PROJECT KNOWLEDGE MANAGEMENT AS A KEY CHALLENGE IN A PROJECT POLICY EXECUTION

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Abstract:
It is a conceptual paper that is supported by a case study done in a project oriented company and its subject matters are related to such business processes as project performance assessment, knowledge management, corporate governance through translating strategy into project operational goals, and finally, converting project completion into genuine business benefits. The work focuses on the particular stream of arguments that knowledge management is such an aspect of project management within a company that must be recognised as a key task by a project leader and function as an underpinning of a corporate strategy. The outcomes of the argumentation might be of a pragmatic nature to indicate a direction of managing human resources within a project community with a greater distance from specific performance evaluation tools or criteria. The main conclusion is that by reflecting the above delineated issues in the very mode there is a business value to the knowledge, namely, an opportunity to advance the HR and project administrative tools that may contribute to more effective project execution. However, since the paper is an analysis of a particular corporate environment there might be constraints to adjust the evaluated means to smaller-scale projects or some IT projects which actually are commonly based on far more rigorous patters of efficiency assessment and thus they might not need their project leaders to focus on the so-called real experience knowledge management in order to evaluate the team work.

Keywords: project management, knowledge management, human resource management

1. INTRODUCTION

In the project management reality, on the one hand, there are still prevailing issues with tight baselines, schedules or creeping scopes that are patched by applying gradually more rigid methodological tools and, on the other hand, there leak in the most current economic concepts related to imperfect knowledge, fuzzy reality and behavioural interpretations. With time and experience of project handlers in the corporation this case study refers to, it becomes vivid that, after having applied advanced methodologies, the real challenge for a leader is to make the project knowledge circulate in the most efficient way, however, with the most attention to the source of authority (Wallace, Fleet Van, Downs, 2010).

There has been done a case study buttressed by data collection and surveys among project stakeholders within a particular company executing both programmes and portfolios. The analysis provided persuasive arguments for the notion that it is more than justifiable to put knowledge management being an aspect of corporate project management in the main focus of a project leader. Significance of managing knowledge is justified not merely on the basis of the fact that nowadays "organisations have great amount of data and information" (Ghorbani, Hajinezhad, Zadegan, 2012). The outcomes are of a pragmatic nature and they indicate a direction of managing human resources within a project community. Moreover, there is a conclusion concerning ways of adjusting particular project methodologies in order to satisfy the higher knowledge management demand. By reflecting the above delineated issues in the very mode there is a business value to the knowledge, namely, an opportunity to advance the HR and project administrative tools that may contribute to more effective project execution.

2. KNOWLEDGE MANAGEMENT

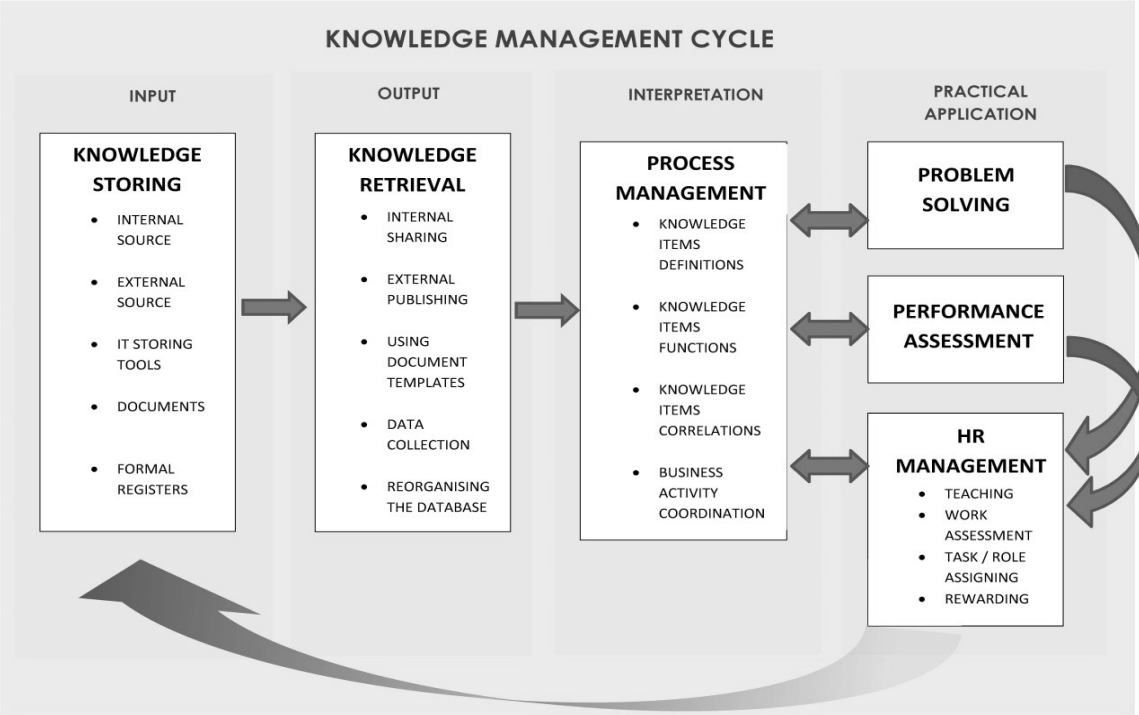
Knowledge management is a building up process of systematic compilation of significant data (explicit input) and a constant and overlapping revision of good practices (tacit input) collected in the course of the experience. A conscious and purposeful knowledge management has its two basic phases: the first one is most commonly focused on applying tools for collecting and retrieving it and the further one, the so-called second generation knowledge management, lifts the concept of managing knowledge onto a higher level of a social outgrowth and feeds the process of constant organisational learning (Morcos, 2006). What is more, there is an objective that when well managed corporate knowledge shall be self – nourished and that eventually it becomes the inner and unique for the certain firm process quality standard (McElroy, 2002).

The first level of knowledge management scales to gathering, codifying and distributing data within one business process (Firestone & McElroy, 2005). The second stage encompasses a flow of knowledge items input, synthesis, evaluation, providing feedback, creating a teaching platform (in any form, not only as an IT tool) and finally integrating the given knowledge community (it could be the whole organisation or a single project team). Figure 1 pictures one of the ways of looking at the second generation knowledge management. There may be numerous similar views regarding the notion as the actual execution of the particular stages or the waves of the knowledge flow are specificities of a company (Krogh Von, Ichijo, Nonaka, 2000). At the first stage of knowledge input, information is simply absorbed from within or beyond the organisation and stored in various forms, mainly in documents and other formal registers which are archived by various IT tools. At the data output phase, pieces of knowledge, such as given data or document templates are retrieved for the purpose of sharing or an analysis that frequently requires reorganising the items. However, the common position is that this more advanced knowledge management style starts to thrive at the point where the first generation knowledge management is completed, namely at the level of output. It is then when a creative modification of knowledge occurs and by defining the knowledge items, their functions and correlations it becomes possible to coordinate a firm's business through the lens of managing its processes (Wysocki, 2013).

Finally, upon mastering process management, an organisation can make use of it as a reference frame for solving problems or as a quality pattern which is a foundation for performance assessment (Malhotra, 2000). The three aspects of knowledge management: processes, problem solutions and performance assessment may feed such elements of human resource management as teaching / coaching, an individual employee's work assessment, the basis on which tasks or roles are assigned or bonuses are earned. The three are at the same time a source of feedback to the process

management level as well as to the very initial intake of information items (the input stage) which are antecedents of the later process of transforming data into the knowledge management flow (Cristea & Capatina, 2009).

Figure 1: The second generation knowledge management



Source: the authors' own elaboration - loosely adapted from the Knowledge Life Cycle by Executive Information Systems, Inc. and Mark W. McElroy and The Three-Tier Framework by Joseph M. Firestone and Mark W. McElroy (Firestone & McElroy, 2005).

Regarding project knowledge, there emerges another aspect, namely the fact that one of the major project targets is moving the organisation forward, either by some form of innovation or by a pure expansion. Thus, project management particular focus is on those aspects of a project execution that are especially linked with being progressive, because sustainability of the so far good practices and polishing the satisfactory status quo in a project environment simply does not suffice. By most project methodologies knowledge in managed in diverse manners: by stakeholder communication plans, experience registers, quality configurations etc. The marking of project knowledge management in comparison to corporate knowledge management in general is that the eventual feedback at the general organisational level often occurs in the second place as the priority is enhancing the project team. In a project environment, all managerial activities are devices to keep the project progress at the desired pace (Laslo & Goldberg, 2008). Therefore, a project leader is not in a position to mind the stream of knowledge merely for the sake of its quality.

And here looms the paradox, while on the one hand knowledge management is of a marginal rank for a project leader when compared with project tasks, on the other hand when the leader loses a close touch with this area, especially when there are obstacles in the project execution, it might be additional fuel to project risks. The manner in which the described here paradoxical situation may occur will be detailed later in this paper, because the trigger for such an occurrence is the very common aspiration of almost each project manager when faced with delays or discrepancies in the scope to get a firmer grip of the project performance criteria, to either expand or concentrate project roles or to lift the complexity of the project tools (Avram, 2005). All of these are justified, apparent and tactical, yet they should be undertaken, if ever, with a considerable distance and viewed through the prism of knowledge management in order to avoid managing the tools and criteria instead of managing the project works, while the tools and criteria shall remain as invisible as possible.

3. THE TOOLS, THE ROLES AND THE CRITERIA

When a project gets rough a project leader tightens the criteria, advances the tools and puts more pressure on the roles. It is somehow an automatic procedure, especially at the times when quality management awareness has become a common corporate knowledge and when patterns, standards and key performance indicators are the first resort to monitor accomplishments and they at the same time serve as a solid foundation for managerial decisions (Wellman, 2011). In the corporate environment the more legitimised and veridical the justification of a ruling, the more willingness to issue it. In a project environment the commonplace proposition is that the greater, the more expensive and the more important the project, the more rigid the formalities and the more strict the requirements referring signing off. In order to explain the two major and diverging directions, one to tighten the criteria, the other to drive the attention to the intangible aspects of management, it is worth taking a more remote standpoint of what has been observed in economics in general. Strictly speaking, there has been a vivid urge for precision in planning and forecasting the outcomes of the schemes at the same time, there has been a revival of applying indefinite, flexible of behavioural methods to the areas which had previously been associated with the opposite approach, such as stock market projections or project management.

The group of advocates and enthusiasts of such forecasting and managerial devices as neural network computing or learning, Monte Carlo, simulation modelling and other aggregate ways of risk estimating and finally total quality control, has been gradually rising in number. Currently, there is a tremendous range of financial products on the market and they take advantage of so many aspects and use so many variables that it becomes extremely difficult for a single financial specialist or a commercial institution agent to assimilate all of them. For the same reason, the sum of financial professions available globally has tripled in the last twenty years. We have been becoming progressively more specialised, detailed, precise and diversified. It is as if along with the ongoing technological development, there was a growing aspiration to act in a more standardized and perfunctory manner.

Interestingly, while the majority of the global market participants do strongly believe that the pace of technological advancement and the rate of innovations have either been maintained at the same high level or have even accelerating with time. So, in search for a reliable explanation of the sources of the liking of rigidity and fixedness in the economic, business and project realities, it helps to take in account the psychological aspects of planning, projecting expectations and decision taking. Assuming that the expectations influence the outcome (Phelps & Frydman, 1983) not only among stock market participants, but apparently among project stakeholders, too, there lies the logic that the more stable roots of such expectations (for example, detailed baselines, specific risk management patterns, performance models etc.), the greater the conviction that all those forecasted outcomes are under a tight control. Nevertheless, the leaks of psychology, chiefly its behavioural facets, into economics and business sciences, planted the concepts that for the benefit of management, especially the one which deals mainly with human resource and whose results rely heavily upon people, it is commendable to display a flexible and compliant character.

People's essential nature attracted the attention of economic scientists; inter aliae, of Roman Frydman and Michael Golberg, the authors of Imperfect Knowledge Economics, who neglect the trust in the rational expectation hypothesis and all its refined devices for estimating the future result, indicating the current status and deciding very precisely where each agent's role shall have its boundaries. But it is not the rigid criteria or the fixed models, regardless of their complexity or sophistication that either brings a project out of a critical issue or considerably influences a project team work so that effectiveness of the team's performance conveys enhancing the chance of a timely completion. Quite the contrary, overconfidence in instruments and overlooking the human factor and the knowledge context, are the grounds for a critical issue alone and may lead to a severe misinterpretation of data analyses or to an omission of a key player among project specialists.

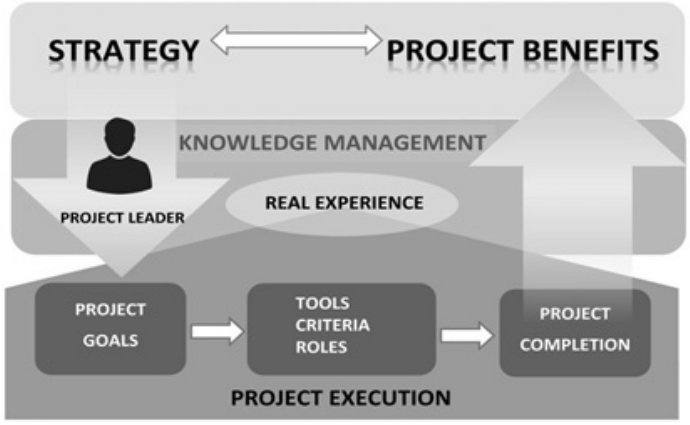
4. PROJECT BENEFITS

When a project is managed from the perspective of knowledge, and especially, the project leader's focus is on the real experience, then the project success is not just the project completion but fulfilment of the project benefits, which ultimately fuel back the company strategy. A common misconception is that a project ends with the delivery of the final project's operational goals. In most cases, it is indeed a critical point in the project's completion, since deliverables are the basis for clearing the main project measures, in particular, the financial ones, which are also the common basis for freeing the project manager from responsibility (Liebowitz, 1999). According to the standards of project management methodologies, the convention is that one of the last milestones of a project schedule is a project leader's handing in all the performance registers and other investment documentation. Moreover, there is a clear division of objectives and obligations between a project manager and a sponsor, who in most business environments is the higher level of a corporate management that is also by most methodologies, outside the project. Additionally, a project team is resolved upon completion and whatever insight they might have had into the enterprise targets, the whole responsibility for determining that the project outcomes overlap with the strategic territory (Alavi & Leidner, 2001).

It might be that the whole guidance scheme does not show in the summary of one project's deliverables. Such a view may require the perspective of a program or even a portfolio. However, regardless of the scale of project undertakings, there is some analogy between the main objectives of a project and its so-called operational goals and deliverables on the one hand, and an organisation's strategic policy, project portfolio or programme arrangement and single project benefits that are either delivered or that just occur after project completion. The analogy is that in both cases there are three levels, the most general, which is an image of the environment in which a company will eventually be when the whole plan is fulfilled; the second is the operative level, at which the zoom is on the SMART-type (specific, measurable, available, realistic and timed) constructive targets, the third one is particular project deliverables of which each is a complement of the first level, general vision of the desired destination (Joosten, Basten, Mellis, 2011). In both scales, there is a circulation flow from the top, down the narrowing-down, specifying funnel, and back as a final confirmation and support of the imperative frame.

To get to the root of the issue, there is the concept of extending management of the more administrative kind, whatever its type, the project or knowledge or human capital one, to tactics, which is generally interpreted as a more specific method of taking decisions, allocating resources and projecting the future. In other words, it is less of a process of satisfactory corporate status-quo maintenance, but a conceptual arrangement of concluding a particular business process at a defined point. On that account, there is this peculiar challenge towards a project leader to be inside the project team and keep the viewfinder on the project's substantial deliverables, which are rendition of elements of the strategy, while, at the same time, to keep the distance from the project tools, criteria and refrain from the temptation to constantly rigidify the roles when the project does not go as smoothly as expected. A genuinely onerous responsibility of a project leader is to translate the real experience together with the stipulated deliverables and measurable performance indicators into authentic benefits to instil them back into the overall strategic policy (Grant, 2007).

Figure 2: The Circuit of Strategic Goals and Project Benefits in a Project-Oriented Company



Source: the authors' own elaboration.

5. PROJECT AND KNOWLEDGE MANAGEMENT AS A STRATEGY REINFORCEMENT

The company is a gas transmission operator and its main line of business activity is a process of maintaining the flow of resource by managing pipelines and selling transmission services. However, the organisation's policy is tightly connected to the polish government's strategy regarding the energetic market development and integration that reach beyond the national borders and is in line with the European plans to achieve greater energetic independence and promote sustainability and equality in access to the resource. What it means in practice is that pressure on pushing the organisation forward to meet the contemporary market requirements is not only visible but it also directly affects how project teams are organised and how knowledge is managed and selected with reference to the strategic objectives.

The experience of the organisation being the case here is such that its business objectives constantly and with no suspension verify managerial devices, especially the ones which relate to the indirect aspects of the corporate culture, such as knowledge (Turner, Keegan, Crawford, 2000). There are over two thousand employees organised between ten divisions located around the whole territory of Poland. In each of the divisions there is a hybrid of linear responsibilities and temporary project roles. To some extent it is a matrix organisation, combining internal temporary structures and a regular scheme, however, the intensity and load of the project side duties is not equal for all the divisions although each of them is a stakeholder of most projects carried out by the company. What is more, regardless of whether a particular project is executed outside a particular unit or with cooperation of a given team, there are a few levels of knowledge management. There is the first-hand project team knowledge circuit which feeds back its direct division. But, there is also unification of the bottom knowledge into a common experience shared and taught further among employees through various channels, not only retrieving the desired solution to a given problem, but also redefining the knowledge capital by a constant revision of its compliance with the further steps in the company strategic development.

There has been done an analysis of various projects roles in different projects executed in Gaz-System. The purpose of such an analysis was to compare the project success factors that are most commonly referred to in project management knowledge sources with the specific project roles in this organisation. Furthermore, the aim of such study was to test the assumptions of the given success factors against the real influence of particular project team members and their detailed responsibilities on the project success understood not just as a mere completion or the ability to precisely follow the baseline, but as the ability to translate the project benefits back into the elements of the corporate strategy. Since the company has implemented a unified project management methodology, the project roles that are assigned comply with the incorporated standard, however, there occur differences between detailed role descriptions in various divisions.

The greatest volume of implementation of managerial devices in the company directed at project execution occurred at a point in time when there had been used a specific project methodology (based on PMBoK, but customised to the requirements of the company's environment) and a new strategic project had been launched. It was two years in the project when knowledge and criteria management were adjusted to the project performance assessment results. The results helped form conclusions that became the foundation for this paper's theses regarding knowledge management, project assessment and the corporate strategy execution (Söderlund & Tell, 2011). Based on the real experience refined in the process of knowledge management, there have been taken a number of steps taken towards loosening some project role requirements in order to give some room for teams' self-organisation and to allow for more flexibility, which in fact means a greater burden of an individual's responsibility.

At the same time project managers' attention has been dragged away from managing the tools as tightly as it had been before. There have been created two additional roles that are on the verge of project roles and the so-called functional ones (linear corporate process tasks). The roles are the one of a project criteria coordinator and a contract manager. The first one took over the weight of monitoring and regulating project performance criteria from the conventional list of a project leader's responsibilities. In turn, the person's deliverable to the project leader is focused on the essence of the comparison between the criteria and the physical progress of the enterprise. The role is a mixture of a data analyst (schedule, budget, quality, time intervals, various interpretations of progress) and a

project manager, who decides on how detailed the analyses are and what directions the tools follow. The second role, a contract manager, is exclusively responsible for monitoring the threats to the contract completion. Furthermore, it is not just regular risk management, but a selection of three main (depending on a project) contractual aspect or stipulations that need not to be violated. These are related to the following: financial security of the project (assets are risks-weighted and managed accordingly), process continuity (procurement, communication, delivery chains etc.), and decision points and sequences (both the inner and the outside the project institutions). A contract manager minds that there is an unconstrained course of tasks and secondly that whatever happens to the contractor, the subcontractors or in general, the direct project executors, there is a liquid flow of the project into different executive hands in case of the extreme scenario.

Again, creating the two described above roles was an outcome of comparing common project success criteria with the conventional roles in the given methodology and the performance assessment of the particular projects carried out in the company. So it turned out that by this addition to the roles it was possible to achieve a more condensed input into the knowledge archive and move the burden of some of the criteria between the roles. What is important here is a concepts that supports one of the main theses, namely the fact that with such reorganisation of roles and criteria, a project leader has possibility to manage the real project experience, especially in times of obstacles in the project execution. It also revealed that there is no need for the project manager (or there is less need) to tighten the criteria, but to have a better angle at knowledge and the ultimate post-project benefits.

The next phase of the evaluation of the flow between projects carried out in Gaz-System was twofold, from the perspective of knowledge and corporate strategy. The purpose of this review was to confirm that the project portfolio does not divert from the five pillars of the main vision. Regardless of the common practice of orchestrating fixed and comprehensive models, which is exactly what commonly happens to a project team when there is a need or an authority expectation to push the execution forward, the evaluation was done against basic objectives of how strategic knowledge can be shaped by project experience.

The results were that the organisational scheme was enhanced by an additional unit with the objective to mind the provision of project benefits and the way projects are arranged within programmes and portfolios, so that there is greater efficiency of their execution, and, above all, there is a richer input into the employees' real project experience. The essence of the challenge is being able to retain the project real experience in focus and lead the project team in a way that the experience can gradually be enriched and is also edible for the rest of the organisation to learn from.

Another crucial aspect of the process was that particular knowledge management devises that had been widely used within the organisation were divided into the project-type and the non-project type. While the latter was affiliated with managing and modelling business processes, the former became a forecast of the company's destination. Finally, there has been an analysis conducted among all employees in order to investigate the level of embeddedness of the strategy and how it changes between various levels of the human resource hierarchy. The findings allowed to confirm that with a more flexible approach to defining project roles and a greater individual responsibility of some specific players (especially the ones who have the opportunity to decide on the success criteria and the shape of knowledge about particular project practices) there comes a higher level of project performance efficiency (Liebowitz, 1999). Such performance was assessed on the basis of the project performance efficiency criteria presented in table 1 below. What is crucial when analysis the criteria is that they need more of a qualitative insight than a quantitative one, bearing in mind that the key distinguishable characteristics of any project are its uniqueness and temporality. Thus, assessing the levels of strategy reference, knowledge management contribution or the end user's involvement in the project execution might only be performed through registering the depicted here real experience (White & Fortune, 2002).

Table 1: Project performance efficiency criteria

1. The actual physical output in relation to the resources allocated
2. The level of reference to the strategy
3. The number of changes to the tolerance levels (budgetary and time)
4. The heaviness of documentation involved
5. The range of stakeholder influence
6. The level of complexity (complementary elements, stakeholder diversity etc.)

7. The total weight of risks (in relation to the critical issues)
8. Regulatory burden – tightness of performance criteria
9. The time of delivery of the first benefits in relation to the overall project time requirement
10. The level of value added contribution
11. The level of knowledge management contribution
12. The level of external knowledge support (e.g. consultancy service)
13. The level of engagement of the end user

Source: the authors' own elaboration.

6. CONCLUSION

The essence of the case study that has been elucidated in the hereby paper in the few following theses. First of all, in a project-oriented company, a corporate strategy should be correlated with its project in the form of project operational goals. On the one hand the premise might seem somewhat obvious since it is common knowledge that projects are vehicles of advancement. On the other hand, the idea is a reminder for project portfolio authors and strategy managers to maintain the appropriate lens when launching a project and especially when hiring and assessing the performance of a project leader.

On the basis of the given firm, it also appeared that it is an imperative to engage a prospect project leader in activities related to strategy evaluation, moderation, project knowledge management contribution to the strategy and, most importantly, determining that project benefits overlap with particular elements of the strategy. In the delineated above manner, there emerges a circulation of objectives to fulfil that spread through the three levels: the top management strategic view, the perspective of knowledge management and the level of a project execution. The second thesis in the paper is that, the middle level, between the general vision of the company's development and the genuine project undertakings, is in fact the very place for a project leader to have the superior outlook at the project performance and at the most demanding challenge, which is guiding the real experience, the most crucial aspect of knowledge management. The third thesis put forward here is that when project performance is declining and there is the automatic and intuitive ambition to put a greater emphasis on and tightening criteria, tools and roles, the most recommended course of action would be refraining from following the inclination to do so. Instead, it seems more beneficial for a project performance efficiency to move the burden of administering specific tools and criteria to a specialised project role with the provision that such roles should be given more freedom and flexibility to decide in order to create a desired level of responsibility (Iranzadeh & Bahrami, 2013). When unrestricted to decide, people exhibit more sensibility and carefulness plus they engage more in the enterprise, which in a project reality is priceless. Finally, the fourth proposition in the paper is that the final and most vital assessment of a project should not be upon its completion, but it should be attempted from the prism of how much the project benefits conclude at the initial strategic level and also whether and to what extent such benefits have the capability to feed or even advance the strategy. The experience of project and knowledge managers of the organisation being the exemplary case here may be regarded as confirmation of the few common current notions in project management trends, such as the shift from rigid management devices to managing through knowledge, real experience and the so-called best practices (Wellman, 2011). The concepts presented in the paper might as well function as a narrative about a perspective on project methodologies and their application for specific needs and in particular environments. The ultimate message derived from the narrative is that the principal target ought to be the interactions on the axis between the strategy and project benefits, while project criteria are role defining are of minor importance for a project leader if the project leader responds to the challenge of contributing to the company knowledge management and major development goals through the project real experience.

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