

3. METHODOLOGY

I asked a group of 30 students to provide sets of culturally accepted sayings, in which particular situated speech acts, pragmemes, play an important role in manifesting action in conversations using the Kuwaiti dialect. The following is a sample list of sayings in which speech acts are used in the following categories:

3.1. Targeted Speech Acts

- Accepting & agreeing
- Accepting & agreeing reluctantly
- Approving & approval
- Backing, supporting & defending
- Reassuring
- Supporters, members & defenders
- Words & phrases expressing agreement & acceptance
- Persuading

3.2. A new framework for teaching speech acts using pragma-cultural schemata

Introducing the effects of cultural metaphors on teaching English as a foreign language.

Introducing Sharifian's new framework for analyzing speech acts from a pragma-cultural point of view:

Cultural pragmatic schema-speech act- pragmeme-pract

Such is the order for teaching speech acts, which adds more practicality to using appropriate utterances within a contextualized pragmatic framework.

3.3. Benefits of the new framework in teaching communicative skills

Developing metacultural competence in learners is crucial for developing cultural awareness in second language acquisition, something totally ignored in language teaching.

The conceptual knowledge that students bring to the ELT classes may best be viewed as assets and resources that could be drawn on in developing metacultural competence in learners. This knowledge should be given to learners at an appropriate stage where they can perceive the difference between the two cultural systems.

If one wants to adopt an effective ELT curriculum, one should not pay attention to mono-lingualism; on the contrary, bilingualism and multilingualism today is dominating our world. The majority of English speakers around the world is non-native speakers. This forces one to accept the importance of accepting cultural schemas used in a particular culture in promoting English as an International language. Teaching a second language SHOULD engage new system of conceptualizing experience (Sharifian, 2005)

There is a great amount of cultural knowledge that is deliberately ignored in the English classroom because of prioritizing monolingualism. This erroneous technique erodes time and effort in the process of teaching and learning English as a foreign language. Making use of cultural pragmatic schemata would give students a better opportunity to compare cultural strategies in manifesting a particular linguistic structure. As David Crystal emphasizes, all linguistic levels are subservient to Pragmatics, which clearly means that teaching cultural pragmatic strategies in L1 would definitely buttress and improve the teaching and learning of L2.

4. PROCEDURE

(28) Lecturer: I heard you've won a prestigious award. Congratulations! This is fantastic.
Student: Thanks so much. I haven't done anything. It's the

result of your effort and your knowledge. I owe it all to you.
(Depending on the Iranian schema of belittling oneself)
Lecturer: (appearing uncomfortable) Oh, no!!! Don't be ridiculous. It's all your work. (Sharifian, 2005: 337–338)

(Depending on the schema of individual merit)
Such a clash of schemas has led to a clash in understanding.
In Kuwaiti Arabic, this expression could mean several things depending on how the observed cultural pragmatic schema is used:

Example 1:

-Muhammad: Hey, Jassim! I worked out your business with the company. -Jassim: Oh man! Finally!	محمد: اقول جاسم ترا ضبطتلك الموضوع ويا الشركة Muhammad: 'agul jasim tra dabattlek almawdue waya alsharika جاسم: اي **يا معود** ما بغينا Jassim: 'iy ya maeud ma bghyna
(Accept and Welcome)	**(موافقة و ترحيب)**

Example 2:

-Muhammad: Yesterday, I didn't go to work at all. -Jassim: Oh man! Why?	محمد: ما رحت امس للشركة كلش - Muhammad: ma rht 'ams lilsharikat kellesh جاسم: ليش يا معود؟ - Jassim: lysh ya maeud?
(Reproach)	**(عتب)**

Example 3:

-Muhammda: I'll show you what I'll do with you! -Jassim: Oh man! Show me what you can do!	محمد: ابي اواريك شسوي فيك - Muhammad: 'abi awaryk shasawy fik جاسم: يا معود يعني شتبي تسوي - Jassim: ya maeud yaeni shtabi tsawiy
(Reply to a threat)	**(رد لتهديد او وعيد)**

Is there any appropriate equivalent to this expression in English?
What kind of communicative strategies are used in the above encounters?
John: I have talked to your director about your absence the other day.
Peter: Thumbs up!
I haven't gone to work.
You shouldn't have done that
I'll be damned if I'll forgive you.
Beware of your aggressive thoughts.

4.1. Targeted Speech Acts

- Accepting & agreeing
- Accepting & agreeing reluctantly
- Approving & approval
- Backing, supporting & defending
- Reassuring
- Supporters, members & defenders
- Words & phrases expressing agreement & acceptance
- Persuading

4.2. Procedure 1

I asked a group of 15 students to provide sets of culturally accepted sayings, in which particular situated speech acts, pragmemes, play an important role in manifesting action in conversations using the Kuwaiti dialect. The following is a sample list of sayings in which speech acts are used in the following categories:

Persuading
- مد رجولك على قد لحافك (mid rujulik ealaa qad lahafik) - Cut your coat according to your cloth
- الأعمال خير من الأقوال (al'aemal khayr min al'aqwal) - Acts speak louder than words
- ايد وحده ما تصفق ('aid wahdah ma tusafeq) - It takes two to tango
- من طلب العلى سهر الليالي (man talab aleula saher allayali) - There's no royal road to learning

- اضرب عصفورين بحجر ('idrib asfuryn bihajar) - Kill two birds with one stone
- الباب اللي يجيب منه ريح سده واستريح (elbab 'illy yijyk menah rih sidah (westiryh) - Close the door that brings the wind and relax

Requesting
- اعطي كل ذي حق حقه (aeti kula dhi haqin haqah) - Give the devil his due
- طلبتك (talabtek) - I'm seeking your help

Forgive and forget
- عفا الله عما سلف (eafa allah eamaaa salaf) - Past is the past (let bygones be bygones)
- الله يسامحك (Allah ysamhik) - May Allah forgive you

Backing, supporting & defending **Supporters, members & defenders**
- أنا وأخوي على ابن عمي وأنا وابن عمي على الغريب ('ana wa'okhui ealaa ('ibn eami wa'ana wa'ibn eami ealaa algharib - My brother and I against my cousin; my cousin and I against the stranger
- بغيناه عون صار فرعون (baghynah eawn sar fireawn) - We sought his help but faced his arrogance.
- رقبتي سدادة (rugbty sadadah) - You can rely on me
- اكون عند ويهك (eind wayhik) - I'm ready to help

Reassuring
- وعسى أن تكرهوا شيئاً وهو خير لكم (wahuwa khayrun lakum Wa asaa 'an takrahuu shayy'an) - But perhaps you hate a thing and it is good for you; and perhaps you love a things and it is bad for you
- يجيب الله اللي فيه الخير (yjib allah elly fih alkhayr) - hopefully everything will be fine/ May Allah provide us with what is best
- اللي كاتبه الله بيصير (elly katbah allah bysyr) - what will happen shall happen / God's fate shall prevail
- ارقد وآمن ('irgd wu aamen) - Rest assured

Accepting & agreeing reluctantly
- مالك إلا خشمك لو كان عوي (ma lek 'ilaa khashmik law kan eawy) - Your crooked nose is still your nose /
- وشحادك على المر قال الأمر منه (minah wsh hadik ealaa almur gal al'amar) - Damned if you do, damned if you don't - Between a rock and a hard place - Out of the frying pan, into the fire
- الحشرة مع الناس عيد (alhashrah mae alnnas eid) - To gather up / follow people is better

4.3. Procedure 2

I asked my students to engage in a conversation, where such expressions and proverbs are used. They started engaging in interacting with each other using those speech acts in order to reach effective practs according to Sharifian framework: Cultural pragmatic schema- speech act-pragmeme-pract. Below are some sample utterances:

The below example clearly shows that the cultural schemata applied in Arabic is drastically

different from what an English counterpart might look like:

Cultural Pragmatic Schema: (Tasgheerul Nafs)
Speech act/event: Agreeing for a compliment
Pragmeme1: REASSIGN THE COMPLIMENT TO THE COMPLIMENTER
Pract (Lawla da3mikum la ma wasalna lima nahnu feehi)
Pragmeme2: REASSIGN THE COMPLIMENT TO GOD
Pract 2: Ma nahnu illa waseelatan yusakheruha Allah fal hamdu washkru lahu)

One can see from the above example that in English interlocutors do not mention God or any reference to any deity. This drastic pragmatic difference affects the production of practs respectively in the sense that communication takes a different direction when persuading, agreeing, complimenting, etc. Any speech act thus is regulated by the higher cultural schemata, which in turn affects the use of appropriate pragmemes that contribute to producing the most appropriate pract.

Example 3:

Cultural Pragmatic Schema: (tahiyyatun wa thana'a)
Speech act/event: Responding to a compliment
Pragmeme1: OFFER THE OBJECT OF THE COMPLIMENT TO THE COMPLIMENTER
Pract (After being applauded on a great project: Hatha laysa bigadrik wa laken tafaddal bi akhthil Jaeza)
Pragmeme2: REASSIGN THE COMPLIMENT TO GOD
Pract 2: (Hatha Fadlun Mina Allah wa lakinny La astahel kul hatha al takdeer)

Following the above encounter, one observes that the cultural schema of offering a gift is a ritual on its own in Arabic. The recipient

of the gift is so embarrassed that he belittles himself by saying: (This is a God-sent reward, which I do not deserve.) Again, reference to God is crucial for the completion of this turn. If one encounters the same encounter in English, one will see that there is a considerable difference between the two cultural systems as follows:

Cultural Pragmatic Schema: Greeting
Speech act/event: Offering a compliment
Pragmeme1: REASSIGN THE COMPLIMENT TO THE COMPLIMENTER
Pract (After being applauded on a great project: I really appreciate it.)
Pragmeme2: REASSIGN THE COMPLIMENT TO THE COMPLIMENTER
Pract 2: (Very kind of you)

Greeting in English as such is more direct and polite, without any religious reference. This basic difference between the two languages coerces one to consider teaching such frames to non-native students of English. Creating class awareness of the existence of cultural schemata is a very important step towards teaching effective communicative strategies.

Having asked my students to engage in a number of conversations where they used specific speech acts like the ones mentioned above paved a way for a more in depth understanding of the intrinsic cultural differences between Arabic and English. Knowing and being aware of different cultural repertoires in both languages will help students avoid drawing one-to-one comparisons between Arabic and English; as such they will become more conscious users of both Arabic and English.

Understanding cultural schemata and their role in generating practs in conversation is important in language teaching. It is worth mentioning that “Cultural schemata are represented in a heterogeneously distributed fashion among the members of a speech community” (Sharifian, 2016)

It is thus important to bear in mind that cultural pragmatic

schema produce speech acts that in turn produce specific pragmemes, which can be manifested in various practs as per the following figure:

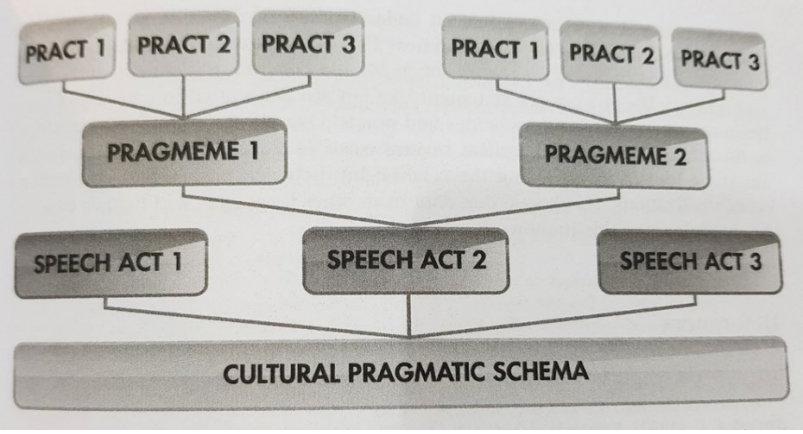

Figure 1: Cultural Pragmatic Schema.

5. CONCLUSION

Understanding language as a type of social behaviour paves the way for analysing human communication in a more concrete way. Language is goal-oriented and whatever strategy interlocutors might use in their daily conversations depends on an actual need for socializing in the first place. Speech acting should be seen at through a pure cultural prism where language is part and parcel of what interlocutors want to do in real-time situations. Cultural linguistics and pragmatics pave the way for a more societal theory of language use, where language used by real people is analysed, rather than artificial sentences analyzed sporadically and bereft of any human context.

Non-native speakers of English intuitively draw upon their own cultural schemas when speaking a foreign language. They thus rely on their cultural repertoires in selecting most effective pragmemes in achieving their communicative goals. Teaching English as a foreign language as such should not depend only teaching lexis and grammar; on the contrary, a great stress should be put on teaching equivalent cultural repertoires, which in turn reflect on the production of language itself. It

is very rewarding and beneficial to build on non-native students' cultural schema when teaching them English.

Know how to use English appropriately is a genuine challenge for most English teachers, and the way to confront this challenge is to immerse students culturally, which can be done in the English classroom through teaching cultural schemas and effective pragmemes when achieving specific communicative goals.

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INTELLECTUAL CAPITAL - KEY FACTOR IN ORGANIZATION DEVELOPMENT

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Abstract: *Intellectual Capital (IC) is an important component of an organization's capital, being the primary resource of development and also of value creation in almost all sectors of economic life. In order to be used and explored with maximum efficiency, intellectual capital must be an integral part of the organization's strategic development plan. In the literature, the concept of intellectual capital was accepted, in fact designating the triumph of economic reasons. The emergence and development of this concept increasingly emphasizes the correlation with the technological progress and the continuous development. The purpose of this paper is to highlight the value and importance of intellectual capital - competitive advantage in any organization.*

Key words: intellectual capital, organization, organization development, human resource.

1. INTRODUCTION

In contemporary society, the importance of knowledge and the emergence of a global economy are some of the most up-to-date topics debated in recent years. Increasing the level of knowledge is often associated with performance and economic growth, knowledge becoming a catalyst for competitive advantage and innovation, in the context of complex systems subject to change, novelty and ongoing transformation.

A key factor of this continuous transformation is intellectual capital, which has become a strategic element in all spheres of activity of organizations, in order to obtain or increase profits and competitiveness. Consequently, more and more attention is directed to the management of knowledge, of intangible (*intellectual*) capital.

Organizations must therefore exploit all the resources they have in order to ensure their success and know how to capitalize on them.

2. HUMAN CAPITAL – AN ORGANISATION'S ASSET

The concept of *human capital* is frequently used to refer to human resources and represents productive resources concentrated in labor resources, skills and knowledge. Hence its components are:

a) biological capital - physical abilities, mostly innate, of individuals;

b) educational capital - skills acquired by individuals in the training process.

Other subcategories of IC that occur frequently but differently in the different conceptual classifications are: *customer capital, stakeholder capital, cultural capital, organizational capital, process capital* and *economic capital*. It is important to specify that not the sum of these components that make up the whole is the most important, but the way they are interconnected.

In turn, the educational capital takes on two forms: on the one hand, the skills and competences acquired in the school through the educational process, education and attested by diplomas, and on the other hand, the skills and knowledge acquired during the existence of the individual, through individual efforts of study and reflection or through contact with the environment.

Therefore, human capital is developing progressively, requiring state-funded investments, employers, families and adult individuals, concerned about their professional-scientific training, the ability to adapt to the changes imposed by technical-scientific progress, their career.

Figure 1 shows how human capital manifests itself (Brooking: 1996):

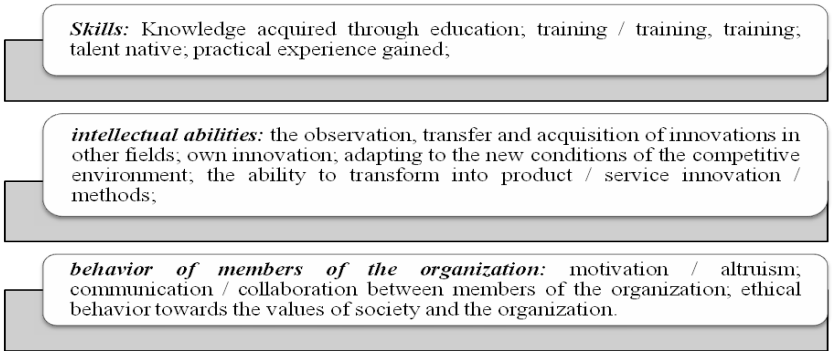

Figure 1. Manifestation of human capital.

Table 1. Synthesis of Human Capital Approaches.

The essence of the approaches	Author
□ The monetary value of human capital □ Individual development is fixed capital	William Petty
□ The division and specialization of work increase the skill of individuals □ The individual's capacities are vocations of the nation □ Investment in education is considered to be a future source of income □Knowledge and experience are elements of fixed capital	Adam Smith
□ The role of education in the formation of knowledge and experience	Leon Walras
□ National wealth is the result of investment in education and vocational training	Friederich List
□ Education is the basis for adaptability and professional mobility of the workforce □ The most valuable of all capitals is the one invested in the human being	Alfred Marshall
□ The production capacities of the individual are circulating capital □ The distinction between simple and complex work appears □ The relationship between training and pay □ The role of intellectual capital in the formation of technical capital	Karl Marx
□Education is the investment that influences future incomes and is included in the notion of capital	Irving Fischer
□ The role of human capital in economic growth □ Human capital comprises the stock of abilities and knowledge □ The role of investment in health is emphasized; □ The relationship between education, workplace training and income arises	Jacob Mincer
□ Defines the concept of human capital as a form of capital □ Health and investment expenses are costs that increase the individual's income	Theodore Schultz
□ Human capital is indivisible by the bearer □ has the lowest liquidity □ investment in education is long-lasting □ Investments in human capital are very risky	Lester C. Thrurow
□ The concepts of general training and specific training are explained □ Education and training are investments that increase the individual's income □ The role of investment efficiency is demonstrated □ Establishes the relationship between human capital and income distribution	Gary Becker
□ estimating the value of the human being through the "production cost procedure and capitalized gains"	B. Kiker

The essence of the approaches	Author
Investments in human capital determine productivity growth and economic growth respectively Human capital is the "engine of economic growth"	R. Lucas, Uzawa, Azaridis, Drazen, P. Barro, P. Romer, Weill, J. Crawfourd
Individuals are investors and owners of human capital	Thomas Davenport

The theory of human capital has not always succeeded in meeting the expectations of solving problems in the field. Such a problem is that the elements of human capital theory can be used only in scale production processes to differentiate pay to skill levels. In the author's view there are a number of shortcomings in the human capital theory: human capital theory is limited to the study of functional dependencies, respectively to the neoclassical paradigm reflecting unilaterally the reality. The adherents of the human capital theory did not reveal the formal character of the neoclassical model. The theory of human capital is specific to the microeconomic analysis, according to which the increase of the human capital ensures a proportional increase of the incomes. People with ideas, talent, with a contribution to the development of culture have not always been correctly evaluated.

By synthesizing the basic approaches of human capital theory, we can state: human capital is the measure of the capacities and qualities of the individual formulated as a result of investments which, being actually used, lead to the increase of labor productivity and income.

3. INTELLECTUAL CAPITAL AND ORGANIZATION DEVELOPMENT

The concept of intellectual capital is relatively new, it emerged in the last decade of the 20th century. The concept was first defined and argued by Thomas A. Stewart, (Stewart & Ruckdeschel: 1998) editor of the American magazine *Fortune*, and then taken over and developed by other

specialists, especially in the field of human resource management.

Before attempting to truly define the intellectual capital, its importance must be emphasized from the point of view of the general definition of the capital of an organization: Capital, (Oprean: 2008, pp. 28-30) means broadly the goods produced by an economic system to be used as resources at producing other future goods and services. The resources that make up the capital of an organization can be divided into two generic categories:

a) *tangible or physical resources / assets* - equipment and machinery, construction structures, inventory stocks, etc.;

b) *intangible resources / assets* - the human resource.

The term *intangible assets* is specific to accounting, and *intellectual capital* (a term used predominantly in management) is generally assimilated to intellectual property. For a long time, the measurement of the capital of organizations was made from an accounting point of view, with the emphasis on tangible resources, known, easily to be inventoried and measured. From a historical point of view, the period between 1959 and 1999 was marked by a series of researches that opened new perspectives on the efficient use of resources. Thus, the idea has emerged and reinforced that organizations have differentiated or even unique resources, capabilities and facilities, and skills-related issues, knowledge management and learning processes at the organizational level become fundamental strategic issues.

Intellectual capital research has been expanding since the 1980s, since its interest in the socio-economic field has been identified since the OECD initiatives when observations have been made on intangible investments such as vocational training, scientific research, patents and the development of new technologies emerged for the purpose of rapidly increasing tangible investments.

The beginnings of the CI study are marked by a number of reference events, including the 1980 publication of Hiroyuki Itami's paper, suggestively called *Mobilizing Invisible Assets*, dedicated to the effects of so-called invisible assets on Japanese corporations' management; the publication in 1987 by Karl-Erik Sveiby of paper entitled *The Know-How Company*, which emphasizes how the rapid spread of companies that are not based on

traditional production can be managed, but based on the creativity and knowledge of employees.

In 1991, for the first time, the term *intellectual capital*, used by Thomas Stewart in the Brainpower article, (Stewart & Kirsch: 1991) published in the Fortune magazine, appears for the first time. Also, in 1991, Skandia established the first CI leadership position, calling Leif Edvinsson as an *intellectual capital manager*. Skandia also marks the beginnings of CI's measurement tests, developing its first method of measurement (IC Navigator) in 1993 and the first *IC report* in 1995.

Although there is no generally accepted definition of the term *intellectual capital*; however, several perspectives have led to a general outline of the term, by using associated concepts such as: *skills, capabilities, expertise, patents, customer information*, etc.

Regarding the scientific literature and the methodological perspective of operationalization, there are several ways to operationalize the IC, but after more than a decade of study of the phenomenon in question, most authors who have approached the intellectual capital indicate three constituent elements for the evaluation of this intangible asset (Armstrong: 2003): *human capital, relational / social capital* and organizational capital. (Figure 2)

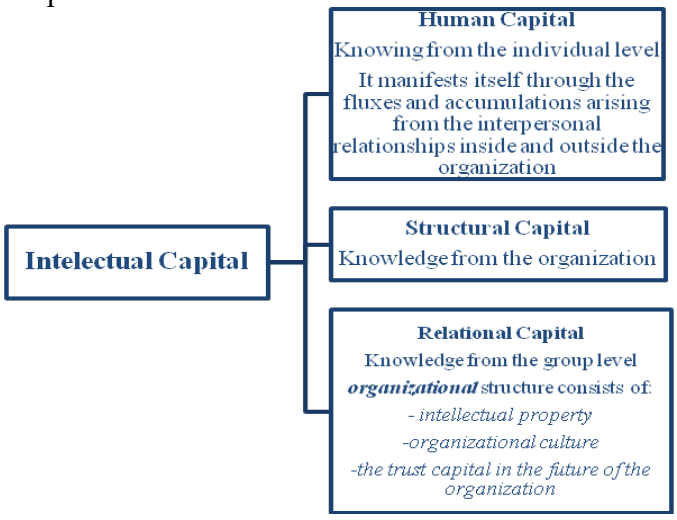

Figure 2. General Operational Scheme of IC
(Source: Emerald Journal of Intellectual Capital).

The considerations presented support the assertion that intellectual capital is formed by the fluxes and accumulations of knowledge and constitutes the intangible assets of the organization.

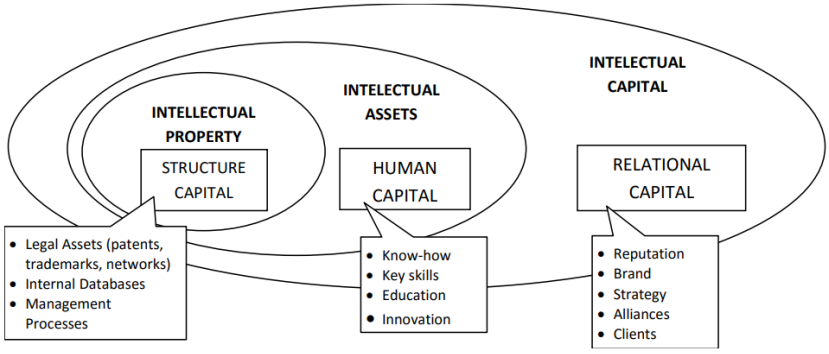

Figure 3. Intellectual's Capital Structure.

For an organization's success in assessing the impact of intellectual capital, a complex approach to the sources of this type of capital is needed. For example, intellectual capacity that is not synonymous with human capital must be analyzed, but it also includes elements related to intellectual property (and more specifically its protection), processes associated with the preservation and dissemination of knowledge, and organizational culture (Figure 4).

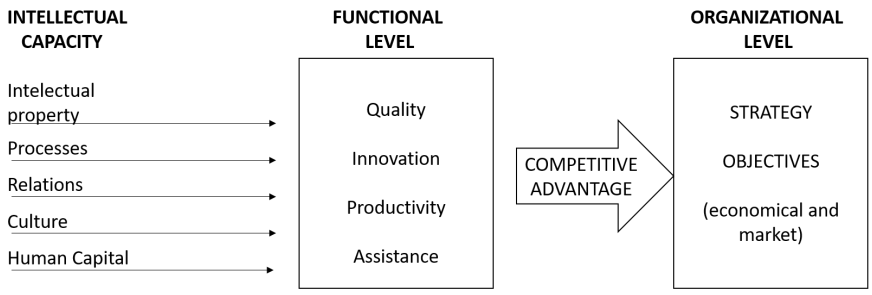

Figure 4. Scheme of intellectual capital capacity
(Source: Fitz-Enzi., 2009)

Also, intellectual capital needs to be evaluated both in terms of its impact on the functional level and the impact on the global organizational level. Although, mistakenly, intellectual capital and, above all, the human capital component are perceived as a source of costs, it must be considered as a strategic investment.

Brooking provides a comprehensive definition of IC, claiming that this concept is attributed to the combined intangible assets that allow an organization to function. It is also Brooking that refers to the need for an efficient *management of intellectual assets*. (Brooking: 1996)

The conceptual development of intellectual capital was made in two different but convergent directions. A first direction was generated by the need to increase the organizational capability of the organization and to achieve the strategic advantage on increasingly competitive markets by intensive capitalization of intangible resources. Among these resources, emphasis was placed on information and knowledge, trademarks and patents, organizational behavior and organizational culture geared towards excellence. In other words, the problem is how to manage the intangible resources of a company as efficiently as possible to increase its competitiveness. The second direction was generated by the obvious trend of consolidating success with organizations that have the relationship between market value and the ever-increasing financial value of the balance sheet. This situation, which is also characteristic of the new economy, has led to the idea of developing new tools to assess the organization's intangible resources that cannot be measured by financial instruments used for tangible resources. The first direction can be called strategic because it comes from the strategic management area, while the second direction can be called evaluation because it comes from the area of the metrics used in assessing the management performance of a company.

The two directions are convergent because "what you can measure can be managed and what you want to manage you have to be able to measure." Intellectual capital is a fusion between these two currents of thinking.

Intellectual capital ultimately means how you can measure and better realize the management of knowledge and other intangible resources in the organization.

The intellectual capital (Sveiby, f.a.) comprises of:

Market assets are those that derive from a beneficial relationship of the organization with the market and with customers. Market assets reflect the potential of an organization due to intangible assets linked to the market. Examples may include: customers and their loyalty, distribution channels, different contracts and agreements, etc.

Intellectual property assets include know-how, marketing secrets, copyright, patents or other rights. Intellectual property is the legal mechanism to protect many of the assets of organizations.

Human resources focus on ability and creativity in problem solving as well as leadership, entrepreneur, and manager skills that employees of an organization have. An individual is not empowered to perform only a certain activity, but rather has to prove a dynamic person who can carry out a variety of activities over time. As they become more competent in their work, people learn more and become more and more valuable.

Infrastructure specific assets represent those technologies, methods and processes that enable an organization to function efficiently in the long run. Examples include: organization culture, management methods, financial structure, databases and market or customer information, communication systems such as e-mail and modern teleconferencing systems.

4. CONCLUSIONS

We can conclude that the transformations of the present society require different approaches in managing the activity of organizations and the exploitation of human capital, implicitly new approaches to management thinking and practice that are subject to unpredictable external environment challenges, which are becoming more turbulent and more competitive.

From the mere analysis of the elements of human capital, we understand how much investment and attention to its development is necessary. In fact, the management of modern organizations has understood that, in order to ensure their success, in the conditions of amplifying the process of

globalization and enhancing competitiveness on a highly competitive market, human resources must be approached as strategic investments.

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ASPECTS ON SUSTAINABLE DEVELOPMENT IN LEARNING ORGANIZATIONS

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Abstract: *The world is constantly changing, and it seems that in the day-to-day life of organizations, uncertainty is increasingly encountered. From this perspective, the traditional problem-solving approach (which reduces the world and its challenges only to solvable and manageable problems) has become ineffective. Consequently, it is evident that leaders, managers and practitioners cannot address sustainable development as a problem that needs to be solved and managed in a simplistic way. It needs to go from „doing things better" (as in the traditional problem-solving approach) to „doing better things". This change requires the adoption of objectives that help the organization to develop sustainably. Sustainability competence includes the capabilities and qualities that individuals, teams, and organizations need to have in order to effectively address the organization's internal and external sustainability challenges.*

Key words: sustainable development, learning organization, human resource.

1. INTRODUCTION

Organizations contribute to the shaping of our lives and are of increasing importance in society because they reflect, as complex social systems, several culturally accepted needs and values, they use living together, being the place where people spend the most part of life and where they form a career. Therefore, human society can be compared to a system composed of clear, different organizational structures within which people perform various activities. Although organizations are different in size, activities, methods and technologies used to achieve goals, their main purpose is to serve society by making it better and safer, contributing to improving people's living conditions.

2. ORGANIZATION - CONTEMPORARY CONCEPTUAL COMPONENTS

The organization, as a part or element of the system consisting of distinct organizational structures, is „*the social framework or social unit in which each member of the society fits and integrates and is constituted to achieve a set of predetermined objectives*" (Cornescu *et al*., 2003, p. 35). In general, there is a variety of forms of social structure of organizations, but also „*a specific of the definitions given to organizations according to the discipline represented by different authors or the perspective from which the organizations are analysed*" (Vlăsceanu: 2005, p. 39).

Being a complex social entity, the organization is hard to define. The difficulty of defining the concept of „organization" is determined both by the many perspectives from which the organization is being analysed and by the fact that the organizational analysis, thanks to the theoretical and practical research, has devoted new ways of defining it. Psychologists tend to analyse and define organizations based on the needs of the individual, sociologists and political scientists are interested in adapting the individual to social needs and focus on social and political relationships, and economists approach organizations in the light of individual efforts within the organization to grow its capital.

The simplest definition of the organization is „*a social invention designed to achieve common goals through common effort*." (Johns: 1998, p. 4). The definition can be supplemented by the following elements, characteristic of all organizations:

a) the organization has a certain location and performs a certain type of activity;

b) the organization is always specialized; it has a mission to which certain goals are associated. Differentiation of missions and objectives is associated with technical specialization;

c) the organization is autonomous in its constitution and functioning;

d) the organization is made up of members who can enter or leave the organization on their own decision;

e) relationships are established between the members of the organization; they interact structured with each other;

f) each member of the organization has set several of its own goals. Achieving these goals will directly determine the actions the member will perform within the organization;

g) to achieve the goals of an organization, all members of that organization will make their contribution, as they will also fulfil their personal goals.

The emergence, existence and development of an organization are determined by limiting people to achieve their goals only by their own forces, because they have limited physical and intellectual capacities. This makes organizations grow when the accomplishment of the goals pursued exceeds the individual's ability to complete de job, which requires his/her training and integration into the community.

All organizations, irrespective of their type, are based on at least two common elements:

a) people with experience and their level of training;

b) the resources necessary for the optimal development of the specific activity of the organization (Cornescu *et al*., 2003, p. 36).

Any organization, no matter how valuable its resources are, if it does not adapt to changes that happen in the external environment, cannot cope with these changes and is eliminated by competition.

3. LEARNING ORGANIZATION - MODERN AND COMPETITIVE ORGANIZATION

Due to the pressures faced by modern organizations in their attempt to remain competitive on the market, as well as to the transformations that have taken place over time in organizational theory, the phrase „learning organization", is used more frequently in the sense of an organization that facilitates the learning of its members and is continually transformed (Pedler *et al*., 1997).

This concept was first used by Peter M. Senge in his book *The Fifth Discipline: The Art and Practice of the Learning Organization*, the first edition of which appeared in 1990, and refers to an organization in which employees share to each other their acquired knowledge, learning from each other.

According to his definition, learning organizations are „*organizations in which people continuously expand their capacity to create the results they really want, in which new and expansive patterns of thinking are nurtured, collective aspiration is set free,*

and people are always learning how to learn together." (Senge: 2012, p. 24)

Although the concept of a „learning organization "has been defined in various ways, all definitions share a few key terms: *organization, collective aspirations, personal and/or professional skills, lifelong learning and/or jointly, achievement of goals, organization development*.

Peter M. Senge asserts that a learning organization bases on changing the mentality „*from seeing us as entities separate from the world, seeing us connect to it, from seeing the problems as being caused by someone/something „from outside", to seeing how our own actions create the problems we experience*" (Senge: 2012, p. 24).

In the learning organization, the fact that managers and leaders challenge employees to think creatively and steadily about the organization's needs, increases the employees' intrinsic motivation.

A learning organization should have to:

a) use employees' training to achieve its objectives;

b) constantly offer employees learning opportunities;

c) find the connection between the individual performance of the employees and the organizational performance;

d) use creative tensions that arise among employees as an incentive in getting new ideas;

e) encourage dialogue within the organization, creating an environment that encourages employees to express their opinions and take risks;

f) always be aware of the link between it and the environment in which it operates.

For the organization that learns to develop sustainably with a positive impact on society and the environment, it must set certain objectives specific to the sustainable development that it can achieve.

4. THE OBJECTIVES OF THE LEARNING ORGANIZATION FOR SUSTAINABLE DEVELOPMENT

Organizations are increasingly challenging their sustainable development and the fact that employees need to develop capacities and behaviours that will enable them to contribute to the adoption of a sustainable lifestyle

at the individual and collective level. (Naudé: 2012)

Like other organizations, the learning organization operates in an environment characterized by a strong link between the three pillars of sustainable development - economic development, social development, environmental protection - and therefore it is imperative that, in addition to economic and financial objectives, to adopt a range of social and sustainable development objectives.

Sustainable development of an organization in general is a complex process influenced by the organization's internal and external environment, but especially by the organization's employees who come with their own beliefs, needs and values. The learning organization has more chances to respond faster and more effectively to the challenges of sustainable development due to the direct involvement of employees by stimulating their creativity, using the knowledge they have acquired, and teamwork.

For an organization that learns to develop sustainably, it must take into account a number of issues that are considered as real challenges for strengthening the learning capacities of individuals from the organization and of the organization. These include (Peters & Wals: 2013):

– it is impossible to predict what is the best way to solve a particular problem;

– the influence of organizational values on organizational behaviour;

– it is not possible to reach consensus among all concerned and involved parties;

– it is not possible to predict precisely the outcome of the impact of a chosen strategy or action;

– the complex mode in which the variables involved interact.

Each of the above issues is a challenge for the learning organization and the people who make it, but it helps the organization to grow sustainably, become more resilient, able to anticipate change and respond appropriately to the crises that may emerge.

In order to develop in a sustainable way, a learning organization needs to set goals to help them grow economically, taking into account employee development and environmental protection. Of the objectives the organization can set, we mention:

– reducing the environmental impact of the organization's activities;
– setting realistic environmental objectives that can be achieved;
– adopting environmental policies that ensure the sustainable use of the organization's resources;
– modernizing the production process for the efficient use of the organization's resources;
– reducing the amount of waste resulted;
– high-level recovery and recycling of waste from activities at the organization level;
– upgrading utility networks to reduce consumption and losses, but also to lower costs;
– encouraging employees' involvement in finding solutions for sustainable development of the organization;
– making use of employees' experience in adopting the best solutions for the organization to grow sustainably;
– encouraging employees to develop professionally and to use their accumulated knowledge in time for the sustainable development of the organization;
– promoting teamwork and encouraging the development of group vision;
– establishing a department for environmental protection and sustainable development, a department whose main objective is the determination and implementation in the organization of all measures to prevent the deterioration of environmental factors and environmental protection, as well as channelling efforts to achieve sustainable development of the organization.

There are also shortcomings in the sustainable development of the learning organization. Among these shortcomings we recall (Naudé: 2012);

– from a practical perspective, within the organization, sustainable development is not always clearly defined. This increases confusion and frustration of employees towards managers who want to implement the principles of sustainable development;

– some aspects of sustainable development can only be evaluated by direct observations;

– in an organization, depending on the stakeholder interests, there may not be a clear orientation for the adoption or implementation of sustainable development goals.

5. CONCLUSIONS

A learning organization can grow sustainably not only by

achieving purely economic objectives but also by addressing social and environmental goals. The sustainable development approach within the organization is based on the creation, modelling and introduction of sustainable development objectives, followed by their effective implementation.

As the learning organization continually offers lifelong learning opportunities and professional development, the organization can achieve its sustainable development goals.

The sustainable development of a learning organization is a dynamic process that is continually being developed and is based on the development of new systems and processes that allow and encourage permanent adaptation to change and the challenges of sustainable development.

The paper is part of the research for the PhD thesis on the *Influence of Organizational Culture on Organizational Behaviour in Sustainable Development Management*.

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COMPARATIVE ANALYSIS OF BORDER GUARDS' TRAINING IN UKRAINE AND INDIA

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Abstract: *An increase in threats to Ukraine's security has been observed since 2014 and that fact shows the significant role of border agency and professionalism of border guards to ensure security for further economic and socio-political development. This raises the issue of improvement of border guards' training in Ukraine. The priority national interest of Ukraine in the sphere of foreign policy and military development is to deepen the strategic partnership between Ukraine and NATO. But it is important to research the experience of countries facing similar security threats, including border threats and having common issues in the sphere of economics belong to the group of developing countries. The task is to investigate positive foreign experience of border guards' training and elaborate recommendations for creative and partial implementation some aspects in Ukraine.*

Keywords: border guards, security threats, border agency, professional training, higher military educational establishment, professional competence.

1. INTRODUCTION

According to the Law of Ukraine On National Security ratified in 2018 the notion of national security means protection of state sovereignty, territory integrity, democratic constitutional order and other vital important state interests from real and potential threats both military and non-military (Verkhovna Rada Ukrainy: 2018). State policy in the sphere of security and defense concerns the protection of human rights, safe living conditions of citizens, democratic values of society, welfare and sustainable development, constitutional order, sovereignty, territorial integrity, and inviolability. Regarding this, the State Border Guard Service of Ukraine plays a significant role in the sphere of national security being an essential component of the sector of national security and defense (Verkhovna Rada Ukrainy: 2015). And it is obvious that the effectiveness of

professional performance of border guards depends entirely on their level of professional competence. Thus, currently, considering the profile of threats facing Ukraine, including those at the state border, border guards' training is a mandatory condition to ensure national security. Regarding the necessity of rapid changes in the sphere of military education, Ukrainian experts should pay attention to the foreign experience of countries fighting similar border threats and elaborate steps how to implement this experience creatively in the system of professional training of border guards.

2. METHODS

The current study used a wide range of methods to conduct deep and thorough comparative analysis in the sphere of professional training of border guards. All methods belong to two groups - qualitative and quantitative.

Among qualitative methods the following ones were used:

- analysis of official documents regulating the system of education in general and in certain educational establishment (Vasiuk: 2008);
- analysis of academic sources (Vasiuk: 2008, Gale: 2015, Rickinson and May: 2009, Davies: 2000) including the study of publications related to military education, psychology, politics, national security of the country. It is resulted in the synthesis of best results and testing the theory of comparative research;
- observation of the phenomenon including ordinary, inclusive, intensive and extensive (Vasiuk: 2008, Rickinson and May: 2009, Davies: 2000);
- conversation and interview with participants of the process of professional training (Vasiuk: 2008, Rickinson and May: 2009, Davies: 2000);
- method of scientific description of information (Vulfson: 2002);
- comparative method (Vasiuk: 2008) being a concluding method of comparative research to make proper conclusions and to explain the efficiency of changes;
- holistic method which describes the links between education and social process (Shykla: 1983);
- social and anthropological analysis is oriented towards microstudy of certain phenomenon (Shykla: 1983);
- historical and political analysis (Shykla: 1983, Vasiuk: 2008) relevant to the investigation of

historical and geopolitical preconditions of border guards' training;
- descriptive method (Hantrais: 1995);
- inductive and deductive methods (Hantrais: 1995);
- cross-analysis (Vulfson: 2002) to explain differences of the phenomenon;
- demonstration method (Hantrais: 1995) to confirm the theory being studied;
- forecasting methods (Vulfson: 2002) to describe the possibilities of implementation of findings and to describe the prospects of further study.

Besides, quantitative methods were widely used. They were the following:
-analysis of statistical data that characterize the current state of education (Vasiuk: 2008). According to Kazamias (2009) it helps to form further regulating norms;
-mathematical methods of data processing (Vasiuk: 2008);
-structural method that means the simultaneous analysis of units (Vasiuk: 2008);
-constructive and genetical method (Vasiuk: 2008) that means the analysis of changes within the phenomenon being studied in general and in its certain components;
-method of additional analysis of data concerning the process of follow-up review in order to retest results (Arber: 2006, Gale: 2015);
-method of initial information collecting (during the interview, etc) (Gale: 2015);
-sample approach (Gale: 2015) used to select experts with special knowledge for interview to determine central topic and to interpret results;
-method of studying of selected object (Gale: 2015, Hakim: 2000) which is transparent, stable and objective analysis to describe causes and methods of phenomenon development in the current context. In the sphere of the study of professional training of border guards it helps to interpret and compare the activities of border agencies and higher military educational establishments of two countries, to explain the peculiarities of foreign practices;
-juxtaposition (Hantrais: 1995) to find matchings between data in accordance with the chosen criterion.

Moreover, it is necessary to follow the requirement of Gale

(2015) Hakim (2000) and Hantrais (1995) to use these methods in combination (so-called combined approach) for deeper analysis of the problem.

According to Hans (2012), there is no universal method to conduct comparative research; at the same time, Chopyk (2016) admits that selection of methods should be adequate to the topic of research and correspond to processes and phenomena being analyzed.

3. DISCUSSION

3.1. Criteria to select countries for comparative analysis

The main problem to conduct comparative research is to select proper countries for comparative analysis as, according to Hantrais (1995), the comparability of objects influences the quality of research. Of course, in fact, there are no ideally comparable objects. Even the EU countries differ from each other in economic and social development, systems of cultural values, military potential, etc.

While choosing countries for comparative analysis, we used the findings of Green (2003) and Smelser (1976) who admitted that main criteria for selection are the following: compliance to the theoretical problem; causal linkage with phenomenon being analysed; availability of data. These criteria allowed to compare at different levels.

Detailed analysis of the selection of countries is described by Vulfson (2002). These factors are the following: countries used to occupy the territory of one country; countries located in one continent; countries having similar population; countries characterizing by certain economic and socio-political indices; countries having a similar system of state government; countries having similar religious, cultural or language peculiarities.

Also, Vulfson (2002) determines the group of educational indices: level of centralization/decentralization of system of education; similarity of historical and cultural traditions; factual basis to compare the set of factors; peculiarities of science and technology development; reforms within the system of education; ways of reproduction of labor force; economic efficiency of education (duration, costs, etc.).

Besides while conducting comparative analysis in the sphere of border guards' training it is necessary to consider security factors of countries being compared: military alliance

membership, level of military and economic development, ranking of military power, amount of military budget, content of military doctrine determining security vector of national policy, and security threats including at the border, existence of border agencies, diverse borderline. Table 1 shows the criteria to prove the necessity to compare border guards' training in Ukraine and India and their interpretation.

Table 1. Criteria of comparison border guards' training in Ukraine and India

Criterion of comparison	Ukraine	Republic of India
Economic and sociopolitical development	Developing country	Developing country
Military budget	3 % of GDP (1)	2.5 % of GDP (1)
Ranking of the army	30th in the world 10th in Europe (2)	4th in the world (2)
Border agencies (3)	State Border Guard Service of Ukraine which includes Marine Guard	Border Security Force Assam Rifles Indian Coast Guard Indo-Tibetan Border Police Sashastra Seema Bal
Length of the state border	6 993 km including 1355 km of marine borders (4)	15 107 km including 7 517 km of marine borders (5)
Alliance membership	No	No
Diverse terrain	Yes	Yes
Multinational population, especially in border areas	Yes	Yes
Security threats	Terrorism Separatist movement Armed aggression Hybrid war (6)	Terrorism Separatism Armed aggression Nuclear threat Biological threat Chemical threat Hybrid war (7)
Threats at the border	Penetration of armed crime groups Separatism Low-intensity conflict Arms smuggling	Separatists movements Low-intensity conflict Poaching Penetration of armed groups Arms smuggling Trafficking in counterfeit

Criterion of comparison	Ukraine	Republic of India
	Trafficking in goods Illegal migration Transborder crimes Increase of transborder movements of people, vehicles, and goods Poaching in exclusive marine zone Line of control with occupied area (6)	currency Drugs trafficking Natural calamities Border clashes Line of control Rough terrain and porous border areas (7)
Border conflicts/occupied areas	Yes	Yes
Fenced border (in some border areas)	Yes	Yes
Presence of shared and undemarcated borders	Yes	Yes
Military doctrine – main mission	Ensuring military security and prevention of exterior aggression (Verkhovna Rada Ukrainy: 2015)	Safeguarding the nation from any type of internal and external threats/aggression (Ministry of Defense, Government of India: 2017)
Higher military educational establishments for training border guards	Yes	Yes
Agency-specific training centers	Yes	Yes

Thus, we can conclude that Ukraine and India have common features of national security and threats profile. Also, both countries have separate educational establishments for training border guards. The problem is to analyze the systems of border guards' training, find out common features and reveal differences.

Let us analyze the in accordance with specified components.

3.2. Agency-specific educational establishments and training centers

Both countries have higher military educational establishments and training centers oriented

towards professional training of border guards. In Ukraine within the structure of the border agency there is one higher military educational establishment (Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine) and 3 training centers (Ihor Momot Main Center for Training of Personnel of the State Border Guard Service of Ukraine, Canine Training Center of the State Border Guard Service of Ukraine, Izmail Training Detachment of Marine Guard.

Due to the number of border agencies and strength of personnel there are nine higher military educational establishments training border guards in the Republic of India (Border Security Force Academy, Indo-Tibetan Border Police Academy, Indian Coast Guard Academy, Sashastra Seema Bal, Indraprastha Defense Academy, Chennai Officers Training Academy, Indian Coast Guard Academy, Naval Institute of Aeronautical Technology, National Defense University). Besides India has several training centers for border guards designated to certain border agency.

Thus, Border Security Force includes 10 training centers, Indo-Tibetan Border Police – 1 training center, Assam Rifles – 1 training center and Assam Rifles school, Sashastra Seema Bal – 3 training centers, Indian Coast Guard – 3 naval schools (Ministry of Defence: 2016).

3.3. Stages of professional training and their duration

In Ukraine, basic training lasts 8 weeks, while in India it lasts 40-100 weeks that is more than five times. At the same time, training of junior specialist at the Ukrainian training centers lasts up to 3 years depending on specialty. Bachelor's training at the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine lasts 4 years (Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine: n.d.), in Indian higher military educational establishments cadets obtain bachelor's degree during 3 years on the basis of complete secondary education and 1 year on the basis of higher education at the civilian establishment.

Master's training in Ukraine lasts for 1-2 years, in India master's training which is called professional military education lasts 1 year (Sen: 2013, Pama: 2008). Besides in Indian educational establishments and training centers certified courses

are widely used as pre-employment and advanced training for border guards on active duty.

3.4. Forms of instruction

In Ukraine daytime instruction is applied for all stages of training, correspondence instruction is partially used during master's training (Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine: n.d., Poliuk: 2015). In Indian higher educational establishments, daytime instruction is most common, but distance and correspondence instruction are also often applied during bachelor's and master's training (Sen: 2013, Singh: 2015).

Many advanced training courses are taught online or distantly. In Ukraine, the system of distant education is not highly developed, but its benefits are obvious. The establishments are beginning to move in this direction despite these courses are currently used as voluntarily self-development programs.

3.5. Theoretical and methodological principles of border guards' training

In Ukraine competence-based (Chmyr: 2011, Veretilnyk: 2016, Torichnyi: 2016, Yevsiukov: 2006), activity (Demianiuk: 2014, Poliuk: 2015) and personal-centered (Voitsekhivskyi: 2011, Torichnyi: 2016) approaches are adopted in the process of professional training of border guards while in India competence-based, activity, andragogical, ethnoaxiological approaches are applied (Aggarwal: 1986, Berestetska: 2016, Banerjee: 2003, Bhatia: 1987, Chakraborty: 2003, Dobhal: 2016, Pama: 2008).

The difference is that system of training of border guards' in Ukraine is oriented towards the formation of professional skills during training period at the educational establishment under the supervision of an instructor, while Indian peculiarities mean that border guards obtain professional skills and abilities to study during training period as well as in the workplace independently.

Besides, this be explained that Indian cadets are a bit older when entering higher educational establishments and more intrinsically motivated due to highly competitive environment.

3.6. Number of cadets in the study group

An average number of cadets in the study group at the Bohdan

Khmelnytskyi National Academy of the State Border Guard Service of Ukraine is 25-30 (Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine: n.d.).

This study group can be divided into two subgroups for practical lessons. Study groups at the Indian educational establishments can vary from 5 students doing the master's course up to 60 cadets at the bachelor's program (Indian Coast Guard: n.d., ITBP Academy: n.d., Join Indian Coast Guard: n.d., Pama: 2008).

3.7. Organization of professional training

In Ukraine we observe fixed periodization of professional training stages (Hriaznov and Usachyk: 2011), absence of flexibility of forms of instruction (Havriluk: 2017), underdeveloped algorithm of system of rewards and encouragement, absence of clearly defined system of trainings and courses in accordance with the needs of the agency and cadets themselves (Bohdaniuk: 2013), absence of programs of academic mobility.

At the same time the Indian system of border guards' training is characterized by continuity, diversification of specialties (Border Security Force: n.d.), flexibility of forms of instruction (Narang: 1997), wide application of distant learning, sophisticated system of rewards and sanctions, usage of cross-learning, cascade learning, horizontal learning, and microteaching, effective usage of independent and individual work (Berestetska: 2015).

3.8. Forms of the organization of training and teaching methods

At the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine instructors preferably use lectures, practical lessons, group, pair, and individual work as these forms of organization of training are provided in the regulating documents and methodical recommendations (Borovyk: 2018).

Main forms of organization of training at the Indian educational establishments are the following: lectures, practical and demonstration lessons, group, pair, independent and individual work, distant learning, cascade learning, horizontal learning, cross learning, capsule courses (Center for Civil Society: 2016, Cheney *et al.,* 2005, Nordic Recognition Information Centres: 2006, Torichnyi and Bhinder: 2017).

It reflects greater flexibility of instructors at the Indian educational establishments and their broader set of forms used in the process of border guards' training, but due to a large number of cadets in study groups, active methods of teaching are less common. Innovation teaching methods used at the Indian higher military educational establishments are the following: independent war games (Sharma: 2017, SSB Academy: n.d.), project method, research method, methods of psychological influence (Singh: 2005, Sujatha Devi: 2014), flipped classroom (Srivastava: 2014), simulation modeling (Chauhan: 2013).

At the same time, instructors in Ukraine widely apply active and interactive teaching methods except traditional methods (explanatory, dialogue, illustration), being active participants of the training process themselves.

3.9. Teaching tools

When we speak of teaching tools used during border guards' training in Ukraine, we mean methodical manuals, textbooks, technical aids, demonstration military equipment (Chmyr: 2011, Havriluk: 2017, Torichnyi: 2016). In India a range of tools is a little bit wider, and they are the following: textbooks, computer means of diagnostics and learning control, video materials, audio textbooks, electronic database, programs for distant learning (Border Security Force; n.d., ITBP Academy: n.d., Indian Coast Guard: n.d.), military equipment and simulation model (Chauhan: 2013), information and communication technologies, Internet, massive open online resources (Venkata Reddy: 2002, Singh: 2010).

Of course, some advanced tools are used by Ukrainian instructors, but it is not on a regular basis (Voitsekhivskyi: 2013). At the same time in India, we notice that the tools mentioned above are in high demand due to larger study groups and lack of instructors. Indian experience shows that advanced technical tools help to improve cost-efficiency of training process over the long term

3.10. Assessment and monitoring of training

At the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine qualification, ongoing, topical, modular, and final control of learning performance is adopted

(Yahupov: 2002, Biliavets: 2018). Indian higher military educational establishments and training centers use input, ongoing and final control. Besides, in India exterior assessment of learning performance is expected (Torichnyi and Bhinder: 2017, Ministry of Defence, 2016).

3.11. Content of border guards' training

Contents of border guards' training in Ukraine and India face the biggest difference. Firstly, in Ukraine contents of training is divided into two parts: general training and professional training. General training makes about 28.5 % of the total time devoted to training and it includes the following subjects: Ukrainian language, History of Ukraine, Computer science, Philosophy, Foreign language, Sociology, Ethics and esthetics, Principles of management, Pedagogics, Psychology, Political and economic systems, Principles of state and law, Principles of natural and technical sciences.

Professional training makes respectively 71.5 % of the total learning time including apprenticeship. Professional subjects at the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine may vary in spite of specialty.

Some of them are the following: Tactics of border service, Border control, Mechanical means of border control, Fire training, Physical training, Engineering training, Automotive industry training, Information and telecommunication systems, Moral and psychological support, Tactical medicine, Administrative activity, Topography (Bohdan Khmel-nytskyi National Academy of the State Border Guard Service of Ukraine: n.d., Borovyk: 2018, Chmyr: 2011, Havriluk: 2017, Hriaznov and Usachyk: 2011, State Border Guard Service of Ukraine: n.d).

Contents of border guards' training in Indian military educational establishments consists of the obligatory general professional block which is common for all border agencies and agency-specific subjects depending on the tasks designated to personnel (Bhinder: 2017).

Obligatory general professional block includes Drill training, Marksmanship, Physical training, Military tactics, Driving, Border management, Counter-terrorism operations, Counter-insurgency

operations, Joint operations, Service regulations, Military law, English, Hindi, History of India, Military campaigns of India (Bhinder: 2017, Border Security Force (n.d.).). Agency-specific subjects are the following: Border Security Force (Use of means of fortification, Use of heavy weapons, Horse and camel riding, Survival in swamps, Solo patrolling) (Border Security Force (n.d.).); Indo-Tibetan Border Police (Hand-to-hand fighting (judo), Horse riding, Chinese language Mandarin, Tibetan language) (CNTV: 2017, ITBP: n.d., ITBP Academy: n.d.); Assam Rifles (Jungle war, Horse riding, Survival in mountains and jungles, Use of hot-air balloon) (Assam Rifles: n.d., Sharma: 2001, Talukdar: 2010); Sashastra Seema Bal (Reconnaissance, Rescue operations, Escort of civil populations through mountains, Work with local communities and indigenous people, Smuggling prevention, Detecting of counterfeit notes) (Chakravorty: 2016, Sashastra Seema Bal: n.d., SSB Academy: n.d.); Indian Coast Guard (Poaching prevention, Smuggling prevention, Protection of inclusive marine economic zone) (Indian Coast Guard: n.d., Join Indian Coast Guard: n.d.).

3.12. Output level of professional competence

According to the tasks facing the State Border Guard Service of Ukraine and analysis of professional training at the Bohdan Khmelnytskyi National Academy of the State Border Guard Academy the output level of professional competence of border guards is oriented towards appropriate level of development of skills, personal qualities, service readiness, professional mobility during solving professional tasks in peacetime and while conducting combat operations at the border area.

The output level of professional competence of Indian border guards means a high level of professional qualification, acquisition of professional skills, modern and effective methods of professional tasks solving, and implies the readiness to perform a professional agency - specific activity with high productivity considering security factors.

4. CONCLUSIONS

Thus, professional training of border guards in Ukraine and India have the single task – to prepare experts in the sphere of border security to effective performance

of professional activities and to train them to counteract the existing threats in the border area. Having analyzed the training process in both countries, we found out a wide range of similarities which concern stages of training, usage of conventional methodological approaches, traditional teaching methods and regular tools.

However, the main differences touch upon implementation of innovative methods. Indian higher military educational establishments and training centers are more flexible to use various forms of instruction, having applied certified training courses including capsule course in civilian educational establishments, formally adopted independent and individual work, distant learning, cascade learning, horizontal learning, and cross-learning.

Also, the difference is manifested in teaching methods choice: in Ukraine instruction is more concentrated upon active and interactive methods, while in India flipped classroom, simulation modeling, and proactive methods are used. The main difference is in the duration of basic training being an evidence that in Ukraine it is more like induction course but in India basic training, lasting from 40 to 100 weeks, is full daytime training of border guards to perform professional tasks. The content of training also differs. In Ukraine, it includes general fundamental and professional subjects while in India border guards' training is narrow specialization oriented towards specific agency tasks.

Having studied the problem and considering the security issues Ukraine has been facing since 2014, it is necessary to say that some steps are taken in the direction to strengthen military component of border guards' training, but still some improvements are required. They are the following:

1. Further modernization of system of professional training at the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine in accordance with current standards, adoption of advanced foreign experience.

2. Extension of usage of innovative teaching methods including those oriented towards independent learning of cadets.

3. Development of online learning environment to obtain additional knowledge or refresh skills.

4. Wide implementation of innovative teaching tools (information and communication technologies, simulation modeling, etc.).

5. Reformatting of organization of training process, making it more flexible and adjustable.

6. Extension of hours for practical and demonstration lessons, including apprenticeship directly at the border units.

7. Increasing of self-motivation of cadets.

ENDNOTES

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MANAGEMENT OF RISK IN DELIVERING COMPLEX RESEARCH AND DEVELOPMENT PROJECTS

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Abstract: *Risk management continues to be a major feature of the project management of large construction, engineering, technological, and research and development projects in an attempt to reduce uncertainties and to achieve project success. There are uncertainties and risks at every stage of R&D projects through the product lifecycle. Therefore, management of the risks is an important challenge for the R&D project managers, and the close linking of project risk management with the success of the project is acknowledged across the world.*
Thus, the focus of this study is on the management of risk in delivering complex research and development projects within the United Arab Emirates Armed Forces. Even though the management of risks related to the military environments has been studied for several years, studies on the risks pertaining to research and development of the military environments are still comparatively low and almost negligible in the UAE. This gives value to such type of study for filling in the literature.
This chapter discuss the theoretical background of the subject at hand. It highlights the perspective of project management and risk management, in addition to reviews of the related literature.

Key words: Armed Forces, R&D, Complex Project, Risk Management.

1. PROJECT-MANAGEMENT-RISK FACTORS THEMES

As per the results obtained from the responses of the participants, it has been observed that there are several risks involved in the Research and Development Center (RDC) projects. These risks were arranged into three main groups:

- Client related risks
- Project related risks
- RDC related risks.

1.1. Client Related Risks

As per the findings, there were five risks within the customer related risk group that are summarized in Table 1 hereafter.

Table 1: Client Related Risks

Client Related Risks				
#	**Risk**	**Types / Causes**	**Impact**	**# Participants Mentioned the Issue**
1	Unclear Operational Requirements	▪ Undefined mission requirements ▪ Opposing views ▪ Loose definition of operational requirements	▪ Options that no one use ▪ Extra cost ▪ Scope creep ▪ Time creep	3
2	Unclear Technical Specifications	▪ Lack of technical knowledge ▪ Lack of engineers in some operational units ▪ The allure of acquiring the latest technology	▪ Integration with other subsystems	2
3	Lack of information	▪ Sensitive information	▪ Time creep	1
4	Customer Delays	▪ Approval delays ▪ Payment delays	▪ Time creep	3
5	High Customer expectations	▪ Trust issues	▪ Project cancellation ▪ No new project requests	2

The client related risks are well recognized in the risk management research literature. Many researchers observed that the fundamental risks occurred in the Research and Development (R&D) projects are related to customers (Mazareanu, 2010; Lehar, 2003).

According to Mar (2016), the risks of unclear operational requirements and unclear technical specification may fall within the area of 'Scope risks', which were of the findings of Luppino, et al. (2014) quantitative research using RFEMA model and scored *"High"* risk impact in their analyzed R&D project (Luppino, et al., 2014, pp. 75, 79). Also, one of the main technical risk's findings in Antinyan, et al. (2018) in Sweden was that *"unfeasible, unclear or untestable requirements have high likelihood impact causing difficulty to understand and implement these requirements because of unclear syntactic description"* (Antinyan, et al. 2018, pp. 4).

Customers' delays have been addressed in many occasions in the risk management literature. Dillerup, et al. (2018) research findings were that *"milestones starting after order placement cause time delay"* (Dillerup, et al., 2018, pp. 36). Also, Mar (2016) has categorized this type of risk under 'Approval' risk category.

The risk of the high customer expectations has been recognized by other researchers, as well, confirming the finding of this study. Mar (2016) has listed this risk under 'Stakeholders' risk category as *"stakeholders develop inaccurate expectations"* and 'Communication' risk category as *"users have inaccurate expectations"*. Luppino, et al. (2014, pp. 75, 79) results encompassed that *"customer satisfaction and expectation"* scored *"Extremely"* impact in the two analyzed R&D projects of the research. Moreover, Shin, et al. (2018) conducted quantitative research using Failure Mode & Effect Analysis (FMEA) and Decision-Making Trial and Evaluation (DEMATEL) methods. Their study findings included that failure mode could occur in R&D process due to *"wrong idea"*, and *"customer analysis error"* and therefore can affect the success of R&D projects (Shin, et al., 2018, pp. 8).

1.2. Project Related Risks

As per the findings, there were four risks within the project related risk group that are summarized in Table 2 hereafter.

Table 2: Project Related Risks

Project Related Risks				
#	**Risk**	**Types / Causes**	**Impact**	**# Participants Mentioned the Issue**
1	Software Issues	▪ Incompatibility issues ▪ Integration issues ▪ Legacy system ▪ Lack of required software	▪ Extra cost ▪ Scope creep ▪ Time creep ▪ Outsource	3
2	Hardware Issues	▪ Technology obsoleteness ▪ Lack of required hardware	▪ Extra cost ▪ Scope creep ▪ Time creep	4
3	Human Resource Issues	▪ Difficulty in the execution	▪ Time creep ▪ Project cancellation ▪ Extra cost	5
4	Budget Issues	▪ Misallocation of budget ▪ Difficulty to acquire the required	▪ Time creep	1

Through browsing the literature of the risk management, software and hardware issues are among the well identified technical risks of projects (Mar, 2016). A study accomplished by Dandage, et al. (2017) revealed that technical risks' issues such as technological developments, variation in codes and standards, have been ranked as the second important cause of projects failure. In addition, the design risks have ranked the third important cause of projects failure as they can lead to operational or technical risks (Dandage, et al., 2017). Furthermore, Hijazi, et al. (2014) study recognized

technology change as software risk factor in which *"the project may involve the use of new technologies that has not been used before, which developers may find it difficult to deal with these technologies"* (Hijazi, et al., 2014, pp. 224).

In addition, other researchers corroborated the result of this study that legacy systems pose issues in software development projects. In her study, Mar (2016) has revealed that "*integration with undocumented legacy components and integration with legacy components that are no longer in support"* (Mar, 2016, pp. 4) are among the high-risk factors of 'Technical' risk category.

Another finding of the project related risks was the human resource issue. In the context of R&D practice, the lack of the expert human resource can lead to many issues in the R&D lifecycle and cause projects failure. Mar (2016) has listed inability to secure sufficient resources for the project as project risk factor confirming to this research results regarding the hazards of the lack of experienced human capital in R&D projects. Moreover, Shin, et al. (2018) have also recognized insufficient R&D resources as one of the failure causes of R&D projects. Trained or expert human resources were also an issue that was addressed by the research of Dillerup, et al. (2018). In their study of multiple projects for software developments, they have found out that *"lack of technical qualification will lead to technology competence"* (Dillerup, et al. 2018, pp. 32). This has also been addressed in the Luppino, et al. (2014) study in which due to lack of human resources, 'installation risk' scored high impact in one of the two analyzed projects of the research.

Budget is an important aspect of any project. A survey conducted by Standish Group International Inc. shows that only 25–30% projects are completed successfully, and that most of the projects fail due to cost overrun or schedule overrun (Dandage, et al. 2018). In addition, the financial and economic risks such as shortage of funds have been ranked in study as the sixth important cause of projects' failure (Dandage, et al., 2017). Furthermore, (Hijazi, et al., 2014, pp. 216) study have identified *"Unrealistic Budget"* as risk factor in which has been defined as *"The estimated cost for the project may exceed the available budget, if this was not mitigated successfully,*

the project may be out of fund early in the software development lifecycle, and thus fails". (Hijazi, et al., 2014, pp. 216)

Moreover, Luppino, et al. (2014) placed project cost as having an extreme impact in one of the two analyzed R&D projects of the research. In addition, unrealistic time and cost estimates was one of main risk factors identified at the software development projects of the four analyzed companies of Antinyan, et al. (2018) study. Shin, et al. (2018, pp. 8) findings that *"Financial assessment error"* is one of the failure causes which occur in the R&D process.

1.3. RDC Related Risks

As per the findings, there were three main risks within the project related risk group that are summarized in Table 3 hereafter.

One of risks related to RDC issues was the lack of expertise in managers of RDC units. Mar's (2016) findings point out that lack of expert managers is among the main project risks. In addition, the lack of top management support has been addressed in many risk management researches as main project risk cause (Dandage, et al., 2018). Dillerup, et al. (2018) have recognized the lack of expert managers as a recruitment risk factor which was categorized under internal capacity group of risks for the German Machinery and Plant Engineering Industry. Another research has recognized lack of expert managers as a type under internally generated risk category and referred the main cause for it to the *"failure of project manager"* (Dandage et al, 2018, pp.155).

Cultural differences risk has been found to be a recurrent challenge in project management risks within the risk management literature. Dandage, et al. (2018) have categorized this type under the category cultural risk and referred the main cause for it to the *"language barrier and differences in cultures"* (Dandage, et al. (2018, pp. 155). Furthermore, in Dandage, et al. (2017) study, they have ranked the cultural risks as the fifth important cause of projects' failure.

According to the participants of this research, the lack of the clear direction risk has led to many issues such as unclear career path and difficulty to project execution, which cause delays in project's schedule and loosing expert people in the favor of gaining better job opportunities. Mar (2016) talked about the impact of such risk as

"Resource turnover leads to delays and cost overrun" (Mar 2016, pp. 3). The impact found in the current study of some RDC staff leaving the unit because they do not foresee a clear direction is a staff retention issue. In this regard, Dandage, et al. (2018) revealed that retention of competent staff as key risk causes of managerial risk category. This type of risk impact has been noted within the profession of risk management, as Hijazi, et al. (2014) have ranked this risk under 'Team Turnover' as they stated

"In most organizations, experienced team member are looking for better job vacancies and leave their work if any was found. This factor threats any project in any of its phases". (Hijazi, et al., 2014, pp. 230).

Table 3: RDC Related Risks

RDC Related Risks				
#	**Risk**	**Types / Causes**	**Impact**	**# Participants Mentioned the Issue**
1	Lack of Expert Managers	▪ No clear guidance on roles and responsibilities ▪ Lack of top management support ▪ Juggling on priorities ▪ Difficulty in the execution	▪ Scope creep ▪ Time creep	3
2	Cultural Differences	▪ Integration Issues ▪ Miscommunication	▪ Scope creep ▪ Time creep	2
3	Lack of Clear	▪ Difficulty in the execution	▪ Time creep	4

RDC Related Risks				
#	Risk	Types / Causes	Impact	# Participants Mentioned the Issue
	Direction	▪ Unclear career path ▪ Unclear vision and mission ▪ Lack of top management support	▪ Extra cost ▪ Loosing People ▪ Juggling on technology focus	

2. RDCUAEAF RISK MANAGEMENT PRACTICES

Risk management observa-tion is an important part of the RDC risk management practices, aiding project managers to mitigate the impact of risks on the projects. Identifying risks at the early stage of the project, and defining and planning tasks ahead of time can be an effective risk management practice.

Communicating updates among the project team and providing feedback are considered also of the risk management practices that can be highly effective in managing the impact of risks on the research project's execution and delivery.

In order to minimize the impact of risks on the execution and delivery of the projects, there is always a need for following risk management practices, which all the participants of this research had agreed on confirming the literature review as indicated by Luppino, et al. (2014, pp. 74) as well, who stated that

"All of the interviewees agreed that risk management is vital to the success of R&D projects. However, the various risk management methodologies currently adopted within the interviewees' organizations varied in their maturity and level of formality".

As per the results obtained from the participants of this study, it has been observed that there are

several risks management methodologies and practices, which can be used and integrated in the RDC projects in order to mitigate or minimize the impact of risks. For instance, it has been mentioned that *AS/NZS ISO 31000:2009 Risk management - Principles and guidelines* can be one of the effective risk management practices in the military R&D projects, since it offers comprehensive guidelines and best practices in risk management area.

This is confirmed in the risk management literature as well. For instance, Olechowski, et al. (2016) empirical evidence from the statistical analysis study suggested that the *ISO 31000* is indeed a promising guideline for the establishment of risk management in the engineering management. Also, the *ISO 31000* principles were found to be a significant factor in better reaching cost, schedule, technical and customer targets, in addition to achieving a more stable project execution. They conclude, as well, that their findings provide evidence of the potential for the principles to form the basis of a project risk management body of knowledge and to have a strong impact on the professionalization of the risk management function (Olechowski, et al., 2016).

Moreover, various other risk management practices have been observed in the findings, which include educating customers, which offers customers better understanding regarding the research and development process in general and in the armed forces specifically, as well as making them understand the project lifecycle. This has been confirmed in the literature in many occasions, as some researchers suggested integrating customers into the innovation process to reduce the risks of unmet customer needs (Wang, 2010). Also, another researcher favored the participation of customers in the innovation process to achieve the necessary objectives which are as per the customer need (Mikkelsen, 1990).

Furthermore, as per the literature review and the study' findings, there are a lot of available and developed tools, standards, methodologies, practices, and frameworks that can fit for risk management of projects and R&D projects (Luppino, et al., 2014; Shin, et al., 2018), which the Research and Development Center of the UAE Armed Forces (RDCUAEAF) can use and benefit

from. However, a new and expert judgment can always be used also to provide best solution to tackle the risks occurred. Luppino, et al. (2014) findings acknowledged that 77.8 % of the interviewed project managers believed that *"their respective organizations would benefit from a new, more structured risk management methodology for their R&D projects"* (Luppino, et al., 2014, pp. 74).

The authors expanded that the new methodologies should be flexible and can be adapted to accommodate the risks associated with the R&D projects, and must involve relatively simple processes and procedures so that it doesn't carry out additional overhead to the project (Luppino, et al., 2014). Therefore, the management of the RDC organization should consider the recommended practices suggested by the participants of this research, along with other methodologies.

3. UAE Risk Model for R&D Projects

Results and discussion of this study led to the development of a risk model for UAE R&D Project environment. This risk model is illustrated in Figure 1 below.

The three main group risks are as discussed before; client related risks, project related risks, and organization related risks. Each risk includes variables deemed important by participants of this study. These risk groups have a direct impact on the management of project within a research environment. The result impact, direct and indirect leads to three main issues: scope creep, time creep and cost creep. These in turns have an impact on employee attrition rate and project failure or cancellation. This risk model can be used by interested organizations, students and researchers in future quantitative studies to test, update and generalize the model to the wider R&D community.

4. RECOMMENDATIONS AND CONCLUSION

The following set of recommendations if implemented can result in success for the R&D center:

Risk Management

The researchers of UAE R&D center need to plan for their complex projects much prior before the commencement of the actual project. Therefore, will preserve the wastage of resources and capital to a huge extent.

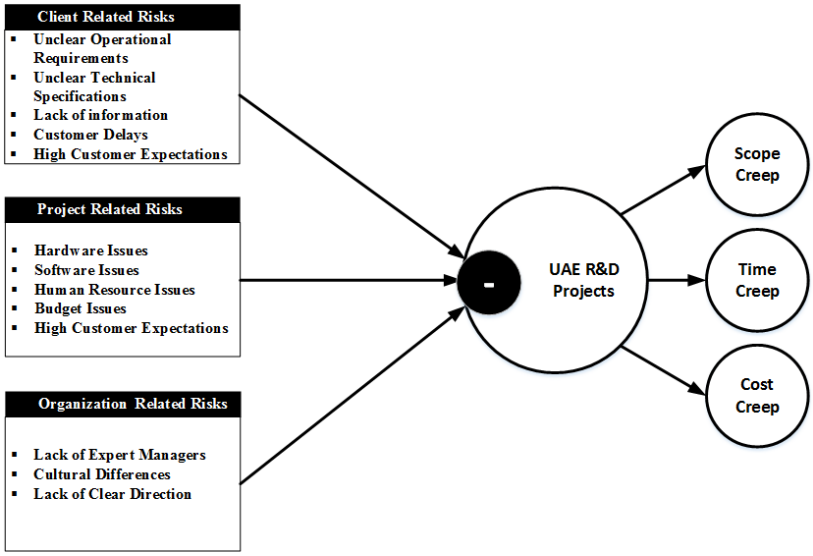

Figure 1: UAE R&D Risk Model.
(Source: Created by the researcher for the purpose of this study)

The UAE Armed forces project management personnel should be trained for the risk management in the complex R&D projects, which should include the techniques as well as the managerial responsibilities which are involved in the interpretation of the risk mitigation, assessments, and management of risks. There should be development and adoption of specific processes, which should include identifying, evaluating, designing, and selecting alternatives of the risks.

The project managers should consider the aspects of human resource, cost, and time to select the type of matrices. They should develop more improved and expertise tools for risk management. The innovative approaches should be used for the adaptability of the R&D projects and risk management.

R&D Formation

No one can work alone in today's world. As complexity involves in each aspect of the life cycle, the cooperation among all sectors is required. Thus, the RDCUAEAF should involve and cooperate with the related sectors in the development and implementation of the R&D projects, taking in concern a close

control of highly classified research and without jeopardizing the safety of the Armed Forces information and security. Thus, the United Arab Emirates (UAE) government, including the Armed Forces, can cooperate with the academic sector as well as the industrial sector to execute the R&D projects, as each sector has set of capabilities and requirements that can benefit and exchange with the other sector.

Other Strategies

Another possible successful strategy is stimulated by Jordan (2019) who mentioned that organizations should encourage project managers which show potential characteristics such as the following:

- *Broad and deep experience leading projects:* Project managers get experience through managing more projects and involves in different business areas, and thus they rely in their own abilities rather than relying on defined processes.
- *A questioning attitude:* Ambitious project managers who are always looking for other methods to accomplish activities and do not tight themselves by existing approaches have the best chance of encountering innovative approaches. These project managers are often seen as the 'troublemakers' who repeatedly ignore to follow processes they don't believe in.
- *Exceptional self-belief and self-control:* Project managers who attempt to take innovate difficult decisions in situations where lack of both experience with the approaches being used exist.

Dandage, et al. (2018) have also suggested some project risk management strategies, which have been concluded in consultation with more than 20 project practitioners. These strategies include the following:

- Project should have clear scope, realistic cost and time estimates, and clear communication with the all stakeholders.
- Risk management must be integral part of the organizational culture.
- Risk management structure must be established within the organization.
- Top management support to risk management efforts.
- Risk management cost should be seen as an investment to prevent the forthcoming losses of the risk occurrence in the project.

The cooperation between all the sectors in UAE would result of world-class R&D that links and

leverages the development of capabilities to secure technological foundation, enhance military capabilities, and stimulate economic growth. This will result of a collaborative R&D environment supporting the defense industrial sector growth in UAE, manage and guide R&D national and international cooperation programs that meets stakeholders' requirements, and maximize outcome through effective R&D lifecycle and efficient spending, hence taking the UAE to the next level of prosperity.

This paper is part of the Engineering Doctorate Research Thesis, more specifically it represents its' results chapter.

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THE EVOLUTION OF NATO'S CYBER SECURITY POLICY AND FUTURE PROSPECTS

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Abstract: *While the future landscape of cyberspace is becoming quite complicated, NATO must define the potential threats and adapt its strategy to these challenges. In order to form an effective cyber security strategy, a significant number of challenges need to be taken into account for the foreseeable future. Apart from its member states NATO needs to cooperate with significant number of partner nations in order to establish an effective response mechanism against potential cyber threats for maintaining a safe, secure and resilient cyberspace. The paper focuses on the reasons that necessitated the formulation of NATO's cyber security strategy. The evolution of NATO's cyber security policy has been delineated, various aspects of the latest strategy to prevent emerging cyber threats in the modern era and the prospects for partner countries have been examined, the proposals have been put forward to improve the cyber capabilities of Azerbaiajn Republic in cooperation with NATO. The paper seeks the best crisis response strategy which most effectively integrates the respective strengths and capabilities of both member and partner nations. Through only this strategy greater resilience when dealing with threats can be achieved.*

Key words: cyber security, cyber defence, cyber threat, cyberspace, cooperation

1. INTRODUCTION

Cyberspace is an integral part of the security environment and plays a decisive role in improving the operations' capabilities. With the development of the internet cyber security has become a central topic for international security.

A cyber-attack is "the premeditated use of disruptive activities, or the threat thereof, against computers or networks, with the intention to cause harm or to social, ideological, religious, political or similar objectives or

intimidate any person in furtherance of such objectives" [1]. Cyber warfare refers to all state actions that make use of internet and aim at damaging opponents.

Cyber security, in short, has become a crucial component of national and economic security strategy, has quickly evolved from a technical discipline to a strategic concept. The challenges the Alliance faces are changing in fundamental ways.

The old threat scenario involving direct intervention has been replaced by the challenge posed by invisible adversaries whose geographical source can often not be determined [2]. For Hansen and Nissenbaum, cyber security is "a concept that arrived on the post-Cold War agenda in response to a mixture of technological innovations and changing geopolitical conditions" [3].

The real world examples prove that the ubiquity and vulnerability of the Internet have tangible political and military ramifications. Some cyber-attacks could have the same level of disruption on the countries and economies as conventional warfare. As Cetron and Davies observe "major concern is no longer weapons of mass destruction, but weapons of mass disruption" [1].

2. THE EVOLUTION OF NATO'S CYBER SECURITY POLICY

Cyber security is an area in constant flux – the work will never be completed. Cyber is a domain that affects both the civil and military division. As cyber threats evolve and pose severe challenges to states, companies and individuals on a daily basis, it is vital that actors such as NATO continue to work closely, and strive to establish new and effective ways to protect cyberspace [4].

NATO suffered its first cyber-attacks in 1999, when hackers blocked access to the organization's websites and e-mail servers to protest the air strikes against Serbia. These protest attacks were conducted by Russian, Serbian, and Chinese hackers. Then NATO Computer Incident Response Capability (NCIRC) was created which was the Alliance's "first responders" to prevent, detect, and respond to cyber incidents [5].

One of the first and most powerful political move worldwide in this field was brought about by

the United States of America (USA) in the aftermath of the September 2001 terrorists attacks with the formulation of its National Strategy to Secure Cyberspace [3].

Since the early 2000's NATO, as a defense alliance, has been aware of cyber threats and the importance of protecting vital and critical information infrastructure networks [6]. In November 2003, nine NATO nations (Canada, France, Germany, Italy, Netherlands, Norway, Spain, UK and US) signed an arrangement to share more information about cyber security. Later, in the same year, NATO approved the Cyber Defense Programme and Computer Incident Response Capability to prevent, detect and respond to cyber threats.

Even though NATO had eight years after Serbian cyber-attacks to prepare, yet in 2007 it failed to prevent cyber-attacks in Estonia. Following the cyber-attacks against Estonia's public and private institutions, Allied defense ministers agreed in June 2007 that urgent work was needed in this area. As a result, NATO approved its first Policy on Cyber Defense in January 2008.

In the summer of 2008, the conflict between Russia and Georgia demonstrated that cyber-attacks had the potential to become a major component of conventional warfare [7]. One year after the cyber-attack on Estonia a similar to the scenario played out in Georgia. Vulnerabilities in the information infrastructure of the Georgian Government were detected by hackers through the Distributed Denial of Service method and Georgia was exposed to heavy attacks. These cyber-attacks were organized not only from Russia but also from various other regions in the world.

NATO could not provide direct assistance to Georgia, since it was not a member state of the alliance. However, due to increased attacks, a group of subject matter experts was sent to Georgia on the initiative of Estonian government. With the support of these experts, information system in the country were normalized shortly after the prolonged cyber-attacks [8].

The 2008 Bucharest Summit emphasized "the need for NATO and nations to protect key information systems; to share best practices and to provide a capability to assist Allied nations, upon request, to counter a cyber-attack" [5].

In March 2009, a network of compromised computers attacked

the computer systems of government and private organizations in over 100 countries, accessing sensitive and confidential documents [9].

In May 2009, President Obama made a dramatic announcement: "Cyber intruders have probed our electrical grid ... in other countries, cyber-attacks have plunged entire cities into darkness." Investigative journalists subsequently concluded that these attacks took place in Brazil, affecting millions of civilians in 2005 and 2007, and that the source of the attacks is still unknown. National security planners should consider that electricity has no substitute, and all other infrastructures, including computer networks, depend on it [2].

NATO's latest Strategic Concept underscores that cyber threats constitute direct challenges to national critical infrastructures and that they may reach levels such as "to threaten national and Euro Atlantic prosperity, security and stability". Therefore, they require NATO to develop its ability to prevent, detect and defend against these threats, recover after cyber-attacks and enhance and coordinate national cyber defense capabilities [6].

On June 8, 2011, NATO Defense Ministers adopted a new cyber defense policy. The policy focused on prevention of cyber-attacks and building resilience. The creation of the Rapid Reaction Team was a result of the Alliance's revised cyber defence policy of 2011.

The main elements of the new approach included [5]:

1. Realization that cyber defense is required to perform NATO's core tasks of collective defense and crisis management;
2. Prevention, resilience, and defense of cyber assets critical to NATO and its constituent Allies;
3. Implementation of robust cyber defense capabilities and centralized protection of NATO's own networks;
4. Definition of minimum requirements for cyber defense of national networks critical to NATO's core tasks;
5. Assistance to the Allies to achieve a minimum level of cyber defense to reduce vulnerabilities of national critical infrastructure;
6. Engagement with partners, other international organizations, the private sector, and academia.

At the 2011 Munich Security Conference, then-German Minister of Interior Thomas de Maizière revealed that the German

government network is attacked four to five times a day by foreign intelligence services [9].

In 2012 at the Chicago Summit, it was realized that there were still important coordination failures among the member states. For this reason, in 2013, five NATO member states [Denmark, Holland, Canada, Norway and Romania] initiated Multinational Cyber Defense Capability Development Project for further cooperation and coordination. However, this project was not very efficient as it was supported only by these five countries [8].

To keep pace with the rapidly changing threat landscape and maintain a robust cyber defense, NATO adopted an enhanced policy and action plan, which was endorsed by Allies at the Wales Summit in September 2014. The policy establishes that cyber defense is part of the Alliance's core task of collective defense [7]. This means that the NATO will respond with conventional weapons in case of a severe cyber-attack confirming that the Internet is a new battlefield [6].

Now Article 5 of the North Atlantic treaty requires member states to come to the aid of any member state subject to an armed attack, which includes cyber-attack in the new cyber defense policy. Official recognition of cyberspace as a domain of warfare means that, under Article 3 of the Washington Treaty, that member states have a responsibility to defend and develop national cyber security infrastructure in order to [10]. Designating cyberspace as an operational domain means that the NATO will spend a significant effort in improving cyber capabilities of its members, it is expected more focus on training and military planning. The cyber defense of the alliance will continue to be integrated into operational planning and its operations and missions

To enhance situational awareness, a Memorandum of Understanding on Cyber Defense was developed in 2015. It sets out arrangements for the exchange of a variety of cyber defense-related information and assistance to improve cyber incident prevention, resilience and response capabilities [7].

At the Warsaw Summit in 2016 member states made significant long-term decisions on cyber security, including recognition of cyber space as a fifth domain of warfare, in which will be operational, in addition to air, sea, land and space [10]. "Now, in

Warsaw, we reaffirm NATO's defensive mandate, and recognize cyberspace as a domain of operations in which NATO must defend itself as effectively as it does in the air, on land, and at sea. This will improve NATO's ability to protect and conduct operations across these domains and maintain our freedom of action and decision, in all circumstances" states the Warsaw Summit Communiqué [11].

On 16 February 2017, defense ministers approved an updated Cyber Defense Plan as well as a roadmap to implement cyberspace as an operational domain. This will increase Allies' ability to work together, develop capabilities and share information [7].

At the Brussels Summit in 2018, Allied leaders agreed to set up a new Cyberspace Operations Centre as part of NATO's strengthened Command Structure. The Centre will provide situational awareness and coordination of NATO operational activity within cyberspace. Allies also agreed that NATO can draw on national cyber capabilities for its missions and operations. Finally, Allies took stock of their progress to enhance national resilience through the Cyber Defence Pledge [7].

3. LESSONS LEARNED AND THE PROSPECTS OF FURTHER COOPERATION

When it comes to cyber security, NATO has come a long way. It can broadly be divided into three stages: the first one was when cyber security was treated more as a technical challenge which was supposed to be faced separately by the Atlantic Alliance and its institutions in relation to the ICT infrastructure used by NATO, and separately by the member states with regard to their national ICT networks; the second one was when the topic became an important political issue (the process was primarily initiated during the Riga Summit and subsequently stepped-up following the cyber-attacks against Estonia); and finally the third one when NATO declared cyber security to be a strategic challenge, requiring a coordinated response on the part of the entire Alliance and all Member States, perhaps even under Article 5 of the Washington Treaty (conclusions of the Wales Summit) [12].

There are three dimensions of cyber-attacks:

– attacks that focus on strategic objectives;

– attacks that focus on technical objective;

– attacks of a political nature.

Attacks with a strategic focus those on include information systems, communications, and civil security; technical targets include weapons control and military communications; while political assaults look to alter the power balance within diplomatic relations. Cyber weapons include viruses, malware, denial of service, spying, along with jamming and blocking [1].

The 2007 cyber-attack on Estonia that temporarily crippled Estonia's national internet infrastructure was a wake-up call for NATO. . But this type cyber-attack is actually just one of many threats, and probably not the most damaging one. Another fact is that in the Estonian cyber-attack there was not clear evidence who was responsible. In Georgia the cyber-attack was speculated to be conducted at the behest of another state which is still unclear.

Cyber threats have become more and more serious during the last years. They are not limited by boundaries and have increased in sophistication and frequency. The global ownership over the cyberspace and its potential globalizing effect, as well as the increased security risk represented by cyber-attacks, all show the need to work together in international cooperation towards collective cyber security [13]. Experts estimate that there are hundreds of millions of malicious programs and more than 100 organisations that participate in military, intelligence or cyber terrorist operations [9]. Thus, NATO operations rely heavily on cyber-enabled networks. Cyber threats need to be taken seriously and perceived as a strategic matter, at the same time should not be exaggerated as revolutionary.

In recent years, cyber security has become a high ranking issue threatening stability worldwide. The age of mega-breaches has arrived, cyber security going hand in hand with fighting an almost invisible and unconventional enemy lurking in the shadows of an anarchic cyberspace.

Cybercrimes are increasing because of global interconnectedness, coupled by inadequate protective measures exposing government and private organizations as well as infrastructures to cyber threats. The key solution is of course resilience, the necessity to build smarter and faster ways to detect

attacks and to promptly counter them [14].

Today's cyber threat landscape is markedly different from that of a few years ago. Experts and officials agree that the speed of attacks and their sophistication has changed dramatically. Another vital difference lies in their diversity. Cyber risks threaten the benefits, whether economic, political or social that the human invention of cyberspace can offer. Many more states now consider cyber capabilities as a legitimate and necessary part of their strategic toolbox alongside diplomacy, economic prowess and military might [15].

NATO has made considerable progress in its efforts to integrate cyber security into its planning processes, but according to James Lewis, while it may have gone as far as the political environment allows it needs to done more. For example, a report by the defense committee of the UK parliament finds that NATO is poorly prepared to respond to Russia's possible use of asymmetric warfare, including cyber-attacks, information and psychological operations. The committee urges the alliance to develop its own asymmetrical warfare capabilities, discuss how to deal with these attacks and operations and mount its own offensive operations [6].

Everything indicates that in the coming years, the discussions on the direction of the Alliance's involvement in cyber operations will be dominated by two issues. The first one concerns the need for the Alliance to specify exactly the activities carried out in the framework of collective defense and the development of NATO's capabilities, also offensive, to operate in cyberspace. The second one, which is frequently brought up in the discussion about the cyber security of the Alliance, is the need for comprehensive measures to be implemented to counter hybrid threats, including the multi-dimensional use of cyberspace as one of the most critical elements [12].

Nonetheless, academics such as Thomas Rid are of the view that cyber war will not take place. Experience to date on the actual uses of cyber capabilities by states suggests such capabilities are better characterized as either espionage or sabotage, making their employment most likely below the threshold of armed attack. While there is a certain logic to this argument, it is increasingly clear that some states

consider cyber capabilities as an integral part of operational military capability and are not afraid to employ them as such, even if they are reluctant to acknowledge such use publicly [15].

In cyber conflict, the terrestrial distance between adversaries can be irrelevant because everyone is a next-door neighbour in cyberspace. And of course it necessitate cooperating internationally. As Jamie Shea, NATO deputy assistant secretary general for emerging security challenges mentioned: NATO has agreed a series of actions that can be taken in the form of assistance to allies, he said, including training, education, exercises, malware intelligence sharing, early warning, and incident response. The third key element of the enhanced NATO cyber defense policy is multi-national cooperation in cyber defense, which includes the concept of "smart defense" through pooling and sharing capabilities. This means that all future NATO military exercises will involve a cyber-component and look at the challenges of running military operations in a degraded cyber operating environment [16].

Even though the cyber security is a part of NATO's collective defense, there are some setbacks. According to Salih Bicakci, there are three main reasons of why NATO is still not sufficient on collective cyber security. The first reason is that the capacities of member states on cyber security are different. The second reason is that the threats on cyberspace frequently transform themselves, so adoption process is not easy for everyone. The third reason is that most of the threats come from the private sector, so it is not easy to communicate with the all private sectors in each member state.

According to Piret Pernik, the most important lack of NATO's cyber security policy is the lack of sharing experiences. He argues that more advanced member states, having heavily invested into national cyber capabilities, hesitate sharing these with others for financial and security reasons [6].

As the cyber security expert, Jarno Limnell, has noted, the central barrier to greater cooperation and overall increased cyber capability for NATO has essentially been a certain lack of trust. More powerful allies don't yet fully trust less capable ones with information and knowledge about their abilities and weaknesses and prefer to have bilateral or smaller-scale

multilateral cooperation in the cyber defense domain [17].

Although the allies are able to invoke the Article 5 of the North Atlantic Treaty in case of a cyber-attack, what threshold collective defense will be triggered, and how this threshold will be measured, remains secret as a form of deterrent. "We are keeping that ambiguous so a potential aggressor does not get the idea they can carry out cyber-attacks up to a certain level with impunity," said Jamie Shea, NATO deputy assistant secretary general for emerging security challenges [16].

Piret Pernik argues that, NATO nations need to think about what the criteria are when a cyber-attack qualifies as equivalent to an armed attack, what the strategic implications of such an attack are, what circumstances obligate a collective response (for example does damage to or disruption of private critical networks resulting in serious effects?), and how the problem of attribution can be solved, among other questions [6].

If the cyber defense is considerable a must after the Warsaw summit, many experts are questioning about offensive cyber capabilities of Alliance. Almost every state is working to improve its offensive cyber capabilities too [11]. NATO conducts regular exercises, such as the annual Cyber Coalition Exercise, and aims to integrate cyber defense elements and considerations into the entire range of Alliance exercises, including the annual Crisis Management Exercise (CMX) [7].

Sorin Ducaru, assistant secretary general for emerging security challenges for NATO described three layers of the enhanced cyber defense policy [18]:

– the recalibration and enhancement of the cyber defense paradigm within NATO;

– reinforcement of capability development and capacity building;

– re-evaluation of partnerships and governance in the area of cyber defense.

Without any doubt, the best avenue is to collectively battle cybercrime and to collaboratively reinforce NATO's resilience to cyber-attacks. It underscores that, while NATO conducts business in cyber defense area, a continued emphasis on involving other actors (organizations, Allies, partner nations, private sectors) is essential. The cooperation with different actors to learn to work together, share information and fully grasp the rapid dynamics of

cyber crises. It is critical for creating bonds between specialists of different countries, improving interoperability and practicing the intricacies of preventing malicious cyber threats. It in turn will build trust and strengthen bonds of NATO partnerships.

Prospective cooperation areas in cyber security are increasing interoperability, sharing strategic and technical information and threat assessments, coordinating responses to cyber crisis and engaging partners into NATO's education, exercises and training activities. In order to to help develop national expertise NATO is helping member countries by sharing information and best practices, and conducting cyber defense exercises. Cyber defense is as much about people as it is about technology.

4. CONCLUSION

The ubiquity of cyber threats highlights the need to work together – a key issue when reviewing NATO's role. It came to the fore as a result of the cyber-attacks plotted against both NATO and partner nations. The cooperation between like-minded states and international organizations is the best way to address many cyber risks. NATO has the capabilities to offer a clear platform for exchanging practice between Allies and partners through a more extensive variety means, including NATO's Defense Planning Process.

Such mechanisms might include operational and technical support and advice regarding cyber-defense capability development and implementation. It might entail advice on the establishment of a cyber-security strategy or brokering the exchange of lessons learned and situational awareness on cyber domain.

Even though the cyber-attacks are unlikely to be as lethal as strategic bombs for the foreseeable future, NATO has to brace itself for much more complicated predicaments regarding cyber threats emanating from its rivals. It will take a lot of effort and further bold decisions to move closer towards achieving the goal on thwarting cyber threats before they have important physical ramifications.

If virtual space becomes an inherent part of the NATO operations and exercises it will help the Alliance to adapt to emerging technological challenges. It in turn will necessitate to bridge the gap between Allies. Together

with its member states NATO has to facilitate partner nations' cyber defense capability development and participation in the annual trainings and exercises based on reciprocal interests, shared values and common approaches. There is not any obstacle for partners to cooperate at a technical level. NATO might establish individually-tailored projects in accordance with interests and capacities of partners to enhance their cyber security.

Only when the Allies and trusted partners collectively pursue a cyber-policy, they will be able to successfully prepare themselves for cyber threats to their national security. Even though the cyber defense is a part of collective security, NATO still lacks a stringent deterrence against cyber-attacks.

A stringent deterrence means that a state should have an offensive capability if it is attacked. Thus NATO has to prove that it is not only aware of the gravity of the cyber threat but also ready to defend against it.

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CONSIDERATION OF THE COURSES OF ACTION BY THE SIMULATION METHOD IN THE LAND FORCES OF THE POLISH ARMED FORCES

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Abstract: *In the article, the authors' present one of the procedures of consideration of the courses of action applied in the Land Forces of the Polish Armed Forces during operations' planning. As it is shown by the experiences gained at the run trainings, the most effective procedure is simulation. In its course, there is identification of future operations (events) of the enemy and the own forces in accordance with the rule: action – reaction – counter-reaction.*

1. INTRODUCTION

The system of command and control of the Polish Armed Forces consists of three components, namely: the organization of command and control, the military decision-making process, the means of command and control. They should constitute an integral entity assuring, among other things, efficient decision making by the commanders, their implementation in the army and their command in combat. What is extremely important in the military decision-making process is planning, within which this is the commander who makes a decision. It depends on the made decision if the set goals are achieved and with what effect. The commander makes the decision at the time of planning operations, and one of the activities entailed in the process of planning is the consideration of the courses of action, which is often treated perfunctorily, as the trainings prove. The command bodies participating in trainings avoid a very complicated, as they see it, method of simulation. It is largely caused by the fact that the problem issue is described in a very general way in the national doctrinal documents, what is more a limited number of officers are able to participate in the trainings organized at the War Studies University, where simulation while

planning is used as the basic method of pondering on the courses of action. Therefore, the subject article develops the problem of the consideration of the courses of action with the method of simulation presenting the auctorial solutions used inter alia in the didactic process at the aforementioned university.

In the doctrinal document which is biding in the Polish Armed Forces *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*[1] there are three methods of consideration of the courses of action:

– simulation method;
– method of capabilities comparison;
– method of pros and cons.

As the experience gained at trainings shows, the most effective method is simulation. The remaining two can be used when the time for operations' planning is limited.

During simulation there is identification of future activities (events) of the enemy and the own forces in accordance with the rule of action – reaction – counter-reaction. The substance of the procedure is presented in the further part of the article.

2. ROLE AND PLACE OF SIMULATION IN THE MILITARY DECISION MAKING PROCESS

According to the document *Planowanie działań na szczeblu…* the cycle of the military decision-making process takes place in four stages:

– pinpointing;
– planning;
– setting a mission;
– controlling.

A detailed course of the military decision-making process on a tactical level is illustrated in Figure 1. The consideration of the courses of action takes place in the stage of planning during the assessment of situation (Fig.1). It begins after the preparation of courses of action for the own forces and presenting them to the officers of the types of forces (specialists) who should already have the concept of support and safeguarding the courses of action (separately for each variant) the moment they start simulation.

The goal of the consideration of the courses of action is to determine the strengths and weaknesses of the variants of tasks performed in confrontation with

[1] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

the probable way of the enemy's performance. They are usually identified as the disadvantages and advantages of the courses of action of the own forces. According to the authors, it would be a good solution to assess the risk of completing a mission for each of the elaborated courses of action. However, with such an attitude, it is important to identify threats having influence on the completion of a mission e.g. losses, atmospheric conditions, improvised explosive devices, diversion and reconnaissance groups, national minorities, etc.

The carried-out simulation should result in certain conclusions in the scope of:

– the influence of the terrain and atmospheric conditions on the operation of the own and the enemy forces;
– the probable action of the enemy;
– the change of the capabilities of the own forces in time and space;
– the change of the combat order of the own forces;
– areas of utmost importance;
– core threats;
– the change of decision points.

During simulation it is extremely important to define tasks (mission) for particular elements of combat order and determine time and place of their realization. The effects should be written down in a synchronization table which is an indispensable document used at the stage of control to carry out synchronization as well as while running operations.

On the basis of conclusions drawn from the carried-out simulation the courses of action of the own forces can be accepted without any changes, can be modified or rejected due to the fact that they do not correspond with the specific mission defined by the commander and the criteria set by him.

In case of a limited time for planning operations, the courses of action can be considered with the method of capabilities comparison or the method of pros and cons. Whereas, after the decision is made by the commander, it is advised to carry out a simulation of a chosen course of action. Then, the simulation will aim at[2]:

– checking the chosen course of action;

[2] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

– modification and removal of errors which were not noticed earlier;
– identification of data for the plan of synchronization of operations, which will be prepared in the further course of the military decision-making process.

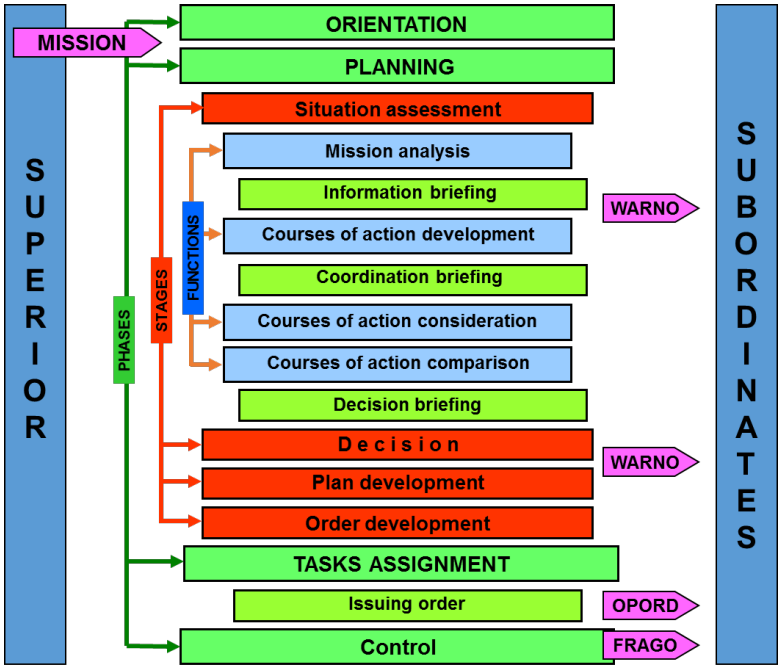

Figure 1. Layout of the military decision-making process.
Source: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007, p. 68.

3. PREPARATION OF SIMULATION

Prior to a simulation, the courses of the own forces' operations are prepared, and even earlier of the enemy. Each of the prepared own forces' course of action determines combat order and provides an initial division of forces. It is also vital to determine the capabilities and the relation of forces in particular stages of combat. This, in turn, allows for the calculation of the pace of an offensive of the own forces or of the enemy. Such a preparation of a

course of action allows having certainty that the adopted solution will enable the performance of the partial tasks within the time anticipated by the superior. Moreover, it gives the possibility to determine the needs in terms of completing the capabilities of own forces (armored, mechanized, and infantry) by the supporting units (artillery, anti-aircraft defense, military engineering, etc.)

Each of the courses of action should include a sketch (Fig. 2) as well as a note in writing (legend) with the following information:

- aim of an operation;
- way of completing a mission – divided into stages;
- major effort;
- combat order;
- initial division of forces;
- arrangement of command posts.

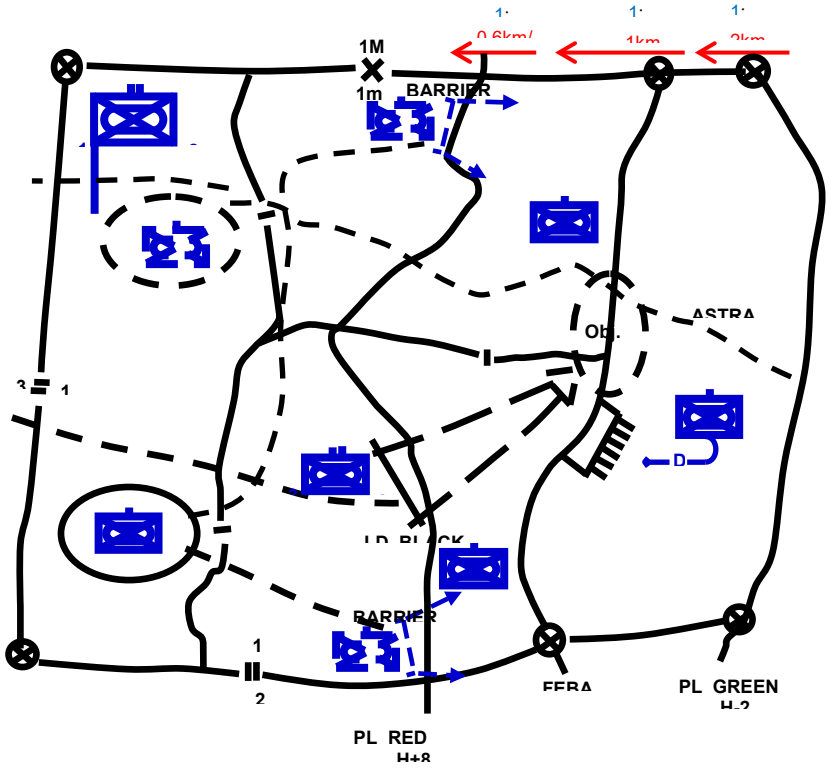

Figure 2. Courses of action of a mechanized battalion in defense.
(Source: Own elaboration)

Each course of action lined with the concept of their support constitutes the basis for the consideration of the courses of action by the method of simulation.

The next step after the preparation of courses of action is the definition of decision points. Particular decision points should be defined during the elaboration on the courses of action of the own forces, where the planning unit determines which partial tasks will be realized by the own forces.

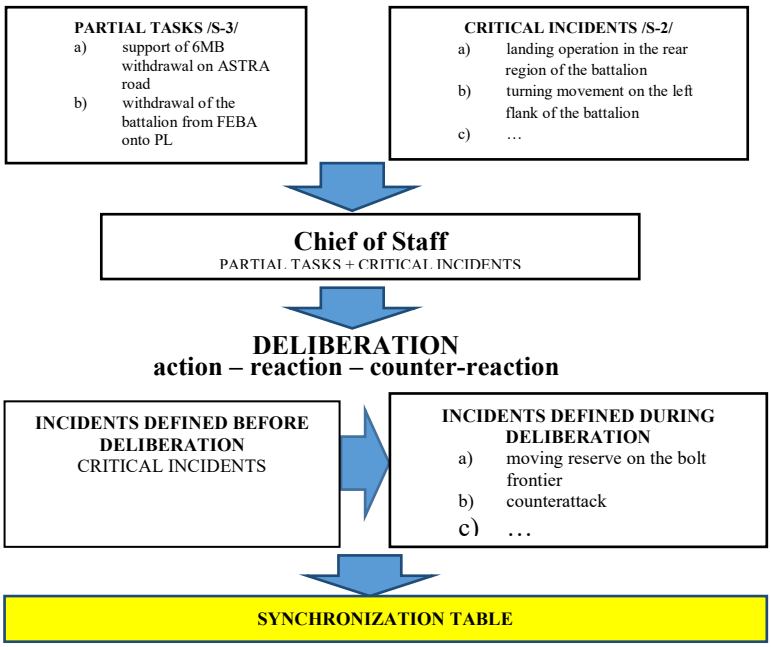

Figure 3. Way of defining decision points.
(Source: Own elaboration)

Moreover, the reconnaissance unit in the framework of IPB (pl. IPPW)[3] determines a probable way of the enemy's operation, where critical incidents having influence on the operations of the own forces should be defined. The defined partial tasks and critical incidents are subject to the analysis of the chief of staff who chooses the most important ones i.e. having the biggest influence on the way of the own forces conduct (Figure 3). He does it either independently or jointly with the officers of planning and reconnaissance units. It must be remembered that a decision point - is a point identified in time and place within which and in relation to a real situation the commander must make decision concerning further course of action. While a critical point – is a key point (position) in time and place – important for the success of operations.

The incidents defined by the chief of staff provide the direction for the process of consideration of the courses of action and they constitute the basis for determining another incident – already in the course of consideration. The decision points (incidents) defined prior to the consideration and in its process are written down in a synchronization table.

The chief of staff is responsible for the preparation and the conduct of simulation. The activities which must be performed for the sake of simulation entail:

– preparing a terrain model, a map or a sketch;
– preparing symbols (tactical signs) to present the situation on the terrain model, the map or the sketch;
– presenting the situation on the terrain model, the map or the sketch in accordance with the elaborated courses of action: demarking lines, points and coordinative lines, etc.;
– in case of simulation with the use of IT programs it is necessary to key the data into the system: combat order of the enemy and of the own forces, the possessed capabilities, the number of the possessed combat measures and material resources, other;
– preparing the record of (capabilities) forces and measures of the enemy and the own forces;
– preparing tools for calculation: calculation sheets e.g. Excel, tactical norms, other according to the needs;

[3] IPPW – Informacyjne Przygotowanie Pola Walki/ IPB Intelligence Preparation of the Battlefield.

– preparing a table of drawbacks and benefits (Table 1), a synchronization table (Table 2), and a risk assessment table (Table 3).

Table 1. Drawbacks and benefits table.
(Source: Own elaboration)

	Variant No. 1	Variant No. 2	Variant No. 3
Drawbacks			
Benefits			

Table 2. Operations' synchronization table.
(Source: Own elaboration)

SIGNAL/TIME	COMBAT ORDER ELEMENT/DETACHMENT, SUB-SUBUNIT	MISSION	NOTES
STAGE I (H-…)			
Decision point No. 1: withdrawal of forces from a front position			
The enemy:			
Reconnaissance:			
STAGE II (H+…)			
Decision point No. 2: withdrawal from FEBA onto PL BLUE			
The enemy:			
Reconnaissance:			
STAGE III (H+…)			
Decision point No. 3: counterattack from LD BLACK			
The enemy:			
Reconnaissance:			

A synchronization table is a document where conclusions from the simulation are written down. It entails decision points defined before a simulation and those defined during a simulation, the activities of the enemy in relation to those decision points, tasks for the own elements of combat order as well as signals e.g. to open fire, use of reserve, troops withdrawal, etc. The prepared synchronization table is completed with more details after the commanders make decisions.

Table 3. Risk assessment table.
(Source: Own elaboration)

Identified risks (Risk factors)	Initial risk estimating		Risk level	Initial risk assessment	Determining risk reaction		Estimating risk after the application of risk reaction measures		Risk level	Final risk assessment
	Defining probability	Defining effects			Active activities (measures)	Passive activities (measures)	Defining probability	Defining effects		

The results of the process of risk assessment obtained during simulation are presented in a table (Table 3) which is a tool supporting a decision-making process by the commander.

4. SIMULATION COURSE

Simulation is carried out by the chief of staff. Moreover, there are officers from the command body who perform operations simulation of the enemy forces and of the own ones. A simulation can be carried out with the technique of stages, directions or objects, which are described in a doctrinal document *Planowanie działań na szczeblu…*[4]. It can also be conducted in the order of decision points and critical points (Fig. 4) defined prior to the consideration.

[4] See: *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007.

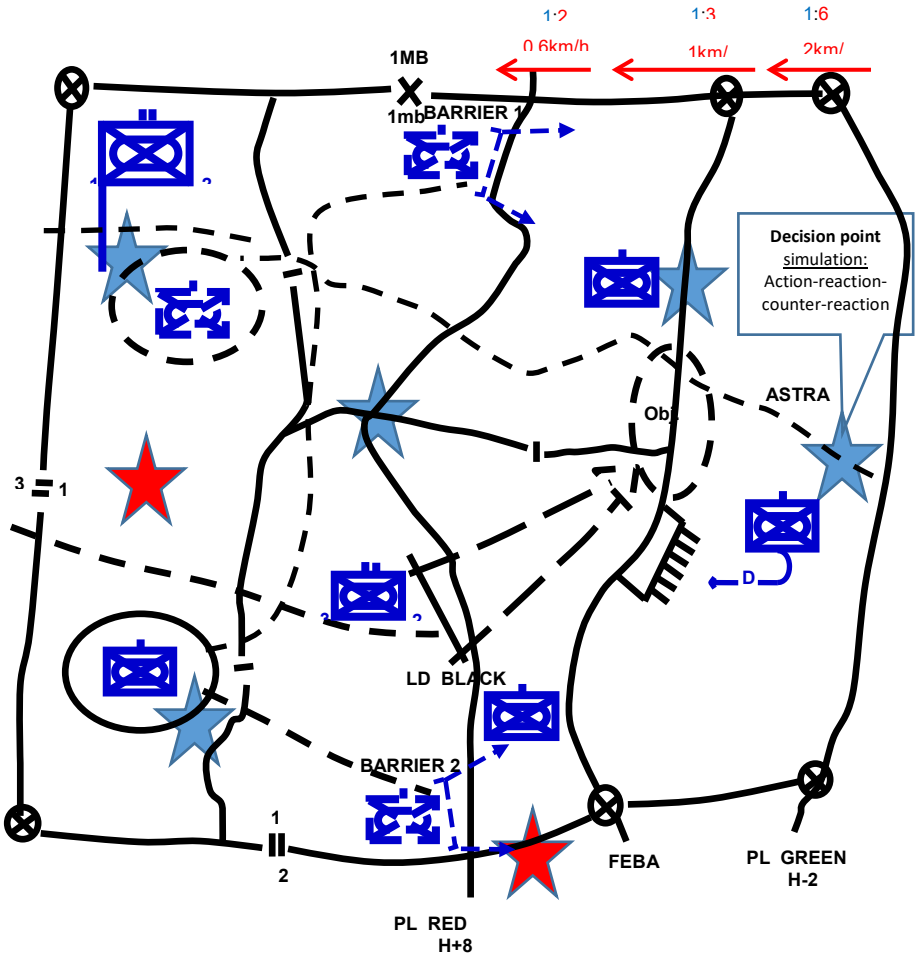

Figure. 4. Courses of own forces action with the elements necessary for simulation.
(Source: Own elaboration)

During simulation, different possibilities of performing partial tasks are taken into consideration, the same pertains to the probable events stemming from the operations of the enemy (landing operation, turning movement, etc.). The deliberation on different reactions of the own forces to the operations of the enemy allows to define next decision points, and at the same time to determine further partial tasks as well as signals for the elements of combat order.

A vital role in simulation is played by the officers (specialists) of the types of forces. Their mission is to show real possibilities of support of the own forces' operations. It is done during the consideration of next decision points, where the mentioned specialists respond to the needs (they complete the capabilities) in terms of support of further partial tasks, both those determined before consideration and of those defined in the course of operations' simulation. Such attitude to simulation requires that the officer preparing the course of own forces actions must make proper calculations, e.g. of the pace of the enemy attack, which is presented in Figure 4.

As it has been mentioned, simulation can be realized according to the defined decision points and critical points. The methodology of conduct in the process of the deliberation on each of the points can be the following:

a) commencement of simulation by the chief of staff:
   - reminder of the determined mission of the commander, its mission statement and the criteria;
   - determination which decision points and critical points will be discussed and in what order;

b) indicating decision point No. 1 by the chief of staff:
   - crossroads in square ED /… / - decision point No. 1 – support of the 6th Mechanized Brigade withdrawal from fight on Astra road;

c) simulation of enemy's operations and the own forces with reference to decision point No. 1 – according to the rule action – reaction – counter-reaction:
   - **action:** the officer of reconnaissance unit as well as officers of the types of forces present the way of operations of the enemy and their capabilities;
   - **reaction:** the officer of the planning unit as well as officers of the types of forces present the way of operations of the own forces and their capabilities, determine additional partial tasks for the troops, places of their realization, as well as signals;
   - **counter-reaction:** the officer of a reconnaissance unit as well as the officers of the types of forces present the way of operations of the enemy as well as their own capabilities with reference to the presented scheme of operations of the own forces.

If there is a need for further consideration of the operations of the enemy and the own forces with reference to decision point No. 1, the chief of staff orders to continue the simulation.

d) conclusions from the simulation of operations at decision point No. 1 can concern:

o changing combat order of the own forces;

o additional partial task for troops;

o change of time and place of decision points or setting next (additional) decision points;

o determining the crucial place (terrain) and the way of its use;

o preparing more detailed EDKD[5] (*elements of command and control, and coordination of operations)*;

o determining signals to realize operations (missions) by the own forces;

o assessment of risk concerning mission's fulfilment.

Conclusions from the simulation, in relation to each of the courses of action, should be written down in a table of drawbacks and benefits, synchronization table, as well as the table of risk assessment.

The above procedure is repeated by the command body of the command post with relation to the rest of the decision points and the critical points. Depending on the time available, some of the decision and critical points (those less important for the goal achievement) can be scrapped.

In the course of simulation, the following rules should be observed[6]:

– objectivism; it is advised to avoid bias or being led by 'what the commander wants to achieve', it is also not proper to defend uncritically the courses of action prepared by yourself;

– meticulous note-taking of the identified drawbacks and benefits of each of the courses of action. However, it should be done only after they become obvious (for this purpose the tables of drawbacks and benefits are used);

– constant assessment of the viability and purposefulness of the courses of action, since in a situation when any of the courses of action at any stage does not

[5] EDKD: Elementy Dowodzenia i Koordynacji Działań *(elements of command and control, and coordination of operations).*

[6] *Planowanie działań na szczeblu taktycznym w Wojskach Lądowych*. DD.3.2.5, DWLąd, Warszawa 2007, p. 42.

meet one of the mentioned conditions, it should be scrapped;

– avoidance of drawing premature conclusions before they are confirmed in the course of simulation;

– avoidance of comparing one course of action with the other during simulation, since the step will be realized in the course of the next activity – comparison of the courses of action.

5. CONCLUSION

The solutions presented in the article pertaining to the procedure of conduct during simulation of operations do not significantly differ from the procedures adopted in the Land Forces of the Republic of Poland. However, the authors of the subject article believe that they require some changes in terms of defining decision points and critical points, the technique of running simulation (presently there are 3 techniques of: stages, directions, and objects), all done through simulation. Moreover, it is advised to carry out the assessment of risk of each of the courses of action of the own forces if there is enough time for operations' planning. The assessment will be presented in detail in the ensuing article.

All in all, it should be emphasized that the described procedure of running consideration of the courses of action is one of three methods applied in the Land Forces of the Polish Armed Forces. In the situation of limited time for planning operations, the staff can use methods already mentioned at the beginning of the article, i.e. the method of capabilities comparison or the method of pros and cons.

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THE FACTORS OF ENEMY DESTRUCTION FIRE IN THE SINGLE INFORMATION SPACE DURING COMBAT OPERATIONS

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Abstract: *During military operations in the single information space of various combat power and military units the capacity, context and succession of the tasks determine changes in form, method and rules of enemy destruction fire. In the paper, these changes are shown and in consideration of these the analysis of main destruction fire factors has been carried out. Taking into account of contactless combat activity in the single information space the recommendations for enemy group's fire destructions have been offered.*

Key words: destruction fire, contactless combat activity, single information space, effectivity assessment, high-precision fire attack

1. INTRODUCTION

In modern operations (combat activities) the various power and means determine the forms, methods and contents of enemy fire destruction (EFD) when the common nature of military confrontation is changed, EFD effectivity is increased, the amount and succession of combined units task are changed. First off all, the expansion of combat activities space can be ascribe to these factors.

In this case, in the same time the comprehensive impact possibility is created in aerospace, in land and navy, in information space, in total depth and various directions of its area of battle order. In these condition, in the battle area and based on the increasing combat power and large information advantage of the troops' units to another operation directions, by using of information-computer network (networked operations) in interconnect information-control space, the conception of combat activities execution is provided for implementation.

This process can be implemented in total combat space by interconnecting of

reconnaissance, control systems and fire destruction means in information-computer networks. In network interconnecting processes, the character and content of activities define various impacts methods on the enemy including fire destruction in operation and tactical depth.

The new method of operation activity changes a content and character of defense activities, increases much their maneuver and activity of retaliatory and preemptive attack. The requirements of operations (combat activities) implementation in integrated information space give possibilities to determine new factors of fire destruction to enemy military unit.

2. THE NEW FACTORS OF FIRE DESTRUCTIONS

As a result of the increasing effectiveness of fire destruction means the operation implementation duration is decreased and in the same time the task implementation duration is decreased, too. Far exact and often repeated fire striking to enemy objects the operation implementation under the new requirements is characterized by continuous impact. In this time, the far fire strikes factor is more importance. Not the numerous losses, but break down of enemy opposition possibilities, morale for counteraction and losses restoration are the goal of such far fire strikes. During operation implementation, in the wide area the troop's activities, the coordination of actions possibilities of mutual activity and deep fire destruction support must be strong connected [5].

In modern military operations for realization of combat activities goals the significance of the usual general formations is relatively decreased. In this case, the significance of Air Forces, Naval Forces, Military-Space Forces and Electronic Warfare Forces using high-precision weapons (HPW) and weapons based on the new physical principles is became more important. The "Operation" term remains its main form of force operations, however, in the same time, at present it has new kinds: space, anti-missile, information-psychological, electronic-fire, robotized etc.

In accordance with investigations, in the beginning and during battle operations based on the qualitative indicators the following progress of combat capabilities calculation and possible changes are expected.

Here, it is provided for increasing significance of HPW and weapons based on the new physical principles, robotized systems and smart tools, the creation of efficiency assessment criteria for all fire destroy means and facilitation of commander's decision making [6]. There is an increasing factor of high-precision fire strike to enemy's vulnerable point in mass battle activities, of search of the results attainment methods at using of the minimum forces, of destroy of the enemy's functional systems and its combat capability decreasing in the modern military operations.

The application of the single system creates a possibility of increasing of the mobility and the level of mutual activities of Armed Forces' various types and means. This system is provided by possibility to implement of mutual dynamic planning and based on the permanently updatable data about battle conditions for commanders and Staff to operate of all control levels. In this planning after decision making of strike deliver a blow and give orders to specific fire means strike, in case of revealing of the new aims (targets) the weapons promptly and over again to take aim is taken into account.

For example, the commands via wireless channels for aims fire-destruction are carried out for air-to-surface missiles delivery the tactical bomber, for sea-based guided-missile ship or for theatre-of-war missiles launcher. In this time, as a result of such activities the classic frames between the strategical, operational-strategical and tactical systems are obliterated. Here, the success of battle activities is depended on qualitative and timely implementation of combat tasks, on targets identification and coordinates precise determination, also, on moving characteristics (for mobile targets).

Lately, in high technology area obtained results determine some smart systems and weapon's samples making which can destroy with high effectiveness the opposite grouped enemy's objects and combat systems on spread of whole battlefront during real time. In the single information space In the single information space in framework (by using of united information and control infrastructure) of realization of the new conception of battle activities, the development of perspective automated control and radio communication systems, and the factor of integration into Armed

Forces single information and control system has created. For example, at present, the information reconnaissance systems of advanced countries Armed Forces have provided an application of the limited number of high-precision weapons in one military operation.

In some military experts' judgment, the creation of horizontally and vertically integrated information system of high-precision weapons, also the new reconnaissance systems and means inclusion in weapons, the preparation of reconnaissance information can provide the mass application of high-precision weapons in various military activities areas. Also, it can provided by the parallel dynamic planning at all control levels (tactical levels) of high-precision weapons application during real time.

As it is seen from analysis of combat activities of the NATO United Armed Forces that the Staff of this alliance determines a succession of enemy fire destruction in dependence of the types of applied in operation fire destruction means. Before the high-precision weapons appearance in usually war operations the main method of enemy destruction was a successive destruction of opposite groups. But, after troops arm with new generation of high-precision and far-ranging weapons the factor of enemy destruction method at the same time at whole front has been formed. In military experts' judgment, it is necessary to take into account the saliences of enemy destruction factor in enemy operation formation at the same time at the whole front, in the preparation and implementation of any operation (tactical activity).

In military experts' judgment in the developed countries, the beginning of battle activities will accompanied by powerful missile-air strike and radio blocking-out. In this time, the state and military manage breaking down, the combat potential decreasing, the fire destruction to enemy's groups and logistical support breaking down are gave consideration. These tasks are implemented by air attack. During the USA and NATO mutual Forces military activities in 1993, 1998 and 2003 in Iraq, in 1999 in Yugoslavia, the anti-terror operation in 2002-2010 in Afghanistan, during the Russian Armed Forces peace coercion operation in 2008 in Georgia it was carried out [5].

In the beginning of battle activities the air attack is carried out with purpose of to get an advantage in air, to destroy enemy combat potential and to provide the favorable conditions for land troops. The main method of Rocket and Air Forces application in operations is a mass missile-air attack. The NATO military Air Forces application experiences show that preconceived plan of the first mass missile-air strike provides the most powerful attack. In this time, its caring out is prepared more carefully, the exactly interactions of all used forces and means are organized. The main goal of the first missile-air strike is destruction of enemy's rocket complex and of air attack defense groups, to break down of military air control system. For implementation of this task 70-80 % of all aviation resources is used.

In dependences on location and time, force and means the coordinate first mass rocket-air strike is usually divided on three echelons: Unmanned Aerial Vehicles (cruise missiles) strike, air defense destruction strike and one or two air strike. In military experts' judgment, the duration of the first mass strike can be from two until seven hours. The main goal of this is the maximum destruction of State and military control organs and aviation and anti-aircraft rocket groups, a weakening of retaliatory strike possibilities. It is carried out by cruise missiles and main forces of aviation echelon including more battle worthy, trained and technique well provided units and formations. The first mass rocket artillery strike is prepared in advance. In this time its preparation is implemented more carefully.

In the first mass strike, as a rule, there have been used the maximum number of battle aviation, tactical operation missile complexes, battle helicopters, electronic warfare sets at various deployment. Here, the factor of strike means large-scale involvement and echelonment is seen. In NATO military experts' judgment, in the first mass strike in battle activities area or in strategical direction it is necessary to use up to 90% of all aircrafts in aviation's group. For the next strikes up to 80% of remaining aircrafts can be used (Alekseev).

It seems from calculations that 70-80% of all aircrafts in the air-attacking group and up to 60% of operational tactical rockets' complexes are participated in the first mass strike [2]. The duration of organization and preparation of

the next mass strike is 3-6 hours or more.

At analyzing of the various models of air-ground operations, the next factors have been revealed:

- the operations are carried out in wide and deep front;
- the air components are more used in operations;
- the various methods of strike are planned for successful results of operation;
- the fire destruction concentrates the forces and means in planned strikes direction.

In the time interval between rocket-air strikes, the struggle for an advantage in air grows weak, the active reconnaissance and the regular combat activities are carried out. The important factor of the regular combat activities is time limitation. These activities can be carried out in any time of day and any weather conditions. After air attack, the fire destruction to enemy is carried out by land forces groups in accordance with attack plan. For the benefit of land forces groups combat task implementation the fire preparation and support are planned as fire destruction types.

In military experts' judgment, the direct fire support of troop's activities is carried out by strikes using of high-precision weapons, guided aviation bombs and shellfire [7]. The meteorological conditions, smoke generation and aerosol's camouflage impact on the application accuracy of aviation means with self-guided optoelectronic head. The fire destruction on the areal targets group, including armored, is carried out by application of both guided and non-guided cluster bombs.

For destruction of stronger guarded objects or mopping-up of mined area it is necessary to apply forced guided aviation bombs. Such method of objects (targets) fire destruction creates a factor of application of the high-precision fire destruction weapons. It seems from experiments, the 80% of aviation fire destruction means are the high-precision weapons.

For the purpose of reinforcement of application effectiveness and intensity of the far range high-precision weapons, the active investigations are carried out for development of the infrastructure of information-reconnaissance data. In accordance with new demands the system must provide next:

- in real-time by using of the various types based all

reconnaissance data means the targets searching, revealing, recognition, and selection and location determination;
- during strikes planning the targets optimal distribution and development of target vision data;
- development, making and delivery of the individual tasks for fire destruction means;
- assessment of the strikes results.

The improvement of existent recognition and reconnaissance system, the deeper development of reconnaissance data, the increasing of speed and possibility of the operations calculations means reduce the targets revealing time. These efforts gave possibilities to NATO Forces in Iraq operations in 1991, in dependence of destruction means, to reduce the duration of 7 days between decision making time and rocket strike until 12÷30 minutes in 2003 (in Iraq operations) [8].

At present, the military experts investigate the conception of fire tasks dynamic planning by using of high-precision weapons. The one of distinctive feature of this conception is the possibility of high-precision weapons over again to take aim when revealing of the new critical targets during fire destruction or flight [10]. It should take into account that a number of military experts classify investigations of developments of the information-reconnaissance infrastructure and info ware of high-precision strike means by next:

I-st – creation of high precision digital geoinformation data of objects and terrain. There are next main technological tasks in this area:
- the hyperspectral photo-graphing (in the range from ultraviolet till infrared, $f > 100$ nm);
- in a forest terrain the objects dislocated under the plant cover by using of radiolocation station in the same time in meter and decimeter wavelength range the wide-gap radiolocation photographing;
- in centimetric radiolocation waves contributing the recognition of targets in accordance of their vibration characteristics, the capacity increasing of Doppler filtering carrier.

II-nd – the various reconnaissance systems packaging arrangement on the single board bearer for the purpose of independent aiming, stationary and

mobile target designation providing in real time.

III-rd– the target designation by creation of force field by using 2÷4 new generation aviation radiolocation stations and the collective high-precision radiolocation searching of the land moving targets.

IV-th – the increase of positioning accuracy (in military mode – 3÷10 m, in differential mode - 0,2÷0,5 m) (Joint Publication, 2002) and of noise-immunity of the space radio navigation system.

V-th –the formation of network of land reconnaissance transmission systems in depth of enemy terrain for the purpose of targets designation providing of the determination of targets positioning accuracy for reconnaissance means.

3. REALIZATION OF THE NEW CONCEPTION OF COMBAT ACTIVITIES EXECUTION

In the single information space, in the framework of realization of the new conception of battle activities (by using of jointed information-control infrastructure) in a number of periods the development of perspective automated control and communication systems, including the integration into the single information-control infrastructure in Armed Forces the activities are carried out.

The realization of this program comes to agreement the various elements of the troops control system with the single multilevel hierarchy system. It provides automated operative renewal of users' data base and helps to receive necessary information about any battle activities in any time. The realization of the new program increases the level of automation of the decision making process and the level of unauthorized actions prevention [3].

On the whole, in military experts' opinion, the application of this program will promote of possible changes in execution of battle activities. By using of usual weapons these activities are next:

- high mobility and rate of execution of the combat task, a broad choice possibility based on the renewal detailed information about enemy, various types of the destruction means and its executed tasks;
- a broad realization of reconnaissance-strike

conception of arming systems during selected striking based on the target designation in the single information space of all priority targets and in real time received data about high-precision destruction means and combat ammunition;

- realization of the coordinate planning principles for the fire tasks of far range rocket complex possessing of the possibility of again aiming when revealing of the new important targets or for the high-precision destruction means, also, mainly the target designation data correction during flight;
- realization of the combat application principles by means of terrain observation or in more than 100 km width range the continuously patrol flights for destruction of the land command post and for revealing and tracking of mobile and small size targets (it is more important than Unmanned Aerial Vehicle - UAV).

Take into account above considered factors, by application of only usual weapons the next combat activities' forms can be implemented in the single information space:

- the attacking groups operations (strike blows) by application of high-precision weapons the more important military and political (military-industrial) or time-critical targets in whole enemy area;
- the reconnaissance-strike operations by application of special-purpose forces and, in the same time, taken into account of high-precision rocket-bomb strike blows.

The factors of operation breadth increase, of execution in whole battle space in the same time, of increase of the operations rate and continuity, of increase of the scope fire tasks, of change of the destructed objects structures and character determine an increase of the common part of necessary in real time to destroy mobile and armored objects. The basis of such activities is a conception of "advance in revealing and destruction". In this case, it is possible to take the lead, keeping and using, also to win out in fire and information superiority and to keep it.

4. CONCLUSION

The developed idea about transition from usual operations to the network-centralized operations

demands further improvement or revision of a battle application of the enemy troop's destruction forces and means. It is supposed that the future combat operations will antisymmetric. That is:

1. In the future combat activities in the same time of efforts concentration in selected directions, the activation on the whole struggle front is supposed.

2. The increase of fire tasks scope by side of commander and Staff for the sake of interests of fire supply of troops activities demand an enemy troops and objects one-time-only compressed fire impact.

3. In modern conditions, by involvement of forces and means in much volume the mass fire strike blows demand a transition to high effective and high precision fire means providing in short time a fire supply in antisymmetric activities.

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ASPECTS REGARDING THE USE OF UAV IN INTELLIGENCE OPERATIONS RECONNAISSANCE AND SURVEILLANCE

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Abstract: *This article presents the evolution of the instruments and means used in reconnaissance and surveillance, with the purpose of delivering the information needed for planning the military operations. Acquirement of the information was and still is the most decisive element of the war.*
Demonstrating the differences and the similarities between the units (human and UAV) involved in reconnaissance and surveillance, will be done by filtering them through the functional model of Gerbner. In that purpose, we underline the differences between the information acquired due to this model of the communication theory.
In this paper a connection will be created between the information provided by both subjects using content and a unique form that is easy to use by leader/commander.

Key words: information, research, surveillance, time, operation, decision, UAV, selection, Network centric warfare, commander.

Acronyms

HUMINT	*Human Intelligence*	*RMA*	*Revolution in Military Affairs*
IMNT	*Imagery Intelligence*	*SIGINT*	*Signal Intelligence*
ACTIN	*Signal Intelligence*	*MASINT*	*Measurement and Signature Intelligence*
AOC	*Air Operational Center*	*ASC*	*Air Surveillance Center*
C2	*Command and Control*	*AOC*	*Air Operational Center*

1. INTRODUCTION

Specialty studies define the term "information" as the amount of knowledge that is owned about the enemy, the ally forces and the operation theater. Information is the gas that fuels the decision-making machinery of the commander. As in the fuel with a low octane value, uncertain or wrong information may destroy this machine of war. In the doctrine of the reconnaissance and

surveillance [1] information plays a very important role in planning and unfolding the operations, protecting the force, dealing with the threat and commanding the operational environment. The matter of Informational operations existed since ancestry from the time that Sun Tzu walked on this planet. Sun Tzu offered a great importance to preliminary knowledge [2]. His opinion was that if a commander is winning constantly this is because of a proper preliminary knowledge, acquired by the spies in collecting / corruption of information and securing / destroying of the communication means. There is no place, domain, plan that has a chance of succeeding without proper information. Information is the "bridge" that links planning and execution of the tasks / missions on a tactical, operational and strategic level. This very bridge that doesn't allow us to fall in "the impression of senses" [3] described by Clausewitz.

The impression of the senses affects by planting or amplifying the uncertainty in the commander's conscience. The remedies for this neurotic illness known as "Impression of senses" is reconnaissance and surveillance. We can observe the evolution of the information flow in Figure. 1.

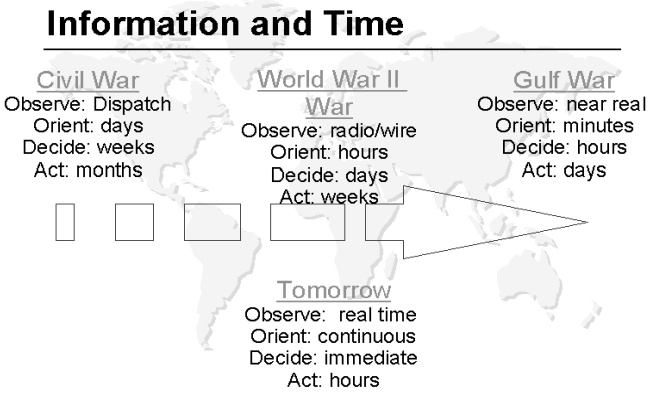

Figure 1. Information and Time [4]

According to the glossary of terms NATO [5] we have the following surveillance and reconnaissance terms:

"Reconnaissance - A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an

enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area".

"Surveillance - The systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means.

Informing systems in the time of the two military paradigms of Sun Tzu and Clausewitz were based on the means and ways of reconnaissance and surveillance included in the HUMINT category. Due to RMA (Revolution in Military Affairs), research and surveillance means have evolved. New methods of collecting information appeared: Imagery Intelligence – IMNT; signal Intelligence – SIGINT; Acoustic Intelligence – ACTIN; Measurement and Signature Intelligence – MASINT.

Even considering the new methods, a long period of time, man has remained the basic tool for collecting intelligence.

At the moment, the development direction of the informational operations tends towards the usage of UAV's, that may create a false opinion that the removal of man is wanted from the informational cycle. The usage of UAV's is more a completion instead of a replacement in the Network centric warfare. For a better explanation, the Gerbner model in the Figure. 2 will be analyzed, with a few changes made for a better understanding of the article.

The researcher named George Gerbner [6], claims that the message plays a very important part as element of the communication process, because it is the informational content. The message is the link between emitter and receiver. In this article I strive to analyse the need and the advantages of using a reconaissance and surveillance system based on UAV merged with human personnel.

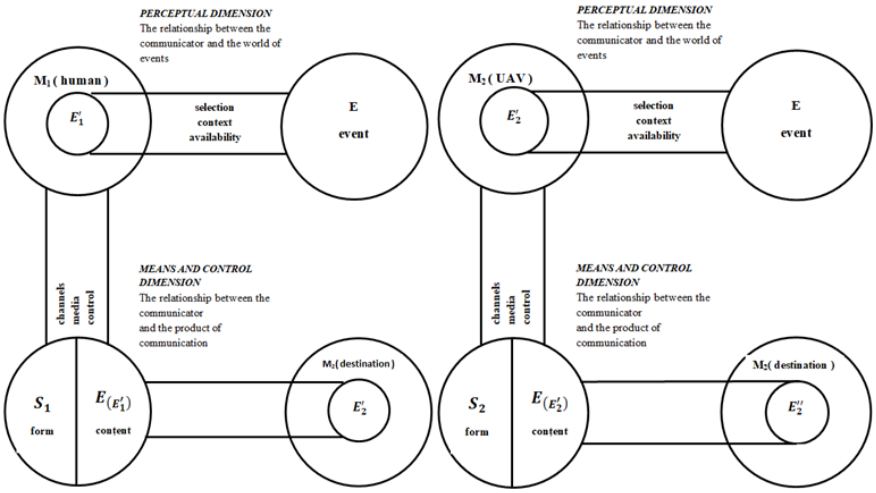

Figure 2. Adapted multifunctional model of Gerbner.

2. PERCEPTUAL DIMENSION

Perception is a tiny piece of the superior mental / mechanical process named human thinking or artificial intelligence. Thinking is the mental activity that involves understanding, processing and transmitting the information.

The M_1 and M_2 subjects (human and UAV, see Figure.2) subordinated to *ASC (Air Surveillance Center)* engaged in surveillance and reconnaissance operations, observe an event E, for example, the enemy troops moving. The events perceived and reported farther to *AOC (Air Operational Center),* will be (E'_1) and (E'_2). Information (E'_1) and (E'_2) are different due to the selection, context and access level. As stated above, intelligence is like a bridge whose surface has to be safe. Unfortunately, man or UAV, both derived the event E, in which case we have an information loss. The question that remains is: which of the subjects manage to report the information closest to the truth? For this purpose, the components of the axis of perception will be split:

2.1 Selection

It represents collecting the information considered relevant to be reported in a determined amount of time. The need of the selection is a consequence of the

matters caused by the velocity and keeping the message upright.
Selection is characterizing by the properties of the memory as:
- *Saving or storage velocity* – process of recording the information in the memory or on storage devices (v_m / v_s)
- *Storage capacity* – the space in which the information is saved

The V_s of the human is probably infinite so we could wrongfully think that humans have an advantage but keeping in mind that V_m is smaller than V_s by tens of times this advantage is not relevant anymore. We could say that in a reconnaissance and surveillance mission, the quality of the selection is represented by the *quantity of the perceived content*: (*Cp*), so $Cp=Vm \times t$ or $Cp=Vs \times t$

M2 has the advantage of higher recording velocity. Plus, there have appeared drones with a system of real-time delivery of the information that diminishes the need of high storage capacity.

2.2. Context

Represents the physical, mental, and even social dimensions. M_2 works on artificial intelligence so it is not bothered by mental and social factors. The context is affected by the background which M_1 and M_2 possess. The context of the ordered mission/task can be characterized by *the environment and the problem space* [7], a concept developed by the Nobel Prize winners, Newel and Simon. The environment of the problem is the situation in which the problem is displayed, as it is the situation in its objective state. The space of the problem is the way of perceiving it by the one who solves it or the one who gets the surveillance mission done. The way he understands it, in his opinion, the perception is subjective and that results in subjective information created by the brain of the solver.

2.3. Availability

Availability or *accessibility* represents the possibility of perceiving the event. It becomes greater as the experience, knowledge and acquiring information skills of the M_1 and M_2 subjects increase. Acquiring information is helped by a number of technical sensors, divided in two categories: the image (Figure. 3) (optical sensors, infrared visual sensors, radar visual sensors, passive metric radio sensors) and the non-image (sound, meteoro-logical conditions, distance) [8].

At the same time, we can't deny the necessity of man in the

operation theater for maintaining the relationships between civils and military. A consistent source of intelligence is the local people.

For a better unfolding of the operation the study of psychology and understanding of the local culture is mandatory. The political-military interest is to maintain good relations for helping each other.

Figure 3. FLIR Cameras [8]

3. MEANS AND CONTROL DIMENSION

In this chapter we will talk about the relationship between the one who reports and the result of the report. The second axis is bound to show how the message is being created having a form and a clear content. The purpose of any surveillance mission is to convey intelligence using the most discreet method, sending all the intelligence to only one person (the commander). The commander checks them, makes a decision and then informs the subordinates. The subjects of this chapter will be the channel, the means of communication and the control.

3.1. The channel

Taking into consideration that we are in an intelligence age, in the military branch exists a tendency to abandon bureaucracy which was overworking the commanders. The channel used for transmitting the intelligence by M_1 and M_2 during the mission is the air that allows the spread of radio waves.

That spread can be difficult because of the atmospheric composition which differs depending on the attitude and the terrestrial form. Due to this variations different radio frequencies are used for different altitudes.

This channel can be affected by technical barriers such as jamming. The purpose of jamming and deceiving techniques are: interrupting the radar tracking systems, incapacitate intelligence acquiring by the enemy radars, interrupting the tracking systems used by guided missiles, deceiving telemetric systems of the radars.

Jamming has two states: passive or active. Depending on the size of the specter, active jamming could be: narrow frequency; variable frequency, widened frequency.

Depending on the wanted effect jamming could be: Imitation jamming, concealment jamming, neutralization jamming.

To diminish eventual problems that could appear on transmission channel between Rx and Tx in times of peace, crisis and war, interference analysis is being done continuously.

An example regarding alarm and countermeasures systems could be RWR (Figure.4), installed on MiG-21 LanceR fighter planes. It has the purpose of recording the radar signals which discover and trace the aircraft and determine some parameters such as: frequency, time interval and amplitude of signal. The systems detects and displays radar threats that work with impulses between 0.7 to 18 GHz.

The information is used for turning on the active jamming container for E.C.M. protection that is able to detect the radar controlled threats (aircraft, missiles, UAV's, radar systems)

There are some UAV's with flying abilities similar to the fighter MiG-21 LanceR. Those have radio-electronic equipment with similar functions and parameters, but different user interface.

Figure 4. RWR, Threats Warning Display [9]

3.2. Media

Media divide in presentational, representational or mechanics. In the presentational ones M_1 presents itself before M_3 to report the results of the reconnaissance and surveillance and so the possibility of surprise is diminished because information may not be reported in a useful time. The same problem is encountered in the representational means.

Means used by M_1 and M_2 are mechanic. Mechanic means possess undoubtable advantages: modulation, codification, and instant mechanical amplification. Taking into consideration the informational flow between M_1, M_2 and M_3, each of them become emitters and receivers.

For emitter's protection there are the following automatic systems: drop of the emission power, wide frequency specter, wobbling frequencies, blocking the sector's emission.

For receiver's protection there are the following automatic

systems: Automatic adjustment of the amplifier, selection system of mobile targets, the use of more than 1 receiving channel.

M_1 is equipped with PANTHER 2000 V [10] radio station that can transmit data at the following velocities: 300, 600, 1200, 2400, 4800 Bd or 16 kb/s, each of them selectable by the operator. Battery autonomy is about 10-12 hours [11].

The velocity of data transmission of a simple UAV is about 1-56 kb/sec. For video data, velocity is 8 MB/s for a high-quality video link [12]. Autonomy of a reconnaissance and surveillance UAV as AN RQ-4 Global Hawk is 32 hours [13]. At an RQ-1/MQ-1 Predator autonomy is 24 hours or 40 hours if the altitude is 910 m [14].

Figure 5. Panther 2000V.

3.3 Control

C2 Rx (air) and Tx (ground) systems represent the instruction and control. The instruction is being made on 420-450 MHz.

In the transmitting phase from M_1 and M_2 the date and destination of the message can be controlled, as long with the filter of the information, depending on the request from the superiors.

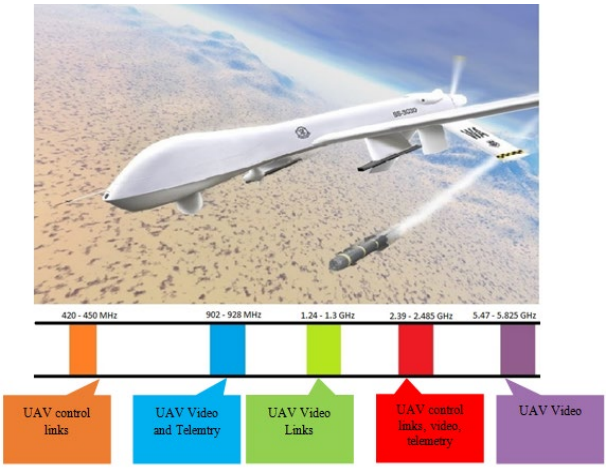

Figure 6. Control.

4. FINAL PRODUCT: FORM AND CONTENT

Form and content of the message are two notions that are interdependent and *adaptable*. The example of the Psychology specialist Iona Negură from The Republic of Moldova will be used to explain these two words [15].

Content ($E_{(\varepsilon_1)}$ or $E_{(\varepsilon_2)}$) is the informative component of the message that has to be organized and displayed in a relevant form for the receiver. If the form doesn't corespond to the type of the information, difficulties can appear in understanding the message.

Form (S_1 *or* S_2) is similar to a ship. If a suitcase has to be taken from spot A to spot B a good ship is needed or else there is the risk of reaching the destination without the content or the content could be affected. For example, if M_1 verbally sends information of imagistic type with a vast amount of details through the PANTHER 2000 V radio station, there will be losses because of the selection, context, access degree, capacity of structuring the information and cognitive capacity of the receiver to imagine the tactical situation.

At the same time, M_1 has a direct link to the event so he could physically interfere in the course of action. This way, modelling the scenery is possible in allies' advantage.

The informational systems based on the UAV's can display the information on a computer's monitor, in a conference hall or even on a cellphone in a corresponding form with the request from the ones who ordered the mission. The product of thought is the organized and structured form that merge into a whole. For the optimization of the man-machine interface one can request help from a designer. In result, merging the information from both M_1 and M_2 results in a clearer situation image of the operation theater. (Figure 7).

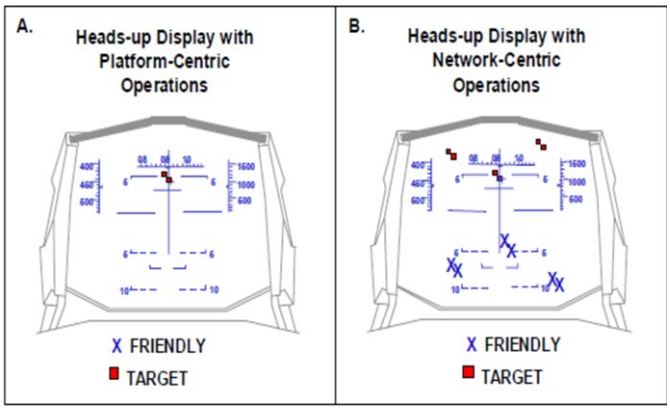

Figure 7. Heads-up Display.

5. CONCLUSION

On the global communication map new concepts and tools appear (UAV's as example) that change the perspective of the intelligence operations, due to the intrinsic abilities of those new systems and their way of using in modern conflicts.

The paper presented demonstrated the undoubtable advantages of utilizing UAV's in combination with human personnel. The final product of this cooperation is the improvement of the message due to the quality of information (quantity and accuracy), by summing up the results of the events derived from each reconnaissance and surveillance unit, a clear example of the Network centric warfare. The axis of perception and the axis of means and control complete each other and describe a more accurate situation. The success of the operation consists of receiving intelligence in real-time, continuously updating the information, immediate decision making and short execution time.

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GLOBAL SYSTEM ANALYSIS AND THE FORECAST OF THE FUTURE

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Abstract: *Starting from the creation of our humanity till the present day the world order has changed dramatically. The world transformation starting from individual groups, tribes, kingdoms, countries, empires, colonies, federations, republics, and in order to become the state (the biggest unification which the people found) lasted many centuries. Each and every century put irremovable mark to our soil which was a trigger for further movement and generates our future. All of this systematic and coherence movements converted the earth to one asymmetric global system in which we are living now. This existing system has boundaries, member groups, rules of legitimation and this system is very large, complex and interdependent. Nowadays the security is also globalized. The security question of risk and threat change his way from symmetric to asymmetric. This uncertain environment together with current problems make the nations produce their National Security Strategy documents where the political, economic, military, social, and cultural decisions and ways which should be referred against all unexpected dangers. Basically, in this regards the developed countries in the world, first of all eliminated the borders between the states, thinking that this would help them to travel easily from one country to another, but doing that they could not endure the outside aggressions. As a result threat and risk start to escalate and to stop this escalation they decide to cooperate in a groups and organizations like (NATO, EU, UN and African Union) in a dissimilar coalitions and allied groups (with global powers such as USA, China and Russia or as a regional powers such as Japan, India, Brazil and Turkey) and modify them to make a power balance towards to multipolar world. Taking all these features into account the globalization was defined in the paper, the current global trend was delineated, global economic and energy politics have been constructed, ethnical rivalries and religious threats, as well as terrorism and environmental threats have been specified and the future has been endeavored to forecast.*

Key words: globalization, global trend, global hegemony, global powers, global politics.

1. INTRODUCTION

After the Cold War the world gradually started to convert from unipolar world to multipolar world. During the adaption to this multipolar world political changes, social and economic crises, military interventions, ethnic and religious conflicts, terrorism and organized crimes, human trafficking and environmental catastrophes, necessity to collect information and defend from modern technology, and daily health problems began to affect not only one nation, but all states in the glob individually. The area of policy, economy, culture and religion bring the new issues forward to consider about the security.

The structure of the present global system today is totally different from the past century. Thanks to current globalization we may see these differences in all aspects of our life. It affected the communication and transport technology such as loosing borders between states; it affected the economic aspects by creating free trade zones as well as to political, social and cultural aspects too. At the same time we may see the negative impact of the globalization such as threat to global security (national-ethnic and religious; regional-separatist and illegal immigration; international-terrorism and organized crimes) [1]. All this advantages and disadvantages makes our century ambiguous and inspiring, besides that gives us the idea how to shape and protect the world for the future generations or help them to be ready for the expecting challenges now [2]. In this aspect protect the independent and sovereignty without any clashes inside and outside of the country's borders, the government should transport the nations to an idea to act globally against all remaining security challenges. The prosperity of their population and ensuring ever lasting peace in the region and in globe, have to be the main priority for every nation [3].

2. GLOBALIZATION

According to definition globalization is the spread of material and moral values on a global scale exceeding the limits of national borders [4]. If we compare the globalization with the billiard game we may understand this subject easily. Imagine that we have green billiard table with six holes, and this is our world and on this table we have balls inside

triangular border (which are supposed to grouping the balls in the center of the table) and we have the cue stick which we are using to hit the main cue ball (are in the position outside of triangular border). If you hit this cue ball toward to main central balls (after taking out the triangular border) this single hit will affect the other balls to be moved from existing territory to a different directions and some of them will go in the direction of holes. It doesn't matter if this balls are white or black, red or yellow the point here is that, the effect of one small touch will hit some balls directly and others indirectly but this single touch will be enough noticeable by the rest of the balls. And if we imagine that the balls are an individual states so like in Wallerstein`s example of "The Butterfly Effect" any event which occurs at one end of the world may influence deeply the societies at the other end of the world. In nowadays attack by the one of resent terrorist group of ISIS to Kobane in Syria the real example which proves that this is not the regional problem anymore it is the global problems which cause affects all states. This shows that even one small village can become an effective in a global scale. In another meaning the Globalization is the global and regional players fight in their area of interest.

3. CURRENT GLOBAL TRENDS

3.1. Global Politics

The global politics of today are defined by establishing the strong power over the weaker states. This power balance following the expecting hierarchical structure, starting from up to down Super power (USA), Great power (China and RF), Regional power (India, Japan and Brazil) and Sub-Regional power like Turkey.

This is not solid hierarchical structure and it may easily change the existing order from down to up as well and this one depends on to the capability and determination of the states. Follow the comparison of above mentioned billiard game it becomes another idea that, in order to play the game, first of all you should have to have an initiative to know all the rules about this game. If you knew the rules and got the proper cue stick you are becoming a main player (global power). If you knew how to play and how to hit the balls to the right directions you are becoming a challenger of this game. If you smart enough, if you have enough time and money to spent in

order to learn all the movements and in advance to do all the calculations of the game and last but not least by playing each game you achieving (superiority, dominance, penetration, leadership, authority) and controlling all other players you are the Hegemon of this game.

3.2. Global Hegemony

During Cold War period, USA and Russia were identified being the two super powers. These two nations are expanding their influence as well as enlarge military competency including nuclear strike capability. The world almost entered into nuclear warfare once the Russian placed its missile in Cuba with intention to strike the USA. While the USA place its strategic nuclear missile close to the Russian site for counter strike ability. The Cuban missile crisis was the peak of Cold War era between these two super powers. However, this raced ended in 1989 due to Russia unable to cope with the speed as well as the USA's mind game. Post to that, Russian influenced as one of the super power slight declining over the years. Subsequently, its ability to stay united was diminished and as a result, number of states detached from being associated with Russian. This provides a foundation for the USA to be a hegemon over a period of time [5].

According to the definition of hegemony, there are four factors defined in the analysis of hegemony concept. These are influencer, influenced, tools of influence and influencing factors [6]. For example if the influencer are the USA and his influenced country or organization could be the EU countries or organization itself and the tools of influence for USA could be the soft power (culture, politics, media) and hard power (military and economic capabilities). The influencing factor of USA hegemony here is the situation which was created by its own favor by taking the advantage of this inequality.

3.3. Global Powers

Until 9/11 attack USA has showed to the world its peaceful hegemonic manners, mostly by expending his soft and smart powers. After the direct attack by Al-Qaida terrorist groups to the New -York City and tragic result to American population the US start to transfer his peaceful manners to be more aggressive way. Afterward this situation forces it to bring its military power to the forward plan. Being as hegemonic power it is keeping the

China under his dominance by applying economical pressure and puts economic and political embargo against Russia. Examining all this facts we may say that without any doubts, with its internal stability, economic and military, political and cultural, educational and technological strength USA is recognized as a hegemonic power. It can affect and control all decision making organizations in the world and can change their perspective on its own interest.

Another global power China still couldn't compare with USA due to state political structure, internal instability, social and economic problems, educational and health problems, ethnic and religious conflicts. China's internal problems, demonstrations against government in Hong Kong and still unsolved problems in Beijing and disputes with Japan making this country to fall in to back after the USA. Because China doesn't have soft and cultural power it relays on the military and economic power which is not sufficient to cover all other competing areas. Even if in the governmental level it made a high transformation close to democratic structure, this wasn't enough to continue raise its voice from international tribune and to direct their viewpoint.

Territorial problems with Ukraine (annexation of Crimea by Russia) and continuing instability in the Caucasus Region and Caspian See region abolished the RF image of being a global power. In Georgia (Ossetia and Abkhazia), in Azerbaijan (Nagorno Karabakh conflict with Armenia) and in Moldova (Prednistrovie), and ongoing tensions in Chechnya showed the Russian approaches against new independent countries and to the region in general.

By creating these problems it is trying to keep under control all these nations and trying to influence their governments' decision making. Beside that being one of the biggest producer of oil and natural gas in the world in order to be more effective against EU and their ally countries, it is continuing to provoke them by increasing the energy price trying to impose their interest in EU member countries.

3.4. Regional Powers

The regional powers Japan, India and Brazil with support of hegemon and global powers trying to be effective in their regions and to be recognized by the neighboring countries, trying to

influence international organization in order to become permanent members of the UN Security Council (Japan, Brazil).

Japan is a member of G-20 which was created by USA. Japan has the problem with Russia in Kurile Island and with China in Senkaku Island. It supports the UN peacekeeping operations and have increasing relation with NATO. From economical and security point of view this country is strong and stable. After the natural disaster hit the Fukushima nuclear power plant Japan start to decrease its nuclear dependence [6].

India on the other hand with its massive population, different religious and ethnic groups and most crowded demography in the world is still negotiating with Pakistan about Kashmir problem. Doing civil nuclear works with USA it is trying to establish nuclear lunch systems and nuclear warheads.

India is always faithful to UN and also attending the peacekeeping operations under UN flag. It made an agreement with China regarding not to intervene in each other's territory. With its peaceful and secure status in Latin American region **Brazil** is trying to be a leader. It is showing importance for humanitarian rights and showing respect to the mainland of other countries, contributing to UN missions. Even if it still has internal tensions it is trying to build good relationship with all Latin American countries and propose to establish South American Security Councils. And it is improving the relations with France regarding purchasing a nuclear ship for peaceful usage.

4. GLOBAL ECONOMIC AND ENERGY POLITICS

4.1. Global Economy

The benefits of global economy can't be ignored today, but neither can the flows of globalization. Global economy is ruled by the hegemonic, global and regional powers. Huge production and exchange of goods and services and as well as allocation of resources are the main feature of economic system.

Improvements in modern technology and creation of electronic banking system make this economic system to work easy and advance. After global system crises happened in 2008, the world start to analyze the problems of current economy and look for the solution for economical threats and still the process is ongoing. In Europe, Greece, Portugal, Italy,

Island and few others are dependent to the outside resource; rich countries were the most affected countries by this economic crises.

4.2. Energy Politics

Regarding energy politics the world is divided in three categories. The first category are the producers of natural resources (oil and gas), countries like Russia, Gulf countries and USA in second category are consumers like China, USA and EU countries and to the third category belongs the transit countries where this energy pipelines are going through like Turkey, Georgia, Italy etc. Each of these categories has its benefits in the case of making a strong economy and disadvantages in the case of security of energy flow and protection. The struggle for the limited energy between hegemonic powers, and the world dependents of traditional energy resources still putting aside the idea of discovering alternative energy resources. Even we may see today some alternative energy sources like solar and wind power or bio and fossil fuels, but that ones are still not effective in order to replace the traditional resources.

5. ETHNICAL RIVALRIES AND RELIGIOUS THREATS

Beginning of 21st century is also witness to all unsolved ethnic and religious fights which takes his origin from the past centuries. Especially in the newly independent countries this type of conflicts infiltrated spontaneously, due to the luck of governmental control and corruption, huge unemployment's and weak economy and in other hand the uncontrollable armies couldn't resist in front of such threats [7]. The result of such conflicts sometimes cross the national borders and start to involve the international organizations such as UN, EU, NATO in order to settle peace and security in the tension areas. Some of these conflicts ended with success story (like in Afghanistan, Serbian ethnic cleansing operations in Bosnia and Herzegovina, Libya etc.) but some still haven't come to settlement due to implementation of resolutions by International organizations and global powers. Not having the proper tools for implementing each provided resolutions, there are still ongoing problems between India and Pakistan (Kashmir province) and Azerbaijan Armenian conflict

(Armenians ethnic cleansing operations in occupied territory of Nagorno Kharabakh) haven't got the clear result.

6. TERRORISM AND ENVIRONMENTAL THREATS

But the effect of this ethnic and religious fight mostly affects the image of Islamic countries. The terrorist doesn't belong to any religious and to any nation, he is the criminal who is against all humanity and terrorism is a global threat for the entire civilization. Al Qaida, Talibans, ISIS are one of the most active and dangerous terrorist groups which are still present. The situation in Kobane Syria today shows how strongly such groups are prepared and supported. From the beginning some of these groups were supported by outsiders in order to challenge the nation's security and the way for improvements. But later on they become uncontrollable and start to act more independently and in the way of small cells by taking the advantages of latest technology, against big powers and start to demand for political aims.

This situation also brings the environmental problems to the high level. By bombing the oil producing factories and pipelines environment start to pollute and viruses spread all around the region. The refugee flow to neighboring countries like Turkey and Jordan start to increase and the same time increase the health problems. The viruses like HIV, AIDS and Ebola start to be recognized not just as health crises, but as social, economic and environmental crises. Today unpredicted natural disasters (earthquakes, flooding's, global warming and shortage of water supplies) are determined by human intervention against the ecosphere (creation of WMD, nuclear energy storages and need for more energy).

7. FORECAST OF THE FUTURE

On the next 20-30 years the competition between the global powers China, Russia and USA will continue each having the goal to become the hegemonic power. We have the saying that each shining star has the culmination point. After reaching this culmination point the star is going to fall down. It is anticipated a shift of power from West to East towards Asia Pacific region. China will probably become the greatest

economy of the world, leaving the USA behind based upon GDP, population size, military spending and technology. On other hand, if the Russia will not stop its aggressive diplomacy it could be challenged by other EU and neighboring countries and as a result of that will face a big economical crisis in the future.

In terms of population, environment, climate it is possible to say that in the future health and living conditions will be better, the poverty will decrease, however the increasing population, urbanization, climate change and environmental issues will create scarcity in natural resources like water and food; this will increase the risk of conflict in the South and East Asia countries, particularly in Africa, China and India. In the scope of technological developments, new technologies will bring many advantages, but also disadvantages like potential conflicts in the information environment (cyber terrorism and hybrid warfare). New technologies will leave many people unemployed in the developing countries. Due to existing ethnic and religious fight it is possible to see new countries in the world map with their own boundaries and flags.

8. CONCLUSION

Today's global and regional interaction is hard to separate one from each other. Due to globalization any small issue in neighboring country, may affect the rest of the world in a direct or indirect way. With economic growth world is also progressing in the internet and social networking sector. This rapid progress makes the future environment tremendously challenging. The future will be even more complex than today, cyber and hybrid based wars will change all existing military structures of nations.

Before analyzing the global system in present days we shouldn't forget to look back to history for the similar problems and should carefully analyze all effecting and related factors. If the states have accumulation from the past they will have some in the future. Understanding the current situation accurately is influencing to have right perspective regarding future. Making the right determinations and assessment by selecting the right information is of great importance in terms of making accurate decisions. And this directly affects the correct analysis of the information and

accomplishment of the developed as a result. Three important things should be analyzed in the new world (new era): history, people and geographical location.

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CONSIDERATIONS REGARDING THE MODERN MANAGERIAL METHODS AND TECHNIQUES USED AT THE LEVEL OF THE ORGANIZATION

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Abstract: *In the life of any organization we can meet two kinds of processes: execution and management. Unlike the process of implementation, in which the labor force act on economic objects through the means of work, managerial process is defined mainly by the fact that part of the work force is acting upon the other party a majority in order to lure in organized manner to the achievement of the objectives. In connection with this, the process appears to us as a managerial overview of interventions through which the manager provides, organizes, coordinates, and controls the decisions of his employees, for the attainment of unity in terms of economic profitability and social utility.*

Key words: *managerial methods, managerial techniques, organizational management.*

1. INTRODUCTION

The process of management is made throughout the phases and processes of work setting out the objectives of the unit and its organizational subsystems. In this connection it should be borne in mind, in particular, that work processes are required and envisaged to attain the objectives of the economic unit, as well as those set to execute measures to fulfill their conditions as more profitable. Not to be out of sight, nor that the coverage and intensity of management process lies in the dependency of ratio management. As a result, these shall be carried out on a stage top of the managerial system, the more comprehensive, more intense and richer in meanings and results [2].

2. THEORETICAL FRAMEWORK

The essence of management lies in ensuring that the objectives will be achieved despite the difficulties and resistance encountered. As managers we will not always succeed, but we have always had fewer excuses than others for failure. Directing staff hold the largest share in the successful implementation of the objectives of the individual, group or organizational levels. Managers, regardless of the level at which they operate, can influence the behavior and expectations of underlings, encouraging or discouraging their performance and achieving the organization's objectives or tasks. A manager cannot neglect the fact that effective leadership involves the granting of special attention to both tasks and people. No doubt, in time, will lead to the experience of the managers' particular style which will reflect their own ideas and perceptions regarding the importance of the tasks and objectives of the organization [3].

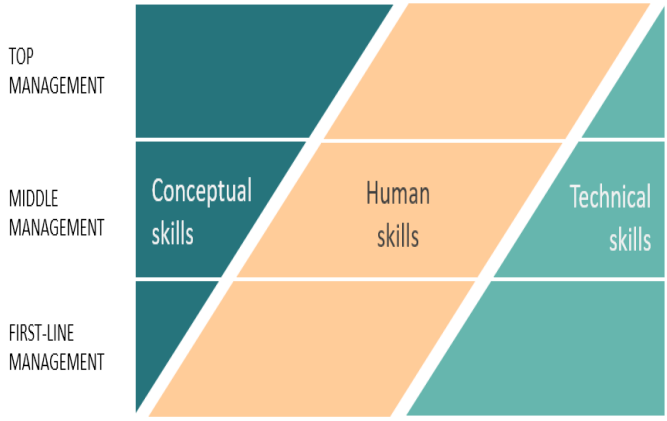

Figure 1. Management skills/ top, middle and first-line managers.

The essence of leadership lies in trying to influence the behavior of subordinates and is based on two types of functions: task orientation and guiding people. Functions relating to task orientation are achieved by specifying the activities and objectives to be achieved by the group, as a whole, each person individually. Functions aimed at guiding people, call for the leaders

to keep the processes as a whole group, as well as the needs and aspirations of individual subordinates. Attempts to influence have success if you get increased performance - better quality, lower cost, reduced absenteeism and fewer conflicts. An organization may be composed of a larger or smaller number of persons. Each person has a particular potential that can be used in achieving the goals of the organization. Leading process ensures mobilization of human potential of an organization and its functional unit. Leadership manifests itself in any situation where people in their effort to combine its achievement of common objectives [1].

3. LEADERSHIP AND MANAGEMENT SKILLS

It is impossible to determine the best path (single), valid in any situation. Dynamic economic environment determines changes that require specific approaches in the management plan. Effective leadership in a given situation, it might no longer be valid in the other conditions. In any organization it may appear informal groups, and within these groups are people who influence the behavior of other members of the group. These people are called informal leaders. People who are influencing their behavior groups are formal leaders entrusted. Leadership is appreciated by people as an attractive activity because the persons occupying leadership positions in both producing gains economically and psychologically. The tendency to occupy leadership positions in an organization is manifested even if you obtain material or financial rewards. The manager by his power and rewards has authority over other members in your organization. Under this authority, people think that can determine positive behavior of others [5].

Motivation is, in any case, a problem much more individual than it was believed. It is the responsibility of the personality, and the factors that are determining it are different for each one of us. Motivation varies depending on the circumstances, but also age. Managers who want to motivate people need to understand their distinct sources of motivation. Goal setting is one of the most powerful tools of management of leadership. To lead effectively, we need to know what objectives we want to achieve and make it clear to those we are conducting. It is not enough to

have a general desire to progress; you have to know where you want to go and which road to follow to get there. Using the objectives of some organizations as systems for departments and for individuals have resulted in defining performance, but in practice, the tendency is to become bureaucratic and time consuming [4].

Figure 2. Leadership and management skills.

Personal example plays a decisive role in the art of leadership, because it requires solidity and at the same time, a message is always stimulating. Managers generally use a power source or combination of sources of power. It should be noted that the use of any kind of power can enhance or limit the effectiveness of other sources. The authority is legitimate power based on the position of the manager of the management structure of the organization and the employees, agreement against a person who occupies a position of leadership. An organization is a formal structure of authority composed of individuals, groups, departments with responsibilities, activities and functions clearly defined. When new people come into your organization, you need to recognize the formal structure of authority as legitimate [14].

Leadership is an action that keeps the prestige, skills and other

relevant aspects of the competition, but the connections between behavior related to leadership and people who react to the work of the manager, as well as between the central factor of the position of the driver and the activity of the party of which it is part, must be met and the condition is the identification of the members of the group with its leader. The art of leadership exists at the same time, but as science and art. In so far as it is science is related to theoretical knowledge, but without skills and talent, leadership does not materialize in the results. Art is when the principles are known, and talent manager gives the possibility to choose, in a given situation, the optimal solution [7].

There are several common knowledges of the concept of leadership but most elegant are:

- empirical leadership;
- scientific leadership.

Leadership involves empirical problem solving, as their occurrence, on the principle of „seeing" and then watching the adaptation to situations occurring" from day to day." The basis of this lies in the leadership qualities of its manager, flair, prior analysis and thinking. The success of leadership depends on intention, common sense and experience, imagination, psychic reaction, or talent decision makers. In this case, the results are obtained on upholding, require more time and are costly [6].

Directing scientific research constitutes a fundamental requirement of the contemporary world, being a rational and systematic activity. This coordinated activity considers the scientific part started from knowing the specific principles by using appropriate methodologies. This kind of leadership is based on a set of logical rules, principles and activities ordered, which work by targeting towards the realization of the objectives, at any complex process, organized. Scientific leadership cannot be reduced to a simple application of scientific discoveries, but also implies a creator, an adaptation and a combination of the techniques provided by scientific knowledge. Scientific leadership is nothing more than the application of the principles formulated by the science management, under certain conditions, taking into account the specific aspects and requirements of the objectives.

In order to have an appropriate management that will require the use of scientific methods and techniques, that to achieve

knowledge and law enforcement objective, rational and efficient use of resources, stimulates the activity of staff and optimize the decision-making process. In general, systems, methods and techniques of management means used by the system manager pathways for resolving problems arising from the functions they perform and trigger the activities of the system led to establish and achieve the objectives [10].

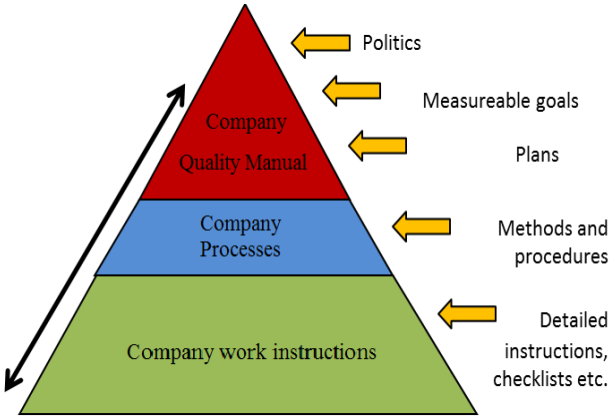

Figure 3. The structure of a management system.

In the economic literature, there are considered a multitude of views concerning the definition of the main concepts:

- method of management is a set of principles, rules, techniques, processes and tools that indicate the manner in which it carries out certain functions of management, ensuring at the same time, the actual resolution of issues arising from these functions, in order to establish and achieve the objectives of the system. It follows from this definition that management method contains principles and rules arising from management functions;

- management technique includes a set of specific rules, processes and tools through which it resolves issues arising from the concrete functions of management;

- management system is a set of methods, tools and techniques associated with information, decision-making procedures and organizational measures, specific methods and techniques integrated within the system [9].

In the strictest sense, systems, methods and techniques of management represent the ways used by the rulers to amount of activity in the field, to organize work of the collaborators, to coordinate their actions, to train them in establishing and achieving goals, control the activity of collaborators and to adjust activities, while maintaining balance. In the broader sense, systems, methods and techniques of management represent concrete modalities used by managers and contractors from management device for resolving problems arising out of the functions of management. In the activity of a unit is necessary to use a lot of systems, methods and techniques whereas management staff must solve a range of problems, through specific methods or techniques [11].

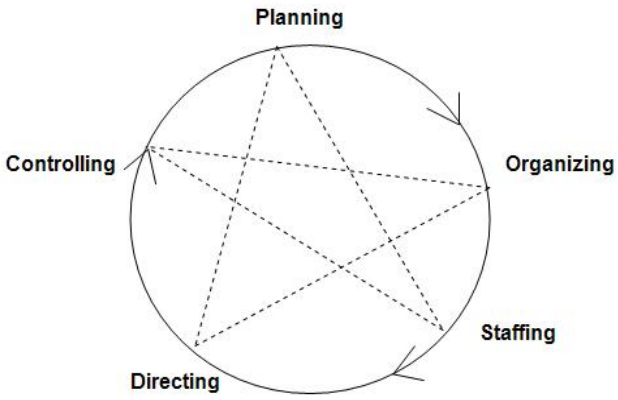

Figure 4. The management functions in a company.

Process management is a limitation regarding the order of successive operations to address processes and phenomena, with a view to formal organization of data and activities. Management-rules represent the totality of the recommendations and the underlying use of a method. Leadership tools are the means that help the realization in practice of a technique, a process or a method. Methods of management follow the principles of leadership, so are subordinated. Principles are applied by management methods. Management methods represent the complete management technique, and are a part of it, so

the method is comprised by one or more techniques [13].

Analysis-diagnosis represents a broad investigation of the main aspects of economic, technical, sociological, legal and managerial factors. It shall be carried out in order to identify weaknesses of internal and external activity of the company, as well as to the causes he has generated by for the formulation of recommendations to exploit strengths and eliminating or mitigating the weaknesses. By coverage, we have: general diagnosis and partially specialized diagnosis.

- general diagnosis refers to the organization as a whole and aims at the structure of organization as its global system;
- partial diagnosis refers to one of the core areas of the company. Activity in an organization can be segmented into the following areas: financial, commercial, human resources, production, research and development and management.

Diagnosis of different outcomes or targets is the main results obtained by analysis in the past. In this type of diagnostic results are compared at a time with the objectives and the results obtained in the past. The results highlight the evolution of the company over time. The diagnosis of potential highlights the organization's vitality to cope with future requirements and situations, as well as the ability to redress in the event of difficulties in the last large recorded period. Diagnosis of the functioning of the company is aimed at assessing the atmosphere as a system, which is part of the national economy, which is the macro system. In this type of diagnosis both internal and external links should be analyzed - organizational links and connections with the firm's environment, suppliers, buyers, media, etc. Diagnosis evaluation aims at analyzing the company's objectives and provides input for establishing targets for the upcoming period. This type of diagnosis represents a synthesis of the first three types of diagnosis [12].

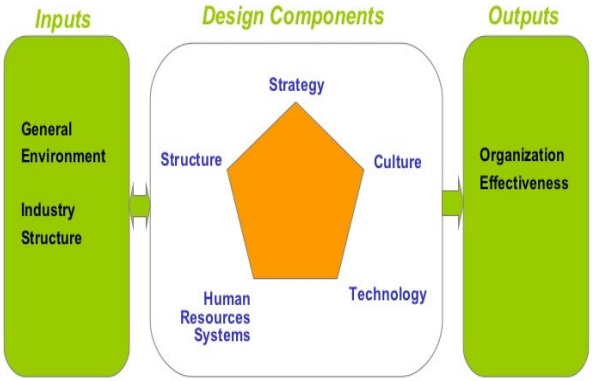

Figure 5. Organization's level diagnosis.

Nowadays, the challenge for companies is to deliver fast and flexible products and quality services, in order to respond to changing demands. Standardization and specialization are the aspects that characterize the traditional organization; the work is divided into different segments, starting from preparation for fulfilling different roles, in which workers specialize to increase productivity [8].

Figure 6. Uses and objectives of work performance management.

4. CONCLUSION

Practice has proved that the success of an organization is obtained both learning from its own experience, as well as, especially, from the experience of other organizations. Because other organizations already have found more effective solutions, we must study the experience of them. To deal with growing success, face the demands of the organization, be it private or public, must acquire permanent new working procedures and the need to implement new ideas. This means that the organization must change and improve performance by learning from other organizations.

By comparing their own solutions with our one is the best way we can learn how to improve our own situation. It is the goal of benchmarking: to learn from others. In an open market conditions, obtaining the necessary information, adopting high-performing solutions of others and their implementation in a given organization constitutes a function of management.

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