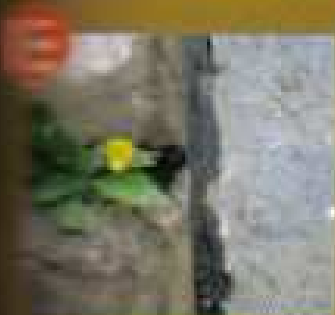


# 11

## THE STARTER KIT

Sibylle Heunert, Patrick Klein,  
Margarida Monteiro de Barros,  
Carol Webb, and Michael Wunram



Self-Organisation



The Edge of Chaos



Diversity



Order & Time



Unpredictability



Pattern Recognition

### **The Target Group**

The target group is potentially every employee who is interested in knowing more about how concepts of Complexity Science could help to:

- better understand phenomena arising in day to day work (e.g. "I planned this task to its utmost detail, but it went wrong anyhow" etc.)
- learn that complexity is the rule and not the exception in turbulent environments (e.g. "Why are we changing our strategy again? We changed already a year ago! These guys up there really do not know what they want...")
- find ways, means and potential strategies to cope with turbulent situations (e.g. "Ok, if this is Complexity, then what does it provide to me? How can I apply it?")

It is very important that the goal and intention of the RODEO Starter Kit is properly communicated to the target group. In this way it will enable the interested/concerned employees to make sense about the starter kit and its purpose. The first communication with the target group might be decisive for the overall success of acceptance and adoption. Therefore, it should consider that it will address people that have very limited time frames to be introduced to something new.

### **The Goal of the RODEO Starter Kit**

The goal of the starter kit is to provide a basic introduction to employees who are interested and want to apply complexity based approaches in their company. It is not the intention to explain all theories and their roots in detail, but to allow them to understand the basics (e.g. you do not need to know how cars are built, in order to drive them). Therefore, it will be necessary to provide the employees with inputs, so that they can

- consider a different POINT OF VIEW,
- have some REFERENCES/EXAMPLES,
- consciously EXPERIENCE complexity,
- RECOGNIZE, OBSERVE and IDENTIFY complex phenomena.

### **Potential Content of the RODEO Starter Kit**

The intention of this approach is to lead the participants through an apprenticeship based on action – experience (first experience, and then concepts to describe the experience, see "science praxis" - Agyris). It is commonly accepted, that learning is most effective when it is linked to practice. However, learning a new perspective and reflecting one's day to day business through this perspective takes time. The decision for the application of the RODEO Starter Kit must therefore consider the impact

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of time (psychology of learning) on the overall process. One fundamental item of the RODEO Starter Kit should be exercises, exercises that are based on action, music, metaphors, films or ridiculous situations. These exercises should confront people with a new perspective that leads them to change their point of view, by getting them out of their routine thinking. It is very important to let participants experience the exercises and not only see them happen.

After the exercise it is important to reflect what happened during the exercise (provide feedback). The facilitator has then to "elicit" the participant's emotions and feelings. Understanding complexity and dealing with it can best be observed through the expression of fears of the participants. From psychology it is known that individuals do not feel comfortable in chaotic/uncertain situations and always try to achieve a certain amount of stability and put structure in their observations, even if participants often say they do not (see Watzlavick 1973). Fear, feelings and intuition are important indicators to be addressed when trying to bring people to understand complex situations.

After the exercises and the feed-back, some general input about the 6 complexity principles should be given to the participants. The facilitator has to establish a clear link to the concrete experiences made and feed-backs obtained during the exercise. Further links should be established to the individuals' daily experiences within teams, organisations etc. This work gives the possibility to the facilitator to adapt his/her inputs to the concrete and specific needs of the employees.

### **An Overview of the Starter Kit**

The Complexity Starter Kit at its very heart now aims at sensitising anyone interested in the topic of Complexity Science. It consists of three distinct steps. The first step (supported by The RODEO Calendar) aims to "break the ice" by presenting the 6 complexity principles which the RODEO Process is based on, in a very simple way, in order to raise awareness and stimulate curiosity. The second step (supported by The RODEO Exercise Class) allows those taking part to "experience" complexity. By the means of different specified roles people start acting according to the one they are given. The consequence is that along the duration of the exercise the participants experience the 6 complexity principles, those of special interest to RODEO.

The experiences are then reflected with the help of a facilitator who is guided by a clear set of questions. The third and last step of the Complexity Starter Kit (supported by the RODEO Follow-up Pop-up) allows the participants of the workshop to follow-up on their recently made experiences by recognising the different phenomena discussed in their daily working practice and reflecting individually (but preferably in online groups) on these. The RODEO Follow-up Pop-up is a web based tool, that allows its users to get more detailed information about the principles experienced, and further allows its users to write down

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comments, reflections, questions; etc., which are stored for others to read or to answer. In summary, it is presented to organisations as follows:

### **The RODEO Complexity Starter-kit**

#### **Summary:**

- Introducing 6 complexity principles in 3 simple steps
- A stand-alone introduction to complex phenomena
- Preparing participants for the RODEO Business Development Suite

#### **Overview & Benefits:**

- Bring state-of-the-art management theory into your organisation
- Enable employees to think and act in a more robust and adaptable way
- Put the uncertainty and rapid change of turbulent business environments into perspective by recognizing the opportunities provided
- Gain a fresh perspective & make sense of work and business in a new way
- Learn about six complexity concepts: self-organisation and emergence; the edge of chaos; diversity; history/time; unpredictability; pattern recognition
- Introduce yourself and your colleagues to the RODEO business development method

#### **The Complexity Starter-kit is directed at:**

- Those who need an update on management theory
- Knowledge management, business development and strategy teams and managers
- Any employee interested in an introduction to complex phenomena

#### **Content and Key Learning:**

##### **STEP 1: The RODEO Calendar:**

- Begin the complexity learning process
- Visualise and ponder six complexity concepts

##### **STEP 2: The RODEO Exercise Class:**

- Encounter and make sense of the six complexity concepts in a group context
- Experience & develop understanding - interactive games and discussions

##### **STEP 3: The RODEO Follow-Up Pop-Up:**

- Practice the new perspective day-to-day by reflecting on the six complexity concepts, and more
- Engage in discussion
- Submit thoughts, reflections and experiences
- Continue developing understanding and knowledge to enhance your perspective further

#### **Complexity Starter-kit logistics – What is involved?**

The Starter-Kit requires approximately six hours of input per participant, over a two-week period. It is introduced via a series of written and graphic materials, interactive exercises with a facilitator, and an online software application.

The next section describes the first part of the Starter Kit, the RODEO Calendar.

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## Starter Kit Part 1

### The RODEO Calendar

By Carol Webb

Seven days before the Starter Kit Exercise Class and Workshop, the proposed participants receive a 5 day desk calendar – to learn the name of one complexity principle per day.



The following instructions are given with the calendar:

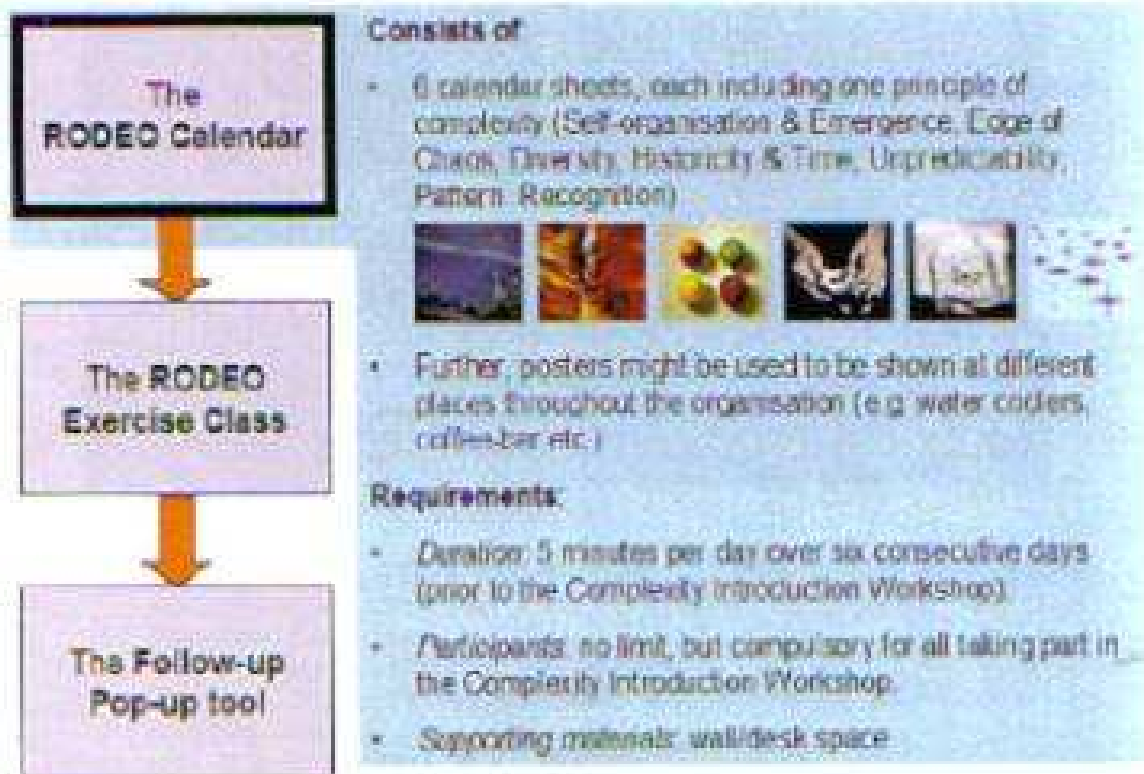
## The Secrets of the Six Principles

### THE RODEO CALENDAR: A 6 Day Journey Into Complexity

In the 6 days until your first RODEO workshop, use this calendar to familiarise yourself with some key complexity concepts. Start 6 days before your first RODEO workshop. Take it one day at a time – no peeking ahead!

Each page of the 6 day calendar focuses on a different complexity principle: self-organisation and emergence, the edge of chaos, diversity, history and time, unpredictability, and pattern recognition. These are presented with eye catching images that create a high impact – the same ones that you see used throughout the book in fact.

The calendar is also accompanied by a poster version of each of the 6 days. These can be put up near photocopiers or by coffee machines, in fact anywhere that people sometimes get together and have a conversation. The idea of this is to create the opportunity for people in the organisation to talk about the complexity principles and develop some kind of feel for them with each other, in order to begin the group sense-making experience.



By the seventh day the participants have been stimulated by the pictures and new words, and are curious to proceed to the next part of the Starter Kit, namely, the Exercise Class and Experience Workshop. This should take place on the seventh day after the introduction of the calendar. The next section describes the workshop in detail.

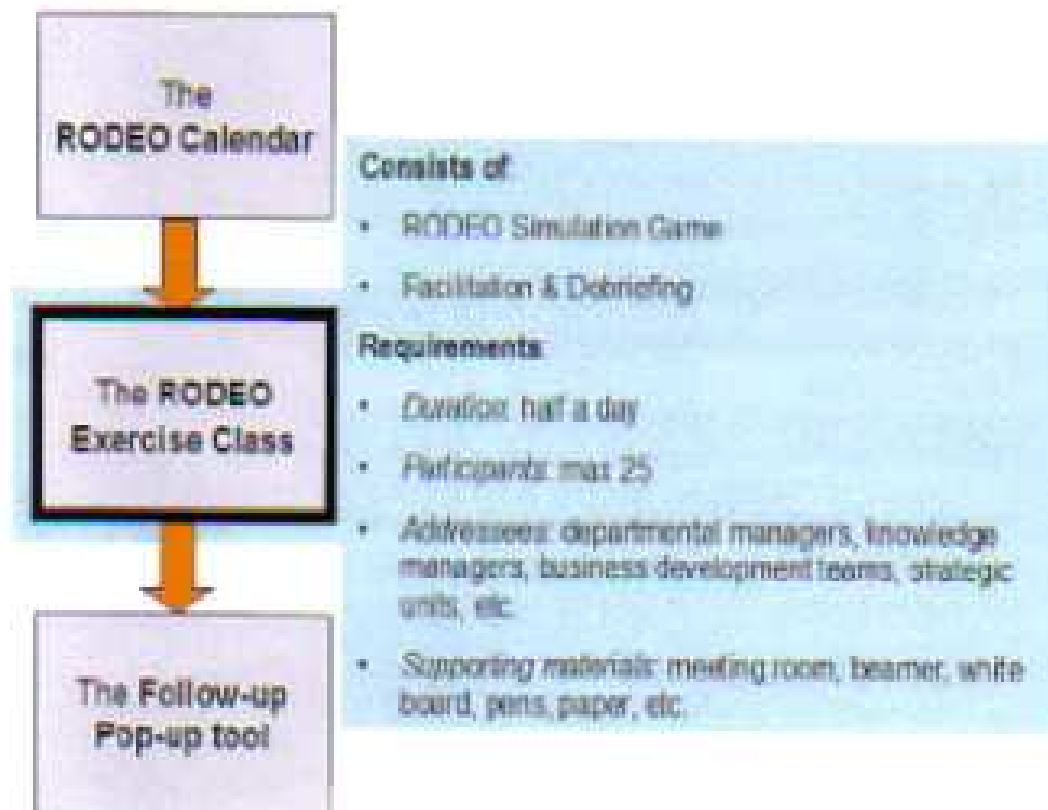
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## Starter Kit Part 2

### The RODEO Exercise Class & Experience Game

By Carol Webb

This section introduces and explains the Starter Kit Exercise Class and Experience Game.



In the context of this class and game, a 3-4 hour workshop is performed as a kick-off. Usually workshops start by presenting some initial theoretical content and afterwards provide some exercises. However, in a series of cases it has proven to be more effective to first let people experience a certain situation and then reflect on it theoretically under the advice of an expert. This usually creates a high impact "aha"-effect. The aim of the workshop is to lead the participants through an apprenticeship based on action – experience. It is commonly accepted, that learning is most effective when it is linked to practice. However, learning a new perspective and reflecting one's day to day business through this

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perspective takes time. The decision whether to take part in the Complexity Starter Kit must therefore take into consideration the impact of time (psychology of learning) on the overall process.

The objective of this workshop is to provide another way of looking at things; help employees understand the basic meaning and implications of self-organisation, emergence, the edge of chaos, diversity, unpredictability, historicity/time, and pattern recognition. It requires 4 people or more, and the maximum number of players is 25. The following agenda may be useful:

**\*Welcome & Introduction – 5-10 mins**

**\*The "experience" game – 40 mins max**

**\*Break/coffee – 10 mins**

**\*6 complexity principles group discussion 65 mins max**

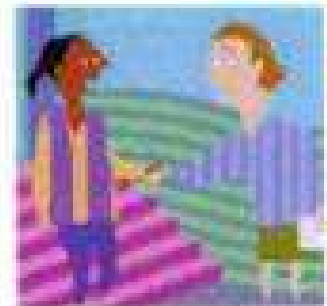
**\*6 complexity principles in your organisation, small group discussions – 35 mins max**

**\*Break/coffee – 10 mins**

**\*Implications & drawing conclusions**  
Introduction of the context analysis tool & RODEO Follow-Up Pop-Up tool – 20 mins

**\*End of workshop**

**Total time: 3 hrs 20 mins**



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**The following instructions are given to participants:**

- 1** You will receive a card.
- 2** Here are 4 instructions on the card.
- 3** You have to do all 4 things.
- 4** Do not show your card to anyone else or lets them see it.
- 5** Do not tell anyone else what is written on your card.
- 5** Read the card and wait until the game starts -
- 7** Facilitator will say 'go'
- 7** Do what is written on the card.
- 8** Continue until the game stops - facilitator will say 'stop'
- 9** Only show the card to the facilitator if asked.
- 10** If you have any questions, ask now before the game starts.
- 11** Do you have any questions? Are you sure?

Then, each person is given a card from a pack of 25 playing cards (to be kept in order and given out to players in order) with the instructions written on them (see appendix 1 for a copy of the content of these).



(See video)

An exciting and challenging game!

### **Facilitator Instructions:**

Give the instructions to the group – make sure they understand they are not allowed to tell/show others (except you) what is written on the cards. Then give the cards out (one per person) in the order of the pack – put any remaining cards back in the pack. Wait until everyone looks as though they have read and understood the card, and say 'go'.

During the exercise, don't do anything to interfere intentionally – but if you somehow get involved, tough luck! Tell the group to 'stop' after about 20 minutes or half an hour. Break for coffee and a calm down! (If the exercise has come to a natural end, stop for coffee and a break sooner).

### **Debrief Instructions:**

1. Keep things light-hearted!
2. Ask them what the experience was like – allow them to ask each other questions and to make their own comments about what went on.
3. Point out that all the things that did or did not happen could be talked about in terms of 6 complexity principles, and that you would like to discuss with them how this might be so.
4. Use a flip chart to write down each of the 6 complexity principles as you come to them in the following discussion. Or you may wish to put some of the following key points on several PPT slides. Go through each one in turn:

**Self-organisation/emergence:** Ask the group if they felt any particular person was in control of what was happening during the exercise or if anyone knew what the outcome would be in advance. Get them to discuss this a bit and talk about what happened. The overall answer should, however, be 'no, no-one was really in control, and outcomes emerged – they were not planned and could not be predicted' – back this up with examples of what happened in the exercise. Tell the group we can call this 'self-organisation' and 'emergence', where people are getting on with their own individual objectives, while interacting and with and adapting to others, and producing novel things and ways of doing things – emergence.

➤ **Additional discussion questions/info if needed:**

<p>Is any single person in command or control of the situation? No</p> <p>Is someone planning and managing the situation? No</p> <p>Is there any obvious hierarchy among the people you are with? No</p>	<p>Are people organising themselves without a leader? Yes</p> <p>Is this going on continuously? Yes</p> <p>Are people interacting with each other in simple ways? Yes</p>	<p><u>This is Self-organisation</u></p> <p>Because: complex systems structure themselves out of themselves; interacting elements act according to simple rules; order created out of chaos.</p>
<p>Can you easily predict what is going to happen next? No</p>	<p>Does the way people are interacting appear to be random? Yes</p> <p>Do you see new stuff emerging from people's interactions with each other? Yes</p> <p>Could it be that if you were to look on a wide scale there might be some patterns emerging? Yes</p>	<p><u>This is Emergence</u></p> <p>Because: patterns emerge from interactions; patterns inform behaviour of system; new qualities arise through particular types of networks; produces higher complexity out of many simple components; each individual component outgrows usual capabilities – or, people outgrow their competences.</p>

**Edge of chaos:** Try to have a similar conversation about the edge of chaos, and pick out examples from what just happened that illustrate creative activity and change.

➤ Additional discussion questions/info if needed:

<p>Is there lots of creative type activity going on here? Yes</p> <p>Are there lots of transitions and changes from one thing to another? Yes</p>	<p><u>This is the edge of chaos</u></p> <p>Because: living networks reside in a critical phase between chaos and order where networks find creativity and stability in an optimal balance; living systems are most creative, with the greatest potential for discovering order that expresses an emergent property for the whole system; when they are living near the 'edge of chaos', they naturally undergo transitions from current order to chaos, from which emerges new order</p>
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**Diversity.** As with the first two points, discuss with the group how the exercise demonstrated the diversity of those in the group, and ask them how this reflects the reality of their day to day activities in their own working lives.

➤ **Additional discussion questions/info if needed:**

Are differences between people flattened out or levelled? No	Does change happen easily? Yes Does the way people interact and change appear flexible? Yes Does the 'system' where you are seem strong? Yes	<b>Diversity:</b> Because: Networks combine the most different variants, characters, functions, high diversity creates more possibilities to react flexibly, on environmental changes; the greater the variety within the system the stronger it is; ambiguity and paradox abound, contradiction is used to create new possibilities to co-evolve with their environment.
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**Unpredictability.** Throw this word at the group like a question: "Unpredictability?" And see what they say... If anyone argues that based on the rules of the game and each person's instructions that events could be understood to have some level of predictability, then challenge this and ask to what level of detail prediction could be possible. Use the example of the weather: even though we know that certain things are possible, it does not mean we can always predict what will happen, where, when, and how etc.

➤ **Additional discussion questions/info if needed:**

Was the actual detail and order of the outcome of the exercise determined by an elite group? NO

Was anyone trying to forecast or control behaviour? NO

Were any actions isolated? NO

Could you see interlinked groups or networks with lots of people that are acting and reacting among each other? YES

If something happened in one place did you see consequences elsewhere? YES

When one thing changed did everything else change too? YES – maybe not immediately but there would definitely be some consequence somewhere. Due to complicated interrelations, it's very difficult to foresee or to control behaviour of the nodes of the network, when reacting to impulses (from outside or inside the network).

- ❑ Emergent order is holistic – a consequence of interactions between elements of the system
- ❑ All systems exist within their own environment and they are also part of that environment
- ❑ as their environment changes they need to ensure best fit
- ❑ When they change, they change their environment too

**History/Time:** Discuss with the group the way the instructions were carried out during the exercise and how they were modified as time went on, due to the interactions of others and the consequences of other actions. Elicit some examples.

➤ **Additional discussion questions/info if needed:**

Could you go back in time and change something during the exercise so as to better fulfil your instructions? NO

What decisions did you make that have brought you and the group to where you ended at the end of the exercise?

- ❑ In a social context, the series of decisions which an individual makes from a number of alternatives partly determine the subsequent path of the individual;
- ❑ Before a decision is made there are a number of alternatives – after, it becomes part of history and influences the subsequent options open to the individual.
- ❑ Unique histories mean every decision the organisation makes is context specific

**Pattern Recognition:** Tell the group that by looking back at where we have come from we can start to make sense of where we are now – even though this is always constrained by a subjective perspective and limited information. Ask the group to think about what their next steps would be if they were thrown back in the exercise situation again now, having had time to reflect on what happened. Draw them to the idea that although they can't change anything that happened in the past, they can certainly be more prepared to adapt and change in the future.

➤ **Additional discussion questions/info if needed:**

Can you always see direct and proportional links of cause and effect? NO

Are people and groups really linking in random ways? NO

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Are small numbers of people loosely coupled to others? YES

Are small changes amplified? YES

Can you see big effects coming from small changes? YES

Can you see patterns of activity being repeated over and over again?  
YES

- ❑ Complex systems are defined in terms of rich interconnections between diverse components.
- ❑ The ways agents in a system connect or relate to each other is critical to the survival of the system - from these connections patterns are formed and feedback disseminated. **relationships between agents** are more important than agents themselves
- ❑ Self-organised, living networks always show similar patterns.
- ❑ **Feedback** is the systems way of staying constantly tuned to its environment and landscape and enables the system to re-adjust its behaviour.
- ❑ In far from equilibrium conditions change is non-linear, so small changes can be amplified, and produce exponential change
- ❑ Networks are able to provide stability, while reacting to changes and impulses of the environment
- ❑ In case of disturbances networks change the patterns of the interrelations of the nodes, the more complex, the more options for change
- ❑ Novel, emergent order arises through cycles of iteration in which a pattern of activity, defined by rules or regularities, is repeated over and over again, giving rise in coherent order.
- ❑ Structures are produced by different historical events and unique interactions
- ❑ Through feedback loops (positive and negative) incidences may produce an unpredictable resonance; the chaotic state has a distinctive pattern to the fluctuations in variables - pattern changes as order begins to emerge from chaos

After all this it is time for a well-deserved **Coffee Break!**

Come back to the group after the coffee break and ask them in pairs to think of two examples from their own organisation that illustrate each of the following: self-organisation, emergence, edge of chaos, diversity, unpredictability, historicity/time, and pattern recognition. Facilitate this

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part of the exercise by walking round and chatting to each pair or group while they are working, and help them understand the 6 principles a bit more. Then bring the group back together after about 15 to 20 minutes, and spend about 15 minutes facilitating a group discussion on the examples given. Let each pair explain their own examples, and try to get a bit of debate going. By this time people are ready for another **Coffee Break!**

Following this break it is time to start to bring the workshop to a close by discussing possible implications and drawing conclusions. A good question to raise might be, 'if this is the case, what does it mean for you?' About five or ten minutes should be spent on this. This conversation should lead smoothly into the RODEO Context Analysis Kit description, the next module of the RODEO Process. This can be done via a PowerPoint presentation, where the link between the 6 complexity principles and the context analysis kit is shown. This is semi-sales pitch and semi-commitment building.

Once this has been done it is time to conclude and introduce participants to the RODEO Starter Kit Follow Up Pop Up, so that they can go away from the workshop and continue their learning and understanding about the complexity principles further, both by themselves and in conversations with others via an online discussion group.

**NB: Important advice for implementation in groups larger than 12 people, and especially in those where 25 people are present:**

In this case there should be either 2 facilitators and following the exercise/game the group should be divided in two for feedback purposes, and then brought together again for the rest of the rodeo sales pitch and intro to the follow up pop up; or, if only one facilitator is possible, not so much group discussion and more input from the facilitator. This is because the larger the group is the more difficult effective discussion is to manage. Obviously the former option is better when possible.

### **Who will implement?**

An external facilitator should implement the starter kit workshop with the people in the organisation(s) in question where possible.

The next section describes the thinking behind the Starter Kit Follow-Up Pop Up.

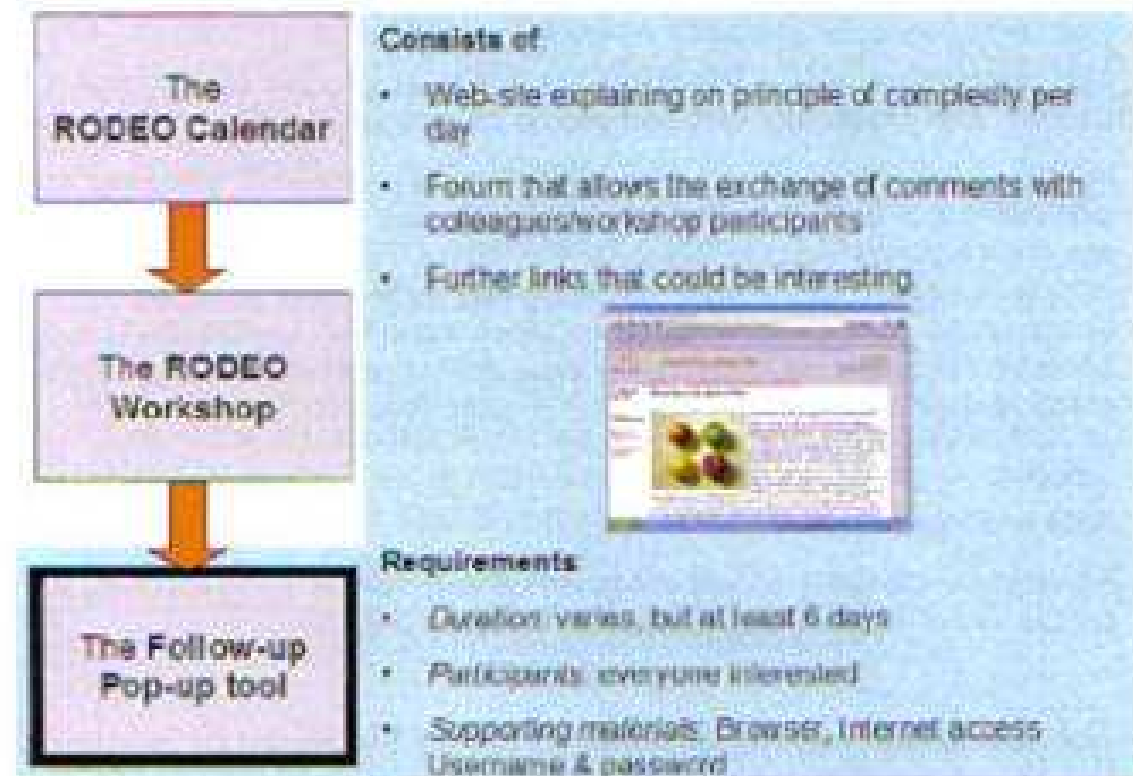
## Starter Kit Part 3: The Follow-Up Pop-Up

By Patrick Klein

The concept of the Starter Kit Follow-Up Pop-Up tool comes from something like the "tip of the day of windows", where useful hints for using "windows" pop up on the desktop as soon as the application is launched. For the Follow-Up Pop-Up such an application should be used to present complexity thinking in form of short anecdotes, analogies or metaphors. The content snippets should each illustrate a little part of complexity thinking in a way that can easily be understood without knowing the in depth theories of complexity as such. Thus the following objects are addressed here:

- To stimulate thinking in line with complexity theory.
- To make employees familiar with the need for constant change.
- To pull every employee out of everyday life for a very short time.

The tool is outlined in the following figure:



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## **Link to Complexity Science & the 6 Principles**

This tool addresses no specific need, but aims to stimulate complexity thinking and therefore prepare employees within a company to better deal with turbulence. Hence specific complexity science principles like pattern recognition or edge of chaos can be addressed. In the sense of Stacey's work it should facilitate the self-reflection of individuals and groups in and between organisations. The organisational level will at least be influenced indirectly since a change on individual or group-level thinking cannot be taken isolated from the organisational level (Stacey (1996): "Complexity and creativity in organisations" see especially chapter 10).

The underlying assumption of the tool is based on the idea that even if complexity studies can not easily be understood at a scientific level, there can be found eye catching "experiments" or visualizations which are immediately understandable by everybody. These experiments might influence employees in their way of thinking and perceiving their environment. The awareness of complexity principles, like self-organisation and emergence can be linked to the business context.

Users of the pop up who felt some resonance with the complexity principle in question and who has been additionally indicated to a possible business context, will potentially be stimulated to change his way of thinking, or at least add another angle to his point of view.

His perception of day to day business will be influenced but any changes of thinking itself can not be predicted, but there should be a measurable influence also in daily business. According to Hamel 2001, bringing new "genetic material" into the strategy process always serves to illuminate unconventional strategies.

## **Description of the Follow-up Pop-up tool**

**USP:** Tools similar to the Follow-Up Pop up have been used as containers for presenting various information snippets. Thus the crucial point is not the technology, but the content itself. Since complexity science can be seen as a kind of lens for looking at reality, the tool aims to introduce this lens to everybody.

**Software Support:** The tool can be installed on each PC in a company without great effort. Thus it is possible to install the Pop Up tool on every computer. Every employee could be reached as long as he/she has access to a PC. The pop up technology can be supported by different authoring tools which are available commercially. These software tools allow add into the pop up one's own content. Additional functionality may allow also linkages to the web (e.g. to source providing more information).

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and provide for a deeper understanding) or internally (e.g. a linkage between two content pages).

**The Follow-up Pop-up tool:** The Follow-up-Pop-up tool represents the third part of the RODEO Starter-kit. It is a web-based tool easily accessible via the Internet. It describes the 6 complexity phenomena in an easy to understand way, so that the user of the Follow-up Pop-up tool are able read some more details after the RODEO Exercise Class. The intention is that participants of the workshop shall spend 5-10 Minutes per day trying to understand the phenomena and identifying these in their daily working environment. The tool also provides the possibility to post statements, questions, comments for other people to read and answer at will. This process facilitates the exchange of experiences and reflection of the newly learned topic.

The next chapter introduces and explains the next module in the RODEO Process, the Context Analysis Kit.