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Business Acumen and Business Spirit
by Oliver F. Lehmann
Series Article

Project Business Management[1]

Predictability & Order in Project Business

Oliver F. Lehmann

"Life can only be understood backwards; but it must be lived forwards."

— Søren Kierkegaard

Summary

A trend in the last years was to ignore long-term predictability and order in projects and to favor agility and transformational leadership.

In project business management however, the need to be organized for predictive approaches as well as for agile approaches may be necessary to ensure the happiness of the teaming partner in the project and to ensure compliance with the contract. The ability to change between the approaches is a core element of "Situational Project Management".

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The Right Approach Can Save the Day – the Wrong One Can Spoil It

A situational approach to a software project

A major harbor had a project to renew the software landscape for several container terminals. In the past decades, each of these terminals had developed own software systems for the management of ships, trucks, and the internal container-handling infrastructure. Some terminals were acquired from other operators and were still running on different custom-made software as well. This hotchpotch of different software systems that was historically grown made it hard to consolidate the data from the different systems and to implement new software solutions that would need to deal with a variety of data interfaces.

The company operating the terminals had decided to buy a standard software solution and customize it to the own needs. Customization mainly meant developing software that would help the system to mirror and support the processes of the organization. So the first phase for the software developers developing the customization code was to discover these processes and identify the specific needs of the company.

One difficulty during this discovery phase was the variety of processes and requirements that also had grown over time. This came somewhat unexpected to them, because in essence all terminals had the same job. Soon they found that the schedule for this discovery phase became worthless, because each discovery leads to new requirements that the software had to meet. A nearby consultancy recommended for this phase to turn to agile methods which are better able to guide the project through the discovery phase and allow for adaptations where it was necessary based on the operative processes that were identified.

Figure 1 illustrates the connection of planning horizons with methodological approaches.
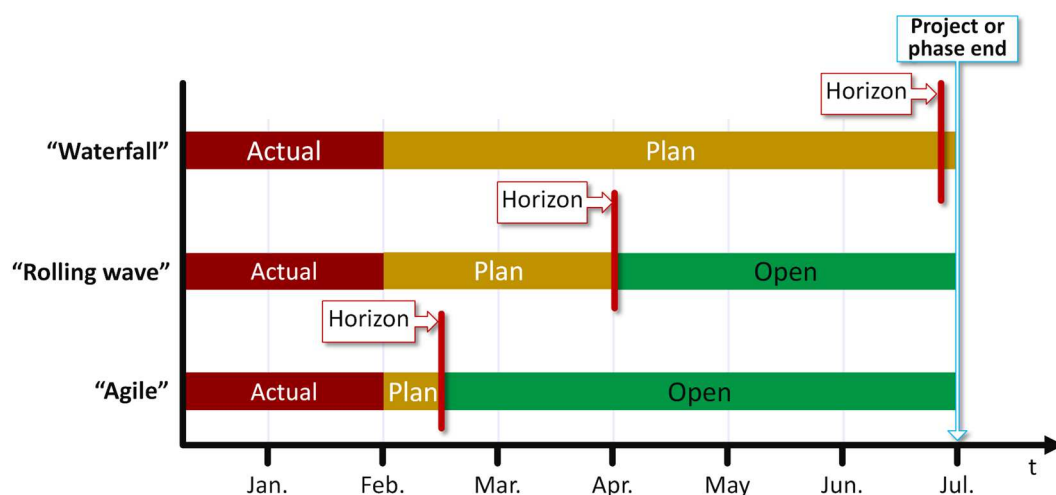

Figure 1: Scheduling and other forms of forecasting and planning in a project can be understood as a grey-shade area of rolling-wave approaches between two extremes, waterfall and agile.

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Later in the project, the new solution, which consisted of the standard software and the customization code could be implemented. At that point, the company found that the agile methods that were so helpful during the discovery phase we are no more suitable. The implementation necessitated a highly granular planning approach with a planning horizon far in the future. This is something that agile methods have not been developed to provide and therefore could not support.

The company found that it had to return to traditional project management approaches, which provided predictability and order for the implementation phase. This had mainly three reasons:

- During implementation, the project interacted intensively with the operations of the container terminals. These terminals were run in a seven weekday/two shift set-up, the "idle" time between the end of the evening shift and the beginning of the morning shift was used to reorder the containers to smooth next day's operations. So, there was not much time available to fix operational problems that may turn up during the implementation.

  The software implementation was found to be a massive disruption of operations, and the people in charge for the day-by-day terminal business had a clear requirement against the project to know, when these disruptions will begin, when they will end, what they will look like, and how massive they will be.

- The implementation came with several high-level risks, including the threat that due to technical glitches, a terminal may become dysfunctional for some time. The terminal management wanted to know how this risk, and some more, would be responded to by the project team.

- The operation teams of the terminals had to be temporarily taken out of their daily job to attend training, do tests, and help ramp up the new system. This came with the transient reduction of the container-handling capacity of the terminal. the operation managers of the terminals wanted to know early, when these training sessions would begin and end, when the test runs would be performed, and they also wanted to be consulted under ramp-up plan.

Soon it became clear, that for this project phase a far more predictive approach was needed, which included a granular long-term schedule and a clear role assignment to the project's team members. The need for a long-term plan became even more obvious, when the company decided to not change over all terminals in a "Big Bang" approach, that was originally intended, but instead to convert the terminals one after the other and provide fall back solutions in case that a conversion went wrong. This reduced the risks of the project, but increased its duration.

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One difficulty with this situational approach to project management[2] was that several contractors had to follow it as well. Among these contractors were the provider of the software and the consultancy that helped with customization. These companies had a strong focus on agile methods and found it difficult to follow the much more productive approach used in the implementation phase. The project also involved support from engineering contractors for the interfaces with the infrastructure hardware, such as hoists and self-driving forklifts. These companies rather had difficulties with the agile approaches in the discovery phase that they were not familiar with.

In total, the project supply network consisted of 12 companies, plus the customer, which made a joint training program necessary to help them unify terminology and all-over approach to the project.

In the end, the transition of the terminals went smooth with only minor disruptions for both the project and the operations of the company. The typical problems of brownfield project were mastered before they good drive the project into crisis and for the people involved, the situational approach was understandable and will supported.

A customer project for the manufacturing industry

In the previous example, I had the opportunity two help the customer as a trainer and consulting advisor. The second example was some decades earlier, in my much younger days as a still poorly educated practitioner in project (business) management in the late 1980s.

Some people consider the ever-growing years of life a liability. I regard them as an asset, but when this story happened, I still did not have many of these assets.

I was mandated to manage a project for the development, completion, installation, and commissioning of a piece of special equipment to extend the production line of a customer. The new equipment could help reduce the number of rejects in this production line's output, but the time it took us to assemble and commission it on customer premises was regarded as disruptive by the customer's operational employees. We blocked space, people, and other resources.

When I took over the project, it became clear very soon that it was necessary to manage it with a long planning horizon. One reason was the requirement on customer side to be given enough lead time before the installation, so that production people could prepare for the disruptions they had to expect. But there was another reason: We had to order components, some of them from suppliers that were named by the customer, and they had incredibly long delivery times. We also had to book several specialized craftsmen, who were booked by other customer projects for some time, we had to place ourselves at the end of the waiting line.

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[2] Situational Project Management (Lehmann, 2016)

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To make things more difficult, information from the customer relating to the installation site came in in small bits over time, and many of these bits were unexpected and surprising. While the customer expected us to provide predictability and order, the company was unable to give us the same in return.

I had the opportunity to use project management software that was just recently released on my also brand-new PC. Of course, I was not offered any training in the software. "Oliver, put it on your PC, and you learn project management."

Well, things are not that easy. Trying to develop long-term schedule with the new software was difficult without knowing its features, functions, but also its limitations. From a distance of several decades, one can safely say , that this is not a shortcoming of the software but a requirement of building predictability and order. One has to learn the tools including the methods, but also including the software used.

When I turned from the role of a practitioner to that of a trainer in 1995, this software was one of my starting points. After years of trial an error, I had a good understanding of its use and could pass this on to students.

However, the trial-and-error phase was a tough one. I spent hours trying to make the software do what I want, and I had a hard time to learn this on my own. My project also suffered during that period, when I spend time struggling with software that I should have spent at the telephone or writing letters and memo. Developing predictability and order in a project requires mastership of many skills, however the time and cost pressure on contractors does often not allow to develop them in time before they are needed.

Obviously, one of the difficulties in project business is that practitioners have to develop their skills by trial and error, but trial in project business is expensive and error even more.

The attempt to generate predictability and order comes with two price tags:

- The initial investment in time and energy is high, a lot of time is spent developing schedules and other plans, while no productive work can begin.
- Variance and change become particularly challenging: The more predictive the plan is, the higher the effort becomes to alter it. Changing a long-term schedule is more time intensive and error prone than when the planning horizon is rather short.

Software for project management can be very helpful to manage a higher level of complexity and uncertainty, but only in the hands of well-trained user.

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Situational Project Business Management[3]

Project management has undergone some major changes in the last two decades. There was an understanding by the end of the 20th century that projects benefit from long term planning and from project managers who can deliver results by ensuring predictability and order on both the process that brings about the project results, and on the results.

What was mostly ignored during the decades, when the methods for predictive project management were developed and particularly when software came more and more into play, were project situations that did not allow for long term planning.

At times in projects, other requirements on project managers take precedence, particularly in situations that are characterized by exploration and discovery. It is a core element of exploration and discovery that the future can hardly be predicted. One can plan to have people and equipment in place that help explore something, but the exploration as such is not plannable. Such moments were well described by the Spanish poet Antonio Machado:

Caminante, no hay camino	**Wanderer, there is no way[4]**
Caminante, son tus huellas	Wanderer, your footmarks are
el camino y nada más;	The way, and nothing else;
Caminante, no hay camino,	Wanderer, there is no way,
se hace camino al andar.	The way is made by walking.
Al andar se hace el camino,	By walking is the way made,
y al volver la vista atrás	And by turning to what is behind
se ve la senda que nunca	You see the path that never
se ha de volver a pisar.	You will return to and step on again.
Caminante, no hay camino	Wanderer, there is no way
sino estelas en la mar.	Only ship wakes on the sea.

When the project situation is characterized by "the way is made by walking", requirements are identified and met during the course of the project, agile methods are probably more favorable. When long-term forecasts and plans are necessary because the project overlaps with a functional organization that must provide predictability and order, or because resources must be booked and items ordered with a long lead time, predictive methods will

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[3] (Lehmann, 2018)

[4] Own translation

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bring more project success. However, they require rather static requirements identified at the beginning and at one point "frozen" to keep the plan free from changes.

The results of two surveys (Figure 2) show that most project situations seem to be between those two extreme situations, favoring the midterm rolling wave approach. There, requirements are defined early in the project, however changes on them are expected and ideally, processes are in place to manage them when they occur.
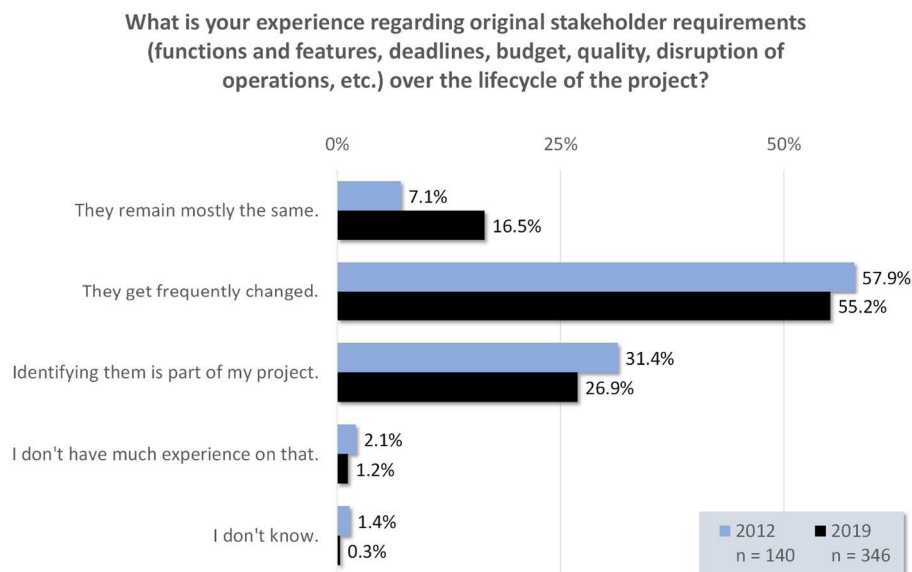

Figure 2: Two surveys from 2012 and 2019 showed a majority of projects favoring a rolling wave approach. Under 1/3 of projects were reported as favoring agile methods, and the smallest group had static requirements favoring a traditional waterfall approach.

While the decision which approach and methods should be used for a given project situation is a comparatively easy one in an internal project, things get more complicated in cross-corporate project business.

A party in a cross-corporate project[5] rightfully expects reliability from the other party. Here are some examples:

- The contractor expects:
  - Timely payments
  - Data and information that is needed to do the work for the project
  - Access to locations, but also to people needed for the project
  - Timely updates on customer-side changes that may impact the project

- The customer expects:
  - Timely deliveries and services
  - Updates on the project's status and progress

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[5] (Project Business Foundation, 2019)

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- Limitation of operational disruptions to the degree that is unavoidable
- Responsiveness to questions
- Proactive recommendation, when the contractor sees possibilities for improvements

For both sides, the expectation of predictability and order has a contractual aspect, but also a "good faith" portion that goes beyond the contract. The portion where one feels to be in good hands, and where contract parties are becoming project partners.

How Do You Ensure Predictability and Order in Project Business Management?

In the last couple of years, many people in project management off-loaded the topics of predictability and order. The call for agility and for transformational leadership includes the requirement to live with unpredictability and disorder. In a world that often seems dominated by V-U-C-A, Volatility-Uncertainty-Complexity-Ambiguity, predictability and order seemed out of time and redundant.

In a contract environment in project business management, they are often not redundant at all. They are linked with avoiding running into a breach of contract situation, with the development of business a partnership for mutual benefit, and with the perception of being organized and trustworthy.

In my personal toolbox as a project manager, agility and predictability are in no conflict. The tools for moments when the way is made by walking, moments that require agile approaches, lie peacefully side by side next to the predictive tools that allow longer planning and scheduling horizons. I use the tool that seem most appropriate in a given situation, and in the next situation another tool.

If you only have a hammer to make your living, you must convince the world that it is kept together with nails. If all you have is a screwdriver, you have to convince the world that it is screwed.

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He studied Linguistics, Literature and History at the University of Stuttgart and Project Management at the University of Liverpool, UK, where he holds a Master of Science Degree. Oliver has trained thousands of project managers in Europe, USA, and Asia in methodological project management with a focus on certification preparation. In addition, he is a visiting lecturer at the Technical University of Munich.

He has been a member and volunteer at PMI, the Project Management Institute, since 1998, and served as the President of the PMI Southern Germany Chapter from 2013 to 2018. Between 2004 and 2006, he contributed to PMI's *PM Network* magazine, for which he provided a monthly editorial on page 1 called "Launch", analyzing troubled projects around the world.

Oliver believes in three driving forces for personal improvement in project management: formal learning, experience, and observations. He resides in Munich, Bavaria, Germany and can be contacted at oliver@oliverlehmann.com.

Oliver Lehmann is the author of the books:

- "Situational Project Management: The Dynamics of Success and Failure" (ISBN 9781498722612), published by Auerbach / Taylor & Francis in 2016

- "Project Business Management" (ISBN 9781138197503), published by Auerbach / Taylor & Francis in 2018.

His previous articles and papers for PM World Journal can be found here:

- https://pmworldlibrary.net/authors/oliver-f-lehmann/