JEL Classification: M11, M20

Olga Katerna,
PhD in Economics, Associate Professor,
National Aviation University, Ukraine
ORCID: https://orcid.org/0000-0002-6307-8767

Nina Avanesova,
Doctor of Economics, Professor,
Kharkiv National University of Civil Engineering and Architeture, Ukraine
ORCID: https://orcid.org/0000-0003-3636-9769

Olha Hetman,
Candidate of Economic Sciences, Associate Professor,
Kharkiv National University of Civil Engineering and Architecture, Ukraine
ORCID: https://orcid.org/0000-0003-4538-5736

Nadiia Antypenko,
Doctor of Economics, Associate Professor,
National Aviation University, Ukraine
ORCID: https://orcid.org/0000-0003-4132-4709

Hanna Krivoruchko,
Candidate of Economic Sciences
Kharkiv National University of Civil Engineering and Architeture, Ukraine
ORCID: https://orcid.org/ 0000-0002-5730-1942

SUBSTANTIATION OF MANAGEMENT INNOVATIONS IN THE PROCESSES OF CREATION OF PROJECT VALUES AT ENTERPRISES

Received 12 September 2021; accepted 19 September 2021; published 23 September 2021

Abstract. *The project value management model proposed in the work reveals a certain sequence of actions and tools for identifying, balancing, creating, checking relevance, and tracking the long-term consequences of using the project value, largely solves unresolved theoretical issues, provides not only the formation of conditions for ensuring the project value in all its manifestations and for a wide range of stakeholders but also tracking of the long-term results and creation of a knowledge base in the post-project period, which increases the efficiency of the project activities of the company and its competitiveness. The approaches formed during the study regarding the positioning of stakeholders, the identification of the impact of each of them on the project and the ranking of their value expectations together with methodological recommendations to ensure a balance of the project's value characteristics are the prerequisites for creating the expected value for each project stakeholder and reducing the risk of conflict of interest. The successful implementation of the company's value direction in terms of its project activities involves the introduction of a number of organizational measures, among which the priority ones include, as an analysis of the practice of enterprises in the field of electricity supply services shows, the inclusion of the recommendations proposed in the work into corporate provisions for project management, as well as the creation of structural units, which, based on generalized experience and knowledge, would form and implement a set of tasks for project value management in their activities. This is one of the key components to ensure the effectiveness and efficiency of project-oriented enterprises.*

Keywords: *project values, stakeholder groups, risks of conflicts of interest, project management, financial benefits.*

Citation: Katerna, O.; Avanesova, N.; Hetman, O.; Antypenko, N.; Krivoruchko, H. (2021). Substantiation of management innovations in the processes of creation of project values at enterprises. Economics and Finance, Volume 9, Issue 3, 34-51. http://doi.org/10.51586/2311-3413.2021.9.3.34.51

Introduction

In the conditions of dynamic changes in the market environment, economic organizations ensure their adaptability and realize strategic intentions through the involvement of a wide range of modern management concepts, among which the project management methodology occupies the main place. Its active use is explained, on the one hand, by a significant increase in the number and scale of projects, and on the other hand, by the criticality of unconditional assurance of their planned characteristics since very often this enables both the existence of a project-oriented business and its competitiveness.

The rapid development of the theory and practice of project management, the emergence of international and national standards that streamline this type of activity were the consequences of these trends. However, studies by Pricewaterhouse Coopers showed (www.pwc.com) that, in the global space, about 30% of projects are completed with an excess of the budget and the planned implementation deadlines. One of the key reasons for such trends is the lack of attention that has so far been given to such a characteristic of the project as its value. Its integral nature and, at the same time, its ambiguous interpretation and determination by various stakeholders that evaluate the success of the project precisely by the value received, put on the agenda the question of developing effective approaches to ensure it in the framework of project management tasks.

The aim of the work is to deepen the theoretical and methodological provisions and develop practical recommendations for managing the value of projects in order to increase their effectiveness and ensure the value expectations of key stakeholders.

Literature Review

It should be noted that the use of project management and strict observance of the requirements for the goals set encourage scientists and practitioners to improve project management in order to gain competitive advantages, satisfy the needs of consumers and all stakeholders of the project (Boyle, G. (2017)).

In the last period, project management systems appear on the market annually and they are introduced into all economic spheres, innovative areas of project activity are being put into practice (Carvalho, M. M., & Rabechini Jr, R. (2017)).

Taking into account the achievements of scientists and practitioners in project management, one can draw certain conclusions about the need to study and develop issues regarding the project value management.

The foundations for the application of value are based on a different one from the traditional perception of projects as a means of achieving the intended purpose (Fleming, Q. W. (2019, January)). In our opinion, if earlier the project was

considered a temporary action, then in modern realities the practice of a project-oriented enterprise against the background of this also proves its expediency and effectiveness.

According to Fuller, M. A., Valacich, J. S., George, J. F., & Schneider, C. (2017), the main task of all firms is to allocate resources in such a way as to maximize the value of the project portfolios in accordance with the main mission (for example, long-term profitability, return on investments (ROI), increasing the possible success of the project). We believe that for the success of the enterprise it is important to identify and manage the value at all phases of the project life cycle but not just at the stage of operation of the project product since during this period of the project implementation, the manifestation of value through the prism of ROI indicators, profitability, and so on has only financial and economic character.

Harrison, F., & Lock, D. (2017) are convinced that ROI calculations in project management cannot be considered sufficient to evaluate their value.

Heldman, K. (2018) notes that the true value of project management exists "in the elusive realm" and advocates for an approach based on a balanced rating system. This approach to interpreting the project value is more reasoned and has a socio-economic background.

However, despite the credibility of opinions and a sufficient number of studies, the issue of ensuring value for all stakeholders of the project remains open (Huemann, M., Keegan, A., & Turner, R. (2018, September)).

Kerzner, H. (2017-2018) emphasizes that the creation of the project value is possible thanks to the restoration of the unique properties of the project product as part of the mission of the socio-economic system. However, this opinion does not fully reflect the essential content and creation of value at all stages of the project - from the design of the project to getting the result of the project product and its operation. In the author's opinion, it is worth paying attention to the value that is manifested in the process of project implementation.

Thus, it is desirable to distinguish between value in the process of creating a project and value from a project product; and in this context, it is necessary to cover all the stakeholders of the project - from the customer to the representatives of society.

Kivilä, J., Martinsuo, M., & Vuorinen, L. (2017) define value as the benefit received from the implementation of all interested parties, as a comprehensive indicator, which consists of the value of the process, product, and the value of the organization that works on the project. However, stakeholders who are interested in or are recipients of the project value are not adequately described in this approach.

In the project management process, the characteristics of the value described above are a reflection of the individual expectations of various stakeholders of the project (Kliem, R. L., & Ludin, I. S. (2019)).

So, for the customer and the investor, the manifestation of the value in the financial benefits of the project will be important.

For the project manager and members of the project team, the value will lie in gaining experience, accumulating knowledge, in particular in interdisciplinary fields,

as well as in career opportunities, the ability to build and maintain relationships (Lock, D. (2017)).

For the supplier, the value will be manifested in the receipt of orders and the support of business relationships in the current period with the prospect of future cooperation (Martens, M. L., & Carvalho, M. M. (2017)).

For consumers and surroundings, the value is a project product and the results of an implemented project that will satisfy the needs of all interested parties (Meredith, J. R., Mantel Jr, S. J., & Shafer, S. M. (2017).

Accordingly, the manifestation of value in the project product may concern an individual (customer), a group of people (members of the project team) (Nicholas, JM, & Steyn, H. (2017)), or society as a whole (a wide range of stakeholders) (Papke-Shields, KE, & Boyer-Wright, KM (2017)), which in the future will have certain consequences for the activities of enterprises that form changes in economic sectors at the state level and in interstate relations (global space).

Changes in the theory of project management correspond to the requirements of the practical sphere of its application and cause the expansion of criteria for evaluating the success of projects. The value of the project is such a criterion, which, along with the existing ones, characterizes the success of the project. That is why the approaches to the established principles of project management as well as an analysis of existing developments in the project value management should be clarified and revised.

Methods

To achieve the goal and solve a set of specific tasks, general scientific and special methods were used, such as analysis and synthesis, theoretical generalization and comparison (to conduct a multidisciplinary study of the essence of the concept “value” and determination of the features of its interpretation in project management); bibliographic and terminological analysis (to streamline scientific positions on the interpretation of the content of the project value and project value management); systematic approach and algorithmization method (to substantiate a conceptual model of the project value management); comparative analysis (to determine the dynamics of indicators of profitability of enterprises before and after the implementation of methodological recommendations for managing the project value); methods and techniques of economic analysis, namely: table-graphical (to represent the conceptual and structural elements of the project value management model), abstract-logical (to perform the theoretical generalization, the construction of logical - structural schemes, and the formation of conclusions).

The information base of the study was composed of legislative, regulatory, and methodological documents of state authorities regulating the activities of enterprises; international and national standards in the field of project management, the main provisions of the scientific works of scientists within the problem field under study; materials of scientific and practical conferences, periodicals and open sources of the Internet; planning, reporting, and organizational and methodological documentation of enterprises.

Results

The experience of the project management at enterprises shows that in the vast majority of cases, managers direct actions to achieve targets in terms of volume, quality, time, and budget execution of the project. At the same time, the assurance of the value of projects in a wider context for key stakeholders remains without the attention of managers, which leads to a significant decrease in the effectiveness of project activities and requires appropriate attention and managerial impact.

In the author's opinion, it is advisable to generalize existing developments on managing the value of projects, their systematization, and the removal of gaps. That is why the author proposes focusing further research on the development of an integrated approach to project value management, which will help ensure the value expectations of each stakeholder at different stages of the project life cycle and taking into account the environment in which it is carried out, increase the efficiency of project management processes by creating value for the main project stakeholders.

The basis for this is the improvement of identification processes, balancing, ensuring the value expectations of stakeholders in the processes of project management and creating a project product.

Managing the value of projects during the phases of the life cycle is as follows:

- at the project initiation phase, an analysis of alternatives to the project implementation and identification of the appropriate circle of its stakeholders interested are performed;
- the planning and implementation phases provide for the positioning of stakeholders, as well as balancing and creating their expected value;
- at the completion phase, the degree of value assurance with respect to its expected characteristics is determined;
- in the post-project period, the results of using the created value of the project are monitored, which may be manifested in the benefits of using the project product, improving the practice of conducting subsequent projects, etc.

It is proposed to dwell in more detail on the content of each stage of managing the project value by lighting a set of tools, which is recommended for use.

I stage. Diagnostics of the environment. At this stage, it is important to elucidate the objectives of the project and all the potential value of the project, taking into account a wide range of environmental factors in the relevant and related markets. It is proposed to use at this stage tools that will help identify the project environment and factors affecting the processes of its implementation and ensuring the future product of the project (Figure 1).

Project management theory and practice emphasize that the initiator of the project implementation is the customer or its authorized person. Accordingly, cooperation with the client/project manager and identification of the range of potential value expectations is of paramount importance.

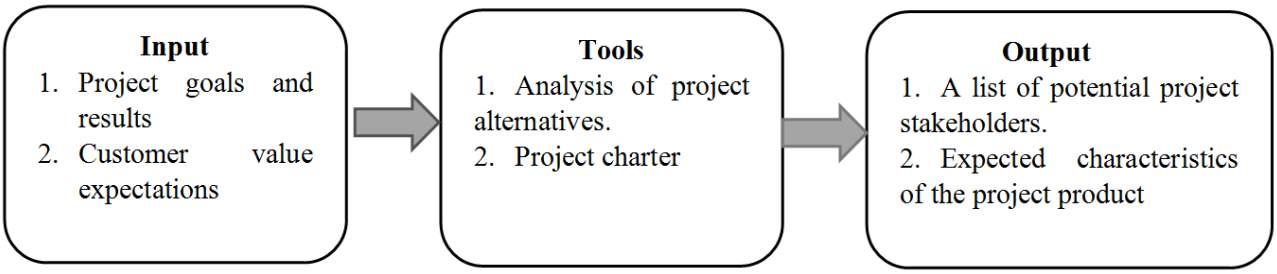

Figure 1. Project environmental diagnostics process (author's development)

For this purpose, it is most advisable to conduct negotiations and a written description of the main characteristics of the project product that the customer wants to receive. It is also appropriate to use the project alternatives analysis tool to provide the customer with all perspectives on the process of implementation and receipt of the desired project product.

Coordination of the implementation of this phase should be assigned to the project manager. He should present to the customer possible variants of the project implementation based on the results of studying the market situation. This approach will enrich the customer's perception of the project's expected product and, accordingly, its value expectations may be confirmed or substantially changed. In the future, all value expectations should be documented in the project charter or contract/annex to the contract (for an external customer), and the specification for the execution of work between the customer and the curator/project manager.

It should also be noted that the necessary components of the project contract/charter should be the main characteristics of the project, such as type, kind, duration of the project, etc. Therefore, the definition of these indicators broadens the initial understanding of the main project stakeholders and their possible value expectations. An important task at this stage is to identify all potential project stakeholders who may influence the project or be involved in the project implementation process and use of its product, other post-project results.

The customer (user, consumer), sponsor (investor), project curator, project manager, members of the project team, suppliers, contractors, surroundings, and society should be considered the main project stakeholders. The identification of stakeholders is most often done by the project manager or project manager at the project charter stage. Accordingly, their own perspectives on potential stakeholders and their attitude to the project, the experience they have in a particular field of activity, and the involvement of external/internal experts help them identify a range of potential stakeholders.

Stage II. The positioning of project stakeholders. This stage of project value management involves a wide range of diagnostic work aimed at analyzing the main project stakeholders (Figure 2). Based on the list of project stakeholders indicated in the project charter, an important task in the context of creating value is the distribution of stakeholders into groups.

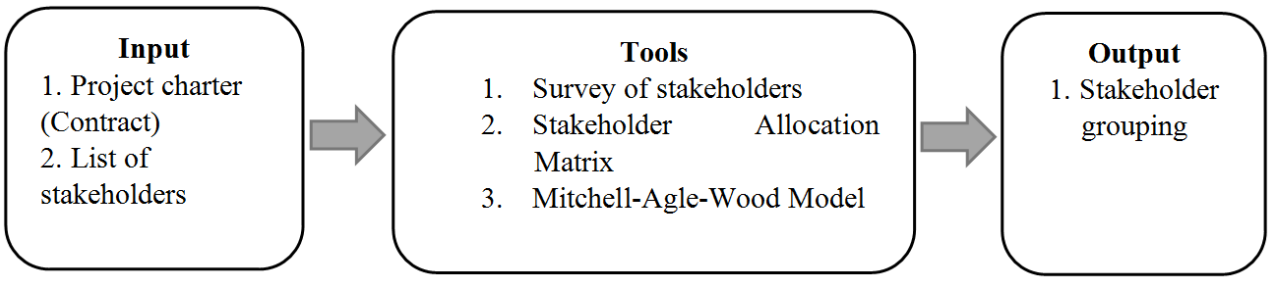

Figure 2. The process of positioning of the circle of the project stakeholders (author's development)

Based on the list of project stakeholders indicated in the project charter, an important task in the context of creating value is the distribution of stakeholders into groups. To achieve the best results in ensuring the value expectations of all interested parties, they should be grouped in accordance with the sphere of expectations: to distribute stakeholders to those who can get value in the process of project management, and those who can get it in the process of creating and/or using the project product.

Table 1. Questionnaire to identify the scope of the manifestation of the value expectations of the project stakeholders (author's development)

No	Question	Answer	
		Yes	No
Block 1. Project Product Creation			
1.1	Is it important for you to receive the project product on time, within budget and with appropriate quality/quantity? (Pr1)	1	0
1.2	Will the project product have an impact on improving the well-being of the society/community/population? (Pr2)	…	…
1.3	Does the project product have unique properties for you? (Pr3)	…	…
1.4	Do project results have an impact on the economy of the region/market/country? (Pr4)	…	…
1.5	Will the project and its product expand sales markets? (Pr5)	…	…
1.6	Are the project results the achievement in technological/technical/innovation processes? (Pr6)	…	…
1.7	Does the project product have cultural or social value? (Pr7)	…	…
$\sum P_r$ = Pr i + Pr 2 + Pr з + Pr 4 + Pr 5 + Pr 6 + Pr 7			
Block 2. Project Management Process			
2.1	Is it important for you to have frequent communications during the project? (P1)	…	…
2.2	Will the implementation of the project help to secure and maintain the company's reputation? (P2)	…	…
2.3	Do you consider the project as a means of ensuring the strategic development of the enterprise? (P3)	…	…
2.4	Is your project management experience important for improving your skills? (P4)	…	…
2.5	Does the project contribute to enhancing your management competencies? (P5)	…	…
2.6	Do you receive additional financial rewards as a result of successful project implementation? (P6)	…	…
2.7	Do your project management processes facilitate the acquisition of cross-industry knowledge? (P7)	…	…
$\sum P$ = P1+P2+ P3+P4+ P5+P6+ P7			

To do this, a survey of all interested parties should be carried out (Table 1), in which a positive answer is rated 1 point, a negative answer - 0 points. The survey results are processed and the total values of the answers for each block of questions are calculated ($\sum P, \sum P_r$).

The bigger cumulative value under Block 1 Project Product Creation ($\sum P_r > \sum P$) gives reason to believe that the value expectations of a given stakeholder will be ensured by the project product, respectively, the opposite results ($\sum P_r < \sum P$) - assurance of the value in the project management process. If the values for each block are equal to each other ($\sum P = \sum P_r$), then it means that for a given stakeholder value expectations are equally important in both directions. It should also be noted that the minimum values for each block ($\sum P, \sum P_r$ = min) indicate that the project value for the stakeholder is indirect.

Based on the survey results, it is proposed to form a matrix of distribution of stakeholder groups who wish to meet their value expectations from the project product and in the project management process (Figure 3).

Project product interests	Weak	Group Product Interests (S^{P_r}) $\sum P_r > \sum P$	Group Complex product interests (S^C) $\sum P = \sum P_r$
	Strong	Group Neutral interests (S^N) $\sum P, \sum P_r$ = min	Group Management processes interests (S^P) ($\sum P_r < \sum P$)
		Weak	Strong
		Project management interests	

Figure 3. Mapping of project stakeholders: matrix of project interests/project management interests (author's development)

Considering this distribution of interests (value expectations) of project stakeholders, it is suggested that the Complex Interests (S^C) Group's value expectations are of initial importance, so its stakeholders have value expectations regarding the project management process and the project product (according to the stakeholder map they will have the following meaning: $\sum P = \sum P_r$). Priority in meeting the interests of this group is due to the fact that it enables the simultaneous satisfaction of the interests of the S^p and S^{pr} groups, which coincide with the interests of the S^C group.

The values for the stakeholders of the Management Process Interests (S^p) Group and the Project Product Interests (S^{pr}) Group are further provided, and last but not least, subject to the provision of the first two, the value for the Neutral Interests (S^N) group is provided.

It should be noted that all stakeholder groups differ in size, level of impact on the project, namely: focused on stability/willingness to cooperate or counteraction/resistance to the project. In our study, considering two processes simultaneously - the project product creation process and the project management process - it should be borne in mind that all stakeholders have their own hierarchy of influence (manifestations of power) on the project.

In order to be aware of the priority of value creation for each stakeholder, it is necessary to determine the impact of each of them, the ability to cooperate, counteract, and resist the project. For this, the Mitchell-Agle-Wood approach is used (Table 2).

We consider it appropriate to apply this tool in view of the scale of the project and the number of its stakeholders, which is determined at the previous stage: not a large number of interested parties does not require determining the influence of stakeholders, but a significant number of people in each group necessitate an analysis of the influence of each representative on the project.

Table 2. Hierarchy of influence of stakeholder groups under the Mitchell-Agle-Wood model (adapted by the authors)

Stakeholder groups	Mitchell-Agle-Wood model attributes			Characteristics of stakeholders	Hierarchy of provision of value expectations
	Power (1/0)	Legitimacy (1/0)	Actuality (1/0)		
Defining stakeholders	1	1	1	Possess the manifestations of all attributes, respectively, thee are the most influential in the project	I place
Dominant stakeholders	1	1	0	They have finances, emotions, and legislative influence, but for them the urgency of the project implementation is not essential	II place
Dangerous stakeholders	1	0	1	They have finances, emotions, and need immediate implementation, but there are no regulatory and legislative levers	II place
Dependent stakeholders	0	1	1	They rely on legislation and regulations, need immediate implementation of the project but they lack funding	II place
Passive stakeholders	1	0	0	They have the appropriate power and funds but the desire to implement the project is delayed and there are no legislative levers to implement the project	III place
Controlling stakeholders	0	1	0	They have the support of the authorities and the legislation but lack the finances and emotions, the project is not urgent	III place
Requiring stakeholders	0	0	1	They want to implement the project immediately but they lack the financial, legislative support and emotions	III place

The application of the tools described above is aimed at raising awareness among the project board of what stakeholders surround the project, in what plane are their value expectations (in the process of managing the project or in the project product), and, if necessary, what impact does each of the stakeholders in its group have on the project.

III stage. Balancing and creating the value. The main goal of this stage is to balance the value indicators of representatives of stakeholder groups and create the value using the appropriate tools package (Figure 4).

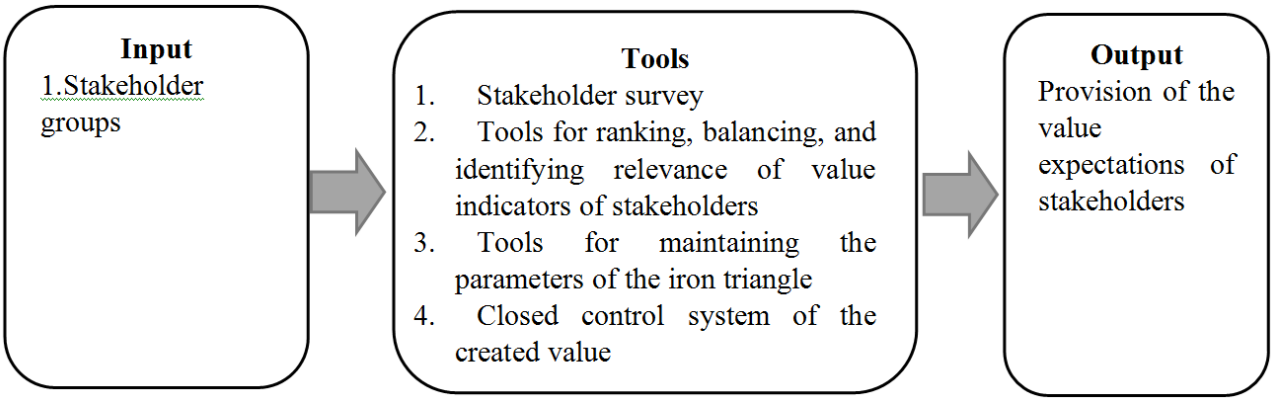

Figure 4. The process of balancing and creating the project value (author's development)

This stage is the most responsible, and taking into account the fact that it is carried out at the project planning and implementation phases, according to the time parameters it is the longest.

This stage of project value management is a series of sequential steps for identifying, creating, balancing, and monitoring the creation of value and checking the relevance of the initial value expectations of project stakeholders. In content, this stage is cyclical in nature, which contributes to the full provision of all value indicators of stakeholders in the project planning and implementation phases.

The first step is to identify the value indicators of stakeholders. Depending on which group the interested person belongs to and which influence it has its group, all its value expectations are documented. The project manager is responsible for this work. Considering that the value expectations of various stakeholders can have a wide range of manifestations and have some differences among themselves, and in some cases contradict each other in the provisioning process, the value expectations should be ranked according to their importance, which is estimated by the stakeholder itself.

Thus, for stakeholders in each group, a survey is conducted and ranks are established (Table 3).

Value indicators shown in Table 3 were presented by the author based on the component of the value. This allows determining which value expectations in the first turn the stakeholders seek to achieve in the project (rank 5), and in which - in the last turn (rank 1).

It should be noted that the presented value expectations in the Table 3 are only advisory in relation to their quantity and content. They can also be expanded or modified depending on the main characteristics of the project and its product. For example, the value parameter $I_3^{S^c}$ "Creating a project product in compliance with the criteria of time, cost, volume, and quality" can be divided into separate components, the generalized parameter $I_5^{S^c}$ - "To improve competitiveness through the project implementation" can be detailed and the like.

Table 3. Possible value expectations of project stakeholders (author's development)

No	Value expectations	Rank (from 1 to 5)
Complex Interests Group (S^c)		
1	Financial and economic result of the project ($I_1^{S^c}$)	…
2	Enterprise development ($I_2^{S^c}$)	…
3	Creation of the project product with time, cost, volume, and quality criteria ($I_3^{S^c}$)	…
4	Experience and new knowledge gained from the project implementation ($I_4^{S^c}$)	…
5	Expansion of sales markets for the enterprise ($I_5^{S^c}$)	…
Management Process Interests Group (S^P)		
1	Financial and economic result of the project ($I_1^{S^P}$)	…
2	Getting intersectoral experience ($I_2^{S^P}$)	…
3	Ensuring the reputation of the enterprise ($I_3^{S^P}$)	…
4	Creation of the conditions for collaboration with other stakeholders ($I_4^{S^P}$)	…
5	Creation of the project product with time, cost, volume, and amount criteria ($I_5^{S^P}$)	…
Project Product Interests Group (S^{Pr})		
1	Receiving project product on time, within budget, with proper quality and QUANTITY ($I_1^{S^{P_r}}$)	…
2	Long-term cooperation with the company $I_2^{S^{P_r}}$	…
3	Project product safety and environmental friendliness ($I_3^{S^{P_r}}$)	…
4	Technical/technological/innovative properties of the project product ($I_4^{S^{P_r}}$)	…
5	Cultural and community benefits of the project product ($I_5^{S^{P_r}}$)	…
Neutral Interests Group (S^N)		
1	Financial and economic result of the project ($I_1^{S^N}$)	…
2	Technical/technological/innovative properties of the project product ($I_2^{S^N}$)	…
3	Cultural and community benefits of the project product ($I_3^{S^N}$)	…
4	Development of the companies that implement the project in the context of expanding sales markets ($I_4^{S^N}$)	…
5	Experience gained from the project implementation ($I_5^{S^N}$)	…

The only condition remains the same number of value parameters for each group in order to make possible their further balancing:

$$
\begin{aligned}
&I_1^{S_c}, I_2^{S_c}, \ldots, I_n^{S_c} \\
&I_1^{S^P}, I_2^{S^P}, \ldots, I_m^{S^P} \\
&I_1^{S^{P_r}}, I_2^{S^{P_r}}, \ldots, I_0^{S^{P_r}} \\
&I_1^{S^N}, I_2^{S^N}, \ldots, I_p^{S^N} \\
&n=m=o=p
\end{aligned} \qquad (1)
$$

where is the value expectations of the stakeholder group Complex Interests (S^N); - value expectations of the stakeholder group Management Processes Interests (S^p); - value expectations of the stakeholder group Project Product Interests (S^{pr}); - value expectations of the stakeholder group "Neutral interests (S^N); n, m, o, p - the number of value expectations for the respective stakeholder groups.

Thus, the value indicators for different projects in terms of quantity and content may differ, and the condition for the same number of value indicators is necessary for the next stage of project value management - balancing.

One of the key tasks in the project value management system is to balance the value expectations of various stakeholders. The positioning of stakeholders (Figure 5) allows identifying groups with common interests and determining the sequence of their support, as noted above.

Table 4. Matrix of the ratio of project value indicators determined by the stakeholders
(author's development)

Value indicators for stakeholder groups		Value indicators for stakeholder groups								
		Neutral Interests Group (S^N)			Project Product Interests Group (S^{Pr})			Process Management Interests Group (S^p)		
		$I_1^{S^N}$	…	$I_p^{S^N}$	$I_1^{S^{P_r}}$	…	$I_o^{S^{P_r}}$	$I_1^{S^P}$	…	$I_m^{S^P}$
Complex Interests Group (Sc)	$I_1^{S^c}$	…	…	…	…	…	…	…	…	…
	…	…	…	…	…	…	…	…	…	…
	$I_n^{S^c}$	…	…	…	…	…	…	…	…	…
Process Management Interests Group (Sp)	$I_1^{S^P}$	…	…	…	…	…	…			
	…	…	…	…	…	…	…			
	$I_m^{S^P}$	…	…	…	…	…	…			
Project Product Interests Group (S^{Pr})	$I_1^{S^{P_r}}$	…	…	…						
	…	…	…	…						
	$I_o^{S^{P_r}}$	…	…	…						

where, "+1" - the processes of providing value indicators do not contradict each other; "0" - the processes of providing value indicators are independent of each other; "-1" - the processes of providing value indicators contradict each other, their provision is not possible

However, the proposed approach has certain limitations. For example, for a wide variety of projects and their stakeholders, a situation may arise where the most influential interested person will be a surrounding's representative who is part of the Neutral Interests Group (S^N). In this case, its value expectations will be provided last, which complicates the implementation of the project.

Let's consider another example where the project customer (if he is an external stakeholder for the enterprise) can fall into the stakeholder group Project Product Interests (S^{Pt}), since such value indicators as the frequency of communications, long-

term contracts with suppliers and contractors, the development of the enterprise implementing the project, and the like are not important for the representative. However, ensuring its value expectations is the main task of the project.

Further, it is necessary to determine the most influential stakeholders in each group in order to reflect their ranked value indicators in the matrix (Table 4). After that, the coefficient of balance between the value indicators of stakeholders is calculated based on the relationship between the pairs of indicators. For a positive result, to ensure both value parameters, it is indicated at the intersection of them +1, neutral 0 or a negative value -1.

Further, to calculate the coefficient of balance of value indicators, the sum of indicators for each pair of the interested persons of stakeholder groups is determined by the formula (2).

$$B_v = (S_*, S_{**}) = \sum_{j_*=1}^{V_*} \sum_{j_{**}=1}^{V_{**}} r(I_{j_*}^{S_*}, I_{j_{**}}^{S_{**}}) \quad (2)$$

where $B_v = (S_*, S_{**})$ is the coefficient of balance of value indicators for two groups of stakeholders; S* is a representative of the stakeholder group {S^C, S^P, S^{Pr}, S^N}, S** is a representative of the stakeholder group {S^C, S^P, S^{Pr}, S^N}\{i*}, j*, j** is a value parameter of stakeholders S* and S** respectively, V*, V** is the maximum number of the value parameters of stakeholders S* and S** respectively, V*, V** is the ratio of value parameters (j*, j**) of representatives of stakeholder groups S*, S**.

When determining the balance of value expectations of stakeholder groups, the coefficient (Bv - Balancing value's) between stakeholder groups may have:

Bv < 0 - negative value; Bv > 0 - positive value; Bv = 0 - neutral values.

This methodological approach allows consistently determining the impact of the stakeholder value indicators on each other. Bv^O indicates that the value indicators are balanced and the processes of their provision do not contradict each other. If Bv<0, this means that there are conflicts between value indicators for different stakeholders, which necessitates re-identification and prioritization of expected value as foreseen by the project value management algorithm.

Table 5. Tools for provision of the value indicators for stakeholder groups
(author's development)

No	Value characteristics	Value indicator	Project value creation tools
Complex Interests Group (S^c)			
1	Financial and economic result of the project ($I_1^{S^c}$)	Profit	Cost and benefit analysis
2	Enterprise development ($I_2^{S^c}$)	Market share	Competitive profile matrix
3	Creating a project product with observance of time, cost, volume, and quality criteria ($I_3^{S^c}$)	Expected characteristic of the project product	Qualitative analysis of the project product. Network graphics. Project implementation calendar. Control of project costs.
4	Experience and new knowledge gained from the project ($I_4^{S^c}$)	Improvement of project management	Added value. Experience curve

5	Expansion of sales markets for the enterprise ($I_5^{S^c}$)	Goodwill. Profit	Goodwill evaluation methods. Determination of profitability index.
Process Management Interests Group (S^P)			
1	Financial and economic result of the project ($I_1^{S^p}$)	Profit, premium	Motivation system.
2	Getting intersectoral experience ($I_2^{S^p}$)	Acquisition of new knowledge and competences	Added value. Experience curve
3	Ensuring the reputation of the enterprise ($I_3^{S^p}$)	Goodwill	Goodwill methods
4	Creation of conditions for collaboration with other stakeholders ($I_4^{S^p}$)	Personal competencies	Test complex "Labor Motivation Structure"
5	Creation of the project product that meets the criteria of time, cost, amount, and volume ($I_5^{S^p}$)	Expected description of the product project	Qualitative analysis of the project product. Network graphics. Project implementation calendar. Control of project costs.
Project Product Interests Group (S^{Pr})			
1	Receiving the project product on time, within budget, with proper quality and QUANTITY ($I_1^{S^{P_r}}$)	Expected characteristic of the project product	Qualitative product analysis of the project. Network graphics. Project implementation calendar. Control of project costs
2	Long-term cooperation with the company ($I_2^{S^{P_r}}$)	Business reputation of the enterprise	Network graphics. Project implementation calendar. Control of project costs. Goodwill evaluation methods
3	Safety and environmental friendliness of the project product ($I_3^{S^{P_r}}$)	Compliance of the project product with regulatory requirements	Qualitative product analysis of the project
4	Technical/technological/innovative properties of the project product ($I_4^{S^{P_r}}$)	Public importance	Functional and cost analysis of the project product
5	Cultural and socially beneficial properties of the project product ($I_5^{S^{P_r}}$)	Social and cultural significance	Functional and cost analysis of the project product
Neutral Interests Group (S^N)			
1	Financial and economic result of the project ($I_1^{S^N}$)	Profit	Determination of profitability index
2	Technical/technological/innovative properties of the project product ($I_2^{S^N}$)	Public importance	Functional and cost analysis of the project product
3	Cultural and socially beneficial properties of the project product ($I_3^{S^N}$)	Social and cultural significance	Functional and cost analysis of the project product
4	Development of the companies implementing the project in the context of expanding sales markets ($I_4^{S^N}$)	Market share	Competitive profile matrix
5	Experience gained from the project implementation ($I_5^{S^N}$)	Interindustrial and professional experience	Added value. Experience curve

The next step is to create value for representatives of stakeholder groups in accordance with their ranked priorities and at the same time to check the relevance of their value preferences using the tools presented in Table 5.

It is worth noting that against the background of creating conditions to ensure the value expectations of stakeholders, their relevance is checked. Given the duration of project implementation and the variability of the project's external environment, value priorities may be changed, transformed in part or substantially. This leads to a systematic confirmation of the desire to obtain the stated initial value from the project management processes and the future project product, or by agreement of the parties to change the value parameters to more relevant for stakeholders.

Depending on the duration of the project and the personal experience of the project manager, the latter should initiate regular meetings with leaders of stakeholder groups. It is believed that, in the first turn, the most important issue is the confirmation of the value created by the customer of the project, because it is this person who initiates the project and accepts its result. Confirmation of the immutability of the value expectations of this stakeholder should be documented and stored in the project archives. As for other stakeholders, it may be advisable to hold meetings less frequently but it is imperative to inform the customer in the event of a change in the preferences of any stakeholder and to re-balance current value expectations.

In the process of project planning and implementation, the task of monitoring value provision is important. Due to the fact that each stakeholder group has its own value indicators, the monitoring of their provision should also be carried out separately for each group. It is believed that this will help identify potential obstacles and accelerate response to changes related to verifying the relevance of the expected value as it is created.

Discussion

It is worth paying attention to the fact that the long-term results of the manifestation of the created value of the project may prompt the implementation of new projects. In order to gain experience and understand the impact of value on each stakeholder, it is worth paying attention to replenishing common databases based on the results of an implemented project, analyzing the results of the interaction between stakeholders, determining the usefulness of the project product and the results of its use.

It is believed that the post-project period allows determining how fully the value expectations of interested parties have come true, which qualitative and quantitative characteristics are inherent in the created project value, what can contribute to the long-term use of the project product and its results, and improve project management processes in the future.

Thus, the proposed concept of the project value management provides a system of actions aimed at identifying, balancing, and creating value for the main interested parties of the project using a set of relevant methodological approaches and tools.

Conclusion

Constructive elaboration and generalization of the scientific literature of the studied problem field has shown that modern developments in the theory of the project management for managing the project value are not well-established, this necessitates rethinking the key criteria for assessing project success. The author's vision of the project value as the benefits of the project product and the project management process, which are expected and provided during its implementation, taking into account all stakeholders, focuses on increasing the scope of managerial impacts relative to the circle of interested parties and directions of ensuring the project value characteristics throughout all phases of the project life cycle and post-project period.

The multidimensional nature of the manifestations of the project value necessitates clarification of its components (the value of the characteristics of the obtained project product, their socio-cultural and public significance, the value experience of the organization and members of the project team, the solution of strategic tasks, the strengthening of the company's competitiveness and financial stability, etc.), and expansion of varieties, which provides an integrated approach and consideration of features in the process of identification and assurance of versatile manifestations of value for all stakeholders of the project.

An analysis of the content and value orientation of the prevailing concepts and standards of the project management, the arrangement of the existing instrumental apparatus for managing the project value by the phases of its life cycle enabled the development of the methodological platform for this activity presented in the work, and also revealed the insufficient assurance of the processes of identification and balancing of the value expectations of stakeholders with the necessary tools, which significantly reduces the effectiveness of the implementation of the relevant tasks and results of project activities.

The substantiated conceptual model of the project value management, which provides for the identification of the value, assurance of its balance, creation, verification of relevance, and assessment within a specific project allows ensuring the value expectations of stakeholders during all phases of the project life cycle. This model is comprehensive and combines the main stages, goals, objectives, and tools for managing the project value, which correspond to the phases of its life cycle. The detailing of the model was reflected in the work in the form of an algorithm for managing the project value.

The introduction of the distribution of project stakeholders into groups in accordance with their expected value (from the project product or from the project management process) and determination of their priority enable further balancing of the project value indicators, as a result of which the project management process is subject to lower risks.

References

Boyle, G. (2017). Design project management. Routledge. URL: https://www.taylorfrancis.com/books/9781315258133

Carvalho, M. M., & Rabechini Jr, R. (2017). Can project sustainability management impact project success? An empirical study applying a contingent approach. International Journal of Project Management, 35(6), 1120-1132. URL: https://www.sciencedirect.com/science/article/abs/pii/S0263786317302478

Fewings, P., & Henjewele, C. (2019). Construction project management: an integrated approach. Routledge. URL: https://www.taylorfrancis.com/books/9781351122030

Fleming, Q. W. (2019, January). Project procurement management: contracting, subcontracting, teaming. Project Management Institute. URL: https://books.google.com.ua/books?hl=uk&lr=&id=duGGDwAAQBAJ&oi=fnd&pg=PT7&dq=project+management&ots=bg85EBrbvc&sig=eLoVI2DbdnJS0JQp-itgzVJFu9A&redir_esc=y#v=onepage&q=project%20management&f=false

Fuller, M. A., Valacich, J. S., George, J. F., & Schneider, C. (2017). Information Systems Project Management: A Process and Team Approach, Edition 1.1. Prospect Press. URL: https://dl.acm.org/citation.cfm?id=3159154

Harrison, F., & Lock, D. (2017). Advanced project management: a structured approach. Routledge. URL: https://www.taylorfrancis.com/books/9781315263328

Heldman, K. (2018). PMP: project management professional exam study guide. John Wiley & Sons. URL: https://books.google.com.ua/books?hl=uk&lr=&id=XB9KDwAAQBAJ&oi=fnd&pg=PP1&dq=project+management&ots=l2781wJ1wJ&sig=xnovJRSyFQpDUPdAnEVr-z_JOC8&redir_esc=y#v=onepage&q=project%20management&f=false

Huemann, M., Keegan, A., & Turner, R. (2018, September). Human resource management in the project-oriented organization. Project Management Institute. URL: https://books.google.com.ua/books?hl=uk&lr=&id=FN9yDwAAQBAJ&oi=fnd&pg=PT7&dq=project+management&ots=9TzWJbDIcq&sig=X_sFRzZFQIebT-wgNmEBQLMTK28&redir_esc=y#v=onepage&q=project%20management&f=false

Kerzner, H. (2017). Project management: a systems approach to planning, scheduling, and controlling. John Wiley & Sons. URL: https://books.google.com.ua/books?hl=uk&lr=&id=xlASDgAAQBAJ&oi=fnd&pg=PR19&dq=project+management&ots=Xb6l_OPYDV&sig=wcgiEsDc_n6Cz-vQGaQAqJUkeNw&redir_esc=y#v=onepage&q=project%20management&f=false

Kerzner, H. (2018). Project management best practices: Achieving global excellence. John Wiley & Sons. URL: https://books.google.com.ua/books?hl=uk&lr=&id=ss5QDwAAQBAJ&oi=fnd&pg=PR13&dq=project+management&ots=qwtRjYBTNE&sig=S49n5wclbcaZW_z5ccpbIkvkafo&redir_esc=y#v=onepage&q=project%20management&f=false

Kivilä, J., Martinsuo, M., & Vuorinen, L. (2017). Sustainable project management through project control in infrastructure projects. International Journal of Project Management, 35(6), 1167-1183. URL: https://www.sciencedirect.com/science/article/abs/pii/S0263786317301886

Kliem, R. L., & Ludin, I. S. (2019). Reducing project risk. Routledge. URL: https://www.taylorfrancis.com/books/9781315245089

Lock, D. (2017). The essentials of project management. Routledge. URL: https://www.taylorfrancis.com/books/9781315239941

Martens, M. L., & Carvalho, M. M. (2017). Key factors of sustainability in project management context: A survey exploring the project managers' perspective. International Journal of Project Management, 35(6), 1084-1102. URL: https://www.sciencedirect.com/science/article/abs/pii/S0263786316300163

Meredith, J. R., Mantel Jr, S. J., & Shafer, S. M. (2017). Project management: a managerial approach. John Wiley & Sons. URL: https://books.google.com.ua/books?hl=uk&lr=&id=ipZXDwAAQBAJ&oi=fnd&pg=PA1&dq=project+management&ots=Qwp3xFFyqW&sig=ELoLefXB5QE2lTRqKrSUNCRtb-M&redir_esc=y#v=onepage&q=project%20management&f=false

Nicholas, J. M., & Steyn, H. (2017). Project management for engineering, business and technology. Routledge. URL: https://www.taylorfrancis.com/books/9781315676319

Papke-Shields, K. E., & Boyer-Wright, K. M. (2017). Strategic planning characteristics applied to project management. International Journal of Project Management, 35(2), 169-179. URL: https://www.sciencedirect.com/science/article/abs/pii/S0263786316302952