

SCENARIO WORKSHOPS FOR STRATEGIC MANAGEMENT WITH LEGO[®] SERIOUS PLAY[®]

Volker Grienitz, André-Marcel Schmidt

University of Siegen, Siegen, Germany

E-mail: volker.grienitz@uni-siegen.de, marcel.schmidt@uni-siegen.de

Abstract

Doing the right things in a given situation at the right time is the underlying formula for the achievements of every business. It is hereby not only the evolutionary success story of humankind but also the outcome of our cognitive capabilities to think ahead possible future situations. Within strategic management, companies similarly have to think ahead future situations in due time, to ensure the necessary scope for ideas and innovations and generate promising options for action. In this context scenario technique is an appropriate method for future foresight, often realized within a workshop. Lego[®] Serious Play[®], however, is a good tool for enabling and enhancing communication within a workshop framework. The paper presented shows a synopsis of the findings derived from the application of Lego[®] Serious Play[®] within a scenario workshop that lead to reliable future options for action.

Key words: scenario technique, scenario workshop, Lego[®] Serious Play[®].

Introduction

At the junior professorship for Industrial Engineering at the University of Siegen, research focuses on future foresight and complexity management on the one hand and technology and innovation management on the other hand. As to the first concern, scenario technique is an accepted toolbox for the visionary look into the future (Geschka, 2006).

Scenario technique is an appropriate toolbox for reducing complexity against the backdrop of an underlying system comprehension. I.e. complexity as regards the multitude of influences and possibilities for development is reduced to a manageable degree.

The process of creating scenarios can be compared to the process of taking a photo with a camera. With a strong flash scenario technique “shoots” a photo of the unknown space “future”. The center of the picture is clear and details can be recognized precisely. At the edges, the blur is growing steadily. Hence, it becomes clear that only a part of the space “future” can be illuminated without being imprecise or losing the focus. Scenario technique therefore cannot help thinking ahead all the future, rather it acts very focused. For future scenarios, it is most important that the question that has to be answered is clearly defined. I.e. three points have to be clarified: the thematic focus, the geographic focus and the time horizon.

According to this, future scenarios and respective options for action were developed within the here described application example. But scenario technique is not only limited to the development of future scenarios. Rather scenario technique can help solving almost any problem with a morphological structure - problems that can be decomposed to parameters with respective characteristics. For future scenarios the parameters are influence factors for which so called projections are worked out as characteristics. Projections are alternative future development possibilities for the respective influence factors. With that in mind various applications of scenario technique to problems that had a morphological structure have been shown (Grienitz, Schmidt, 2011; Grienitz, Hausicke, Wollny, 2011; Grienitz, Schmidt, 2010).

In general, it can clearly be a challenge taking many opinions into account within a short period of time. Especially it requires a lot of resources and it is prone to problems. On the one hand some persons often don't feel that they have to participate in the process or feel misunderstood. Therefore they hold back their own opinion. On the other hand, results are often limited as regards creativity and imagination. In this context, Lego® Serious Play® (LSP) can make a valuable contribution.

For this, the methodology of Lego® Serious Play® constitutes the second pivot of this paper. At the outset, the Lego Company developed and used Lego® Serious Play® internally for their strategy processes by the mid of the 1990'ies. But ten years later they decided to introduce it to external partners in a special partnership model. Only employees of these partners were trained by the LSP master trainers and became authorized facilitators. Also, only these trained facilitators could buy the specially designed LSP workshop sets. In 2009 LSP became sort of "open source", i.e. since then everyone can buy the special workshop sets and the training program was opened to the public.

LSP bases on fundamental beliefs about leadership and organizations:

- All "voices in the room" are necessary for successful decision-making processes
- Everyone wants to contribute in the process
- Everyone needs to be allowed to contribute their knowledge
- Very often knowledge remains untapped within the minds of the process' participants
- We live in complex and adaptive world

By using the hands for bringing the own ideas and thoughts to Lego® models, more parts of the brain are used than just the working memory. This is called hands-brain-connection. I.e. people are more creative and imaginative when using their hands in the context of mental work. Additionally, everyone gets kind of connected to his ideas by building the respective models and therefore defends the own ideas very intrinsically.

Another Aspect of LSP is to tell the stories that belong to the models. I.e. everyone has to describe the own model afterwards by mainly using metaphors. Metaphors help to give a deeper meaning to the Lego® bricks. I.e. the participants do not build their ideas just by physically representing them with the Lego® bricks. Hence, LSP is not about constructing. Rather the participants give meanings to the bricks by using metaphors and link these meanings to a story that exceeded the physical models. Since everyone has to tell the story that is behind the model, everyone has to contribute. Another rule of LSP is that everyone lets each other speak out their thoughts about the model and the story.

Concluding, LSP can be regarded as a facilitated thinking, communication and problem solving technique that is especially suited for organizations and teams (Roos, Victor, 1999; Roos, Victor, Statler, 2003). In detail, LSP allows for a new way of communication within a scenario workshop that will be described in the following.

Problem of Research

Especially the lack of creativity and imagination evolves / becomes critical within the generation of (future) scenarios, since it is very essential to include a high variety / bandwidth of possible future developments (Grienitz, Schmidt, 2010). As experience shows, the worked out future developments in most cases are in fact not visionary enough. I.e. the available potential of the involved experts was not used efficiently within the process of scenario creation.

The scenario workshop provides - as a special type of scenario technique - an efficient and structured way to involve all stakeholders. The main target of a scenario workshop is to develop reasonable (future) scenarios in a short time (generally in two days) with experts as regards

the topic. The scenario workshop will later be depicted in detail within the sample of research in order to accentuate the impressions / conclusions made. At this point it is rather important to emphasize that the scenario workshop in general is also afflicted with the just described problems (lack of creativity and imagination). With that in mind, the idea of integrating the Lego[®] Serious Play[®] methodology into a scenario workshop came up.

Research Focus

One aspect of the research at the junior professorship are methods that help to develop more reliable scenarios and therefore to improve the scenarios' quality. In this context, especially the scenario workshop has several group specific problems. LSP can help solving such problems in general. For example by stimulating the participants' creativity or by advancing the process of imagination.

The paper presented hence describes one approach to integrate LSP into the scenario development process and especially into the application form "scenario workshop" in order to achieve an additional benefit. I.e. by establishing systematically managed creativity within the process of scenario creation. Up until now, both methodologies were used independently.

In detail the possible links between both methodologies are of crucial interest. I.e. it has to be questioned what tasks in the workshop could reasonably be replaced or supported by LSP.

Methodology of Research

General Background of Research

In 2008 / 2009, a future study about the competitiveness of the local automotive supplier industry in South-Westphalia, Germany, was conducted (Grienitz, Ley, Schmidt, 2009). Thereby, scenario technique played a major role. Several types of scenarios were developed, thus by using scenario workshops. On the one hand, future scenarios for both the manufacturers and the global environment were developed. These in sum described the future field of action for the regarded supplier industry. On the other hand, strategy scenarios for the suppliers were developed. All scenarios together allowed for the recommendation of consistent options for action.

Scenario creation within workshops has both crucial success factors and pitfalls (Grienitz, Schmidt, 2012). Especially the early and broad integration of all stakeholders and their opinions and know how is very important. During the study LSP was not used, because the junior professorship actually came to know LSP since the end of 2009. Just then, the possibility of connecting both methodologies could be recognized and it was discussed what advantages there would have been when LSP would have been used for the study. In this context the idea of using LSP within a scenario workshop began to form.

Sample of Research

In the following, both the scenario workshop in general and the experiences / conclusions of the actually performed workshop are presented. The latter are formatted in italic for better reading.

Scenario workshops are an appropriate method for future foresight, bringing different perspectives and opinions to consensus. For this, an ideally very inhomogeneous group of experts should be set up, at which the choice however clearly is dependent on the topic that will be addressed. From this, the following selection requirements may be deduced:

1. The workshop team should include professionals and knowledge holders from all relevant areas
2. All persons that will be involved in the following decision making process should also be included
3. Ideally some externals would be included as creative minds and / or cross lateral thinkers

With a cooperation partner a scenario workshop was performed and future scenarios were developed. Therefore the workshop team was set up with knowledge holders and decision makers from different departments. Externals were not included since the topic was not intended for the general public and had to be treated confidentially. At the beginning of the workshop the introduction round was supplemented by a first round of LSP. I.e. a warm up round for LSP was performed in order to facilitate the group to work with LSP and to create a common starting point for the next LSP tasks. Normally this warm up round is a little bit off topic and helps to “get the hands” on the Lego® bricks. After the warm up round, a topic related tasks was done and more abstract Lego® model was built. This helped advancing imagination and creativity in a first step.

As already described above, the thematic focus, the geographic focus and the time horizon have to be defined at first. This has to been done in the preparation of the scenario workshop. In a next step, all relevant factors that may influence the regarded subject have to be identified. These are so called influence factors. Following Peterhänsel, many strategy implementations, change processes or projects fail owing to a missing understanding as regards both the changes' necessity and possible solutions (Peterhänsel, 2009). Both aforementioned problems can be addressed by a scenario technique in general and the scenario workshop in special. I.e. scenario technique helps to determine the key influence factors that have most (future) impact on the regarded subject, thus by means of prioritization. For this, the influence factors normally are rated against each other as regards their mutual influence in the so called influence matrix.

For the regarded thematic focus, geographic focus and time horizon the workshop team worked out about 50 influence factors. In a general scenario workshop this step is taken by means of paper cards and writing down the ideas by brainstorming. In the regarded workshop the influence factors were identified with help of LSP. For this, every workshop member had to build as much influence factors with help of LSP as possible. By doing so, several advantages could be observed. At first, the diversity of the developed influence factors was very high. I.e. in comparison to previous workshops, it could be notified that the members really were much more creative and imaginative. At second the developed influence factors were much more accessible. I.e. the workshop participants had a more common understanding of the influence factors. Consequently, everyone could describe all influence factors in detail. This really helped in the process of prioritizing the influence factors. For this not the earlier proposed influence matrix was used. Rather the factors importance was evaluated by means of placing them physically on a printed portfolio (cf. Figure 1), thus also considering the influence factors mutual influences. The portfolio was built up by two dimensions: on the hand, the models were positioned as regards their influence and dynamics on the ordinate and on the other hand by their weight (their importance for the regarded subject) on the abscissa. In detail those factors with the highest weight and influence / dynamics were prioritized - regarding Figure 1, factors that had been positioned mostly right (highest influence to the topic) and mostly at the top (highest importance / weight for the topic). For reducing complexity, not all of the 21 factors in the upper right corner of Figure 1 were chosen. In detail, only twelve factors were selected as

key factors - the twelve most right and at the top positioned factors. Compared again to earlier scenario workshops, the prioritization was much more reasonable and finally fully agreed by all participants.

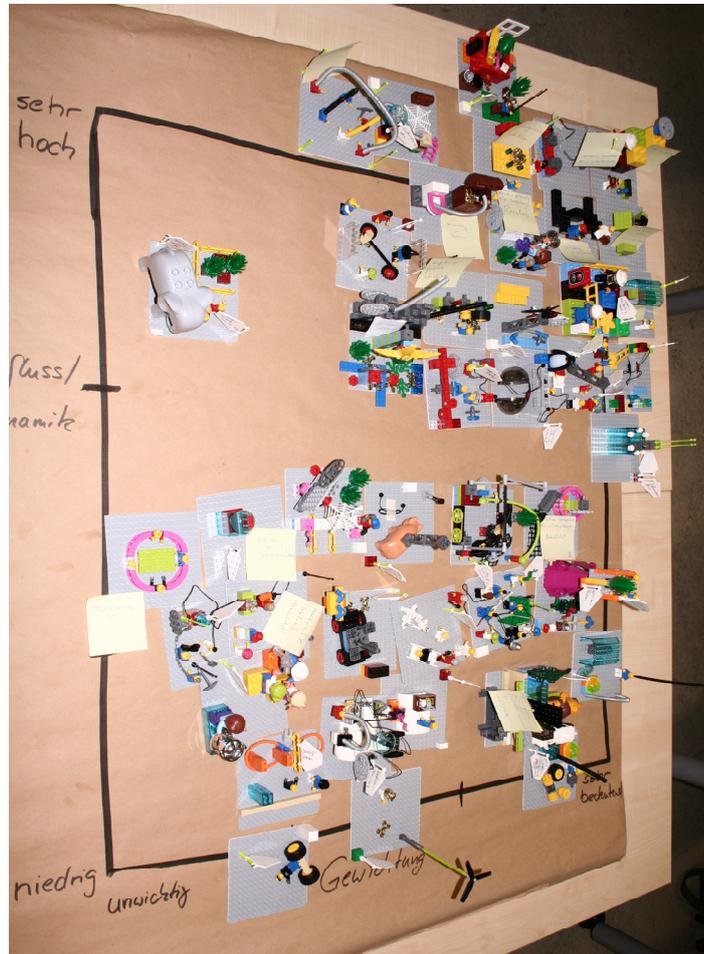


Figure 1: Choice of key influence factors by means of a portfolio.

Within the next step in the scenario creation process the view is directed towards the future. I.e. for all key influence factors, possible (or rather the thinkable) future developments, the so called future projections have to be identified. Normally these are worked out by small groups of the workshop participants, thus guided by the workshop moderator. Similar to the identification of the influence factors, the projections are created by means of brainstorming and written down on workshop cards with a short description. All cards with the projections are afterwards collected and presented within the whole group.

In a first step the participants were asked to build future projections with LSP that were close to today's is-state. In a second step, they had to be more creative and had to build very visionary future projections for the key influence factors. As a third step they were asked to be open-minded and to create a last model, regardless of whether the respective projection was near to today's is-state or rather visionary. This process step was also taken in small groups. One could ask if the range of projections was comprehensive enough when using LSP, since trends and extrapolations, overstates etc. were not explicitly taken into account. This clearly is

a good point for discussion. But it could be noticed that the range of the developed projections was extraordinary. This only became clear when the scenarios were calculated. Hence, this aspect will be discussed later.

Having identified all relevant future projections, these have to be rated against each other in next step. Thereby, the rating criterion is compatibility. I.e. the plausibility for a simultaneous occurrence is questioned. The rating ranges from total inconsistency to strong mutual assistance. All ratings are performed within the so called consistency matrix.

Within the performed workshop, all ratings were performed in exact the same way: by the consistency matrix. But in the following discussion, it became clear that most of the workshop members described the rating process as very efficient and easy accessible. As experience shows, this process step normally is very time consuming and usually has to be facilitated. I.e. LSP allows for a more comprehensive understanding of the projections and therefore provides the mainspring for this advantage compared to the standard scenario workshop. Also, the ratings that were made by the participants felt slightly better, since the resulted scenarios were very selective and there was no necessity for a "fine tuning" of these ratings. As experience shows, especially the latter aspect often evolves within classic scenario workshops.

As a next step the scenarios are calculated, thus based on the consistency matrix. Ideally each calculated scenario consists of projections that are most consistent. For this our special consistency algorithm is used. The scenarios are mostly depicted both as table and a special graphical representation. Within the table the distribution of projections is shown for each scenario. I.e. it can be seen which projections constitute the final scenarios and for example which projections are scenario specific since these occur only in this specific scenario. For the graphic the statistical method of multidimensional scaling (MDS) can be used for example. Based on these depictions, the scenarios are afterwards interpreted, discussed and often also described by short management summaries.

Similar to a classic scenario workshop the developed scenarios were worked up in form of a table and a graphic by MDS in a first step. But afterwards, the scenarios were built with help of LSP. For this, the characteristic projections for every scenario were merged together to a so called shared model. This was done in small groups, each for one scenario.

As a last step, options for actions can be derived based on the developed scenarios. For this, possible alternative courses of action are discussed in the light of each scenario, thus mostly in small groups of the participants. The options for action can afterwards be clustered together to scenario-specific topics. Also, future proof courses of action can be identified in almost every case. These are courses of actions that fit to any of the developed scenarios.

In case of the performed scenario workshop with LSP, options for actions were also developed. But in contrast to a standard scenario workshop, these were modeled with help of LSP. The according stories that were finally presented by the participants clearly admitted a very broad and common understanding of the developed options for actions and provided insights for further areas of action. In a further step, the courses of action were also clustered together to topics. In contrast to the general course of action, these were not just written together. Rather these were merged together. For this, the core elements of each course of action were used for a common model of topic. In this way, commonalities of the topic specific courses of actions could be identified clearly. This also helped to identify the above mentioned future proof courses of action that were also regarded within the workshop.

In the core, the depicted insights and the following results were deduced by comparing the experience of further workshops with the workshop supplemented with LSP. For this, recorded lessons learned were compared with the new impressions. Further on in-depth discussions with the participants followed up the workshop. These helped to render more precisely the gained insights and to confirm / confute the impressions made.

Results of Research

In the following the benefits of using LSP for scenario workshops will be depicted. In detail it will be shown where and how LSP was used in the scenario workshop and what benefits could be generated by this.

1. At first, LSP helped to create a common starting point for all workshop members. This first task helped to set up the team and advanced imagination and creativity. This can be an advantage in case of very inhomogeneous teams, especially when external experts shall be integrated.
2. LSP was further used to identify the (key) influence factor for the workshop topic. In comparison with experience, the application of LSP lead to a higher diversity of the identified influence factors.
3. Also, the influence factors were prioritized with help of LSP. It could be experienced that the choice of the key influence factors was much more reasonable and fully agreed, since LSP allowed for a better understanding of the influence factors.
4. As a next step, possible future developments for the influence factors (projections) were gathered with help of LSP. The range of the developed projections was extraordinary in comparison to earlier workshops. One reason could be the better understanding of the influence factors, thus evoked by the use of LSP. This also helped within the process of assessing the consistency matrix. In detail, the participants experienced this process as efficient and easily accessible. Normally, this process has to be facilitated much more. The very good quality of the developed scenarios supports these statements. Experience shows that the scenarios normally have to be overworked due to minor quality.
5. Further on, the scenarios were visualized with help of LSP. I.e. for each scenario the characteristic projections were merged together to a model of the respective scenario. Normally it is a very complex process of communicating the developed scenarios. But within the applied workshop it became clear that LSP allows for a very good way of communicating the scenarios, compared to the usual ways (table, MDS). I.e. a scenario is not only depicted by the sum of its parts (in form of a table for example). Rather, for each scenario an overall picture could be developed that represented more than just the sum of the respective projections.
6. Based on the LSP models of the scenarios, options for actions were developed in a next step, thus also supported by LSP. It could be noticed that the developed options for action suited very well to the developed scenarios. In comparison to past experiences, these also provided insights for further areas of action.
7. In a last step, the developed options for actions were clustered together to topics, thus by grouping and putting them into context. For this shared models for each topic were built with LSP. I.e. core elements of each option for action were used for a common model of topic.

By doing so, commonalities of the topic specific courses of action could be identified. This helped to identify future proof options for action. I.e. options for action that fit to any of the developed scenarios.

In addition to the results that are very workshop-task specific, overall improvements could be noticed:

1. LSP helped clearly motivating the workshop members, thus very intrinsically.
2. Each workshop member was satisfied with the results (seeing his ideas / suggestion integrated in the overall solution) and hence agreed with them.
3. The communication of the results was much easier (everyone had the same picture in mind: the shared model).
4. LSP allowed for a guided discussion as well as creativity.
5. There was not only a common understanding of the scenarios. In fact, also the gathered options for action were commonly agreed and were also based on a common understanding.
6. The course of action as regards the workshop could also be improved. Compared to past experiences the workshop had more “flow”. This was also mentioned by the workshop members in following discussions.

Discussion

Since a workshop is a group process by nature, it is also affected by several group process specific problems. Some elements of LSP may have helped in this context.

At first, a group process or rather the group members are affected by fatigue, thus especially within full-time workshops. LSP addresses this problem by an intrinsically motivation of the participants. By building the LSP models, everyone gets personally connected with his model (In classic LSP workshops the facilitators therefore are urged to ask ever before touching any model). Hence, everyone is very intrinsically motivated to present his own model. Since everyone wants to speak out the thoughts about his / her model, everyone is also interested in hearing the thoughts about the other models. The theory of flow is also a basic thought / concept behind LSP. I.e. the elements within a workshop should be designed in such a manner that the complexity of the tasks should equally grow as the knowledge / the abilities of the participants (Csikszentmihalyi, 1991). These two aspects can clearly help preventing fatigue.

In normal group processes the aspect of conscious deception is another possible problem. I.e. someone for example can make false statements and no one can identify this statement as false. When using LSP it is very unlikely that someone can make false statements, since he / she has to explain his / her thoughts by telling a very detailed story of the model. Making false statements would therefore imply making “false” stories. It is very unlikely that this would remain undiscovered.

Another group related problem is to meet with a refusal as regards specific workshops participants. Since storytelling is a main thought behind LSP and everyone has to contribute his story, everyone gets included in the discussion.

Although rarely occurring, it could also be possible that the whole group refuses to work with the methods given. Since LSP has a very low entry barrier - almost everyone already had Lego® bricks in hands - the entry barriers for the scenario workshop could also be reduced. Within the meaning of flow it is also very good to start with low complexity and hence also with low entry barriers.

As a last point, it is also very important to very creative and visionary when compiling scenarios. But in fact the scenario workshop participants are often dominated by their current ideas / visions / thoughts / day-to-day business / projects etc. As experience shows, it clearly is

a great challenge facilitating the participants creating visionary scenarios. LSP can help in this context by establishing a guided creativity through core LSP elements: imagination and hands-brain-connection.

Conclusions

In fact, this was the first time LSP was used for a scenario workshop. I.e. there clearly are lessons-learned and some minor coordination issues as regards the integration of LSP elements within a regular scenario workshop.

Therefore the first impressions made within the described workshop have to be confirmed. For this, it is planned to integrate LSP in further scenario workshops. The lessons-learned have hence to taken into account.

References

- Csikszentmihalyi, M. (1991). *Flow - The Psychology of Optimal Experience*. New York City: Haper Perennial.
- Geschka, H. (2006). Szenariotechnik als Instrument der Frühaufklärung. In Gassman, O., Kobe, C., *Management von Innovation und Risiko* (2. Aufl., p. 357 – 372). Berlin, Heidelberg: Springer-Verlag.
- Grienitz, V., Schmidt, A. M. (2011). Anticipation of developments in industry sectors with future scenarios and creation of business models using a multi-stakeholder- approach. *International Journal of Foresight and Innovation Policy*, Special Issue on: „Foresight and New Trajectories“.
- Grienitz, V., Hausicke, M., Wollny, B. (2011). Technikunterstützte Bewertungsprozesse in der Szenariotechnik. In: *7. Symposium für Vorausschau und Technologieplanung*. Berlin.
- Grienitz, V., Schmidt, M. A. (2010). Gewichtete Konsistenzberechnung – Kopplung von Systemanalyse und Szenarioerstellung. In: *6. Symposium für Vorausschau und Technologieplanung*. Berlin.
- Grienitz, V., Schmidt, M. A. (2010). Scenario-based generation of Business models considering market constraints. In: *Proceeding of the 2010 Industrial Engineering Research Conference*. Cancun: IERC (Industrial Engineering Research Conference).
- Grienitz, V., Ley, S., Schmidt, A. M. (2009). Scenario based future business models in automotive supply industry. In: *Proceeding of the 2009 Industrial Engineering Research Conference*. Miami: IERC (Industrial Engineering Research Conference).
- Grienitz, V., Schmidt, M. A. (2012). Anticipation of developments in industry sectors with future scenarios and creation of business models. *International Journal of Foresight and Innovation Policy (IJFIP)*, Special Issue, 2012, unpublished.
- Peterhänsel, M. (2009). Wertstrommanagement: Eine wirksame Intervention im Rahmen von Grundlegenden Veränderungsprozessen. Retrieved 3/02/2009, from <http://www.sedlak-partner.de/PDF/Wertstrommanagement.pdf>.
- Roos, J., Victor, B. (1999). Towards a New Model of Strategy-Making as Serious Play. *European Management Journal*, 17 (4), 348-355.
- Roos, J., Victor, B., Statler, M. (2003). Playing Seriously with Strategy. Imagination Lab Working Paper 2003-2a, Lausanne Switzerland.

Advised by Constantin Bratianu, Academy of Economic Studies, Bucharest, Romania

Received: *February 07, 2012*

Accepted: *April 12, 2012*

Volker Grienitz

Prof. Dr. Ing, Assistant Professor, Institute for Manufacturing Technology,
University of Siegen, 57068 Siegen, Germany.
E-mail: volker.grienitz@uni-siegen.de
Website: <http://www.uni-siegen.de/fb11/ie/?lang=de>

André-Marcel Schmidt

Research Assistant, Institute for Manufacturing Technology, University of
Siegen, 57068 Siegen, Germany.
E-mail: marcel.schmidt@uni-siegen.de