Abstract
This paper discusses the similarities between project management and the playing of improvisational jazz. General characteristics for projects and jazz are compared and the five most important linkages between projects and jazz are discussed. The paper also explains why disorder is not chaotic and projects can be successfully managed. Jazz might show us one way of looking at the structure of disorder.

1 Lead-in
Even though much work has been put into designing convenient paint-by-numbers models of project management, practical work on projects in the field is still dependent on the innate skill of a seasoned project manager.

This kind of talent for project management has been surrounded by a fair degree of mythology, but is rarely discussed in any real sense. Being a form of *fingerspitzengefühl*, the ability to react to unforeseen and non-standard situations is a necessary skill for a project manager, due to the unique nature of project work.

Gustafsson (1997) even argues that this kind of feeling for management is definitional for handling any form of organization.

Taking this non-analytic knowledge seriously is crucial if we are to improve our theories about temporary organizing. Rather than try to fit it to a certain model, however, we should approach it through an analysis that keeps in mind the intangible nature of such a skill. Here, this ability is studied by comparing it with playing improvisational jazz, an undertaking that in several ways is reminiscent of the reactive capabilities of good project management.

This re-description of project work follows the work of Mary Jo Hatch (1997, 1999) who has discussed the ways in which organizational theory can learn from the study of jazz.

We do not dwell on the subtleties of the fine art of playing jazz, and thus references on jazz theory will be kept to a minimum, but our inspiration and guidance in the field have been obtained from some works we wish to acknowledge. The seminal study in the field is Berliner’s *Thinking in Jazz – The Infinite Art of Improvisation* (Berliner 1994).

Two other books have served as important inspirations, namely *Improvising – Sixteen Jazz Musicians and Their Art* by Whitney Balliett (Balliett 1977) and *Listening to Jazz* by Jerry Coker (Coker 1978). In addition to this, Ted Gioia’s *The Imperfect Art* (Gioia 1988) and Sudnow’s *Ways of the Hand* (Sudnow 1993) have been strong motivators in writing this.

The ability to improvise on a given theme and set of limitations is a necessary skill for a jazz musician dealing with improvisational performance. What is here argued is that the two seemingly non-related professions of project manager and jazz musician are in fact dependant on much the same skills, namely free improvisation, applied historical knowledge and the ability to extemporize on a theme.

Improvisational jazz is used as a metaphor for thinking about the practices of project management e.g. creativity and ad-libbing as necessities for successful project execution, after which some implications for learning from jazz are discussed.
2 Round ‘Bout Kick-Off

Although dissimilar at first, project managers and jazz musicians have to deal with many of the same restrictions and demands from their respective environments. Let us begin with some preliminary sketches of the nature of project work and similarities to the performing of improvisation in jazz.

What is distinctive for projects is their frame. Projects and temporary organizations are constantly in a state of exact definition, of knowing that there exists a frame for their existence. This frame is not a static entity, but more of an existential condition of knowing that the defining characteristic for one’s actions is their connection to a predetermined goal, be this goal temporal, fiscal or material.

But, even though a project by definition is a planned, scripted activity, it is the definitional characteristic of uniqueness that exerts the most influence over the actual network of activities that becomes the project. One can plan a project forever, but the project execution will still be at the mercy of the uniqueness that, in a way, is the project.

As an example of this we would like to bring up an experience from one project we have studied, where a substantial delay was caused by the improbable accident of dropping a power-plant engine into a rice-paddy.

An insufficiently steadfast road leading to the project site gave way when the engine was being transported to the power-plant-to-be, tipping the main engine complete with lorry and all into a rice paddy, where the engine promptly sank. Bringing a crane in proved futile, as it also started sinking.

Even though the problem was solved by bringing in another, more suitable crane, the incident shows that planning projects is at best an act of guidance, as all aspects of the actual project work never can be completely mapped.

One can hardly claim that what should have been done in the above example was to allocate some time for the engine to be in the rice-paddy, however interesting this would have looked on a Gantt-chart!

When one first hears improvised jazz one is struck by its immediacy. Although parts of it seem familiar, most seems to be made up on the spot.

There seem to be guidelines – solos are played in succession instead of simultaneously, there is an underlying pattern that the players agree on, some passages resurface in the texture and there is a wholeness to it all – but to precisely guess the next sequence of sounds becomes impossible, however sensible they seem in retrospect.

In discussions on the place of structure in organizational action, importance has mainly (if not exclusively) been given to structure as limitation. Structure is thought of as that which tells us what we cannot do. Definitions of projects mostly stress the limits of the organization.

To give an example of this, let us think about how projects are usually planned. The archetypal project plan, the Gantt chart, is a series of strict limits where each action is placed in a closed box and connected to other actions by limits such as deadlines and the ‘critical path’.

Project management theory has mainly concentrated on the questions of control and monitoring. Structure is thus defined as drawing lines and seeing that they are followed.
But as has been pointed out, for example by Giddens (1979, 1984), structure can also be thought of as having a facilitating or enabling function.

In his structuration theory, structure becomes a dynamic entity that both limits and frees action. Here, structure is no longer thought of as something in which action can happen, but as something that exists in an dialogue with action.

For a project manager, the structure of the project is often imposed and often stands at odds with the environment into which this structure is to be transplanted. It is the craft of the project manager to extemporize within this imposed frame according to the demands of the environment.

3 The Jazz Body of Knowledge

Even though improvisational jazz is defined as jazz that is made up on the spot, it is not free from history. Improvisation cannot exist in isolation, as it is always related to the thing it is an improvisation of.

A session in improvised jazz often starts with the playing of a head; some bars from a standard or something similar. This becomes the basis of the performance. The head is present in the entire process, is checked back to during playing and referenced in the end – it is the master plan of the improvisation.

Still, the head is not respected. It is toyed with, abused, joked on, wrung for all it’s worth and is generally messed with.

Standards can be played straight up, but the best performances always consist of improvisation on a head. To play a standard straight would be pointless because it is non-productive. The structure that the sheet music embodies is not even thought of as something to be followed, but as something to act with.

What the collection of standards –amended with knowledge about past performances and the unique styles of other performers – amount to is the jazz musicians’ body of knowledge.

A thorough knowledge of the roots of jazz is the necessary precondition to create something meaningful out of a performance, as one otherwise either repeats others mistake or what is worse, their successes. Listening to jazz you start to realize that history is not something that is used, but something that is utilized in playing.

The historicity is constantly present even in the freest, most radical of pieces. This shows that the unconventional use of structure has not created fragmented or ignorant upshots, but rather freed these upshots to create better things from the same structure.

That this body of knowledge isn’t something separate from the talent for playing should come as no surprise. To be able to improvise, create something out of nothing, one has to be both capable to play straight and to have knowledge of the aberrations that have earlier been incorporated, why these have succeeded while some other might not have and to be able to use this knowledge to find the shady area between the old and the not permissible where improvisation occurs.

What this is meant to describe is that ability to improvise should not be treated as non-conformity, but as a way to utilize what has earlier been best practice. We are quick to assume that knowledge and skills are technological concepts, where being able to use the given tools or methods in the best possible manner are seen as constitutive.
In improvisation all acts are based on, or are references of, earlier methods or routines, but the acts themselves are neither repetitions of earlier acts nor deterministic outcomes of rule following.

A performance, then, can be described as a creative act undertaken within the boundaries of a pre-set structure (heads, pre-defined temporal restrictions), capabilities of the performers and the dynamics built into the historicity of improvisational jazz.

What is stressed is that the three boundaries (structure, capability and historicity) form an interacting whole with the creative practice that is the definitional aspect of the performance.

Creation is at the same time an action and a reaction, and the integration of these two facets should at all times be kept in mind. Emphasis on one specialty leads to trite simplifications, such as thinking outside the box or keep to best practice.

4 Elements of a Performance

We now attempt a closer analysis of a single performance of improvisational jazz, and demonstrate that certain elements of the steering of such a performance in order to take the step from jazz leadership to the management of projects.

A jazz performance can be studied through its management aspects, with the emphasis being placed on the organizing and leadership required to create improvisational jazz.

For, as is stated earlier, even though improvisation in a sense is picking notes out of thin air (Berliner 1994), this form of picking would be impossible without a solid foundation of managerial and technical skill. Projects, too, can seem almost happenstance, but are usually strictly managed even though this management takes forms that makes it hard to properly model. If we now look at a performance, on an album or on stage, some features stand out.

"Miles conceived these settings only hours before the recording dates and arrived with sketches which indicated what was to be played. Therefore, you will here something close to pure spontaneity in these performances. The group had never played these pieces prior to the recordings and I think without exception the first complete performance of each was a take."

Bill Evans’ liner notes from Miles Davis Kind of Blue, Columbia 1955

"I just set a milestone here and one here, and then the boys take care of the rest."

Quotation from an interview with a project manager done by one of the authors

What is a recurring theme in this text is the observation that a performance is not born at the moment the first note is played, but neither is it wholly unplanned. The unalterable intermingling of planned action with instinctive reaction that occurs in both improvisational jazz and project work is an important starting point to map the nature of project management.

In the above quotes this intermingling is represented by the role of the leader. Miles brings sketches and settings and our project manager sets a milestone or two. But from these inconspicuous beginnings complexly orchestrated group activities are born. And what is more, it is our thesis that the role of the manager is more central, albeit less ordered, than is usually thought to be the case.

At the very least, the manager/bandleader is in control of one very tangible facet of the activities that establish the performance. A bandleader sets the pace by assigning the one value of which there can be no argument, the starting point. Just as project managers are the ones that make kick-offs possible, bandleaders establish the beginning of performances.
It is the assigning of the beat, the setting of the rhythm that is inherent in the start that is where the manager can either establish or lose control. In jazz, the inability to get into the *groove* is disastrous for the performance.

To establish the groove, and to show the *lay of the land*, the head is often played through in its most simplified, straight form at the beginning of the performance. After this the head undergoes a number of mutations, many so freely based on the head that a casual observer will be unable to see what is an accident and what is creative license. The performance then consist of the players taking turns to lead the melody on, each adding to the totality of what’s played.

Although each player can improvise and add to the melody on their turn, the trick lies in continuously holding on to the underlying plan that keeps the artists working as a group. An interesting phrase played by the trumpet can be picked up by the piano, then the base, then the drums, after which it’s already woven into the texture of the jazz. The individual acts become wholes through this *passing of the buck*, and these individual acts are brought on by the plan, the original head.

Even faults take on a special nature. Something which one might not have wished (a C-sharp, for example) can in the linkages between the individual musicians be transformed into something that adds to the performance as a whole. In a classical setting, the orchestra would rehearse the risky parts incessantly until faults are unlikely. In improvisational jazz this is not possible. What happens, happens, and it is up to the talents of the band to do something with it.

A performance usually ends with all the players checking that they are still in synch; getting back to the head, playing it straight for the last bars. This is done to achieve closure, to show that the improvisation was not *out of order*.

### 5 Linkages: Jazz to Projects

But how can this be related to projects and project management? The following is an attempt to discuss the similarities between project management and the playing of improvisational jazz. We deal with what we believe to be the five most important linkages in order, after which a brief sketch of project jazz is presented.

1. Plans are enabling, not constricting.
2. Aberrations are normal.
3. You work with what happens.
4. Order is emergent, not pre-defined.
5. Disorder is not chaotic.

Keep in mind, this is not presented as a model of the world or some eternal truth, just some observations about the management of unique happenings. Neither are they exclusive, but variations on a theme – the theme of project jazz.

#### 5.1 Plans Are Enabling, Not Constricting

In project theory, plans are often presented as scripture, something to be upheld at all costs. This is of course impossible as projects always have unique and chaotic elements to them. Still, aberrations from plans have, in the literature on projects, always been treated as something to be avoided.

Much energy has been spent within project theory to create better ways to plan and follow plans, thus perpetuating the idea that plans are for following. Instead we wish to draw attention to the way improvisational jazz utilizes their plans, namely sheet music.

The jazz-model loses some rigor, sacrificing it for the stimulation and flexibility it can give.
To learn from jazz would, in this sense, mean for project management a less strict attitude towards plans, and a more flexible attitude to what plans are for.

5.2 Aberrations Are Normal
Project theory has long been a theory of optimization. Any aberration has been a problem to be solved, thus making it an aberration no more. Increased time to plan is often suggested as an antidote to aberrations, since theoreticians assume that aberrations simply are unforeseen events that could have been included in the model.

Jazz assumes no such thing, as it knows that aberrations will occur. Jazz even goes so far as encouraging or even demanding aberrations if these are productive. In project theory, the attitude to aberrations has been an intellectual one, where action has been seen as secondary and modeling has been the preferred mode of problem solving.

In jazz, the attitude has been a functionalist one, where aberrations have been seen as making other forms of action possible. Project theory builds on a belief that all things could, with enough time and foresight, be taken into consideration. Jazz, on the other hand, builds upon the idea of free will and indeterminacy.

To learn from jazz would here mean a new attitude towards deviations from plan – concentrating on being prepared and being constructive.

5.3 You Work with What Happens
Project work, being filled with unexpected aberrations and unforeseen events, is improvisational in nature – but treated like a series of orchestrated actions by its own theory. Talk of best practice is good and all, but such modeling fails to see the innate arbitrariness of live project work.

Natural occurrences cannot be planned beforehand, but are dealt with in project work. In this sense project management always retains a sense of improvisation and of the project manager’s knack for adapting plans to the unforeseen.

Good project managers can even incorporate these non-planned events into the project as a whole, improving the whole. A project, like a performance in jazz, contains both a master plan and a series of happenstances.

If project theory cannot take the latter into consideration it is not a theory of project work but of project planning. A complete project theory could learn from the playing of improvisational jazz the art of handling and utilizing the unforeseen, the art of dealing with what happens.

5.4 Order Is Emergent, Not Pre-Defined
There is a myth in organization theory that order and structure comes from some strange place out there, that it can be simply imposed upon organized action.

This can be seen in project management, for example in habitual planning beforehand, where master plans and masses of charts are put together to impose structure on the project. In jazz this is reversed. Initial structures are kept to the minimum needed to keep the group together, and order is allowed to grow organically out of the collaboration between the players.

As projects always retain some unique elements, neither does their order exist solely in the pre-determined master plans of the project. Just as the jazz musicians find new and functional structures in the act of playing, project managers find ways of doing things in the acts of building.
5.5 Disorder Is Not Chaotic

Five accomplished musicians playing together in an improvisational manner is hardly what one would call an orderly affair, but this does not mean that the performance is chaotic.

Instead, improvisational jazz is often a marvel of structure and line, where the whole disordered event at all times manages to make perfect sense. Projects are ordered events only in the cozy offices of academics. In real life, projects are collections of tangled happenings that are kept wonderfully on track, despite everything.

It is the fact that projects are neither simple logical structures nor unmanageable chaos that is important. In the same manner we should concentrate on how project managers make due regard- less of the obstacles laid in their path, not on how to reduce this intricacy to units that can be handled in models.

Jazz might show us one way of looking at the structure of disorder, how bandleaders and their collaborators work to create something out of disjunction.

6 The Aesthetic of Imperfection (Going Unique)

Jazz has sometimes been called the imperfect art (Gioia 1988). Unlike classical music, which strives for the greatest possible exactness with constant attention to following the music as outlined, jazz doesn’t even imagine there to be a correct way to play a set piece. To study jazz according to degree of exactness would miss the point entirely.

What we argue is that projects also are an imperfect art. They are not similar to regular industry in the sense that they should be optimized and that there would be a perfect way to implement one. While one cannot disregard that set goals should be attained, one must also recognize that new goals are created during the project, and a good project can have unexpected results that fall outside the master plan entirely.

The management of projects also seems to be a less straight forward activity than is usually assumed in the literature on projects. This management is less a following of a plan, and more the handling of continuous action, some ordered, some not.

What is special for both jazz and projects is their fundamentally structured nature. But this structure is not the confining, prison-like structure understood by project theory. Rather, it is the enabling structure referred to by Giddens (1979, 1984), a structure that makes things possible.

If we wish to learn something from project work we should concentrate on how project managers get things done, just as analyzing jazz on paper is futile. There are no abstract projects, just actions undertaken that are called projects.

Summary

This short text is an attempt to bring out some of the similarities between project management and the playing of improvisational jazz. Cursory as it might be, this is done to problematize some of the more simplified assumptions made in project theory, and to point out some of the things we find important in project management. These include points such as the primacy of action/doing, the enabling function of structure, and the indeterminacy of a project as lived.

Although we feel that these are things to take seriously, this text is not meant to be read as an attempt to present applicable theory, but as a contribution to the discussion about the role of project theory.
Biography

Kim Wikström, Research director and founder of PBI at Åbo Akademi University has specialized in international projects and his areas of expertise are within the areas of project management, uniqueness in projects and project structures.

He received an M.Sc. (mechanical engineering) and a licentiate in technology (project theory) from Åbo Akademi University in 1987 and Norwegian Institute of Technology in 1989.

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References

   Oxford University Press, New York.
   University of Chicago Press, Chicago.
3. Coker, J. 1978. Listening to Jazz
   Prentice-Hall, Englewood Cliffs.
4. Davis, M. Kind of Blue
   Columbia 1955.
   University of California Press, Berkely.
   Oxford University Press, New York.
   Företagsekonomiska institutionen vid Åbo Akademi, Turku, Finland.
10. Sudnow, D. 1993. Ways of the Hand
    Företagsekonomiska institutionen vid Åbo Akademi, Turku, Finland.