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CONFLICT MANAGEMENT IN ENTERPRISE DEVELOPMENT PROJECT TEAMS

The main research objective is to analyze behavioral styles of members of the enterprise development project team in conflict situations using the Thomas-Kilmann method and graphic techniques to show the importance and value of such analysis for preventive conflict management in business entities. The work has been performed in the following logical sequence: characteristics of behavior styles; survey of members of the project management team using the Thomas-Kilmann method; description of data using graphic techniques; context diagram of the process of analyzing the behavior styles of project team members in a conflict situation. According to the results of the survey of the project team members on the manifestations of a particular behavioral style in a conflict situation based on the Thomas-Kilmann method, diagrams and analysis ("petal" and "bubble") have been presented. The diagrams allowed: to compare scores of the project team members demonstrating different behavioral styles in a conflict situation; to evaluate the ratio of project team members behavioral styles, identify the dominant style; with the help of visual aids to find out which group includes a particular behavioral style in terms of the level of its manifestation (weak, medium and strong. The obtained results indicate the feasibility of testing employees to determine the prevailing behavioral styles in a conflict situation for further consideration of data in the personnel management process. A matrix of project team members behavioral styles in a conflict situation and their characteristics in terms of cooperation and assertiveness have been presented. Radar charts, scatter plots and comparative histograms of the behavioral styles of the project team members in a conflict situation have been designed. The contextual diagram with the analysis of the behavioral styles of the project team members in a conflict situation has been given. This study has been conducted in

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the specific Ukrainian cultural and organizational context. The results of the research can be useful for Ukrainian industrial enterprises in order to achieve projects results for enterprise development.

Keywords: conflict, management, behavioural styles, project team, enterprise
JEL: ***D23, D74, O15, O22***

Основною метою дослідження є аналіз стилів поведінки членів команди проєкту розвитку підприємства в конфліктних ситуаціях за допомогою методу Томаса-Кілмана та графічних прийомів, щоб показати важливість та цінність такого аналізу для превентивного управління конфліктами в суб'єктах господарювання. Робота виконана в такій логічній послідовності: характеристика стилів поведінки; опитування членів команди управління проєктом методом Томаса-Кілмана; опис даних за допомогою графічних прийомів; контекстна діаграма процесу аналізу стилів поведінки членів команди проєкту в конфліктній ситуації. За результатами опитування членів команди проєкту щодо проявів того чи іншого стилю поведінки в конфліктній ситуації за методикою Томаса-Кілмана сформовано діаграми їх стилів, здійснено аналіз отриманих результатів. Діаграми дозволили: ознайомитися з проявами кожного стилю поведінки, оцінити співвідношення стилів поведінки членів команди проєкту, відслідкувати домінування стилю, наочно зорієнтуватися, до якої групи відносять той чи інший стиль поведінки (групи за рівнем прояву – слабкі, середні та сильні). Отримані результати свідчать про доцільність тестування працівників для визначення переважаючих стилів поведінки в конфліктній ситуації для подальшого врахування даних у процесі управління персоналом. Представлено матрицю стилів поведінки членів команди проєкту в конфліктній ситуації та їх характеристики з точки зору співпраці та напористості. Сформовано радарні діаграми, діаграми розсіювання та порівняльні гістограми стилів поведінки членів команди проєкту в конфліктній ситуації. Наведено контекстну діаграму аналізу стилів поведінки членів команди проєкту в конфліктній ситуації. Дослідження проводиться у специфічному українському культурному та організаційному просторі та контексті. Результати дослідження можуть бути корисними промисловим підприємствам України для досягнення проголошених результатів проєктів їх стратегічного розвитку через запобігання ймовірності настання конфліктів у проєктних командах.

Ключові слова: конфлікт, управління, стилі поведінки, команда проєкту, підприємство
JEL: ***D23, D74, O15, O22***

Introduction

Chiocchio F., Forgues D., Paradis D. and Jordanova I. [1] citing Alper S., Tjosvold D. and Law K.S. [2] note that teams provide the interpersonal context in which conflicts arise and ways to manage them. Referring to Jen K. and Bendersky S. [3], it should also be noted that conflicts begin with perceived incompatibilities or differences of opinion between the parties involved and develop into behavioral reactions. Conflict resolution, especially within a team, i.e. between its members is an important aspect of successful project implementation. The spread of project management methodology, the increase in the number of projects implemented by private and state enterprises, the transition of the organization of the management system from traditional to project-based, determine the feasibility of further elaboration of various aspects, including conflict management. In the context of considering individual issues, it is important to work on proactive management of likely conflict situations that may arise in the project team.

Conflicts lead to project risks, including those that may adversely affect the timing, cost and quality of project implementation. Therefore, conflict management issues can be considered as part of personnel management, namely, project team management, which is directly related to risk management. Therefore, the conflict situation itself can be considered as a complex or simple risk.

The purpose of the article is to study the behavioral styles of an enterprise development project team member in conflict situations using the Thomas-Kilman method and graphic techniques in order to form a methodological basis for preventive conflict management.

Literature review

Various aspects of personnel management issues, in particular conflict management issues, are under the constant attention of scientists and specialists both abroad and in Ukraine.

According to Algert N.E. and Watson K. [4], conflict exists even if only one person sees it. As noted, [5] with reference to Putnam L.L. and Poole M.S. [6], conflict is the interaction of interdependent people perceiving opposite goals, objectives and values, those who see the other side as a potential obstacle for implementing their plans. Chen H.X., Xu X., and Phillips P. [7] use the definition of conflict given in the paper [8], where conflict is the result of human interaction. Thus, the authors [7] join the opinion of Weiss J. and Hughes J. [9] who claim that conflicts are inevitable within organizations. Since interpersonal conflicts are detrimental to any teamwork, organizations are advised to find ways to avoid them. As noted by Tabassi A.A., Bryde D.J., Abdullah A., and Argyropoulou M. [10], referring to Jehn K. and Mannix E. [11] and Jehn K. and Bendersky C. [3], conflict is a common feature of group activity and is inherent in a wide range of team member interactions.

In our opinion, conflict situations in the project group are one of the main factors influencing the success of its activity. Schaubhut N.A. [12] points out that nowadays many organizations use teamwork in their daily performance which contributes greatly to their business productivity. The impact of the conflict in this aspect can hardly be overestimated. Any form of conflict in the workplace, if not resolved immediately, jeopardizes the overall success of the organization [13].

Scientists, such as [14; 15] use a variety of approaches to analyze the conflict types and its outcomes. Thomas K.W., Thomas G.F., and Schaubhut N. [16] study the manifestations of particular behavioral styles in a conflict situation depending on the hierarchical level of organizational structure and employee's gender. The authors draw attention to the feasibility of training employees to manage behavior in a conflict situation. Chiocchio F. et al. [1] while researching the conflict issues, analyze the impact of some conflict management aspects, such as trust, tasks and cooperation conflicts, as they eventually affect the team's perception of common performance. Thomas K.W. and Thomas G.F. [17], conduct a study of behavioral styles in conflict situations in teams. They note that in addition to individual styles, the team as the integrity has a certain dominant style.

The escalation of the conflict is destructive for the team's activity and project implementation. In turn, its effective resolution can lead to positive changes. Therefore, it is advisable to anticipate the conflict situation, as well as the risk in terms of both negative and positive impact on the activities of the project team.

Productive conflict management requires the promotion of open dialogue between people, in which different opinions, values, beliefs are shared, heard and respected in order to achieve understanding or resolution. The aim is to turn the conflict itself into productive and positive outcome. Algert N.E. and Stanley C.A. [18], Tabassi A.A. et al. [17] identify that joint conflict management contributes to the creation of an ideal positive atmosphere within the team namely in the multicultural environment of the Malaysian construction industry. In the case studied, there is a high degree of the team work coordination. Lipsky D.B. and Avgar A.C. [19] note that the level of alignment between the organization conflict management philosophy and its strategic goals and objectives determines whether the conflict management system will enhance or hinder the key stakeholders' performance.

Despite their importance, some conflict management issues, in particular, the analysis of employee behavioral styles in conflict situations and the use of modern approaches, namely the Thomas-Kilmann method applied for the effective management practice formation, have not been widely considered in Ukrainian science and project management methodology context.

Study background

To date, the development and improvement of project management methodology in various areas of enterprise activity is actively underway. In particular, in the IT sector (Information Technology Sector), in addition to the position of a project manager or project management specialist, there is also the position of a SCRUM master, a specialist in the SCRUM methodology / technology (Sprint Continuous Rugby Unified Methodology). The expediency of having a SCRUM master in a project team is due to a change in project management technologies, namely the formation of a project team at a horizontal level, without assigning certain positions to a higher hierarchy. Therefore, there is a necessity to ensure the function of organizing the team's activity alongside with managing possible conflicts within the unit. That is, the SCRUM-master performs certain project manager functions, manages conflicts in the team, while being on the same hierarchical organizational level with other professionals.

The issue of project team management is one of the main factors affecting its effectiveness, and risk management is the overall priority here. Considering the issue of ensuring the required level of teamwork efficiency during the project, it is noted that one of the main influencing factors is the professionalism of its participants, their motivation [20]. The conflict issue among team members is the subject of close attention today. It is obvious that true professionals themselves are able to manage the conflict to some extent, however, there are situations in which uncontrolled conflict of team members leads to all sorts of problems in the project. According to the author, preventive management is recommended, which involves determining the behavioral styles of the project management team.

To ensure the effective work of the team, the project manager must understand the behavior of the participants in various situations, including conflict ones. Understanding the behavioral styles of team members will allow the leader to more adequately assess the situation and ensure a higher level of quality in management decisions, warn team members from escalating the conflict, and at best prevent its occurrence.

One of the tools for determining the behavior of specialists in conflict situations is the Thomas-Kilman method used to test employees. Ralph G. Kilmann and Kenneth W. Thomas proposed a method for determining the behavioral styles of employees in a conflict situation, called "MODE" (Management-of-Differences Exercise) or "TKI" (Thomas-Kilmann Conflict Mode Instrument) [21; 22; 23].

Among the behavioral styles in conflict situations [16; 24] we will consider competing (CP); collaborating (CB); compromising (CM); avoiding (AV); accommodating (AC) styles Figure 1.

In general, a conflict involves the situation where interpersonal problems (of project team members, other stakeholders), i.e. the things that concern them, are incompatible. In this situation, the intentions can be described by two independent aspects: cooperation (trying to satisfy one's own concerns and the concerns of others) and assertiveness / persistency (trying to satisfy one's own concerns), which is shown in Table 1.

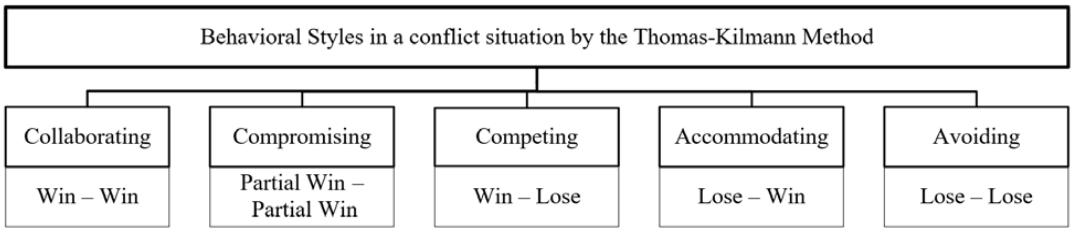


Fig. 1. Behavioral styles of the project team members in a conflict situation
Source: compiled by authors on the basis of [12; 16]

Table 1

Matrix of behavior styles of the project team members in a conflict situation and their characteristics

Cooperativeness / Caring for the interests of others	Available / High Level	Accommodating		Collaborating
	Medium		Compromising	
	Non-available	Avoiding		Competing
Styles Characteristics		Non-available	Medium	Available / High Level
		Assertiveness / Caring for self-interests		

Source: Developed by the authors on the basis of [10; 12; 16; 24]

These two behavior dimensions can be used to identify five approaches to conflict resolution [24].

Competing style, characterized by weak cooperation and strong assertiveness, is an attempt to satisfy own interests without regard or at the expense of others. From this point of view, the competing style is assertive and non-cooperative. Opposite to behavioral is an accommodating (adaptable) style. It is characterized by strong cooperation and weak assertiveness, so it is a non-assertive, cooperative style of behaviour. This style is expressed with a person sacrificing their own interests for the benefit of others. Avoiding style (non-assertive, non-cooperative) is neglecting the problem by both sides of the conflict due to postponing the conflict issue. Collaborating model is characterized by strong cooperation and assertiveness (assertive and cooperative). This style is an attempt to find an integrative solution or a win/win solution that will fully satisfy the interests of both parties. Finally, compromising (intermediate in both cooperation and assertiveness) style is an attempt to find a partial solution that will not satisfy the interests of each party in full [12; 24].

Methodology and data analysis

In order to determine the styles of behavior in a conflict situation, a survey of 10 members of the project management team was conducted. The profile of the respondents is presented in table 2.

Table 3 presents the test results, namely the scores for each style of behavior. According to the test, the total sum of the participant's behavior styles in a conflict situation should be 30 points.

The results obtained are visualized with the help of radar charts (Figure 2a – 11a). At the same time, from a practical point of view, it makes sense to highlight the conflicting styles of behavior of project team members in accordance with the demonstration level. So, for a comprehensive

Table 2

Profile of respondents

№	Characteristic		Percentage
1	Sex / Gender	male	40%
		female	60%
2	Age	20 – 24	70%
		25 – 29	30%
3	Work Experience	1 – 2 years	80%
		2 – 5 years	20%
4	Education	Master degree	100%

Source: compiled by the authors

Table 3

Points of the project team members in a conflict situation depending on a behavior style

№	Project team members	Points				
		CT	CP	CM	AV	AC
1	Specialist 1	6	8	8	5	3
2	Specialist 2	9	7	7	5	2
3	Specialist 3	7	7	7	7	2
4	Specialist 4	11	8	6	3	2
5	Specialist 5	5	8	7	8	2
6	Specialist 6	9	8	7	3	3
7	Specialist 7	6	10	9	3	2
8	Specialist 8	5	9	7	5	4
9	Specialist 9	6	8	7	5	4
10	Specialist 10	5	6	8	6	5

Source: compiled by the authors

visual interpretation of data, which should contain not only the importance of the behavioral style of a project team member in a conflict situation, i.e. its demonstration level in behavior, scatter plots will also be built (Fig. 2b - 11b), which indicate two main criteria describing behavior styles, namely cooperation and perseverance.

We assume that if the style of behavior in a conflict situation is characterized by strong cooperation or assertiveness, then the value of the criterion for them is equal to one (“1”). In the case where there is an average value of cooperation and persistence, the value of the aspect is one second (“0.5”). At the same time, with weak cooperation or persistence, the value of the criterion will correspond to zero (“0”). According to the above data, two axes are formed. The “x” axis will correspond to the assertiveness, and the “y” axis – to the cooperation. The level of the behavioral style of a project team member will be indicated by a bubble, as well as by color. If the style scores of a project team member fall in the range 0 to 3 (weak effect), light gray will be used, in the range 4 to 7 (medium effect) dark gray will be used, and if the range is 8 to 12 (strong effect) influence), black will be used. For the bubble, there will be taken quantitative values of the i-th behavioral style in a conflict situation of the j-th project team member S_{ij}, obtained by formula 1.

$$S_{ij} = \frac{m_{ij}}{30}, \qquad (1)$$

where

Sij – quantitative value of the i-th behavioral style in a conflict situation of the j-th project team member, i = 1, m, m = 5, j = 1, n, n = 10;

mij – the number of points of the i-th behavioral style in a conflict situation of the j-th project team member, i = 1, m, m = 5, j = 1, n, n = 10;

30 – the total number of points for all behavioral styles in a conflict situation.

The obtained data are shown in Table 4.

Radar chart and scatter plot (Figure 2 – Figure 11) are given for each individual project team member. Radar chart and scatter plot for specialist 1 are shown in Figure 2.

The data in Figure 2 demonstrate that two main behavioral styles in a conflict situation for specialist 1 are “collaborating” and “compromising”, and the most insignificant one is “accommodating”. “Avoiding” and “competing” styles are average in performance.

Radar chart and scatter plot for specialist 2 are shown in Figure 3.

For specialist 2, the main behavioral style in a conflict situation is “competing”, and the next two in importance are “collaborating” and “compromising”. The most insignificant ones are the “avoiding” and “accommodating” behavioral styles.

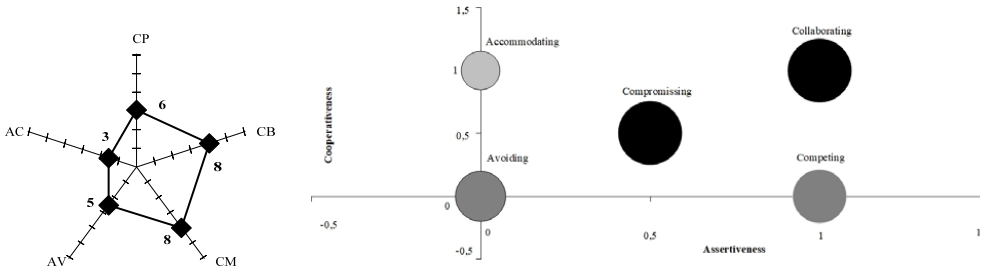
Radar chart and scatter plot for specialist 3 are shown in Figure 4.

Table 4

Quantitative values of the project team members behavioral styles in a conflict situation

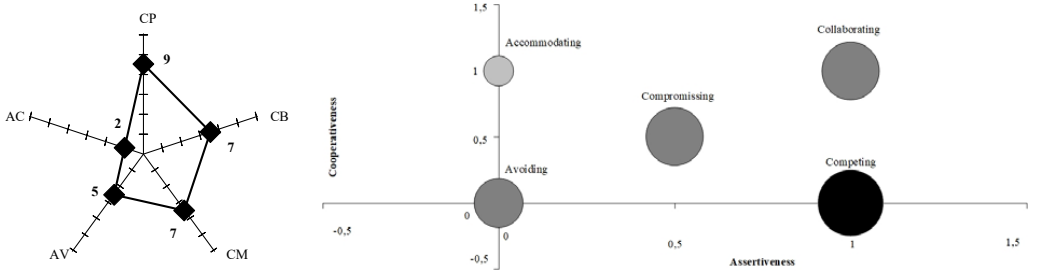
№	Project team member	Behavioral styles in a conflict situation				
		CT	CP	CM	AV	AC
1	Specialist 1	0,20	0,26	0,26	0,16	0,10
2	Specialist 2	0,3	0,23	0,23	0,16	0,06
3	Specialist 3	0,23	0,23	0,23	0,23	0,06
4	Specialist 4	0,36	0,26	0,20	0,10	0,06
5	Specialist 5	0,16	0,26	0,23	0,26	0,06
6	Specialist 6	0,30	0,26	0,23	0,10	0,10
7	Specialist 7	0,20	0,33	0,30	0,10	0,06
8	Specialist 8	0,16	0,30	0,23	0,16	0,13
9	Specialist 9	0,20	0,26	0,23	0,16	0,13
10	Specialist 10	0,16	0,20	0,26	0,20	0,16

Source: compiled by the authors



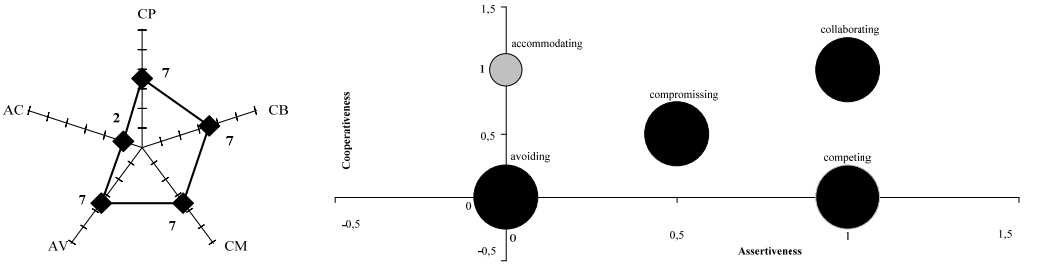
a) b)

Fig. 2. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 1 (a) – radar chart; b) – scatter plot



a) b)

Fig.3. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 2 (a) – radar chart; b) – scatter plot



a) b)

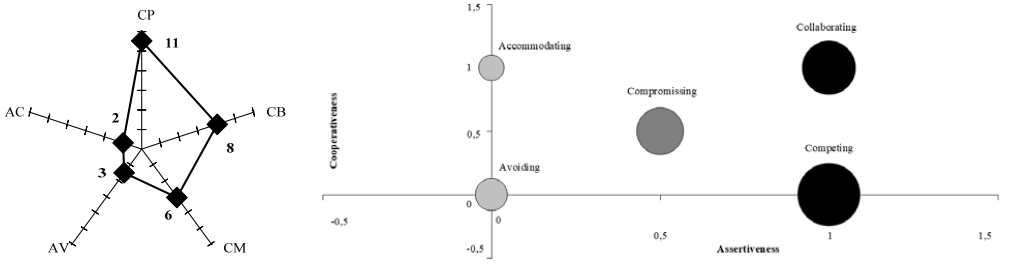
Fig. 4. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 3 (a) – radar chart; b) – scatter plot

Summarizing the results shown in Figure 4, we note that the main behavioral styles in a conflict situation for the specialist 3 are "competing", "collaborating", "compromising" and "avoiding". The most insignificant one is "accommodating" behavioral style.

Radar chart and scatter plot for specialist 4 are shown in Figure 5.

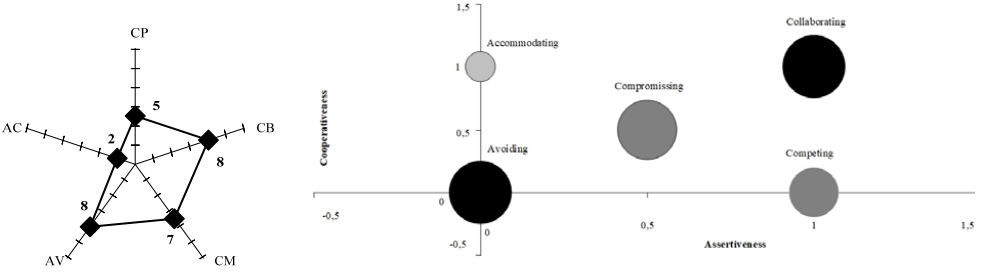
For specialist 4, the main behavioral style in a conflict situation is "competing", and the most insignificant ones are "avoiding" and "accommodating". "Collaborating" is also significant. The average manifestation level is a "compromising" style.

Radar chart and scatter plot for specialist 5 is shown in Figure 6.



a) b)

Fig.5. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 4 (a) – radar chart; b) – scatter plot



a) b)

Fig.6. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 5 (a) – radar chart; b) – scatter plot

According to the data in Figure 6, we conclude that for the specialist 5 two important behavioral styles in a conflict situation are "collaborating" and "avoiding". Quite significant is also the "compromising" style, which received one point less than the previous ones. "Competing" behavioral style is average in manifestation level. "Accommodating" style has a weak manifestation.

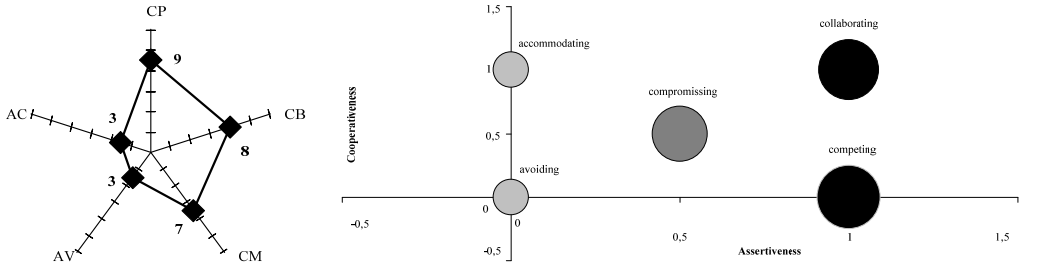
Radar chart and scatter plot for specialist 6 are shown in Figure 7.

"Competing" and "collaborating" styles are the most influential in conflict behavior for the specialist 6. "Compromising" style is average in manifestation level. Equally insignificant for them are "accommodating" and "avoiding" modes.

Radar chart and scatter plot for specialist 7 are shown in Figure 8.

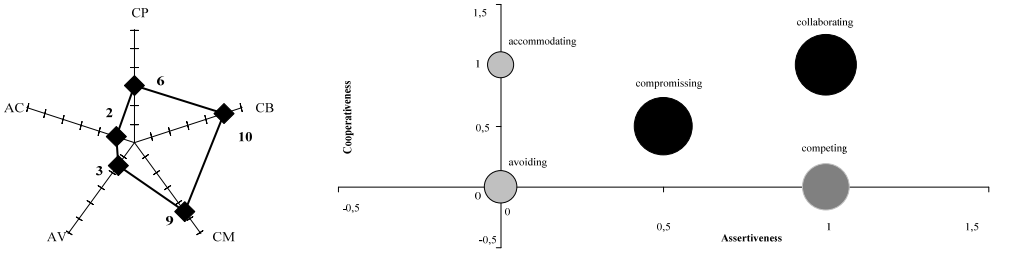
According to the information shown in Figure 8, "collaborating" and "compromising" are the main behavioral styles in a conflict situation for specialist 7. "Competing" style is average in manifestation level, and the most insignificant ones are "avoiding" and "accommodating" styles.

Radar chart and scatter plot for specialist 8 are shown in Figure 9.



a) b)

Fig.7 Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 6 (a) – radar chart; b) – scatter plot



a) b)

Fig.8. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 7 (a) – radar chart; b) – scatter plot

The most influential behavioral style for specialist 8 is “collaborating”. Next in importance is the “compromising” style. Medium in manifestation level are “competing”, “avoiding” and “accommodating” styles, all of them receiving the lowest scores.

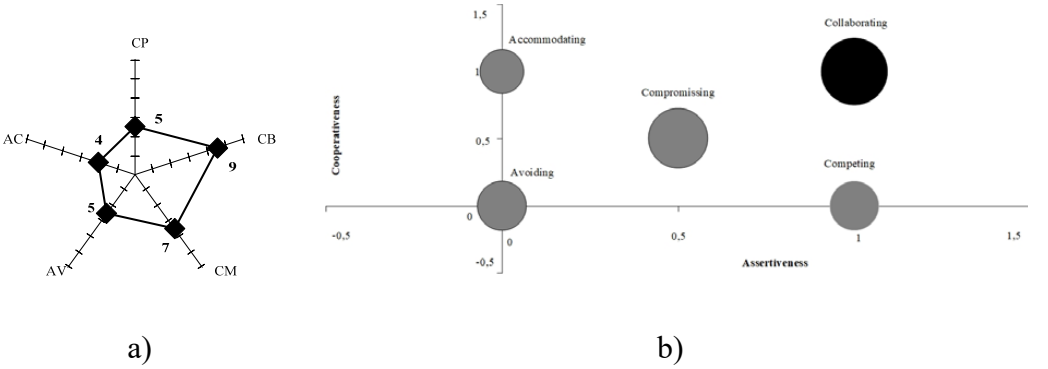
Radar chart and scatter plot for specialist 9 are shown in Figure 10.

Based on the data shown in Figure 10, it has been determined that “collaborating”, “compromising” and “competing” are among the main behavioral styles for specialist 9 in a conflict situation. “Avoiding” and “accommodating” are secondary in importance.

Radar chart and scatter plot for specialist 10 are shown in Figure 11.

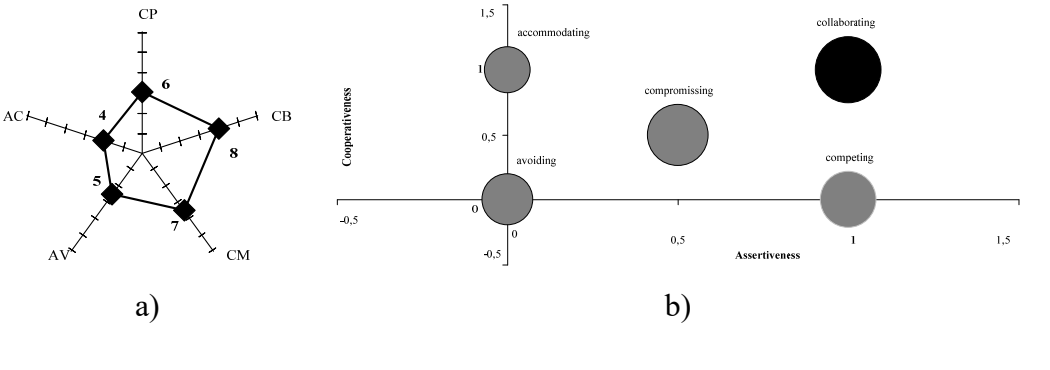
The most influential behavioral style for specialist 10 is “compromising”, and the average values of the influence level are “collaborating”, “avoiding”, “accommodating” and “competing”.

The implementation of the information obtained, its importance for project management, and for the team is presented below. Table 5 indicates the distribution of each project team member behavioral styles



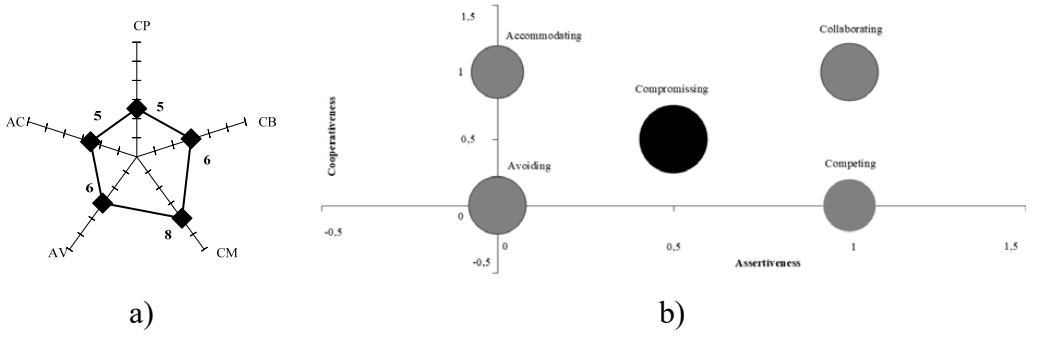
a) b)

Fig.9. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 8 (a) – radar chart; b) – scatter plot



a) b)

Fig.10. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 9 (a) – radar chart; b) – scatter plot



a) b)

Fig.11. Diagrams of the analysis of behavioral styles in a conflict situation by a specialist of the project development group 10 (a) – radar chart; b) – scatter plot

in a conflict situation on a predetermined scale and by three levels of manifestation: weak, medium and strong.

The results of the analysis make it possible to prioritize certain styles of behavior of project team members in a conflict situation in order to further use the information received for preventive conflict management.

Summarizing, we can say that the main style of behavior in a conflict situation for the vast majority of project team members is cooperation, focused on taking into account all the interests of the parties through problematic coordination. At the same time, the importance of information about behavior styles in a conflict situation is crucial for each member of the team, since an individual approach to conflict management is constantly applied.

As noted by Chiocchio F. et al. [1], collaboration boosts the positive effect of trust and dampens the negative effect of task conflict, offering the opportunity to substantially improve the team's performance.

It is useful for management to compare the data obtained on the behavioral styles of team members in a conflict situation, in particular with the help of visualization. A comparative analysis of the assessments of the behavioral styles of the project team members is shown in Fig. 12-17.

A comparative analysis of points of the project team members competing style in a conflict situation is shown in Fig. 12. Such comparative visualization contributes to the effectiveness of the preventive management anticipating the emergence and resolving conflict situations through understanding of the manifestation level of a particular style in the professional behavior.

According to the data presented in Fig. 12, it can be determined that specialists 4, 2 and 6 have strong levels of competitive behavior in conflict situations.

A comparative analysis of points of the project team members demonstrating collaborating style in a conflict situation is shown in Fig.13.

Analyzing the data presented in Figure 13, we can assume that all specialists have a level of manifestation of the style of cooperation above the average.

A comparative analysis of the scores of project team members demonstrating a compromise style is shown in Figure 14.

Comparing the scores of the compromise style of the project team members, we can conclude that almost all experts have a fairly high degree of its manifestation. In the behavior of specialists 1, 7 and 10, the compromise style is deeper.

A comparative analysis of points of the project team members demonstrating avoiding style is shown in Figure 15.

Table 4

Behavioral styles of the project team members in a conflict situation by levels of manifestation

№	Project team member	Project team members behavioral styles in a conflict situation by manifestation levels			
		Weak (0 – 3 points)	Medium (4 – 7 points)	Strong (8 – 12 points)	Strongest (highest score)
1	Specialist 1	accommodating	avoiding; competing	collaborating; compromising	collaborating; compromising
2	Specialist 2	accommodating	collaborating; compromising; avoiding	competing	competing
3	Specialist 3	accommodating	collaborating; compromising; competing; avoiding		
4	Specialist 4	avoiding; accommodating	compromising	collaborating; competing	competing
5	Specialist 5	accommodating	compromising; competing	collaborating; avoiding	
6	Specialist 6	avoiding; accommodating	compromising	competing; collaborating	competing
7	Specialist 7	avoiding; accommodating	competing	collaborating; compromising	collaborating
8	Specialist 8		compromising; competing; avoiding; accommodating	collaborating	collaborating
9	Specialist 9		compromising; competing; avoiding; accommodating	collaborating	collaborating
10	Specialist 10		collaborating; avoiding; competing; accommodating	compromising	compromising

Source: compiled by the authors

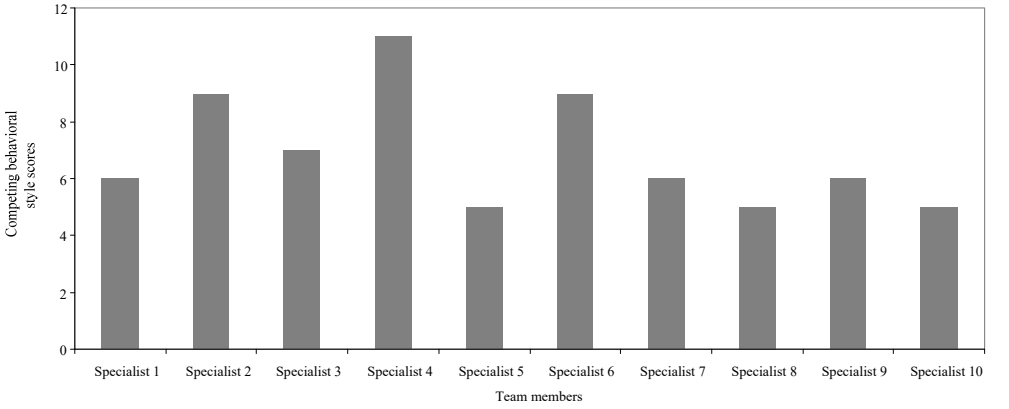


Fig.12. Comparative scores of the project team members demonstrating competing style in a conflict situation

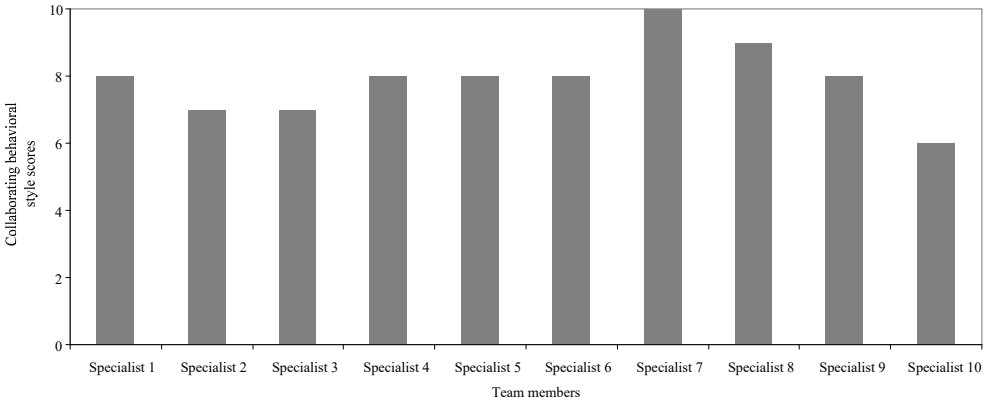


Fig.13. Comparative scores of the project team members demonstrating collaborating style in a conflict situation

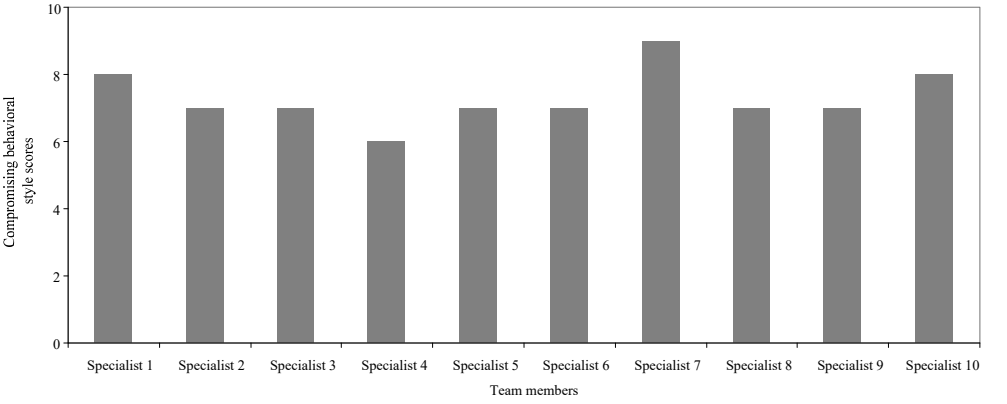


Fig.14. Comparative scores of the project team members demonstrating compromising style in a conflict situation

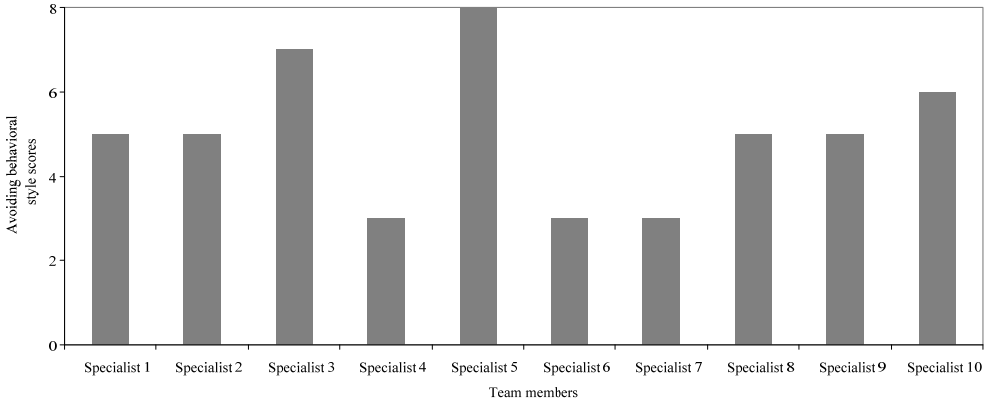


Fig.15. Comparative scores of the project team members demonstrating avoiding style in a conflict situation

Specialist 5 has the strongest level of manifestation of avoiding style. Specialist 3 also has a fairly significant level of manifestation. Specialists 4, 6 and 7 have the weak level of manifestation. All other specialists demonstrated average results in avoiding mode.

A comparative analysis of points of the project team members demonstrating accommodating style is shown in Figure 16.

The vast majority of professionals (1 to 7) have a weak level of accommodating behavior in a conflict situation. For specialists 8, 9 and 10, this style is average in terms of the level of manifestation, and also rather insignificant in terms of the number of points.

An important aspect of conflict management is also understanding and identifying the factors that affect the conflict situation. The factors influencing the conflict situation, are: gender; self-esteem; expectation; situation; position; practice; knowledge; communication skills; life experience (Nancy. & Christine, 2007), as well as upbringing and organizational culture (Fig.17).

As mentioned earlier, one of the important tasks of personnel management is control and preventive management of conflict situations. The purpose of such measures is to maintain the working environment at the constructive level, as well as redirect the opportunities that arise during conflicts in the direction of development. Preventive conflict management is one of the tools to ensure the desired level of project performance. Thus, the main goal of conflict management is to ensure the successful implementation of

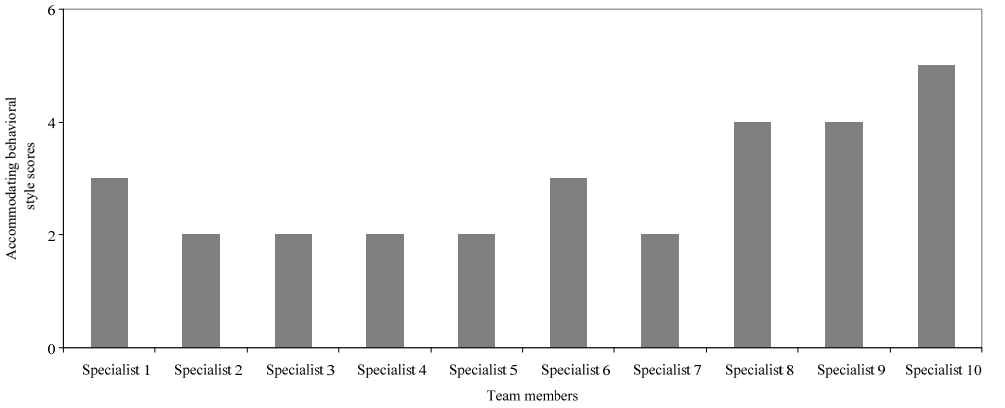


Fig.16. Comparative scores of the project team members demonstrating accommodating style in a conflict situation

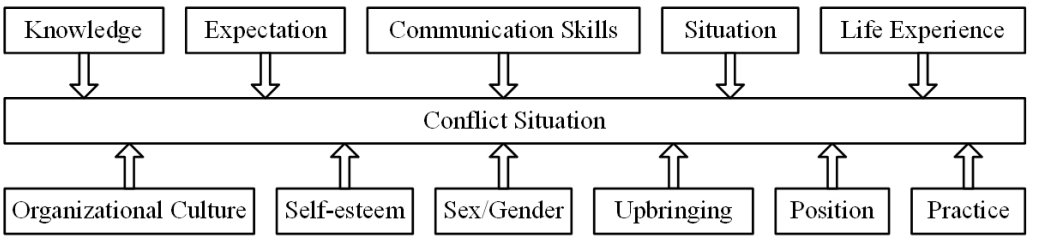


Fig. 17. Factors influencing the conflict situation
Source: *compiled by the authors on the basis of [18]*

the project, that is, compliance with all the requirements and obtaining results. In this case, there is a clear connection between conflict situations that arise during the implementation of the project, performance and successful completion.

Having considered the main aspects of determining the behavioral styles of the project team members in a conflict situation, we will create a contextual diagram of the analyses of the behavioral styles of the project team members in a conflict situation (Fig. 18). It should be noted that the analysis of behavioral styles of the project team members in a conflict situation is one of the implementation components of the planning function in the personnel management process.

As noted by [19], the potential of a conflict management system adds value to the organization and can only be fulfilled with the consistent work over existing organization strategy and culture.

Conflict management, being an iterative process, with its components performs traditional functions: planning, organizing, controlling, monitoring, regulating.

Conclusions

In the course of the research, a method of determining the behavioral styles of the team members of the project for the development of the enterprise based on the Thomas-Kilmann approach was designed. The methodology considered in the paper is a powerful tool for managing interpersonal conflicts in the project team, as well as among other stakeholders.

The emphasis is placed on the importance of the preventive conflict management of the project team, which increases the likelihood of its successful implementation. It is noted that one of the main factors influencing the results of the project is personnel management, in particular, an employee's conflict issue. Behavioral styles in conflict situations are presented according to the Thomas-Kilmann method, namely competing, collaborating, compromising, avoiding and accommodating. A matrix of behavioral styles has been formed, which contains their characteristics in terms of cooperation and assertiveness.

According to the results of a survey of the project team members on the manifestations of a particular behavioral style in a conflict situation using the Thomas-Kilmann method, diagrams of their styles, analysis ("petal" and "bubble") have been formed. The diagrams allowed:

1) to compare scores of the project team members demonstrating different behavioral styles in a conflict situation;

2) to evaluate the ratio of project team members behavioral styles, identify the dominant style;

3) with the help of visual aids to find out which group includes a particular behavioral style in terms of the level of its manifestation (weak, medium and strong).

In order to determine the main behavioral style of each individual member of the project team in a conflict situation, comparative schemes for the analysis of the points scored have been developed. Given the likelihood

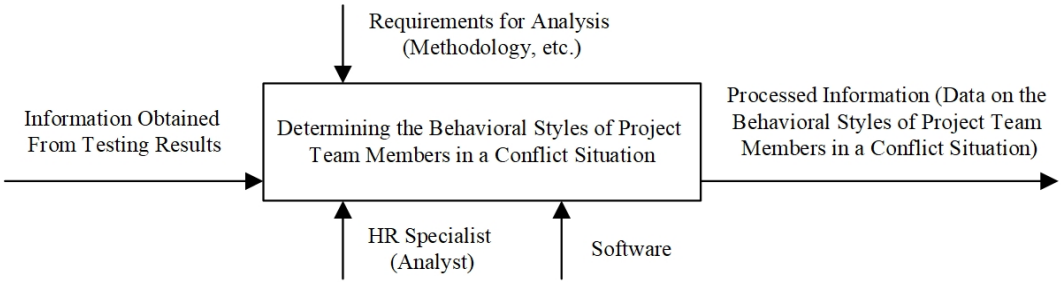


Fig.18. Contextual diagram of the analysis of behavioural styles of the project team members in a conflict situation

of prioritizing a particular behavioral style in each situation, benchmarking charts as a practical tool are developed.

The set of factors influencing the conflict situation has been determined, among which there are the enterprise organizational culture and education (culture, values, norms, etc. The vast majority of factors are integrative, complex, so that they can be represented by a set of other, simpler factors. A thorough analysis of the factors influencing the behavioral style of the project team member in a conflict situation is a promising area of research, which is one of the main elements of conflict management.

The contextual diagram of the analyses of the behavioral styles of the project team members in a conflict situation has been given, indicating the input (information obtained through testing the project team members), output (processed information), regulatory support, requirements for analysis, including, for example, methodology, etc., as well as resources (software; employees who will perform assessment, etc.).

The obtained results indicate the feasibility of testing employees to determine the prevailing behavioral styles in a conflict situation for further consideration of data in the personnel management process, for example, for developing a procedure for managing preventive conflicts and formation of the organizational culture and much more.

References

1. Chiocchio, F., Forgues, D., Paradis, D., & Iordanova, I. (2011). Teamwork in Integrated Design Projects: Understanding the Effects of Trust, Conflict, and Collaboration on Performance. *Project Management Journal, 42* (6), 78-91. https://doi.org/10.1002/pmj.20268.

2. Alper, S., Tjosvold, D., & Law, K.S. (2000). Conflict management, efficacy, and performance in organizational teams. *Personnel Psychology, 53,* 625-642. Available at: https://doi.org/10.1111/j.1744-6570.2000.tb00216.x.

3. Jehn, K., & Bendersky, C. (2003). Intragroup conflict in organizations: a contingency perspective on the conflict-outcome relationship. *Research in Organizational Behavior, 25,* 187-242.

4. Algert, N.E., & Watson, K. (2005). Conflict management: Introductions for individuals and organizations. Bryan, TX: Center for Change and Conflict Resolution.

5. Miller, K. (2006). Organizational Communication: Approaches and Processes. USA: Wadsworth. Available at: https://kilmanndiagnostics.com/wp-content/uploads/2018/04/TKI_Technical_Brief.pdf.

6. Putnam, L.L., & Poole, M.S. (1987). Conflict and Negotiation. In F.M. Jablin, L.L. Putnam, K.H. Roberts & L.W. Porter (Eds.), *Handbook of Organizational Communication: An Interdisciplinary Perspective,* 549-599. Newbury Park, CA: Sage.

7. Chen, H.X., Xu, X., & Phillips, P. (2019). Emotional intelligence and conflict management styles. *International Journal of Organizational Analysis, 27* (3), 458-470. https://doi.org/10.1108/IJOA-11-2017-1272.

8. Darling, J.R., & Walker, W.E. (2001). Effective conflict management: use of behaviour style model. *Leadership and Organization Development Journal, 22* (5), 230-242. https://doi.org/10.1108/01437730110396375.

9. Weiss, J., & Hughes, J. (2005). Want collaboration? Accept – and actively manage – conflict. *Harvard Business Review, 83* (3), 1-10.

10. Tabassi, A.A., Bryde, D.J., Abdullah, A., & Argyropoulou, M. (2017). Conflict Management Style of Team Leaders in Multi-Cultural Work Environment in the Construction Industry. *Computer Science, 121,* 41-46. https://doi.org/10.1016/j.procs.2017.11.007.

11. Jehn, K., & Mannix, E. (2001). The dynamic nature of conflict: a longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44* (2), 238-251. https://doi.org/10.5465/3069453.

12. Schaubhut, N.A. (2007). *Technical Brief for the Thomas-Kilmann Conflict Mode Instrument.* CPP Research Department.

13. Apipalakul, C., & Kummoon, D. (2017). The Effects of Organizational Climate to Conflict Management amongst Organizational Health Personnel. *Social and Behavioral Sciences, 237,* 1216-1222. https://doi.org/10.1016/j.sbspro.2017.02.192.

14. Jehn, K.A. (1995). A multimethod examination of the benefits and detriments of intra-group conflict. *Administrative Science Quarterly, 40* (2), 256-282.

15. Jehn, K.A. (1997). A qualitative analysis of conflict types and dimensions in organisational groups. *Administrative Science Quarterly, 42* (3), 530-557.

16. Thomas, K.W., Thomas, G.F., & Schaubhut, N. (2008). Conflict Styles of Men and Women at Six Organization Levels. *International Journal of Conflict Management, 19* (2), 148-166.

17. Thomas, K.W., & Thomas, G.F. (2004). Introduction to Conflict and Teams: Enhancing Team Performance Using the TKI. Palo Alto, CA: CPP, 44 pp.

18. Algert, N.E., & Stanley, C.A. (2007). Conflict Management. *Effective practices for academic leaders, 2* (9), 1-15.

19. Lipsky, D.B., & Avgar, A.C. (2010). The conflict over conflict management. *Dispute Resolution Journal, 65* (2-3), 38-43.

20. Zanora, V.O. (2019). Project management of potential and development of industrial enterprises, organizations, institutions: features and problem aspects. *Biznes-navihator, 6.1-1* (56)*,* 178-182. https://doi.org/10.35433/ISSN2410-3748-2019-2(25)-4.

21. Kilmann, R.H., & Thomas, K.W. (1977). Developing a forced-choice measure of conflict-handling behaviour: the MODE instrument. *Educational and Psychological Measurement, 37* (2), 309-325.

22. Thomas, K.W., & Kilmann, R.H. (1974). *Thomas-Kilmann Conflict Mode Instrument.* CA: Xicom; NY: Tuxedo.

23. Thomas, K.W. (2002). Introduction to Conjfict Management: Improving performance using the TKI. Mountain View, CA: CPP.

24. Thomas, K.W. (1976). Conflict and conflict management. In Dunnette M. (Ed.), *Handbook of Industrial and Organizational Psychology,* 889-935. Chicago: Rand McNally.

CONFLICT MANAGEMENT IN ENTERPRISE DEVELOPMENT PROJECT TEAMS

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JEL: ***D23, D74, O15, O22***

The main research objective is to analyze behavioral styles of members of the enterprise development project team in conflict situations using the Thomas-Kilmann method and graphic techniques to show the importance and value of such analysis for preventive conflict management in business entities. The work has been performed in the following logical sequence: characteristics

of behavior styles; survey of members of the project management team using the Thomas-Kilmann method; description of data using graphic techniques; context diagram of the process of analyzing the behavior styles of project team members in a conflict situation. According to the results of the survey of the project team members on the manifestations of a particular behavioral style in a conflict situation based on the Thomas-Kilmann method, diagrams and analysis ("petal" and "bubble") have been presented. The diagrams allowed: to compare scores of the project team members demonstrating different behavioral styles in a conflict situation; to evaluate the ratio of project team members behavioral styles, identify the dominant style; with the help of visual aids to find out which group includes a particular behavioral style in terms of the level of its manifestation (weak, medium and strong. The obtained results indicate the feasibility of testing employees to determine the prevailing behavioral styles in a conflict situation for further consideration of data in the personnel management process. A matrix of project team members behavioral styles in a conflict situation and their characteristics in terms of cooperation and assertiveness have been presented. Radar charts, scatter plots and comparative histograms of the behavioral styles of the project team members in a conflict situation have been designed. The contextual diagram with the analysis of the behavioral styles of the project team members in a conflict situation has been given. This study has been conducted in the specific Ukrainian cultural and organizational context. The results of the research can be useful for Ukrainian industrial enterprises in order to achieve projects results for enterprise development.

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