International Project Management Association (IPMA), World Congress 2008, Rome

Projects as difference – towards a next practice of complex project management

Markus Koerner
(Managing Director, AGORA Associates GmbH, Faellanden, Switzerland)

Dr. Louis Klein
(CEO, Systemic Excellence Group, Berlin, Germany)

Abstract
"Projects fail on the people side", may be a quote to highlight the *background* and the case for action of our approach. We should be able to improve project management performance, if it was possible to find ways to refer to and manage this "people side" of projects. Our *aim* is to share some theoretical insights that helped us improving the practical performance of project management in the context of international development aid. The most adequate theoretical approach to understand the "people side" of projects and to deal with not only social complexity but with complexity as such seems to be Niklas Luhmanns Theorie of Social Systems. It provides theoretical inside that allows deriving *methods* of systemic reflection based on distinction theory rather than on concepts of unity. Doing so leads to substantial improvements in managing projects. And this refers not only to the inner social complexity of projects, but to the outer social complexity of organisations, institutions and societies. We do not want to over-generalise our *results*. What is applicable to the project management in the area of development aid might not be transferable to commercial endeavours. This should at least put to further examination. Our *conclusion*, however, is that referring to Niklas Luhmanns Theorie of Social Systems as a basis of further development of models, methods and instruments which are able to cope with the systemic complexities and dynamics of social systems provides a promising path to venture towards a next practice of project management.

Keywords
Complexity, Social Systems, Distinction Theory, Niklas Luhmann, Next Practice

1. Introduction

The problem in focus is complexity. Complexity has been identified as a key feature of many of today's projects, and as a key challenge to the project management profession. Especially in the technical dimension of projects referring to engineering sciences, remarkable advances have been made. However, it is the "people side" of projects which is a constant driver for a complexity that cannot be dealt with technically. Adequately dealing with the "people side" or better with social complexity of project management requires a distinctively different approach. This approach needs to be distinctively different in two respects: First, social systems are non-trivial systems which cannot be captured and dealt with in terms of technical systems (von Foerster). Second, a social or sociological approach to deal with social systems needs to be able to deal with complexity and contingency. Niklas Luhmanns Theorie of Social Systems is such an approach which brings in the requisite variety (Ashby) to cope with systemic complexity and social dynamics. And it has proven to be fruitful in practice, too (Klein).

2. Luhmann's "differential" Theory of Social Systems

Luhmann's "differential" Theory of Social Systems (TSS) provides elementary yet broadly applicable concepts that allow to effectively dealing with all sorts of social complexity. Luhmann's Theory is a grand design, comparable to those of Hegel, Marx and Weber. Hegel shaped the realisation of the existence of modern society. Marx shaped the way people think about social history and social philosophy. Weber shaped sociology as a modern academic discipline. Luhmann has rebuilt sociology from scratch so that it sees eye to eye with the most advanced thinking in constructivist epistemology, social psychology, systems theory and complexity theory (Checkland; Flood; Jackson).

2.1 Organisations

The most important social system, if it comes down to project management, we are dealing with is the organisation (Körner); but it is not the only one organisations are only one class of social systems; they coexist with interpersonal/interaction systems (basically: all who are present), functional social systems such as the legal system, the

economy, the education system and the governance system as well as segmentary social systems such as nations and cultural groups; and together with all these systems they are part of the one world society other living systems with which organisations directly interact are psychic systems – i.e. individuals.

2.2 The elementary distinction

Luhmann follows the path of the physicists. He strives for abstraction to achieve universal applicability. His most basic tenet about organisations may be put in reference to George Spencer-Brown into the following expression:

Organisation	Environment

In a most simplified manner one could understand this as: an organisation is a series of specific decisions/differences through which it distinguishes itself from its environment. We may unpack this statement as follows: the organisation as a system is defined by a specific difference to its environment (by indicating what is 'inside', and at the same time assigning everything else to the 'outside') – and not for example by its objectives, its staff and assets, its organisational routines, etc. The entire set up is dynamic; organisations only exist 'here and now', by repeating and interconnecting distinguishing operations in time – the difference is not static, it is not established once and for all in the beginning. These distinguishing operations are decisions of the organisation proper, selections between one among two or more presented alternatives, taken on the organisation's own terms – and no other's decisions thus have a double character – on the one hand, they move a concrete issue at hand by selecting one operational option over the other, and on the other, they are the means for the organisation's self-reproduction (one decision leads to the next, leads to the next, …). The TSS is also universal: whatever 'social' happens in or around a project can be analysed as a decision about a distinction creating a difference that makes a difference (Bateson).

2.3 A logic of distinctions

The solution in focus is a logic of distinctions (Klein). Many such problems disappear if one replaces the traditional "logic of entity" with a new "logic of difference". In this perspective, projects are systems that are determined by four differences to the organisation:

- temporary rather than permanent;
- thematically focused rather than generalist;
- unique rather than routine;
- horizontal rather than vertical.

At first, this may sound quite familiar even to traditional thinkers– but in traditional thinking we would consider these items only as attributes of an entity, and the next question would be "Given these attributes: How does project management realise the mission/identity of the project?" The new thinking, however, asks the entirely different question "How does project management maintain these differences?" The new logic is oblivious of the project as an 'entity' and instead explores and exploits differences as fundamental forms. Without the need to lift much more heavy conceptual luggage, this immediately leads to relevant and practical insights in both, managerial/organisational practice as well as organisational theory. This will be exemplified in a few instances.

3. Exploring TTS in practice

Interestingly, these most basic and fundamental nuggets of Luhmann's organisational science are quite helpful for the everyday work of the manager of complex projects. Eventually they will contribute to ground the next practice of project management. We will try to exemplify this in three instances and enrich our positions with some examples from the practice of international development aid, i.e. the Addis Ababa Master Plan Revision Project:

- "What is the project about?"
- Focus on decisions
- The "people side" of project management

3.1 "What is the project about?"

Problem: Project managers are confronted with a multitude of claims on the identity and purpose of the project. Stakeholders try to capture the project for their purposes, or at least they strive to shape it according to their needs.

Traditional solution: Project managers may refer to “agreed documents” – such as the project charter – to defend the project against an expansion or change of its scope and purpose. The shortcoming of this traditional solution is that the project manager is defensive. His relationships with stakeholders become adversarial, and he is not flexible enough to grasp opportunities, either to engage stakeholders or to adjust to changes in the project’s environment.

Advanced practice: Advanced project managers pursue an active “expectation management”, whereby they negotiate the project’s contents with stakeholder groups. They thus “build a coalition” (Winch) over time in a trade off between the benefits of securing allegiance of stakeholders on the one hand and over committing the project on the other.

How TSS supports advanced practice: According to the TSS, a complex project is not (comprehensively) defined by any “essential self”, “purpose” or similar, but by its borders – i.e. decisions on what belongs to it and what doesn’t (thematically, organisationally, etc.). Those decisions are part of the day-to-day operations of the project, they are valid here and now; and every decision is subject to reinterpretation and variation. The project’s identity turns out to be quite complex: it is made up of a multitude of borders (decisions on in-out) that emerge from the project manager’s dealings with the various stakeholder groups.

Advantage of TSS approach: It clarifies the central role of the PM to actually define the contents of the project. It is totally in line with the advanced practice of ‘coalition building’ and ‘expectation management’, which are based on the premises that there is room for negotiation also with regard to the content of the project. It establishes the project as a complex thematic structure that may accommodate internal inconsistencies and incongruities that result from competing claims.

Life example: The Addis Ababa Master Plan Revision Project was officially given the task to simply draw up a new city plan. However, the project became a problem-solving device for urban managers and politicians, e.g. allocation of cemetery space to different religious groups, street naming and dialogue between urban economic and political elites. Rather than trying to narrowly defend the project against respective claims by politicians and other stakeholders, the project included their issues in its brief, thus opening avenues for higher levels of engagement with these different stakeholders (without compromising on its long-term goal, the revision of the Master Plan).

What TSS also explains: Treating a project as a unity will never quite measure up to the real life experience that a project has multiple identities. To a certain extent one may say that a project’s identity lies in the eyes of the beholders. The most efficient and logically most robust way to bring order into this picture is to think of the project as differences:

- in time: events that come before its deadline, and those that come afterwards;
- thematically: those events that thematically belong to the project, and those that don’t;
- organisationally: those communication that are attributable to the project organisation and those that are not.

3.2 Focus on decisions

Problem: Project managers are confronted with an apparently countless number of options for action – against the limited resources, time and space available. Their problem is choice. The question “what now?” is always the most difficult one; not the least because it includes the implicit question: “shall we stick to our plan or drop it?”

Traditional solution: Project managers use sophisticated algorithms to develop the ‘right’ plans for action and then try to stick to them. The shortcoming is that this never answers the implicit question; and much time is spent to justify the premises on which decisions are built – but this is of little practical value, it doesn’t move the project forward.

Advanced practice: Advanced project managers don’t spend too much time on evaluating whether they should follow their plan, alter or drop it. To set their immediate course of action, they rather sift through the options at hand with the question: “which ones are the most important imminent decisions, what are the implications, and how can we influence them?” And from the answer to this question they may conclude that they need to alter or drop their plan. Note: this is buttressed by observations on what e.g. successful top politicians do – they are only involved in taking or influencing decisions; everything else, from planning though preparing decisions up to implementing them is left to support staff.

How TSS supports advanced practice: TSS defines organisations as those social systems whose elements are decisions; within the TSS framework, we think of “organisation” as a network of decisions – and everything else (people, processes, values …) takes second rank. TSS, therefore, directs our attention at:

- decision-making processes as the most important events or phenomena within an organisation;

- the preparation of decisions and the construction of alternatives as the central process to shape an organisation.

Funnily, a decision itself is seen as by and large arbitrary. According to the TSS, there are no ‘right’ or ‘wrong’ decisions, rather, the TSS-trained eye will try to discern how different stakeholders use decisions to support their views on the organisation and their initiatives to pursue their goals.

Advantage of TSS approach: TSS avoids the traps of essence, rationality and planning. PMs are not bamboozled by questions of the organisation’s identity, by its plans, by decision support studies, etc. Rather, they focus on the essential: what are the alternatives, which alternative is chosen, and which options for action will thus be promoted and which ones are abandoned?

Life example: The Addis Ababa Master Plan Revision Project was involved in: redrawing urban development plans, capacity development within the administration, establishing public discourse, piloting upgrading projects, and so on. In an extremely volatile political setting, every day brought new opportunities and requirements for action. There was so much to do, but not enough time and resources to do everything in parallel. Priorities for action were checked and adjusted on a nearly daily basis, and most action plans were kept stable for a maximum period of three months. The guiding principle to establish priorities was to ask: “what are the imminent decisions that important stakeholder in the project must take?” “How can we leverage such decisions?”

What TSS also explains: The TSS perspective of looking at organisations as networks of decisions also supports the understanding of questions of change, which are ubiquitous in complex projects:

- change is effected through decisions, decisions that are operationally effective here and now. “If we take this route, we will no longer/for the first time be seen as a centre of creativity and excellence”;
- there are also decisions that establish frameworks for other decisions – decisions on plans, on staff, and on agendas. Again, we understand that change in an organisation is possible if different decisions are taken on such frameworks;
- the question whether change is too radical or not can be answered in a practical manner. As long as there is connectivity between the decisions taken and their successors, self-reproduction continues and the organisation is still ‘the same’.

The TSS perspective also paves the way for a more effective Knowledge Management (KM) within complex projects:

- the history of KM is littered with failed attempts to identify and conserve knowledge; more often than not, the knowledge captured comprises lots of facts that, however, turn out to be less valuable for everyday work that initially thought;
- for TSS, the only knowledge of real significance in an organisation is about decisions (not facts) – how issues have been decided, which alternative was preferred and which course of events was abandoned;
- hence, an effective knowledge management will concern itself with documenting decisions that have been taken, i.e. the alternatives and the choice between them.

3.3 The „people side“ of project management

Problem: Building a house or the Airbus A380 is, at the face of it, a technical endeavour. Logic and mathematics count. Questions receive clear answers. But then, “people” issues also play an important role – in terms of creativity, efficient and clear communication, and the energy to strive for excellence. These are soft – and one might even say: muddy – factors. How do we integrate engineering with the „people side” of project management?

Traditional solution: Traditional approaches to project management are based on engineering and logical or mathematical algorithms – which are seen as being corrupted or possibly complemented by “people management”. The approach focuses on the question “how can we be as rational and logical as possible, and to which extent do we cede territory to the so called soft factors?”. The shortcoming is that at a certain level, whatever engineering, mathematical, or logical “truth” is presented will immediately be contested. What is evident for Mr. Dupont is not evident for Mr. Smith. The rational, engineering-driven concept of the project becomes increasingly ephemeral, with an uncertain status regarding its validity. In the extreme, everything becomes politics.

Advanced practice: Advanced project managers work with “shades of grey” with regard to the concepts of logic, technology and rationality. They assume that these exist, but also that in the practice of every-day interaction with

project stakeholders every issue at a certain point dissipates into irrationality and issues of perception. Advanced project managers discern those edges and use the assumption of rationality to its fullest extent without, however, over-extending it. When it comes to issues that are mostly "people"-related, advanced project managers will handle them as such.

How TSS supports advanced practice: From the outset, "technology" (and engineering, logic, rationality, mathematics as well as project finance) is seen as a social construct. "Technology" describes a set of hypotheses on causal relationships that have been confirmed through common social practice (communication). Technology can be taken as a reference to the extent that the people in question share a common social space and practice; confidence in technology etc. cannot be prescribed, but is built over time.

Advantage of TSS approach: The dichotomy of rational/irrational or hard/soft haunts complex projects. In that project managers and engineers fail to see how they can adequately respond to irrational and soft issues. In the TSS approach this dichotomy is replaced by the difference between "confirmed" and "not yet confirmed" assumptions which is easier to handle.

Life example: The Addis Ababa Master Plan Revision Project relied on bringing people from quite different disciplines and background together, e.g. urban planner, architects, engineers, politicians, urban elites. Each of these groups held different "truths" for evident, e.g. the requirements of urban functional organisation (planners), the proven best way to organise an apartment building (architects), the only efficient way to structure a waste water system (engineers), the need to maintain and demonstrate social standards (urban elites). Rather than giving primacy to one school of thought and trying to resolve planning issues through rational calculation that would accommodate these divergent views, the Master Plan Project established a common social practice among these different stakeholder groups. In this manner, confidence was built not in the one and only overarching truth, but rather in the credibility of ideas and claims that were at first sight incompatible with one's own perceptions and beliefs.

What TSS also explains: Advanced project managers skilfully organise the parallelism of the project organisation and the individuals that are involved in it; neither do they take individual commitment for granted, nor do they believe that the project will work if only it is fully "owned" by the individuals in the project team. Advanced project managers rather balance the project as a super-individual endeavour with accommodating concerns and perspectives of individuals . Projects as organisational systems and individuals as psychic systems are kept as two quite distinct types of living systems. Individuals belong to the environment of the organisation, even though they are structurally coupled to it (and to other social systems and society as a whole) through language and communication. In this view, individuals can neither fully integrate with the organisation, nor can they effectively steer it. Rather, the dynamics of the project are driven by emergent forces that act beyond the level of individuals. Individuals may try to interfere, and the organisation may try to motivate them – but these are always experimental endeavours, with a very uncertain outcome.

4. The next practice of project management

The next practice of project management needs to be a systemically well-grounded practice of complex project management. Complexity refers in this instance not only to the rising contingency on the technical side. It refers foremost to the social side of projects. If projects were not to fail on the "people side" a next practice of project management needs to incorporate a scientific foundation that is able to, first, match the complexity and dynamics of social systems and provide the requisite variety (Ashby) required for any kind of control, and, second, sprout according model, methods and instruments, and a new set of standards for complex project management.

The strength of TSS founded practice in project management is, seen from our experience, the applicability to inner and outer social complexity of any project. While the inner social complexity is rather a concern of leadership and orchestrating of resources, approaching the outer social complexity opens a wide range of benefits. First, it is stakeholder management, but the lager gain lies in understanding organisations and the embedding society as the relevant context for any project performance. – You cannot beat the system, yet you can understand and benefit from it.

There are implications for the standards of complex project management to foresee, as well for project management as a discipline, as for the qualification of project managers. Based on this conceptual approach it will be possible to streamline the competency standard for complex project managers (knowledge) with regard to social phenomena. The Theory of Social Systems – and specifically its application to organisational science – is well-suited to buttress any approach to projects as social phenomena. This concept is also a universal tool in the hands of complex project managers to analyse and manage the social (institutional, interpersonal) dimensions of their tasks. A basic knowledge of TSS concepts will enable project managers to understand a wide range of important issues in the management of complex

projects. And for further complexity drivers such as cross-cultural lay-outs of projects, TTS yields first fruits. However, further research is required. The first steps have been done, further studies seem to be very promising.

References

Ashby, W. Ross (1965), Introduction to Cybernetics, Chapman & Hall (London)

Bateson, Gregory (1979), Geist und Natur - Eine notwendige Einheit (4. Aufl., 1995), Suhrkamp (Frankfurt a.M.)
Bateson, Gregory (1972), Ökologie des Geistes (6. Aufl., 1996), Suhrkamp (Frankfurt a.M.)

Checkland, Peter B. (1981), Systems Thinking - Systems Practice, Wiley & Sons (Chichester et al.)

Flood, Robert L./Jackson, Michael C.; Hg. (1991), Critical System Thinking. Wiley & Sons (Chichester et al.)
Flood, Robert L./Jackson, Michael C. (1991), Creative Problem Solving - Total System Intervention,Wiley & Sons (Chichester et al.)

Foerster, Heinz von (1985), Sicht und Einsicht, Vieweg (Braunschweig)
Foerster, Heinz von (1973), Über das Konstruieren von Wirklichkeiten, in, ders., Wissen und Gewissen (3. Aufl., 1996), Suhrkamp (Frankfurt a.M.), S. 25-49

Klein, Louis (2006), Führung, Kultur und Kontingenz – Social Design im Kulturdreieck von Werten, Institutionen und Praxis , in Bouncken, Ricarda (Ed.), Interkulturelle Kooperation, Duncker & Humblot (Berlin)
Klein, Louis (2006, 2002), Corporate Consulting - Eine systemische Evaluation interner Beratung (2. überarbeitete und erweiterte Aufl.), Carl-Auer-Systeme Verlag für systemische Forschung (Heidelberg)
Klein, Louis (2005), Social Innovation and „Kulturfolgenabschätzung“, in International e-Journal of Abstracts for Cybernetics and Systems Research (http,//abstracts.ifsr.org)
Klein, Louis (2005), Systemic Inquiry – Exploring Organisations, in Kybernetes, Heinz von Förster Vol., MCB University Press, Emerald, (Bradford, GB)

Körner, Markus (2008), Geschäftsprojekte zum Erfolg führen: Das neue Projektmanagement für Innovation und Veränderung im Unternehmen, Springer (Berlin)

Luhmann, Niklas (2000), Politik der Gesellschaft (Aufl. 2002), Suhrkamp (Frankfurt a.M.)
Luhmann, Niklas (2000), Organisation und Entscheidung, Westdeutsche Verlagsanstalt (Köln)
Luhmann, Niklas (1997), Gesellschaft der Gesellschaft, Suhrkamp (Frankfurt a.M.)
Luhmann, Niklas (1987), Wirtschaft der Gesellschaft, Suhrkamp (Frankfurt a.M.)
Luhmann, Niklas (1984), Soziale Systeme (4. Aufl., 1991), Suhrkamp (Frankfurt a.M.)
Luhmann, Niklas (1980), Gesellschaftsstruktur und Semantik - Studien zur Wissenssoziologie der modernen Gesellschaft (Bd. 1), Suhrkamp (Frankfurt a.M.)
Luhmann, Niklas (1968), Zweckbegriff und Systemrationalität (5. Aufl., 1991), Suhrkamp (Frankfurt a. M.)
Luhmann, Niklas (1964), Funktionen und Folgen formaler Organisation (5. Aufl., 1999), Duncker & Humblot (Berlin)