PROJECT MANAGEMENT FROM QUALITY PERSPECTIVE

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Abstract: Some authors suggest the adoption of quality techniques as the only way projects and organisations, in which they are implemented, will be successful. Indeed, Morris (1999) expects a crucial change in projects as regards the *atitude a*nd fundamental concerns about the *performance.*
Morris (1999) describes quality management (especially total quality management) as a revolution, and the total quality principles will probably become the dominant philosophy guiding the best practices of project management. In addition, Anderson (1992) illustrates the positive correlation between the managerial attributes of project managers and the success of the project, the result being that if an organisation chooses the right person to administer a project from the outset, there is a lot more chance of success. It stresses that training as a project manager and, in the field of project management, is often ad hoc and carried out at work, although it should take place before an employee takes over the project manager or member of a project team.

Key words: quality, project, project quality, project management

ATTITUDES AND PERCEPTIONS

It has been recognised and accepted that the emergence of quality management has led to fundamental changes in the way organisations operate. Quality techniques have been adopted in many areas of activity, often with apparent success. However, the use of quality techniques in project management seems to have been maintained at a minimum, in conjunction with a reluctance to embrace the very purpose of total quality and continuous improvement. From this perspective, a number of reasons can be identified:

1. A project is allocated a finite period which is usually too low to implement quality techniques;
2. The project environment is one of the constantly dynamic conditions, due to the elimination of the use of techniques that depend on the measurement and modification of a finite number of variables;
3. The well-defined limits between the client, supplier, financier, user and subcontractor have generated a conflicting culture in which avoiding liability has become the main objective;
4. The use in a project of temporary multifunctional teams results in unnecessary and useless costs with training in the field of quality management;
5. The existing quality standards do not adequately support the current situations in a project;
6. Quality control and management procedures represses innovation;

7. The documentation involved in quality management generates an increase in bureaucracy.

In many of the studies, work and research dedicated to project management, the role of quality in project management is still regarded as a quality control, in other words that of elaboration and application of inspection procedures of inputs or outputs. The predominant attitude, encountered on the place of quality in project management, is exemplified by Turner's assertion (1993) Who adapted Crosby's phrase, *Quality is free* in *"Quality is free, but not in the life cycle of a project*".

From this perspective, it can become difficult to justify the implementation of a quality technique, considered beneficial for future projects when costs must be incurred from an ongoing project.

QUALITY INITIATIVES AND SYSTEMS AND THEIR POTENTIAL IN PROJECT MANAGEMENT

The focus of discussions on quality initiatives reflects the apparent potential of total quality management in project management, as identified when analyzing the potential of quality systems in the management of Projects. Three hierarchical levels of quality are defined in project management:

1. Fulfilling specifications-minimum objective to meet customer requirements;
2. Fulfilling the actual requirements – the stage in which the project provider is actively identifying and implementing the most suitable project for the customer;
3. Learning and improving based on the experience of the project – the capacity of the project, the organization and the stakeholders to generate feedback, to store and disseminate knowledge in order to increase the success of future projects.

As may be mentioned, quality becomes the subject of strategic management, so that, in order to analyse what the potential of quality initiatives offer project management, the scope of these initiatives should be defined. Thus, the key element of any quality initiative (in particular Total quality management) is SMC.

In figure 1 is examined the role of quality systems in project management, alternative methods of defining quality and the concept of creating a model for learning projects within organisations.

While the creation of a form of scope must be recognized, as in fact numerous quality definitions, there are a number of interpretations of the form that an SMC can take. From the perspective of the definition of Oakland (1994), a quality system is "*A set of components, such as the organizational structure, responsibilities, procedures, processes and resources necessary for the implementation of the total Quality management*".

It also recognises the importance of relations between different entities and how the system should be analysed in a holistic manner. Kanji and Asher (1996) define an SMC exclusively in terms of ISO 9000, describing its objective as a demonstration, for customers of independent organisations and evaluators, of the existence of an effective quality management system. What is relevant to note, in all the SMC definitions, is the emphasis on formalizing operations to ensure consistency and certainty that proper quality for the customer will be assured.

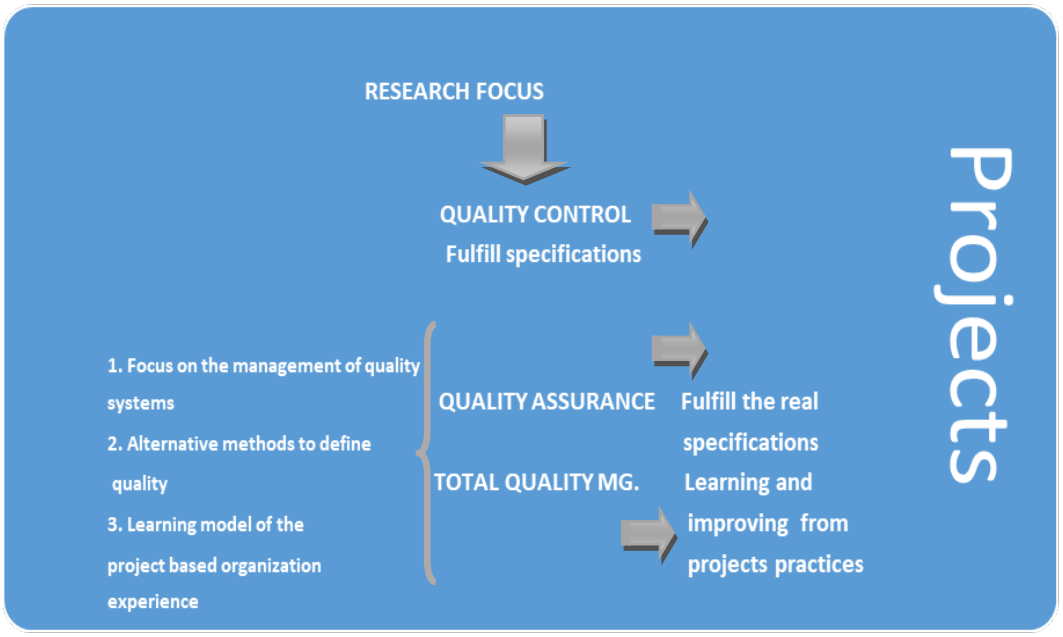

Figure 1. Correspondence between quality concepts and project definitions
(developed by the author)

Therefore, if the SMC can generate feedback to achieve consistency and consistency, the question arises whether it can work in a project management environment, which will always be characterized by a certain degree of uniqueness.

The main driving forces, which are the basis for examining the significance of quality systems within the projects, are identified, answering the following questions:

1. Generates and provides adequate feedback to facilitate the success of the Future project?
2. Reduce risk, both at the level of project and customer success?
3. It took quality systems in organisations where projects are implemented and developed but where there was no quality system identified?
4. There were no other forms, more effective, to create a quality system?

QUANTITATIVE RESEARCH: SURVEY

The current research was initiated by adopting the survey approach, including both the semi-structured interviews carried out through the pilot study and the questionnaire. Since the nature of this research has focused on exploring the actuality of the projects, understanding the context and developing it based on the opinions of practitioners in the field, the semi-structured interviews represented the appropriate approach, especially When it was considered important to know the reason why the respondent gave a certain answer and understand the attitudes and opinions behind the response (Saunders et al., 2003), developing and shaping the world's understanding Respondent (Hussey and Hussey, 1997). The questionnaire was revised on the basis of findings from the previous pilot test and study and the study of the literature, in order to test the areas of research and to order the impact levels of factors (enhancers) complexity Projects. As the questionnaire has been identified as suitable for the actions and goals presented above, it is constituted as a list of carefully

structured, well thought-out and properly tested questions, administered to collect reliable responses from a The sample chosen for the purpose is to identify what he is doing, thinking and feeling, on the subject of the questionnaire, a group selected by the participants. The questionnaire also allows to identify the variability of various phenomena, examining and explaining the relationship between variables (Saunders et al., 2003).

In this research, an online questionnaire was used, completed independently by the survey participants. It was the most appropriate choice because it eliminated the potential impact of the intersubjectivism interviewed and also the anonymity of the participants ensured that sensitive questions could be answered, such as that relating to the budget specific to a project. The included indicators in the question structure allowed different qualitative and quantitative response models. The participants were not under pressure to complete the questionnaire, which allowed the answers given calmly and, therefore, correct and balanced. The choice to use open or semi-open questions was based on the need to collect the most accurate data possible.

DEVELOPMENT OF THE SURVEY QUESTIONNAIRE

A questionnaire contains a list of clear and carefully structured questions, based on previous studies, with the aim of finding out what it is doing, thinking or feeling a group selected by participants and/or testing their relations or related to a particular concept (Hussey and Hussey, 1997). There are two types of questionnaire project, with open or closed answer questions. In questionnaires with open-answered questions, the respondent may give a personal response or express an opinion, while in the questionnaires with closed-answer questions, the respondent must select a response from the alternatives (Saunders et al., 2003). Questionnaires with closed-type questions may have a multiple-response format or may use evaluation scales, of which the most common is the Likert scale, which allows the granting of a numeric value to an opinion (Hussey and Hussey, 1997). In order to create a good questionnaire, a careful design is needed, based on a thorough understanding of research (Hackley, 2003). However, the type of scale used in the questionnaire is critical and is an important aspect taken into account when selecting parametric and nonparametric techniques.

Questionnaires are a popular method of collecting data, due to the fact that a questionnaire survey is cost-effective and consumes much less time than in the case of interviews. On the other hand, the disadvantage of the questionnaires would be the lack of response, which may affect their significant outcome (Saunders et al., 2003).

The self-administered questionnaires are usually complemented by respondents, can be distributed either by post, online, individually transmitted or to a group, while the questionnaires administered by interview are recorded by the interviewer in meetings, or through telephone discussions.

In the current research, the interviews were followed by the questionnaire, based on the recommendations given by several researchers to use the multi-method approach to understand in depth the nature of the problem. In the research were used the self-administered questionnaires, with closed-type questions using ordering scales, designed based on the findings in the interviews. They were administered not only to triangulate, validate the findings, but also to test the assumptions created.

"A questionnaire to discover customer attitudes accompanied by thorough interviews to explore and understand these attitudes" (Saunders et al., 2003).

The survey questionnaire was conducted according to the specific elements and criteria set by the Bradburn, Sudman and Wansink (2004), Brace (2008) and Saris and Gallhofer (2007).

The questions were short, in closed or semi-open form (grid). Open questions for easier evaluation have been avoided. In order to exclude the interpretation from the participants, the indicators were verbalizațied even if they were seemingly or imfixed.

In order to ensure the validity of the questions, in the development of the questionnaire, based on the four criteria:

1. Quality – to be told the truth, without mentioning declarations that are considered false and cannot be debated;
2. Style – clarity in the question, avoiding ambiguous, complex formulations and confusing expressions;
3. Quantity – providing only relevant information, requiring response;
4. Networking – ensuring that the replies provided are relevant to the objective of the research.

The questionnaire was divided into four different sets of questions, centered on complexity and management.

SET OF QUESTIONS 1: QUALITY – QUALITY-SPECIFIC QUESTIONS

The questionnaire was initiated by a set of simple questions, to draw attention and prevent inaccurate responses. Participants were asked to reflect on their experience. The objective of this section was to collect information related to the Intervievaților experience. The questions below were those aimed at achieving the goal (the question number is the same as the number in the questionnaire):

1. How do you estimate the quality of your project? From the perspective of specific criteria, areas of knowledge and the final objective?
2. Which of the quality tools do you use in your project?
3. What quality control measures do you use in your project?
4. Which of the following issues is most important in maintaining quality management in projects?

DATA COLLECTION

The data was collected online. This has ensured a total freedom of the people interviewed, the answers to questions cannot be controlled. The questionnaire was distributed to certified or certifying managers through their e-mails for a period of three months, September 2017 - November 2017. Also, the subject of the questionnaire and, to a certain extent, the thesis as a whole, was presented at various meetings of the officials of the operational programmes. Moreover, the questionnaire was also distributed through the LinkedIn platform. It was necessary to inform as many potential participants as possible about the ongoing survey, seeking their involvement. They have also been contacted by potential participants from other European countries. The survey involved approximately 500 certified or under-Certification project managers.

The closed questions, the semi-open, the classifications, provided data related to the use of complexity from the perspective of project management. First the data was numerically coded and investigated to ensure completeness. Incomplete questions have been eliminated. The codified data was imported into a statistical analysis tool, the statistical package for social Sciences (SPSS), considered appropriate for this research. The necessary

statistical analysis methods have also been identified, and a numerical coding of the consistency of the questions has been verified in the SPSS data table. Then, it went to analysis, using descriptive and analytical methods.

SURVEY PARTICIPANTS

All survey participants, in number 200, are/will be project managers, certified as such/in certification process. This was the primary criterion for selecting participants and ensured a high standard of quality in the responses. The participants were informed of the voluntary and anonymous nature of the survey, and on request the results of the survey can be given to them.

RESULTS

Of the total of 200 questionnaires distributed, 160 questionnaires were returned.

40 questionnaires were not returned open, concluding that no questions were answered.

Of the 160 questionnaires, 110 were completed in full, and 50 questionnaires (31.2%) were abandoned by participants at certain stages (pages) and some questions remained unanswered.

However, the total of 110 questionnaires, fully complemented by the participants, represent an acceptable, "valid" feedback rate of 68.8%, if only full questionnaires are taken into account. For further analyses have been used and taken into account, as **Valid feedback, only completed questionnaires**. This choice intended to maintain the integrity of the results, which could have been corrupted by the use of incomplete questionnaires.

QUALITY PROSPECTS AT THE LEVEL OF COMPLEX PROJECT MANAGEMENT

QUESTIONNAIRE QUESTIONS

These Questions have analysed the influence of quality and quality management, through its instruments, at the level of project management and their complexity.

ANALYZES

All questions have been analyzed by the descriptive statistical method from the frequency perspective to identify the number of occurrences of each instrument or appearance.

JUSTIFICATION

For starters, those quality tools used in the participants ' projects, instruments based on project quality evaluation, from the perspective of criteria, specific areas of knowledge and success (The final objective). And in this case, the reasoning was simple, aiming to answer the questions: there is a significant correlation between the stages of the quality management of complex projects and the choices made by respondents, as regards the instruments Quality? Is there a significant correlation to control measures and how complexity is administered? To give the answers to these questions, it was necessary to identify a logical relationship between these variables. Finally, the most important aspects of maintaining quality management at project level have been identified and classified, according to the role it plays for complex projects.

RESULTS

Viewed from the perspective of the quality management stages and the intended purpose, through each stage, most respondents grouped the control-specific instruments (n = 50 ÷ 58) and quality planning aimed at preventing the generation of complexity (n = 45). The frequency of responses to this question was the result of how the answers were shared, from the perspective of tools for controlling or reducing complexity. 2 respondents chose the Flow Chart instrument, while 5 respondents did not answer that question.

Case Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
$Instrumentele_ calitatii[a]	105	95.5%	5	4.5%	110	100.0%

a. Dichotomy group tabulated at value 1.

Instrumentele_ calitatii

		Responses		Percent of Cases
		N	Percent	
$Instrumentele_ calitatii[a]	Liste Verificare	58	13.6%	55.2%
	Fise Verificare	58	13.6%	55.2%
	Analiza statistica	57	13.3%	54.3%
	Grafice Control	56	13.1%	53.3%
	Histograme	56	13.1%	53.3%
	Diagrama dispersie	50	11.7%	47.6%
	Analiza Pareto	45	10.5%	42.9%
	Diagrama Fishbone	45	10.5%	42.9%
	Flow Chart	2	.5%	1.9%
Total		427	100.0%	406.7%

a. Dichotomy group tabulated at value 1.

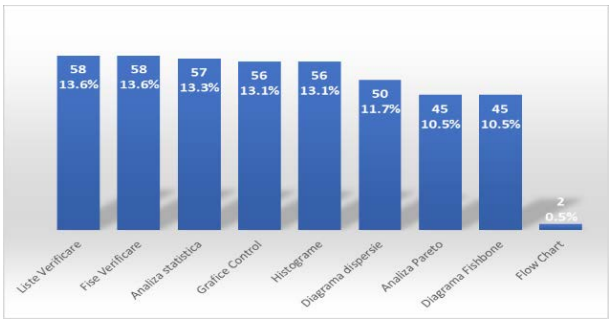

Figure 2. Quality tools used in complex projects (developed by the author)

In close connection with the mode of control of complexity, the quality control of the complex projects has also been established, through a classification of specific measures. Thus, 34 participants chose to establish quality control procedures, 20 participants chose to

evaluate tasks and responsibilities; 17 participants chose the quality of the project team and, as in all other situations, only 3 participants chose coordination with the procurement Department, as a result of the specificity of this measure, which does not fall under the influence of the project manager.

Case Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
$Masuri_control_calitate[a]	105	95.5%	5	4.5%	110	100.0%

a. Dichotomy group tabulated at value 1.

Masuri_control_calitate

		Responses		Percent of Cases
		N	Percent	
$Masuri_control_calitate[a]	Stabilire proceduri controlul calitatii	34	32.4%	32.4%
	Evaluare sarcini si responsabilitati	20	19.0%	19.0%
	Calitate echipa proiect	17	16.2%	16.2%
	Mentinere si respectare secventializare activitati	9	8.6%	8.6%
	Respectare programe si termene limita	9	8.6%	8.6%
	Colectare si evaluare corecte	7	6.7%	6.7%
	Organizare intalniri periodice echipa proiect	6	5.7%	5.7%
	Coordonare cu departamentul achizitii	3	2.9%	2.9%
Total		105	100.0%	100.0%

a. Dichotomy group tabulated at value 1.

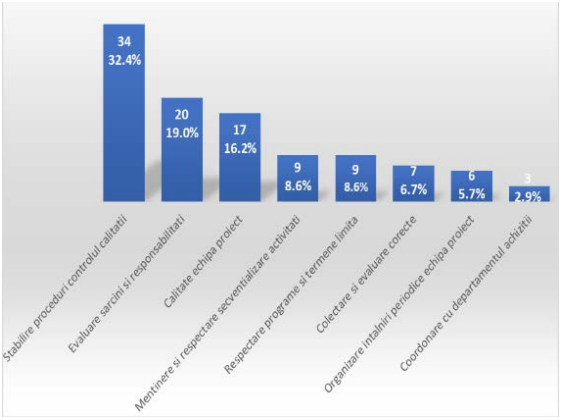

Figure 3 The quality control measures used in complex projects (Developed by the author)

The overall perspective, the importance of maintaining quality management at the level of complex projects, has achieved a classification of the most external aspects, influencing the implementation and application of the process.

Case Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
$Aspecte_Mentinere_MCa	105	95.5%	5	4.5%	110	100.0%

a. Dichotomy group tabulated at value 1.

Aspecte_Mentinere_MC

		Responses		Percent of Cases
		N	Percent	
$Aspecte_Mentinere_MC[a]	Satisfactie membri grup tinta	60	43.5%	57.1%
	Satisfactie stakeholderi	45	32.6%	42.9%
	Implicare management proiect	28	20.3%	26.7%
	Competitie alte proiecte	5	3.6%	4.8%
Total		138	100.0%	131.4%

a. Dichotomy group tabulated at value 1.

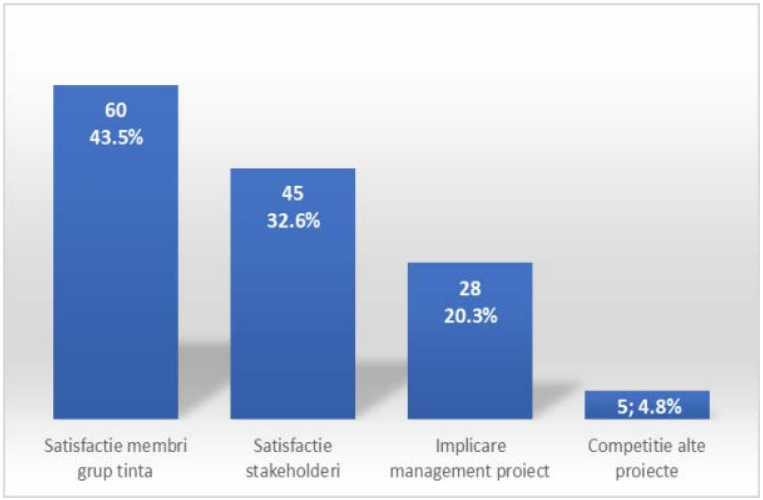

Figure 4 Aspects of maintaining quality management applied to complex projects (developed by the author)

CONCLUSIONS

The results obtained are, as previously, closely correlated with the first 3 Intensificatori/facilitators of complexity: Target group, stakeholders, communication/decision-making process. The results highlight the fact that the main aspects of maintaining quality management are generated by the fact that enhancers complexity mainly arises at the level of processes involving the target group and the stakeholders. Thus,

the project manager must ensure that, by applying quality management, the prospects classified by respondents ' replies will be continuously evaluated and controlled to avoid generating complexity.

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