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Learning with Project Management Simulations
by Rüdiger Geist
Advisory Article

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Rüdiger Geist

Simulations support the increase of competences by means of defined learning areas, tailor-made complexity and roll-specific decision-making and room for manoeuvre. Simulations therefore allow dealing with problems and authentic realistic situations in so-called "error-tolerant environments".

Together, the team develops and implements appropriate strategies for action. The consequences of the actions are immediately experienced and over the entire simulation, long-term effects are also experienced. Thus, game plans are experimental and experiential learning environments ("experiential learning").

What makes simulations so special?

The following components distinguish ("experiential learning" -based) simulations of conventional training and development forms (such as case studies):

1. Simulations are empirical and experience-based.
   The playful execution allows "learning-by-doing" without real risks.
2. Simulations are stochastic.
   The contents and complexities are adapted to the participants, but the actual sequence is randomised. Thus, extremely life-related situations are created, as in no other form of learning. The participants literally immerse themselves in a simulated reality where the discussion about learning topics is replaced by action.
3. Simulations are dramatic.
   The exciting and emotional character of a simulation focusses attention and sharpens the senses. The participants anchored what they had learned.
4. Simulations are (still) unusual.
   The uniqueness and thus the unpredictability of the course and the context act as "equalizer". Nobody is perceived as an expert, and hierarchical barriers are thus easily broken.
5. Simulations are transferable.
   The behaviour in the microcosm "simulation" does not differ from the de facto behaviour in the professional life. New findings from the simulation are transferred to practice.
6. Simulations stimulate reflection.
   Much stronger than other forms of learning, simulations stimulate a comparison with practical experience.
   - What does it mean for reality, what I have seen and experienced in the

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simulation?
   • Have I already noticed something similar in my daily environment?
7. Simulations are holistic.
   They address all the senses and various learning styles and provide immediate feedback. Unlike "case studies", simulations allow concrete and task-oriented or roll-related experiences. They allow to try new things in a safe environment and encourage to take risks.
8. Simulations are fun.
   They are captivating, encouraging and fun, so everyone would like to participate.
9. Simulations are not necessarily lengthy and complicated.
   Especially in the Anglo-American area, many very short simulations exist, which is expressed in the English term "simulation and gaming".

What are the benefit of simulations?

Simulations can be useful at different levels of the organization:

- For the individual employee (individual development)
- At department level (development of role and interface)
- For the organization (development of culture)
- And for the interaction of all three

The individual development on the employee level includes, among other things, communication, decision-making, self-confidence, leadership, risk-taking and dealing with anxiety and stress.

The departmental level benefits in defining goals, team building, leadership, conflict resolution and, of course, cooperation and trust.

Results at organizational level include systemic improvements in structure, organizational interfaces, values and ethics, vision and mission, corporate climate, motivation, etc., which can result in increased productivity, reduced sickness rate, reduced employee fluctuation and, of course, better results.

Success factors in the performance of simulations

The implementation of simulations is based on two main factors:

1. The tailoring to the concrete needs and the environment of the participants
2. The support of experience-based learning according to Kolb (1984), whereby these steps are repeated once or several times within the simulation.
   a. Concrete experience: Participants make experiences (e.g., in a simulated environment).
   b. Reflective observation: The experience is analysed by the participant from the perspective of an observer.

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    c. Abstract conceptualisation: The analysis leads to provisional assumptions with generalized validity.

    d. Active experimentation: The provisional assumptions are applied in reality or in the simulation and thus checked for their generalizability.

According to Dr. Markus Ulrich (2002), simulations of more complex systems (for example, projects, programs, project portfolios) should have the following elements:

- The simulation depicts the prolonged temporal progression and the exhaustion or recovery of the system.
- Networking of stakeholders in realistic situations in the form of concrete, differentiated roles
- Complex conflicts of interests
- Discussion of initially unclear cause-and-effect relationships
- Confrontation with manifold challenges and reaction with many possibilities for action and interventions
- Possibility of interaction (negotiations, conferences) and jointly developed solution strategies

However, the following elements are not required for the achievement of the training objectives:

- A detailed (computer) model that calculates the state of the project and the effect of actions taken.
- Detailed decision-making possibilities with fine gradations for the management of the project.

In order to achieve the above described positive characteristics of a simulation of complex systems (e.g.: projects / programs / portfolios), certain ingredients are required:

- More complex documents (e.g., individual role descriptions)
- Very good instructors (implementation, assessment and evaluation)
- More time

The systematic evaluation ("debriefing") is decisive for the success. According to Kolb (1984) this happens in four steps:

- Analysis (What has happened? What did the participants feel?)
- Reflection (How can the course be explained? How is the result evaluated?)
- Transfer (How are simulation and reality related? What aspects were (not) realistic?)
- Subsumable learning effects (What have we learned, what can I transfer and will transfer to my professional life?)

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According to Crookall (1992), "debriefing is probably the most important part of a simulation, and nevertheless it is also the most neglected".

To retain gained new attitudes, insights and competences through simulations, it is necessary to initiate steps, which ensure the transfer into the existing environment. This was demonstrated in a qualitative study (Kriz, Saam, Pichlbauer & Fröhlich, 2007).

Kriz also recommends to do the debriefing not only at the end (as a total reflection) but also in the form of shorter so-called "intermediate debriefings", which can be performed between different rounds of a simulation.

The role of the coaches

Both Stewart and Crookall (Stewart, 1992, Crookall, 1990) consider the reflection taking place in the debriefing as an unconditional prerequisite for the acquisition of professional competencies and the coach as a central catalyst, which is also subject to high social requirements.

During a simulation, emotions are triggered by the participants, since the simulation itself is a social system with self-reinforcing group processes and intensive interaction. These personal and social processes have to be touched, because otherwise the potential for learning and change is taken away. Crookall considers it even being unethical. Coaches, therefore, need to be able to deal competently with groups in terms of both, content and social (eg, psychological conversation, moderation, conflict mediation, group dynamics, etc.).

Conclusion

Simulations can be of great use in the field of project portfolio, program and project management. In particular, they can help to test new things in a protected environment and to increase the mutual understanding between the roles in this environment. No learning form is as effective as the simulation, as long as a targeted and accompanied debriefing takes place. The executive coach thus plays a much more central role than in other learning formats.

A successful guarantee is the combination of a highly parameterizable, roll-based, conflict of interests-based simulation and professional coaches.

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Rüdiger Geist, PfMP, PMP, IPMA Level B is the Managing Director of Spirit@PM GmbH, a Swiss-based consultancy specializing in coaching, consulting, outsourcing and training in the areas of Project, Programme and Project Portfolio Management. He is also Associate Professor of Project Management at Kalaidos Fachhochschule (Zurich). In the past he also lectured for the International Institute of Management (Fribourg) and IFA AG (Zurich). He was Managing Director for Agora Associates GmbH during 2007-2008, where he was engaged in consulting, coaching and training in project, program and portfolio management. He was previously lead PM coach, project manager and project portfolio manager for Credit Suisse; senior project manager, coach and portfolio manager for SPOL AG; assistant CFO, contract manager, project manager, and coach for CSC Switzerland; project designer, manager and coach for CSC PLOENZKE AG in Wiesbaden, Germany; and information systems developer for BVV Versicherungsverein des Bankgewerbes AG, Freie University and others in Berlin.

Rüdiger has a Diploma in Political Science from Freie University Berlin (1988) and in Informationsorganisator from Siemens/Nixdorf, Berlin. He is also a CMMI and SPICE certified assessor. Rüdiger holds an IPMA Level B project management certification and the Project Management Professional (PMP®) certification from the Project Management Institute (PMI®), as well as the PMOS (CSC) and a Masters Certificate in Project Management from George Washington University (GWU) in the USA. Rüdiger has authored papers and presentations at IPMA and PMI conferences and sat on the board of the PMI Switzerland Chapter as Vice President Education & Certification.

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