



# A Framework for Utilizing Group Support Systems in Scenario Process

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# Outline

1. Background
2. Scenario process
3. Group Support Systems
4. Empirical evaluation
5. Conclusion and discussion



# 1.1 Motivation

- Uncertainty and rapid change in business environment
- Colorful collection of methods and practices to manage uncertainty
- Scenarios presents an interesting and versatile method for learning and planning
- Attempt to find support methods for scenario process

## 1.2 Research Issues

Main issues in this study:

- What are the preferred qualities in scenarios and the characteristic elements of a successful scenario process?
- What challenges does the scenario process present to group work and knowledge creation?
- Can the scenario process be facilitated using a GSS and can use of the GSS add value to the scenario process?



## 1.3 Methodology

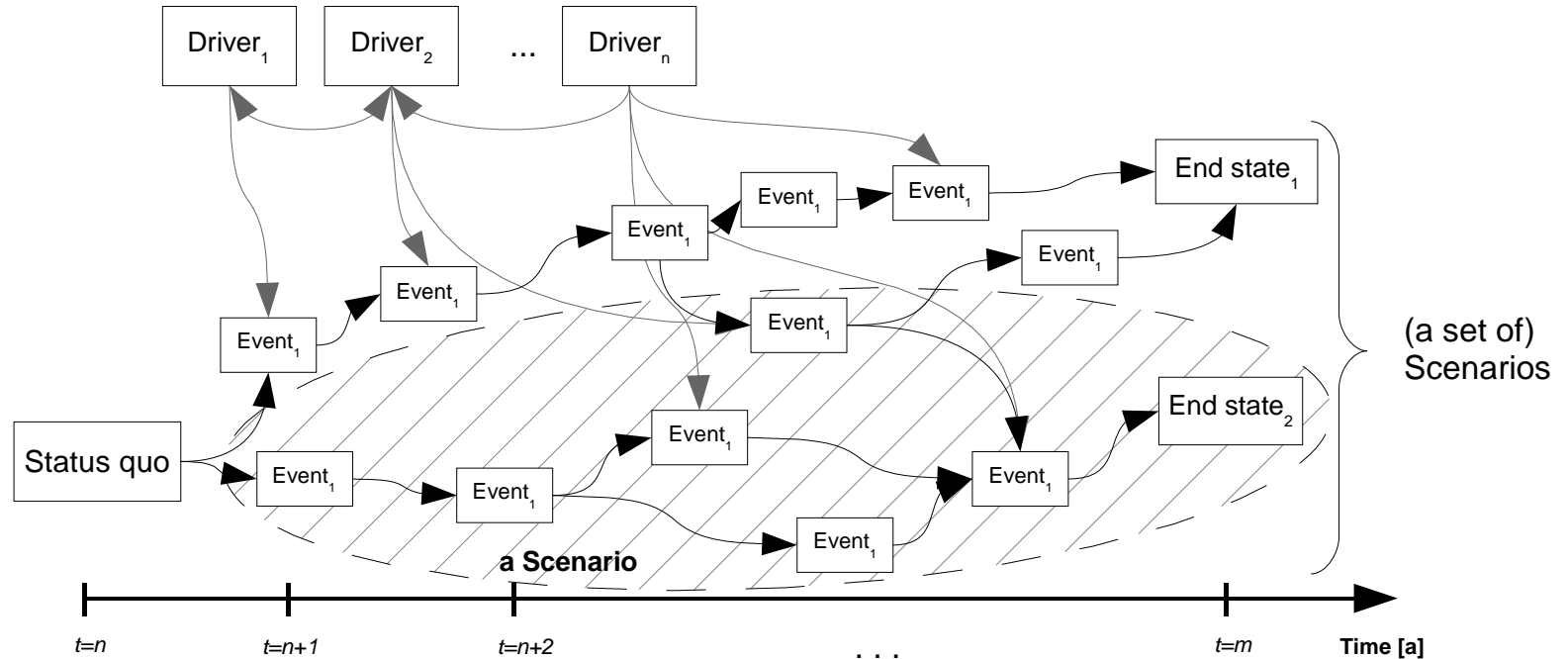
### Constructive approach

- Constructing a solution based on the research problem
- Testing of the solution or model

### Methods

- Literature review to form the theory proposition
- Case research to validate the proposition
  - Survey and quantitative processing
  - Semi-structured interviews to deepen the understanding

# 2.1 Scenarios



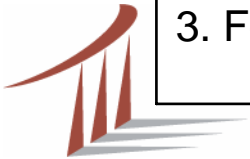
*Defining the Relationship of Drivers, Events and Scenarios;  
 a single scenario highlighted, driver relations depicted with the gray arrows  
 (Kahn & Wiener, 1967; Schwartz 1996; Ogilwy, 2002; Schoemaker, 1995)*



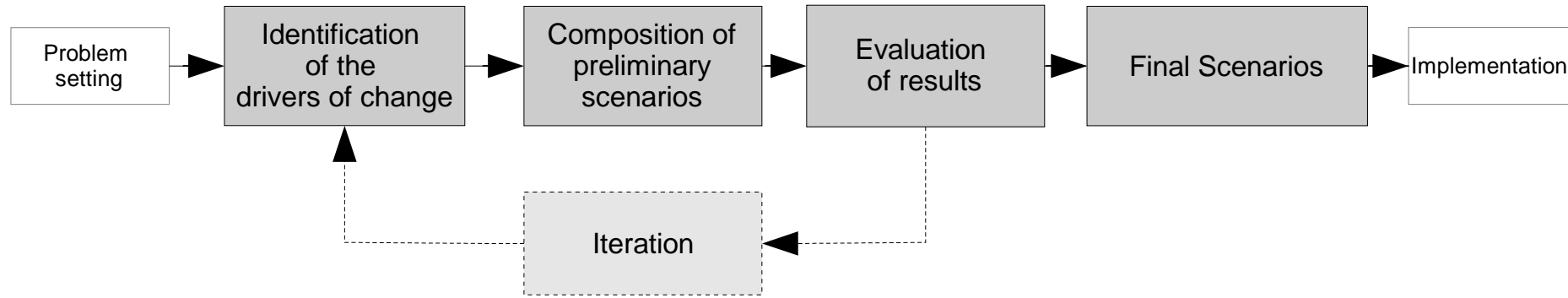
## 2.2 Preferred Qualities in Scenarios

*The Levels of Successful Scenarios* (Kahn & Wiener, 1967; Schwartz 1996; Ogilwy, 2002; Schoemaker, 1995; Walsh, 2005; Selin 2006)

Preferred qualities	
1. Methodological integrity	Sufficiently detailed scenarios
	Manageable breadth and depth
	Relevance to the organization and decision makers
2. Substance	Consistency and coherence of the individual scenarios
	Right number of scenarios
	Preserving the undertones and nuances in the final scenarios
3. Form	Trust building in the process
	Trust inspiring communication of the scenarios



## 2.3 Scenario Process



*Figure 12. A Generic Scenario Process (Bergman, 2005; Schwartz, 1996; van der Heijden et al. 2002; Schoemaker, 1991; 1993; Godet, 1993)*

## 2.4 Knowledge Creation in Scenario Process

- Process objective is to form a consensus of the future
- Process features in knowledge management sense
  - Trust building between participants of different backgrounds and worldviews
  - Need for effective communication
  - Encourage participants to contribute
  - Connect the contribution to gain meaningful substance

Connect the contributions to scenarios that effectively mirror the participants' understanding of the future

## 3.1 Group Support Systems

- A GSS is a collection of applications to facilitate communication and decision making in a group
- General toolset
  - Idea generation, commenting, prioritization, voting, analysis
- Generally GSS-tools are considered effective in facilitating group work in large scale, unstructured problems (Aiken, et al. 1994; Turban & Aronson, 2005; Jessup & Valacich, 1999)

## 4.1 Test Settings

- Two series of session in GSS laboratory of the department of IEM
  - Case I: post graduate students of IEM
  - Case II: researchers and administrative staff from LUT
  - Sessions rated with a questionnaire, further examination by interviews on case II
- The laboratory features:
  - Decision room GSS setting with ten participant workstations
  - Common video screen connected to the facilitators workstation
  - A range of software including Ventana GroupSystems GSS implementation

## 4.2 Session Outlines

Table 13. GSS Mediated Test Sessions

<b>Case I</b> Session time 1h 45min	<b>Case II</b> Session time 3h 45min
Problem setting, (15min)	Problem setting (15min)
Key Drivers of Change (30min) (Categorizer)	Key Drivers of Change (30min) (Categorizer)
	Identifying Future Events (45min) (Categorizer)
Preliminary Scenarios (30min) (Voter)	Priorization of Events (45min) (Categorizer)
	Creating Scenarios (45min) (Alternative Analysis)
Evaluation and final scenarios (30min) (Categorizer)	Evaluation (45min) (Categorizer)

## 4.3 Questionnaire Results

Question	Case I			
	Avg	Std. Dev.	$D(x)$	+/-x
1. Do you have previous experience with scenario planning?				
a) I'm familiar with scenario planning	2.64	1.10	0.20	0.42
2. Scenario process				
a) The objectives of the session were clear	3.86	0.92	0.17	0.35
b) The objectives were reached	3.31	0.85	0.16	0.32
c) Do you feel that the process used produces useful results	3.62	0.78	0.14	0.29
d) Do you feel that the key drivers of change were identified	3.31	1.07	0.20	0.41
e) Are the results, in Your opinion, relevant to the operation of LUT	2.62	0.68	0.13	0.26
f) Do you feel that the results are trustworthy?	2.31	0.60	0.11	0.23
g) Are the results logical and coherent	2.97	0.68	0.13	0.26
h) How much of the trust depends on the process itself	2.86	1.06	0.20	0.40
3. GSS in the scenario process				
a) GSS fitted naturally with the scenario process	4.14	0.69	0.13	0.26
b) GSS systematized the process	4.28	0.59	0.11	0.22
c) GSS helped in observing different perspectives	3.76	0.74	0.14	0.28
d) GSS helped in committing to the process	3.52	0.99	0.18	0.38
e) GSS helped in creating trustworthy results	2.97	0.78	0.14	0.30

## 4.3 Questionnaire Results

- A correlation test for the questionnaire answers suggests:
  - *GSS helps observing different perspectives* correlates positively with *usefulness and coherence of the results* and *commitment to process*
  - *GSS helps in committing to the process* correlates positively with *identifying the most important drivers of change* and *observing different perspectives*
  - *The goals of the session were met* correlates positively with *the objectives being clear* and *the trustworthiness of the results*

Use of a GSS improves commitment and goal orientation, resulting in deeper substance and information diffusion in the group, which in turn helps identifying the most valuable information regarding the sessions goals

## 4.4 Interviews

General themes from interviews conducted among participants of case II

- The process as a whole was generally a positive experience
- The process was seen as promoting open-minded consideration of future prospects
- Room for improvement in the execution of the process
- Relatively poor trust was mostly due to not seeing the final stories or mistrust in the process
- The issue of knowledge creation mainly inconclusive, information sharing with a GSS deemed effective

## 5.1 Conclusion

### General results

- The process seems feasible as a concept
- Results from the GSS sessions were encouraging
  - GSS presents potentially effective mean for diffusing information
- Unified process as a 'platform' for further research
- The question of knowledge creation remains ambiguous



## 5.2 Further Research

- Further tools and practices for the process
  - Especially the last stages of the process
- Support for different process variations (Toolbox)
- Different support settings and methods to find best practices
- Effect of supported process compared to traditional work methods

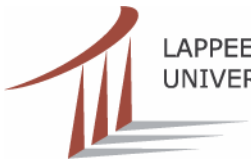
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**Thank you!**

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