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Risk Management and Knowledge Management as Critical Success Factors of Sustainability Projects

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Abstract: The paper is focused on the analysis of the key aspects of sustainability projects, namely advanced risk management and project knowledge. These aspects are recommended to the attention of institutions and project managers when designing and executing new projects simultaneously with quality and project status management. The aim of the paper is to point out the critical factors that have recently affected the success of sustainability projects, which is also its contribution. Empirical research focused on the identification of the application level of the post-project phases in project management in the Czech Republic in 2016 and 2017 was performed. The research was performed as qualitative research employing observation and inquiry methods in the form of a controlled semistructured interview. The research identified 21 most common reasons for not executing post-project phases. Ensuring good and efficient progress of post-project phases, in particular by the means of post-implementation system analysis and compilation of a set of improvement suggestions for subsequent project management, forms the practical background for application of knowledge management and project management principles. A case study focused on the application of fuzzy logic in project risk assessment has been elaborated. In practice, current project management requires the application of advanced risk analysis methods that will replace the simple risk values estimated by calculations of separate risk components.

Keywords: project sustainability; project management; knowledge management; project risk; post-project phases; fuzzy logic; project management quality

1. Introduction

Sustainable development represents one of the key issues in preserving human society on our planet. A UNESCO study defined 17 sustainable development goals [1]. The execution of these goals cannot be left to chance and one cannot rely on the goals being achieved by unprompted development. Also, it is impossible to rely on an intervention by an extraordinary human being under whose management the goals would be successfully achieved and sustainable development would be set.

It is project management that seems to be the effective and efficient way to achieve sustainable development goals; therefore, it is very meritable and important that in the Special Issue, the Sustainability journal editorial board concentrated on the subject of sustainable development realization by means of quality project management, stating that the role of project management is essential for achieving sustainability goals.

The paper discusses two aspects in relation to sustainability projects. These aspects are recommended to the attention of institutions and project managers when designing and executing new projects. They are, namely:

- Advanced risk management of sustainability development projects.
- Utilization of knowledge management by employing post-project phases in the project life cycle.

The aim of the paper is to point out the critical factors that have recently affected the success of sustainability projects. Most sustainability development projects have ambitious goals that can be very beneficial to the sustainable development of human society. For this reason, it is important that the probability of their success is high. Their failures mean not only considerable financial losses of the project stakeholders, but also undermine the whole sustainable development movement, and what is more, may have adverse effects on any future attempts to raise money for sustainable development. Thus, the paper points out that continuous project design and management quality require attention through knowledge management in order to increase the probability of sustainability project success. Moreover, the paper aims to demonstrate the procedures and methods to manage these critical factors of sustainable development projects successfully.

2. Literature Review

Application of project management to sustainable development projects is not a new idea. A number of steps to achieve partial goals leading to sustainable development have already been implemented as projects [2,3]. However, the issue of improving efficiency and effectiveness of the projects in the new millennium needs to be addressed. Research and analyses show numerous errors and drawbacks of the current projects, including those related to sustainable development projects [4]. Therefore, certain groups of scientists have focused on research of advanced methods related to the issues of project success evaluation, project risk assessment, project status assessment [5], and future project development prediction [6,7], and so on. These are the key areas where many errors occur. A possible solution to minimize these problems are general efforts to apply risk management [8] and knowledge management [9] principles more effectively. Successful project execution absolutely requires continuous project status assessment, taking successful achievement of the target status into account. A comparison may be made to well-structured projects, for example, in construction or engineering, where well-structured methods of project status assessment can be used [10]. For this reason, soft methods are applied in sustainability projects to assess the project status in milestones which with unprofessional and superficial attitude, may result in inaccurate and unrealistic project status assessment [11].

The classic approach to project risks, "A Guide to the Project Management Body of Knowledge" (PMBOK® Guide), considers risk as a product of risk occurrence probability and the financial risk impact within the project [12]. Since in many cases, it is difficult to determine the risk probability value directly and to calculate the risk impact value, alternative methods of expressing the values are used [13,14].

A number of authors deal with research in project risk management in their works (see Table 1).

Table 1. Literature review of project risk (Source: processed by the author using quoted literature).

Author(s)	Main Findings
Rudnik, Deptula [15]	The probabilistic fuzzy risk assessment model for the innovative project. The linguistic risk variables are the inputs to the model. The shapes of fuzzy sets for linguistic values are identified using expert knowledge. Fuzzy rules (if–then), probability measures of fuzzy events, and conclusion of rules are the knowledge.
Nasirzadeh et al. [16]	The integrated dynamic fuzzy model for quantitative allocation of construction risks between owners and contractors. Fuzzy logic and system dynamics approach was used for modelling of all the factors affecting the risk allocation process. The values of key uncertainty factors were described using fuzzy numbers. The project cost is simulated at different percentages of risk allocation, thanks to the model.
Liu, Ye [17]	The procedure for multiple attribute decision making based on the trapezoid fuzzy linguistic weighted Bonferroni mean (TFLWBM) operator was developed. The procedure was verified for evaluating the investment project risk of the case study.

Table 1. *Cont.*

Author(s)	Main Findings
Rodriguez et al. [18]	The multicriteria risk assessment model based in the fuzzy inference system (FIS) and fuzzy analytic hierarchy process (FAHP). FIS was used for the integration of the areas of risk factors. FAHP was used for evaluation of the risk factors. The fuzzy model includes the different levels of uncertainty and the relationship among risk factor areas.
Zwikael et al. [19]	The research of the relationship between a project planning process and project success. The level of project success is measured in the form of project plan risks. They suggest the careful planning for high-risk projects.
Doskočil et al. [20]	The expert fuzzy model is used for project success evaluation. It is a hierarchical fuzzy model that evaluates project success in terms of project status, project risk, and project quality assessment. They recommend applying the model in particular in the implementation stage and then repeatedly after the completion of each project stage. Thanks to the model, the project manager and the project team members have a tool to support their decision making, which also enables them to implement the respective measures relatively in time, which contributes to more efficient project management.

The application of the RIPRAN™ method (RIsk PRoject Analysis) [21] extended by the fuzzy approach of the risk evaluation in both the components of "probability" and "impact on the project" and then the quantification of the overall risk value is the contribution of the paper in the area of sustainability risk management project.

A number of authors deal with managing project knowledge in their research works (see Table 2).

Table 2. Literature review of project knowledge models (Source: processed by the author using quoted literature).

Author(s)	Main Findings
Ginevičius et al. [22]	The project management knowledge model is used to analyse the economic, legal, technical, technological, organizational, social, cultural, political, ethical, and psychological factors in a comprehensive way. According to the authors, the above factors affect the project as such and their application contributes to increased competitiveness.
Matthies, Coners [23]	The semiautomated implementation approach for double-loop learning in project environments. A combined application of two complementary methods is suggested for this purpose: latent semantic analysis (LSA) and analytic network process (ANP). This way, the approach addresses two problems of the project management practice: Firstly, the information overload in project environments, where the LSA is used for the semiautomated extraction of lessons learned from large collections of textual project documentation. Secondly, the lack of procedures and methods for the practical implementation of available project knowledge, where the ANP is used for the systematic modelling of extracted lessons learned and their integration into the evaluation of project concepts and current project management routines
Zhang, Wang [24]	The study investigates the level of construction industry maturity in Shaanxi. The authors state that the maturity is in its early stage (level two of four) and faces several critical factors. As the main issue, they mention the low level of transformation and insufficient knowledge management within construction projects. Their recommendations include, for example, the need to increase the stress on company vision target realization in the development strategies of their enterprises, increased education, research and development budget, and implementation of standardized project management.

The emphasizing of the importance of post-project phase application in sustainability projects is the contribution of the paper in the area of knowledge management. One of the reasons is that sustainability projects are usually implemented in widely diversified project teams (not only in one company). The knowledge management principles play an important role in management of these projects.

3. Materials and Methods

The findings of general management theory and other managerial disciplines, in particular project and knowledge management, were used in the elaboration of the paper. Moreover, findings of system sciences and system applications were used [25].

In the stage of analysis of the current status of the discussed issues, the method of relevant data secondary analysis was employed, which represented the process of obtaining and processing secondary data, where new information was gained by analysing the original data and information.

The inputs included mostly the study of scientific articles published in scientific journals and conference collections (see Section 2).

The primary data were obtained by applying empirical research focused on identifying the level of post-project phase application in project management in the Czech Republic in 2016 and 2017. The respondents were the participants in project management courses from companies operating in the Czech Republic. These were both company courses and public courses open to business people from all over the country. The total number of respondents was 150. The courses on project design and management covered the knowledge defined in the International Project Management Association (IPMA) competence baseline for level D. The participants were members of staff of small and medium-size businesses from various industrial fields (most frequently construction, engineering, the electrical industry, the power industry, and IT), since large companies are usually owned by foreign parent companies that organize their own internal education courses of project management and usually do not send their employees to external courses. Two-thirds of the respondents were project team leaders (PTL), and the rest were members of staff participating in business projects as project team members. There were no heads of project management offices among the course participants.

The research was performed as qualitative research employing observation and inquiry methods in the form of a controlled semistructured interview. The controlled interviews took the form of targeted personal meetings with the respondents. They were experts from selected companies in the roles of project managers or project team members. The collected data were then processed and assessed using the comparative method and content analysis. It was applied to the analysis, classification, and study of primary data.

The following research questions were delineated:

- Is it possible that implementation of the principles of knowledge management through post-project phases contribute to improving the management of sustainability projects?
- What are the reasons for ignoring post-project phases?
- Is it possible that fuzzy approach application improves the risk evaluation process of sustainability projects?

The method of modelling was used in the case study for project risk assessment. Here, a model means a simplified depiction of reality used as a basis for modelling the characteristics significant in terms of the analysed phenomenon. The expert model of project risk evaluation was realized using the fuzzy sets and fuzzy logic apparatus.

A fuzzy set $\widetilde{A}$ (defined by Lotfi A. Zadeh in 1965 [26]) is usually expressed in terms of its membership function $\mu_{\widetilde{A}}$ which maps domain elements (x) with their respective degrees of belonging in the interval $[0;1]$ (see Figure 1).

$$\widetilde{A} = \left\{\left(x, \mu_{\widetilde{A}}(x)\right) : x \in X, \mu_{\widetilde{A}}(x) \in [0;1]\right\}, \tag{1}$$

A support of a fuzzy set $\widetilde{A}$ is the classical set

$$\operatorname{supp} \widetilde{A} = \left\{x \in X : \mu_{\widetilde{A}}(x) > 0\right\}. \tag{2}$$

A core of a fuzzy set $\widetilde{A}$ is the classical set

$$\ker \widetilde{A} = \left\{x \in X : \mu_{\widetilde{A}}(x) = 1\right\}. \tag{3}$$

A height of a fuzzy set $\widetilde{A}$ is the number

$$\operatorname{hgt} \widetilde{A} = \sup_x \mu_{\widetilde{A}}(x). \tag{4}$$

Example: If a fuzzy set $\widetilde{A}$ is "about 2" (see the triangular membership function in Figure 1), then $\operatorname{supp} \widetilde{A} = (1;3)$, $\ker \widetilde{A} = \{2\}$, and $\operatorname{hgt} \widetilde{A} = 1$.

Fuzzy logic is an approach to computing based on the "degrees of truth" described using fuzzy set theory [27–29]. The computing of fuzzy logic [30] includes three basic processes [31]:

1. Fuzzification: translate input into truth values. Input variables are assigned degrees of membership in various classes.
2. Fuzzy inference: compute output truth values. Inputs are applied to a set of "if–then" control rules.
3. Defuzzification: transfer truth values into output. Fuzzy outputs are combined into discrete values needed to drive the control mechanism.

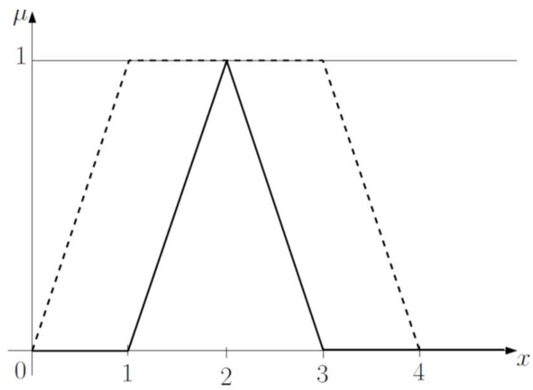

Figure 1. Trapezoidal and triangular membership function.

4. Results

4.1. Knowledge Management: Post-Project Phases

The empirical research results showed fatal drawbacks in the investigated area. Generally, the level of application of post-project phases is very low in the Czech environment. This phase is not performed at all in the majority of cases. The following table comprehensively presents the key reasons, according to the respondents (see Table 3).

Table 3. The most common reasons why companies fail to process post-project phases of projects (source: processed by the author).

Number	Reasons
1	Excited by the success of a completed project, the workers start to feel there is no need to analyse or improve anything.
2	Devastated by the project failure, the project participants and all the stakeholders try to forget the project as fast as possible.
3	Under the load of more and more new projects and everyday issues, there is no time for such an analysis.
4	Since any possible "easy and possible financial savings" are made in the already tight project budgets, the post-implementation analysis is usually one of them, so it is not even planned.
5	Such a thing is considered unnecessary pondering and obstruction to proper work.
6	There is a worry among the project team members that even well-intended, (self-) critical conclusions may turn against them (e.g., reduction of project remuneration).
7	People do not know how to perform it practically, so they prefer not to do it.
8	The analysis was done once but the recommendations were put aside ad acta, so the whole thing inevitably seemed to have been a waste of time and considerable efforts, and so nobody wants to risk needless work.
9	Unlike the project execution, it is often not explicitly required; so it is not done!
10	The project team does not want to point out mistakes they have made (why should they?), and pointing out success, on the other hand, is considered boasting.
11	Since the workers do it wrong, the results are not satisfactory, so after some time, the activity is discontinued due to "inefficiency".
12	The analytical teams are repeatedly comprised of incompetent staff members, so the results do not correspond to the expended resources or time and the analysis is cancelled.
13	Because its need and existence are essentially denied or ignored. (This belongs to "quality", not to "projects".)

Table 3. *Cont.*

Number	Reasons
14	Most companies lack a system of company experience accumulation, so it is not required for projects either. (Must be required by company top management.)
15	In the Czech Republic, many people consider themselves to be very smart and believe they do everything right and do not need to learn anything anymore.
16	There are still many people who remember a document titled "Lessons Learnt from Critical Development..." which did not bring success to its authors! (Generation-specific and Czech-specific reason.)
17	In the chaos and hurry of everyday work on the project, it simply gets forgotten.
18	A lot of people often refuse to look back, they only want to look ahead—a common attitude of many young people. (There is not so much time in their past, but a relatively long time in their future.)
19	There is no project documentation, and sometimes there are no project participants anymore, so the question is what in particular should be responsibly analysed.
20	A number of project management methodology materials still do not mention these phases, as well as pre-project phases, and focus solely on immediate project management, from start to completion.
21	The current time is VUCA (volatile, uncertain, complex, ambiguous). Therefore, it makes no sense to prepare for anything by analysing the past. Everything will be different and nothing can be predicted and no past experience can be used.

4.2. Risk Management: Fuzzy Risk Quantification

The advantage of the fuzzy set is its ability to work with vague terms which are typical for daily use in project management. The current approach, for example, in the field of risk engineering, applied either numerical values of probability and impact or worked with classical sharp jurisdiction of these values into certain sets. It was not appropriate for many applications and did not correspond to the actual perception of risk [32].

The case study is focused on the application of fuzzy logic for the evaluation of project risk based on the RIPRAN™ method. Branislav Lacko is the author of the RIPRAN™ method. He was a finalist of the 2016 Federation European Risk Manager Association award in innovation method categories. The RIPRAN™ method is a trade mark no. 283536 registered by the Industrial Property Office, Prague. It is recommended for project risk analysis according to the IPMA competence baseline (ICB) international standard in the Czech Republic.

The RIPRAN™ method does not represent a difficult approach to project risk analysis. It is the methodological arrangement of the individual activities in the risk analysis of the project systematically, so that nothing important is forgotten, and suitably documented for the needs of the project risk register. It is not necessary to start with a risk evaluation using the fuzzy approach in the current version of the method. This is possible to be postponed until the project team decides that the use of the fuzzy approach is suitable. The main contribution of this extended version of the RIPRAN™ method is the possibility to quantify the individual components of "probability" and "impact on the project" using vague fuzzy values and then the quantification of the overall risk value. The total benefit of this fuzzy approach compared with simple estimates of overall risk by the traditional approach is considerable. This "cheap or inexpensive" intuition (as shows practice) is, on the contrary, very expensive in the view of the impact of poor quality intuitive estimates and intuitive approaches to project risk analysis.

The fuzzy logic toolbox in Matlab was used for the fuzzy model creation. The fuzzy model of risk value evaluation (FM_RV) consists of two input variables (*P—Probability*, *IP—Impact on the Project*), one rule block, and one output variable (*RV—Risk Value*) (see Figure 2).

The fuzzy logic deduction method was used for obtaining outputs based on inputs (see fuzzy rules below). Mamdani's fuzzy inference method was used, because the system is described only roughly using the natural language: knowledge is unstructured or little structured. The fuzzy set defined by the membership function is the output of the inference process. This type of output is sufficient for interpretation of the risk value in project management.

Figure 3 shows the input variable *P* with five linguistic fuzzy values: VH—very high, H—high, M—middle, L—low, and VL—very low. The membership function of type Π (trapmf) and range [0; 1] was used to create the fuzzy model. The input variable *IP* has the same parameters.

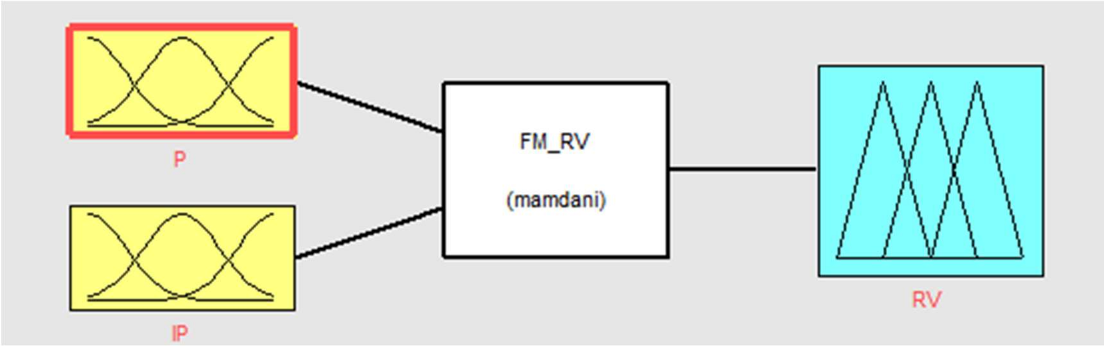

Figure 2. The fuzzy model diagram (FM_RV). P: probability, IP: impact on the project, RV: risk value.

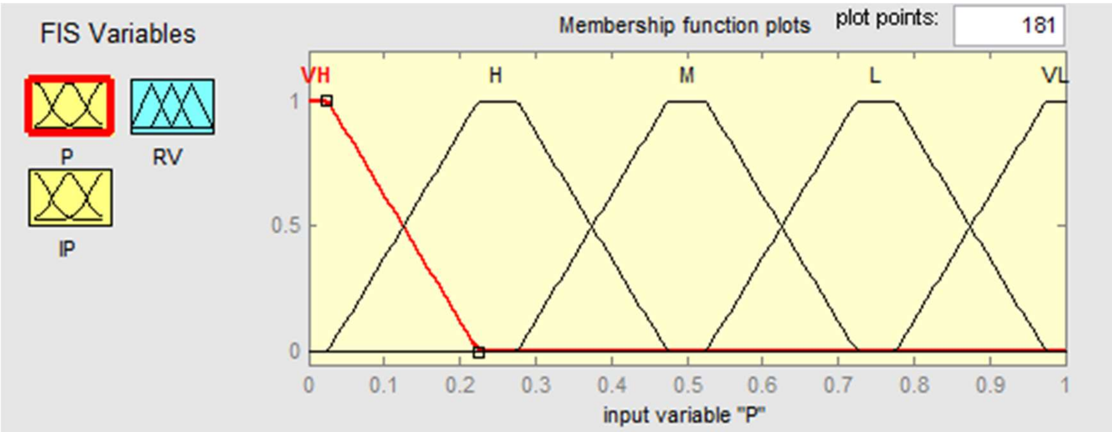

Figure 3. The linguistic input variable P with linguistic fuzzy values VH, H, M, L, and VL. FIS: fuzzy inference system.

Figure 4 shows the output variable *RV* with five linguistic fuzzy values: VH—very high, H—high, M—middle, L—low, and VL—very low. The membership function of type Π (trapmf) and range [0; 1] was used to create the fuzzy model.

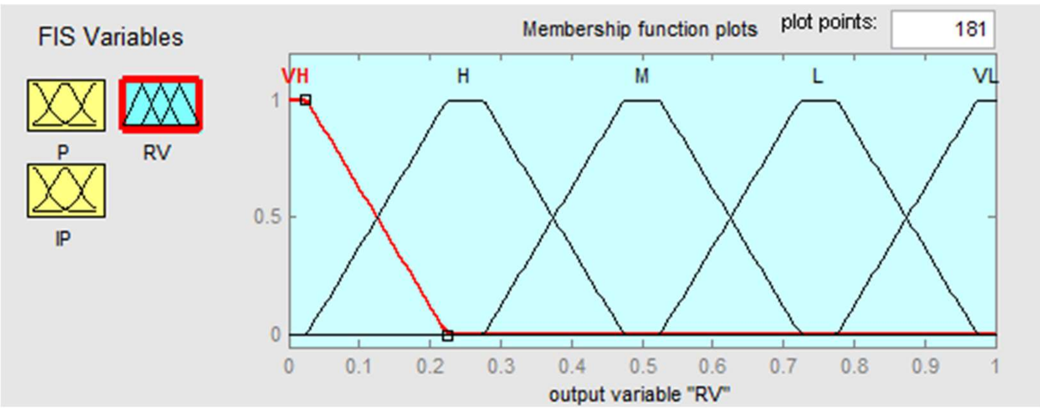

Figure 4. The linguistic output variable RV with linguistic fuzzy values VH, H, M, L, and V.

The expressing of the membership functions depends both on the subject (how deep is our experience) and on the context (where is the problem solution). That is the reason why the membership functions are expressed neutrally according to the generally applicable rules (metarules) in the first phase.

One rule, "if–then", expresses expert knowledge of the relationship existing between the basic components of the risk ("probability", "impact on the project") and the risk value. There are 25 rules in the fuzzy system. These rules represent the knowledge base, which describes the behaviour of the system. The antecedent includes all real combinations of linguistic values of input variables. The consequent includes evaluations for all combinations, that is, the assignment of the linguistic values to output variables. The listing of a combination of 25 rules of the system is based on the following distribution (see Table 4).

Table 4. The listing of a combination of fuzzy rules (source: processed by the author).

		Impact on the Project (IP)				
		VH	**H**	**M**	**L**	**VL**
Probability (P)	**VH**	RV = VH	RV = VH	RV = VH	RV = H	RV = M
	H	RV = VH	RV = VH	RV = H	RV = M	RV = L
	M	RV = VH	RV = H	RV = M	RV = L	RV = VL
	L	RV = H	RV = M	RV = L	RV = VL	RV = VL
	VL	RV = M	RV = L	RV = VL	RV = VL	RV = VL

Figure 5 presents an antecedent (column and row) and a consequent (intersection of a column and a row) of the fuzzy rule. There are 25 fuzzy rules (metarules). These rules can be changed or defined for a specific project.

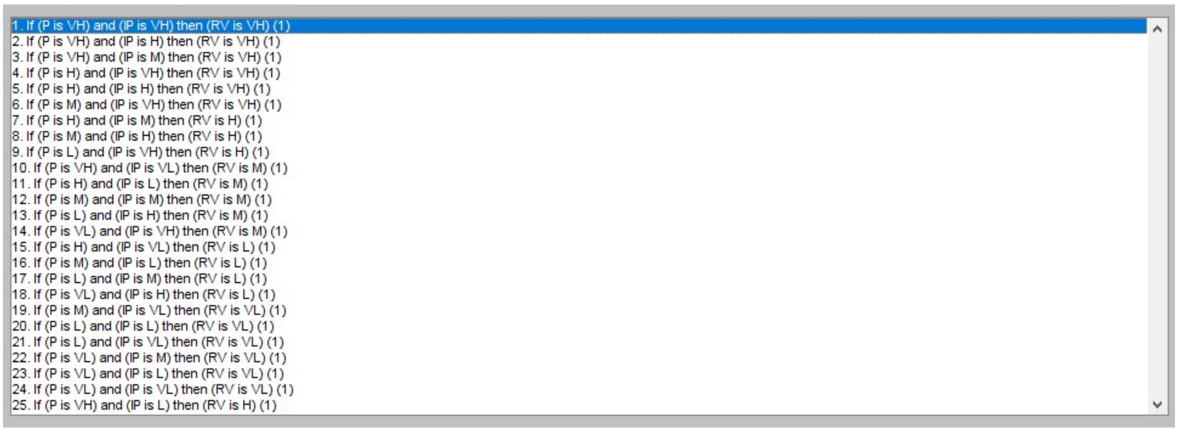

Figure 5. Rule block and rules.

Figure 6 shows the dependence between input and output variables. It is a function of RV = f (P, IP). The coordinates [0; 0] represent the following situation: If the input variables P and IP are very high, then the output variable RV is very high. The coordinates [1; 1] represent the following situation: If the input variables P and IP are very low, then the output variable RV is very low.

Figure 7 presents the project risk evaluation for a concrete project. The values of input variables P = 0 and IP = 0 give the value of output variable RV = 0.0729 (see the first rule in Figure 7). This situation interprets that the total risk of the project is very high. The fuzzy model was verified in this manner. The results match the requirement, so the fuzzy model can generally be regarded as functional.

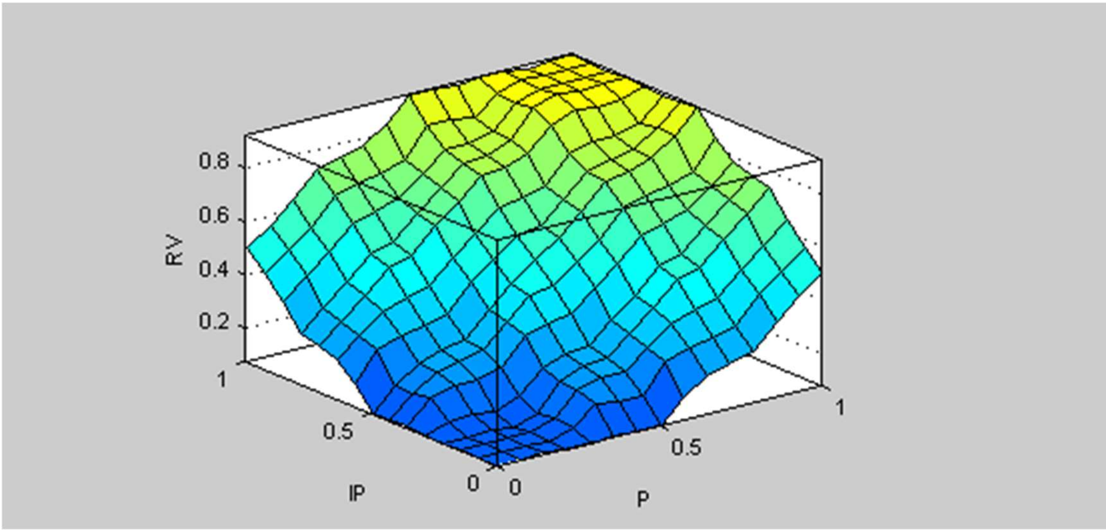

Figure 6. Surface - dependencies between input and output variables.

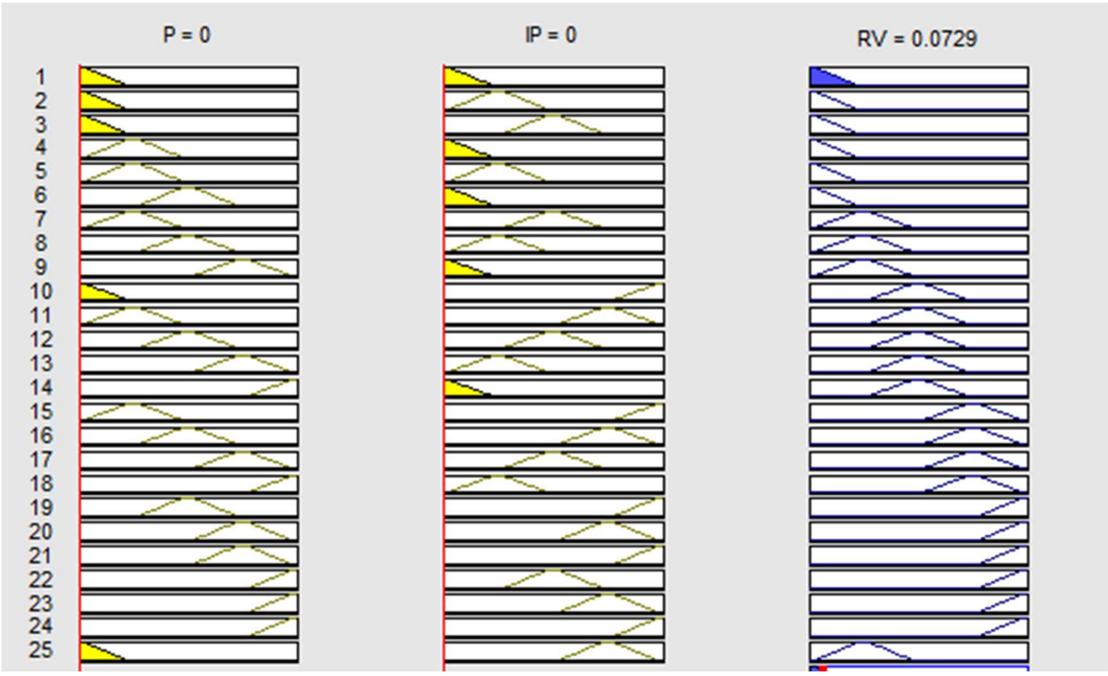

Figure 7. The evaluation of total project risk of a concrete project.

The created fuzzy model is necessarily tuned to set up the inputs to known values, evaluate the results, and change or add the rules. It is necessary to work with real data of the project for this process. Based on the real data, the parameters of the fuzzy model must be set. The model can be used in practice if the validation shows that the model provides accurate results.

This approach of risk management of the sustainability project is generally applicable and does not have any specific limitations. It assumes that the project team bases its work on past project experiences. These experiences must be applied methodologically according to the authors' described procedures. For use in a concrete company, it is necessary to prepare specific real data according to the results of the post-project analyses. These results reflect the experiences of already implemented projects and their documentation. This information serves as a reference for the risk analysis currently underway.

5. Discussion

The necessity to ensure sustainability project success in the current complicated times of a VUCA world [33] requires the project team members and project managers to improve continuously from one project to another. This can be realized if the principles of knowledge management are applied in project management. In practice, this requires ensuring good and efficient progress of post-project phases, in particular by means of post-implementation system analysis and compilation of a set of proposals for the improved management of subsequent projects. Through post-implementation analysis (post-project phase implementation), the necessary knowledge can be gained, which can be used later in correct knowledge management.

The paper shows to sustainability project managers and project team members what new and sophisticated methods should be used in order to achieve a high level of probability of successful project completion with the expected benefits. It lists particular advanced methods for areas crucial for success: RIPRAN™ for risk analysis, replacing a simple estimate of the total risk value by a calculation of gradually separated risk components (threat probability, scenario probability, sum of values of all partial impacts); post-project phases for accumulation of gained project knowledge; and fuzzy sets for improvement of quantitative assessment of not only risks, but also deadlines, costs, and the achieved project quality. The contribution of the paper lies in the fact that these procedures do not require any significant additional financing, but improvements can be achieved in particular by coherent technical and organizational processes applied to the work of the project teams, preparation, organization, and project execution. The original contribution of the paper is the list of the established causes impeding the quality performance of post-project phases, as targeted elimination of these causes may follow from these findings. An innovative contribution is the system concept of risk management and knowledge management in the project management of sustainability projects. Nowadays, the practice is usually such that these approaches are applied in isolation, without any interrelations; or even in some sustainability projects, are ignored.

Workers engaged in industry are confronted with the need to comply with high production quality on a daily basis, either by applying the total quality management (TQM) principles through the ISO 9000 Quality Management Systems set of standards or the Six Sigma movement. The requirements to conform to these high-quality principles have logically generated requirements to comply with the high-quality principles also in areas such as nonproduction and sustainability project management, referred to jointly as project management and quality of project.

Increased attention needs to be paid to the selection of members of the sustainability project teams. Very often, project managers are appointed to head the project teams as professionals in project management methodology who, however, do not understand and do not identify with the notion of sustainable development and their motivation to solve complex issues within these projects is low. On the other hand, enthusiastic advocates of sustainable development principles know nothing about professional project management, according to international standards. The international standard ISO 21500 ("Guidance on project management") defines basic principles and basic concepts of project management and recommends structuring the project into individual phases. It defines the content for theses phases [34]. The international standard ISO 31000 ("Risk management") unifies the terminology of risk management. It explains the basic principles, approaches, and procedures of risk management. It presents the risk analysis techniques [35]. The international standard ISO 10006 ("Quality management—Guidelines for quality management in projects") defines and characterizes nine processes that are necessary to ensure project quality management according to TQM principles [36].

The approach described in the fuzzy set application enables the fuzzy approach to be applied not only to risks, but to put together a method of complex project status assessment in terms of deadlines, costs, risks, and quality, which would improve the quality and success of sustainability projects [13]. The fuzzy approach application creates conditions for building a knowledge base that would become the basis for creating an expert system of assessing the risks of sustainability projects.

It is a fact that the RIPRAN™ method is positively evaluated and successfully used by approximately 13 important companies in the Czech Republic. It is also taught at 10 universities (14 faculties) in the Czech Republic nowadays.

Future research will focus on elaborating procedures for risk evaluation through the fuzzy approach in the context of the RIPRAN™ method. The aim will be to apply the principal functionality of the fuzzy model for the use of a concrete company or selected sector (mechanical engineering, IT, etc.), including a methodology of implementation. The first phase of the research is planned to realise selected mechanical engineering projects at our university in cooperation with Industry Cluster 4.0.

A necessary prerequisite for the tuning of a fuzzy model is the experience and knowledge gained from realised projects in the past. These are possibly obtained using the post-project phases in the context of knowledge management. The obtained knowledge base will be also able to generate input data of the model (fuzzy rules, membership functions) using the adaptive neuro-fuzzy inference system (ANFIS).

6. Conclusions

To conclude, it needs to be emphasized that projects as complex as sustainable development projects require the application of a system approach and system dynamics as products of system thinking [37]. It seems astounding that the ISO 21500 international standard, although having been issued for international project management including the management of sustainable development projects to follow its respective principles, is not taken into account as needed and is not paid sufficient attention. Instead, sustainable development projects are executed intuitively and based on local and national customary procedures, which often impede efficient problem solving within the sustainable development projects [38].

The analysis of the behaviour of current project workers—both project managers and project team members [39]—shows that these workers fail to perform knowledge transfer and accumulation of their own accord in the course of the projects and within the companies and institutions where the projects take place and are managed. Therefore, all sustainable development project stakeholders need to be recommended to support and organize knowledge management explicitly.

To manage knowledge means not only to ensure its storage and accumulation, evaluation, and further utilization, but also to organize and require continuous education of those who propose the sustainability projects and manage their execution. In particular, the analysis of causes obstructing experience sharing and accumulation has to be recommended and the established causes need to be purposefully eliminated.

Both processes, that is, knowledge and education management, need to be recommended as processes for creating learning organizations [40].

It might be debatable whether all of the recommendations mentioned in the paper can be realised, when a wide range of companies and institutions usually participate in sustainable development projects. The authors believe that the sustainable development goals that all the project stakeholders should become aware of may act as the synergic effect that should unite the efforts of all to coordinate the required endeavours.

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