Knowledge, trust, innovation – the new view on project team management

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ABSTRACT

The goal of this paper is to present a concept of connections among knowledge, trust and level of innovations in project teams. Author presents: "the trust matrix" and conclusions of influences in project team based on Project Life Cycle (PLC) and Group Life Cycle (GLC).Because project team is a group of individuals, author add two more theories to achieve complete picture of group characteristic. "The Group Theory", which describes team members personality types. "The Competences Theory" based on: tacit knowledge, explicit knowledge, personal characteristics.

Keywords

Tacit knowledge, explicit knowledge, trust, innovations in project teams, The Trust Matrix, Project Life Cycle (PLC), Group Life Cycle (GLC), team members personality types.

INTRODUCTION

In the literature focused on management, especially project management, there is a lot of advises and definitions of project team management, knowledge management, innovation management and PLC. But, impression can appear that all subjects mentioned above are analyzing separately. In practice that is performing in the same time and place, it's "one reality". Project Managers must solve problems caused by all of above factors. The goal of this paper is to present a concept of holistic analysis of processes existing in project teams. It's the base for research focused on finding new methods and techniques for Project Managers.

THEORETICAL FRAMEWORK

Project – definition and factors

According to T. Kotarbiński [7] "the enterprise it is composed, multi-object acting, realised based on plan, which because of its level of complication is prepared by using a special methods".

Each project is the enterprise with following features[10]:

a) Task – each project is established because of special tasks,

b) Inimitable – there are no two equal projects event if their tasks are equal,

c) Complexity – different people from different places, professions, organizations are involved in one project,

d) Boundaries – in every project there are certain boundaries of time, costs, resources and requirements,

e) Autonomy – project is always new and not routine action in organization,

f) High level of difficulty and risk.

According to managerial point of view the most important project factors are:

a) requirements – final good features,

b) time – project deadline,

c) costs – project budget.

Above factors are the resource of project discipline and continuous pressure for Project Managers and Project Team members.
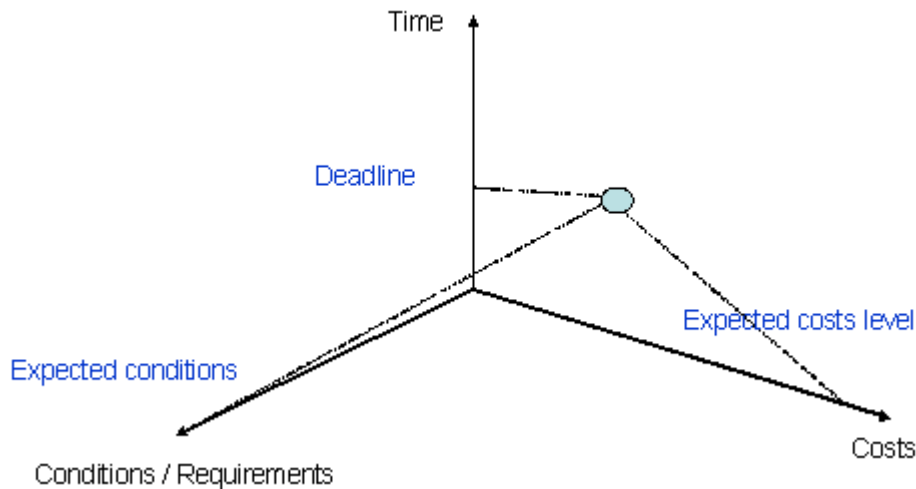

Fig. 1 Basic Project Factors[8]

Project Life Cycle (PLC)

Among variety PLC models, this article bases on presented below[2]:

1. Phase I – Analysis,
2. Phase II – Project,
3. Phase III – Construct,
4. Phase IV – Testing,
5. Phase V – Implementation.

Project Team – particular features, competences, Life Cycle

As mentioned above, there are no two equal projects, so there are no two equal project teams. Even if we involve for new project the same group of people, they will function in different way because of new project environment, features of final good (product), but mainly because of Group Life Cycle. The basic features of project team are:

a) Inimitable – team is organized for project and act in specific environment,
b) Temporary existing – team exist in certain time (project time) and do not work in a typical working hours,
c) Complexity – different people from different places, professions, organizations are involved in one project,
d) Dispersal – very often team members work in different places of city, country, even world,
e) interdisciplinary – team members specialize in different subjects and areas,
f) horizontal team structure – low level of hierarchy.

Because of above features, it's very important to complete team members carefully and professionally. Project team must be efficient and responsible for its work. But, team it is a group of individuals. Each person has its own competences, which can be divided into three parts[3]:

a) tacit knowledge – beliefs, values, viewpoints, intuition, uncodified routines, etc.,
b) explicit knowledge – this kind of knowledge can be embodied in a code, or language; the code may be words, numbers, or symbols like grammatical statements, mathematical expressions, specifications, manuals, etc.,
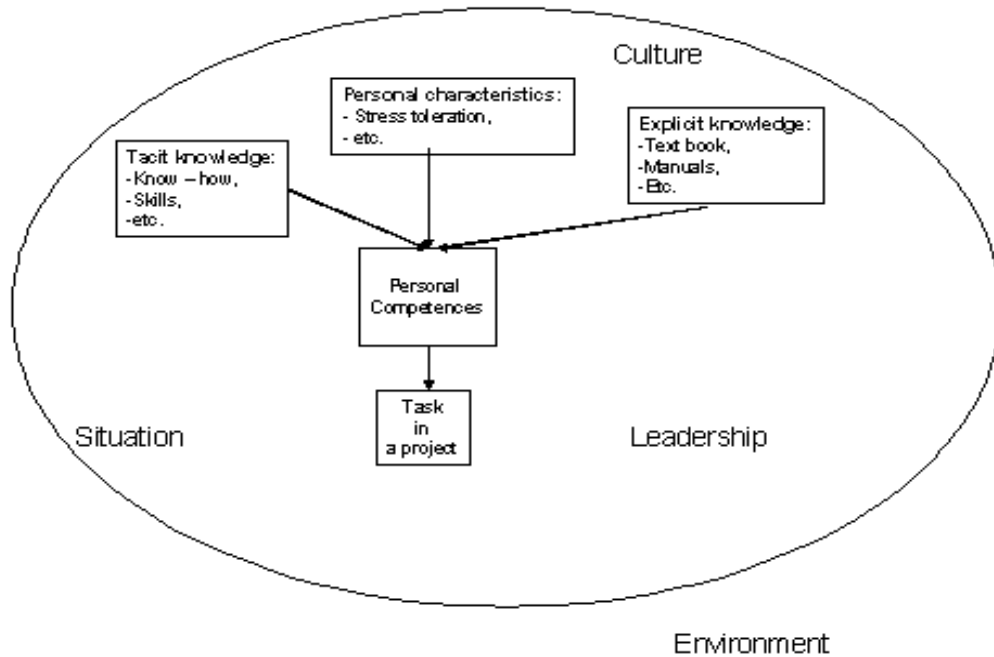c) personal characteristics – such as stress toleration, motivation, sense of humour.

Fig. 2 Personal competence [4]

It is recommended to involve below personality types in a project team:

Role	Typical features
The Organizer	practical, systematic, changes plans and ideas into practical solutions
The Leader	sensible, goal-oriented, extroverted, knows each member of the team and tries to make them efficient
The Implementer	impatient, assertive, extroverted, makes things really happen
The Idea Person	intelligent, expressive, suggests ideas and new solutions, not good at details, likes challenges
The Spy	curious, selectively gathers information about what is going on outside the team, gathers useful and interesting things
The Judge	objective, emotionally not involved, analyzes problems, evaluates ideas, very reasonable
The Integrator	supports members of the team, predicts and resolves conflicts, creates a bonding atmosphere on the team
The Perfectionist	everything must be on time and of the highest quality, checks every detail of the plan

Table 1 Personality Types in project team[11]

The main difficulty is to complete the team which will be efficient (to create natural ability of cooperation and synergy). But, professional recruitment is not a guarantee of successful team functioning. Manager should know and understand Group Life Cycle. Basing on this knowledge he/she regulate and stimulate group activity (i.e. predict conflicts) and do not expect that people will work all the time on the same level of efficiency. He/she should not blame one person, but he/she should see the whole team.
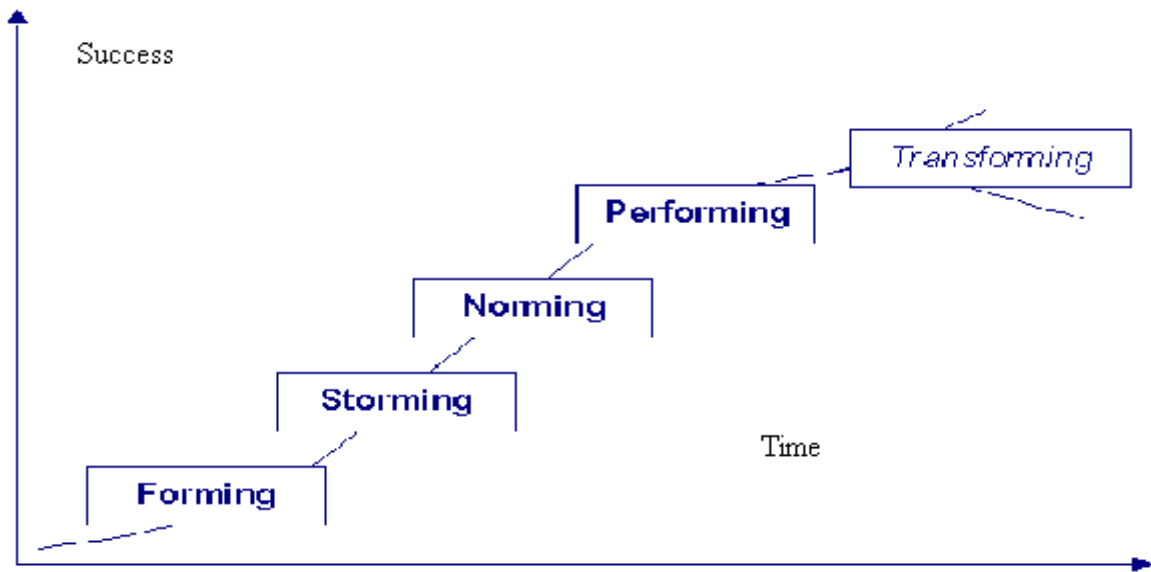

Fig 3 Tuckmana Group Life Cycle[1]

Phases description[1]:
a) Forming:
- a. each member understands project tasks in different way,
- b. low level of trust, people are not opened and pay attention on their words, they start to know each other,
- c. personal targets are not connected with group targets;
b) Storming:
- a. first conflicts appears (problems of targets, leadership, rules of behaviour, viewpoints),
- b. high temperature of contacts and activity,
- c. members may not believe in success;
c) Norming:
- a. members create new rules of cooperation and team values,
- b. member have the same, clear vision of project target,
- c. members work according to established rules,

d. they learn how to work together (it's easier for them now, because they have known each other as persons, not only as employees);

d) Performing:

    a. members identify with targets of project,

    b. higher level of trust and openness,

    c. maximum level of efficiency and work satisfaction;

e) Transforming:

    a. members look for new (own) targets and rules,

    b. members look for new roles in project.

Trust in project team

In presented above group evolution, word "trust" is underline as a factor of group cohesion (level of integration). "Trust" is defined in such options[9]:

1) if you trust somebody, it means that you entrusted her/him i.e. your business, mysteries, because you are convinced that she/he will not deceive or hurt you,

2) if you trust some person, company, promises it means that you believe that what they say or write is true,

3) if you trust something, i.e. advices or products it means that you think they are good and you can use them,

4) if you trust somebody's skills or abilities it means that you are convinced that she/he realy has these skills or abilities and she/he will achieve what she/he promised.

Relating to project teams K.U. Koskinen[6] presents below forms of trust:

a) deterrence-based trust – „I trust my employees because they know that if they do something wrong they will be released",

b) role-based trust – „I trust him, because he is a Director of IT Company, so he knows everything about computers",

c) knowledge-based trust – „I trust her, she studies finances, so she knows everything about taxes",

d) identification-based trust – „Our engineers know more about engineers from your company".

But subject of trust is not so simple. If we realize that team members are emplyees of different companies, branches, departments, etc. we conclude that there are many levels and points of trust. For example if we analyse a project that:

▪ we have Delivering Company and Receiving Company,

▪ in this same project are involves two teams (Delivering Company Team and Receiving Company Team),

we can create "Trust Matrix" and observe where trust can be lost:

	Delivering Company Team	Receiving Company Team	Project Manager of Delivering Company Team	Project Manager of Receiving Company Team	Chiefs of Project Manager of Delivering Company Team	Chiefs of Project Manager of Receiving Company Team
Delivering Company Team						
Receiving Company Team						
Project Manager of Delivering Company Team		Does Project Manager of Delivering Company Team trust Receiving Company Team?				
Project Manager of Receiving Company Team						
Chiefs of Project Manager of Delivering Company Team						
Chiefs of Project Manager of Receiving Company Team						

Table 2 Trust Matrix

 "Trust Matrix" helps to identify points where trust will be lost, so points where transfers of knowledge, information, innovation will be impossible (stopped).

Innovation

Innovation means "something new, better, more efficient, create and improve", i.e. new way of doing something, new way of organizing, etc. Innovative thinking can be used on different areas of human activity. There are few types of innovation[12]:

1. Technological innovation – new products (goods) and processes, technological changes and improvements in products (goods) and processes;
2. Organisation innovation – new way of organizing sale, distribution, store and cooperation with another companies. This kind of innovation may have two forms:
   - <u>Not connected with technological innovations</u> – just made for better resources utilisation,
   - <u>Connected with technological innovations</u> – necessity of adjusting organisation to technological changes.
3. Marketing innovation – new way of product view, packing, market positioning, promotion and price strategy.

Leading project managers often deal with all mentioned above types of innovation. That is why innovation is straight connected with every phase and process of project.

KNOWLDGE, TRUST, INNOVATION – NEW VIEW ON PROJECT TEAM MANAGEMENT

Because there are no two equal projects and two equal project teams, it is obvious at the that beginning of every project manager faces the first phase of:
- Project Life Cycle (PLC),
- Group Life Cycle (GLC).

The question is: how to manage a project team to avoid negative influences of both cycles? Manager can not expect that phases of PLC and GLC naturally follow in the same time. Project manager must control and stimulated level of communication and trust, transfer of knowledge and innovation on the each stage. The common effects listed below.

Phase of analyse

If it is possible Forming should precede phase of analyse, because team should start working as a integrated group of people. Forming could be organized as a training, integration event, meeting. In practise, Forming and Phase of analyse are in the same time, so it may create negative effects for further activity.

Knowledge	Trust	Innovation
Team members identify gaps of: - tacit knowledge – previous job, previous projects, positive and negative experiences, intuition, who "feels the market/ subject", - explicit knowledge – members education, who is specialist, who knows necessary rules, manuals, datas, etc.	People try to: - know each other, - find a common language, - understand their roles, tasks, group position	Manager should explain every clearly roles, targets, tasks. Personality types which should be activate in this phase: - The Perfectionist, - The Spy, - The Organizer

Phase of projects preparation

Knowledge	Trust	Innovation
What should be underline on this stage: - tacit knowledge: fancy, intuition, imagination, - explicit knowledge: knowing every formal documents and legislations connected with the subject of project (law, technical and quality norms).	If this phase covers Storming, Project Manager should let team create solution itself. She/he may only suggests main directions. Creative meetings can be one of the best opportunity to integrate a team. On the other side this is the best test of team integration, cooperation, level of criticism.	Personality types which should be activate in this phase: - The Idea Person, - The Spy, - The Integrator

Phase of construct

Knowledge	Trust	Innovation
What should be underline on this stage: - tacit knowledge: skills and previous experience, fancy - explicit knowledge: it is important to check if team members received and acquainted every formal documents and legislations connected with the subject of project (law, technical and quality norms).	The high level of trust decreases level of: - criticism, - intentional delays, - formalisation (formal contacts).	Personality types which should be activate in this phase: - The Perfectionist, - The Judge, - The Organizer.

Phase of testing

Typical for this phase is intensification of different kinds of conflicts between every parts involved in projects (team members, managers, chiefs, companies). It is caused by higher level of project factors pressure.

Knowledge	Trust	Innovation
What should be underline on this stage: - tacit knowledge: ability of prediction (based on intuition and experience)	The high level of trust: - helps to avoid hiding mistakes, - helps to avoid frauds,	Personality type which should be activate in this phase: - The Perfectionist

what and how check, what is the final user typical behaviour, where are the weakest point of construction, - explicit knowledge: deep knowledge of formal documents and legislations.	- decrease formalisation (formal contacts), - decrease possibility of intentional delays.	

Phase of implementation

Knowledge	Trust	Innovation
What should be underline on this stage: - tacit knowledge: ability of prediction (based on intuition and experience) what and how check, what is the final user typical behaviour, where are the weakest point of construction, - explicit knowledge: deep knowledge of formal documents and legislations.	The high level of trust: - guarantee quick reaction in case of breakdown, - helps to avoid hiding mistakes, - helps to avoid frauds, - decrease formalisation (formal contacts), - decrease possibility of intentional delays.	Personality types which should be activate in this phase: - The Implementer, - The Organizer

SUMMARY

Article not presents the whole subject, of course. It is only introduction to deeper searching by presenting basic assumptions and theoretical framework. The most important task of this paper is to underline that project team management means stimulate group processes, and by this kind of management achieve efficiency i innovation in the each phase of PLC and GLC.

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