Overview of Foresight Methods

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With special thanks to Rafael Popper for use of some of his slides

Overview

- Why use formal foresight methods?
- Selection criteria for foresight methods
- Types of methods, and types of typology!
- Sequencing methods
- Concluding remarks

Why use formal methods?

- Make the foresight process more systematic
- Increase transparency of processes
- Aid creativity
- Constitute space for communication and interaction
- Aid visualisation of possible futures

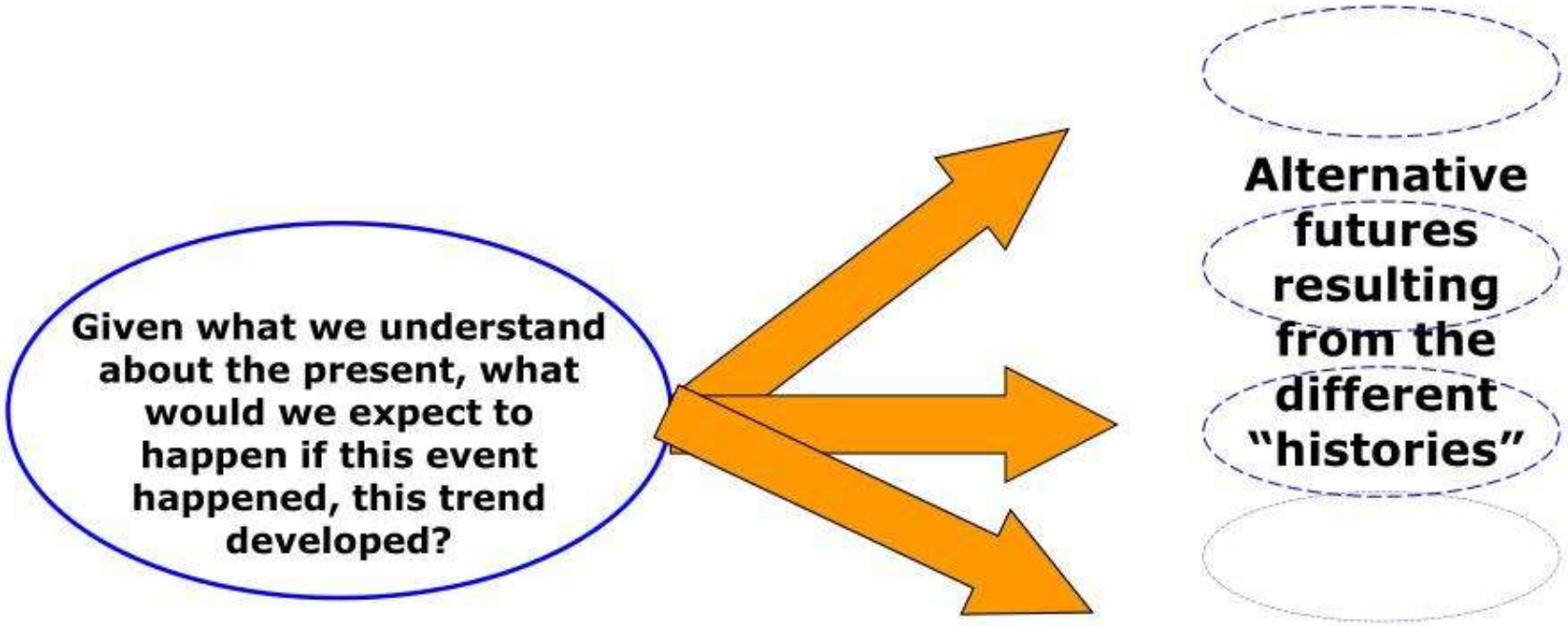
Selection criteria

- Available resources (time, money . . .)
- Nature of desired participation
- Suitability for combination with other methods
- Desired outputs of a foresight exercise (e.g. product vs. process)
- Quantitative / Qualitative data requirements of methods
- Methodological competence often a key factor

Four key distinctions

- Exploratory (outward bound) vs. Normative (inward bound) approaches
- Quantitative vs. Qualitative approaches
- Methods for different stages / tasks in foresight
- Methods for fostering Creativity, Evidence, Interaction, Expertise

Exploratory Methods [1]



WHAT IF…?

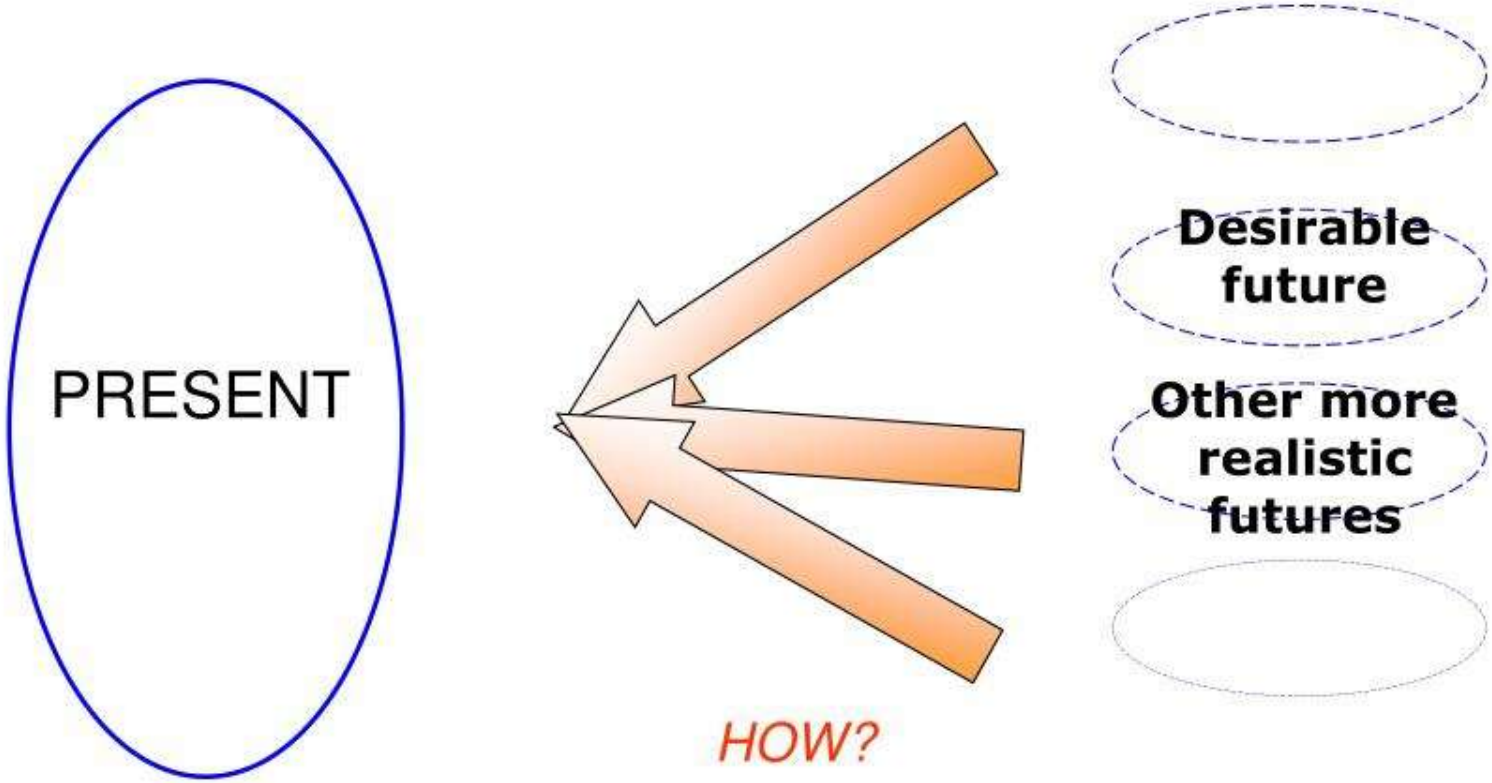
Exploratory Methods [2]

- Exploratory methods essentially begin from the present, and see where events and trends might take us

- They begin with the present as the starting point, and move forward to the future, either on the basis of extrapolating past trends or causal dynamics, or else by asking "what if?" questions about the implications of possible developments or events that may lie outside of these familiar trends.

- Among exploratory tools there are Trend, impact, and cross-impact analyses, conventional Delphi, and some applications of models

Normative methods



Normative methods [2]

- Normative methods ask what trends and events would take us to a particular future or futures.
- They start with a preliminary view of a possible (often a desirable) future or set of futures that are of particular interest.
- They then work backwards to see if and how these futures might or might not grow out of the present – how they might be achieved, or avoided, given available constraints, resource and technologies.
- The tools used here include various techniques developed in planning and related activities, such as relevance trees and morphological analyses
- A fairly recent development is the use of "success scenarios" and "aspirational scenario workshops", where participants try to establish a shared vision of a future that is both desirable and credible, and to identify the ways in which this might be achieved.

Quantitative methods [1]

- Quantitative methods rely on numerical representation of developments, data that have been mathematically processed, extrapolation of trends
- They allow to examine rates and scales of change but they limit the understanding of many important social and political variables
- It might be more difficult to communicate results (tables and graphs) to less numerate audiences
- Quantitative data may come from statistical sources, or be the products of expert judgement. For instance, in cross-impact studies experts make estimates about the probability of developments; in Delphis, the data we work with derive from the numbers of people agreeing with particular statements or forecasts

Quantitative methods [2]

- Disadvantages
  - Some issues are difficult to represent in numerical terms
  - The quantifiable elements of a phenomenon do not necessarily represent its essence
  - Too restricted to concepts and indicators, rarely probe the dynamics of a phenomenon
  - Some of the advanced statistical methods and modelling techniques have a high degree of complexity that can be difficult to understand

Qualitative methods

- Qualitative methods are often employed where the key trends or developments are hard to capture via simplified indicators, or where such data are not available.
- Useful to stimulate creativity and intuition; essential for engagement and dialogue
- The outcomes are illustrations that describe complex processes and interaction among variables

Z_punkt Corporate Foresight Toolbox

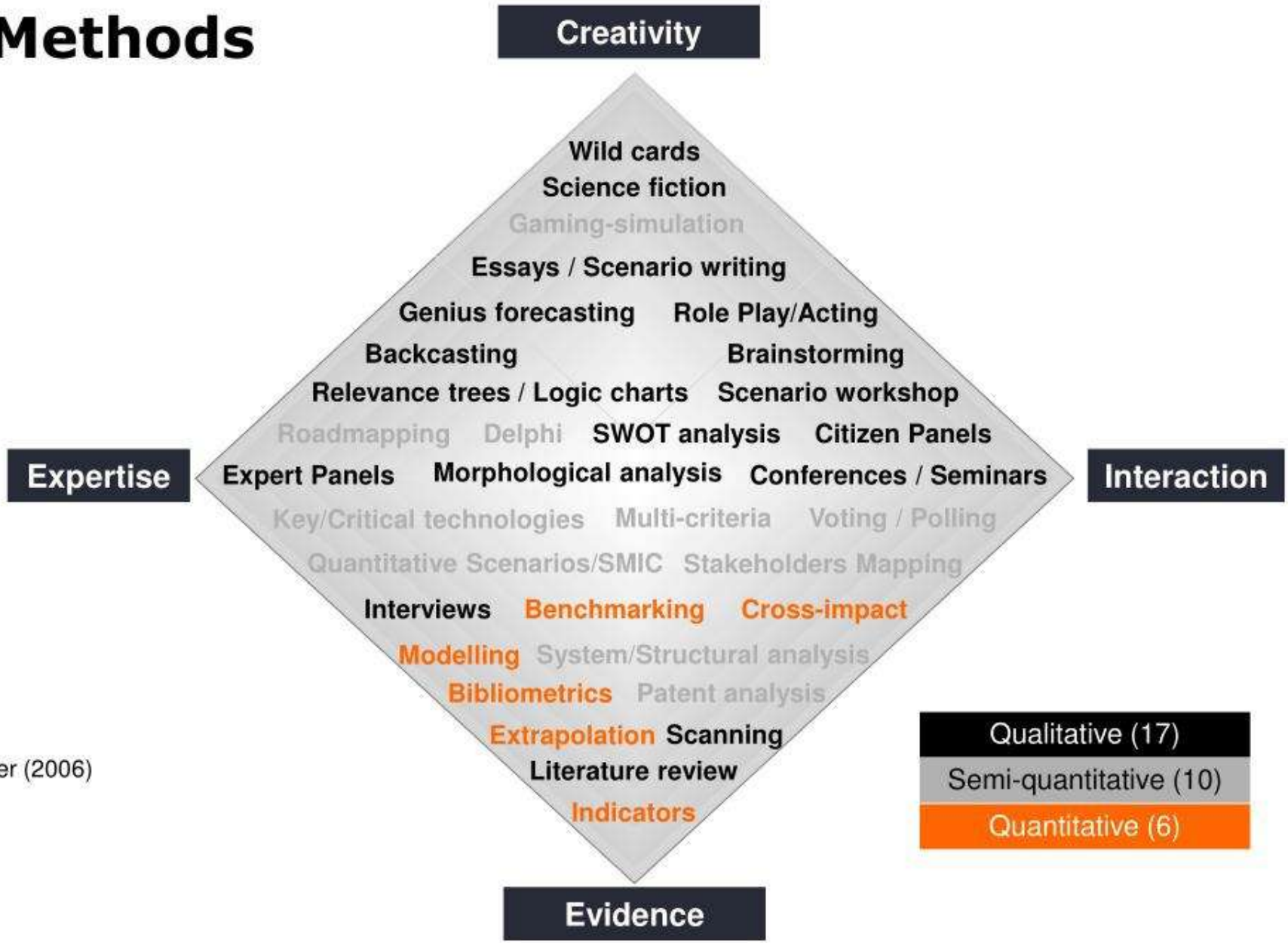
Basic Process

Monitoring	Analysis	Projection	Transformation
Recognising Relevant Trends.	Understanding Drivers of Change.	Anticipating the Future.	Draw Implications for Business.

Toolbox

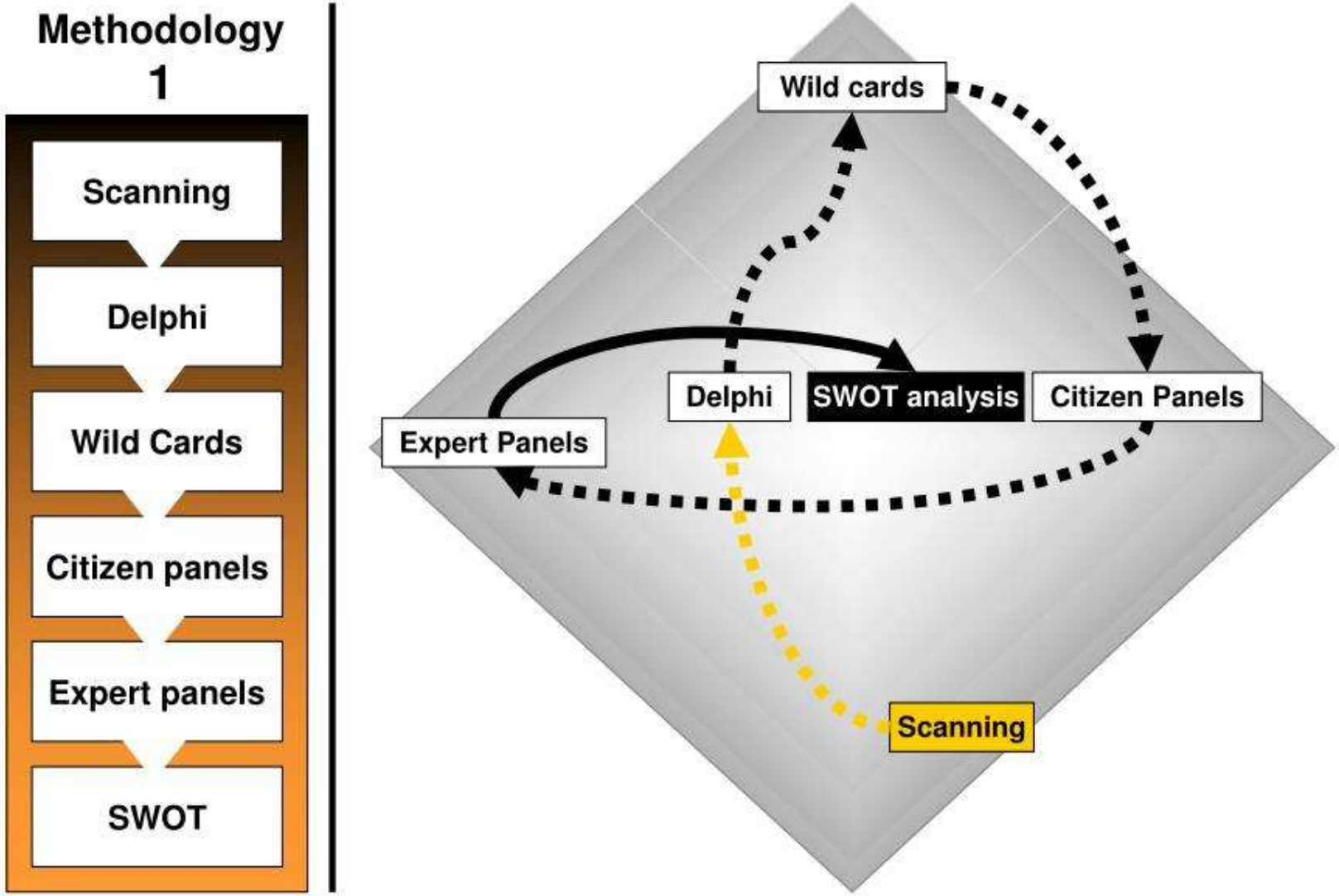
Weak Signals	Key Factors	Scenarios	Strategic Management
Environmental Trends	Emerging Issues	Roadmaps	New Business Development
Consumer/ Industry Trends	Wild Cards	Creative Processes /Workshops	
Z_trend database	Customer Foresight	Innovation Contexts	Portfolio Innovation

Methods



R. Popper (2006)

Sequencing methods – example 1



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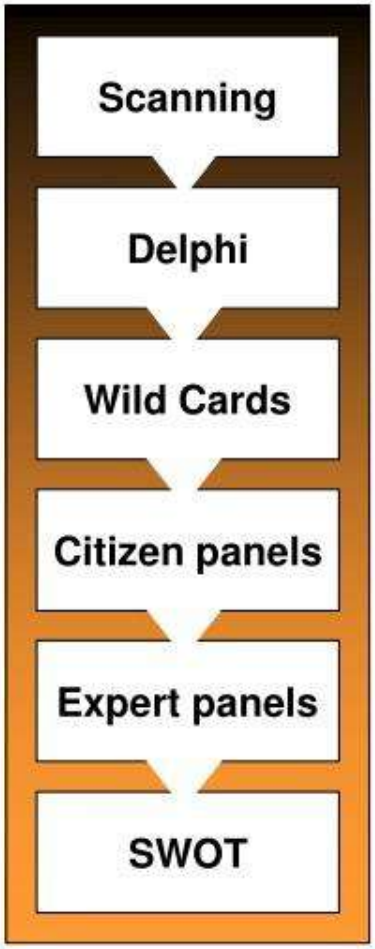


Scanning: detailed analysis of main issues around a particular sector/theme of study (sub-contracted).

Delphi: large-scale exploratory study assessing the likeliness of occurrence and possible impacts of main issues highlighted by the scanning activity.

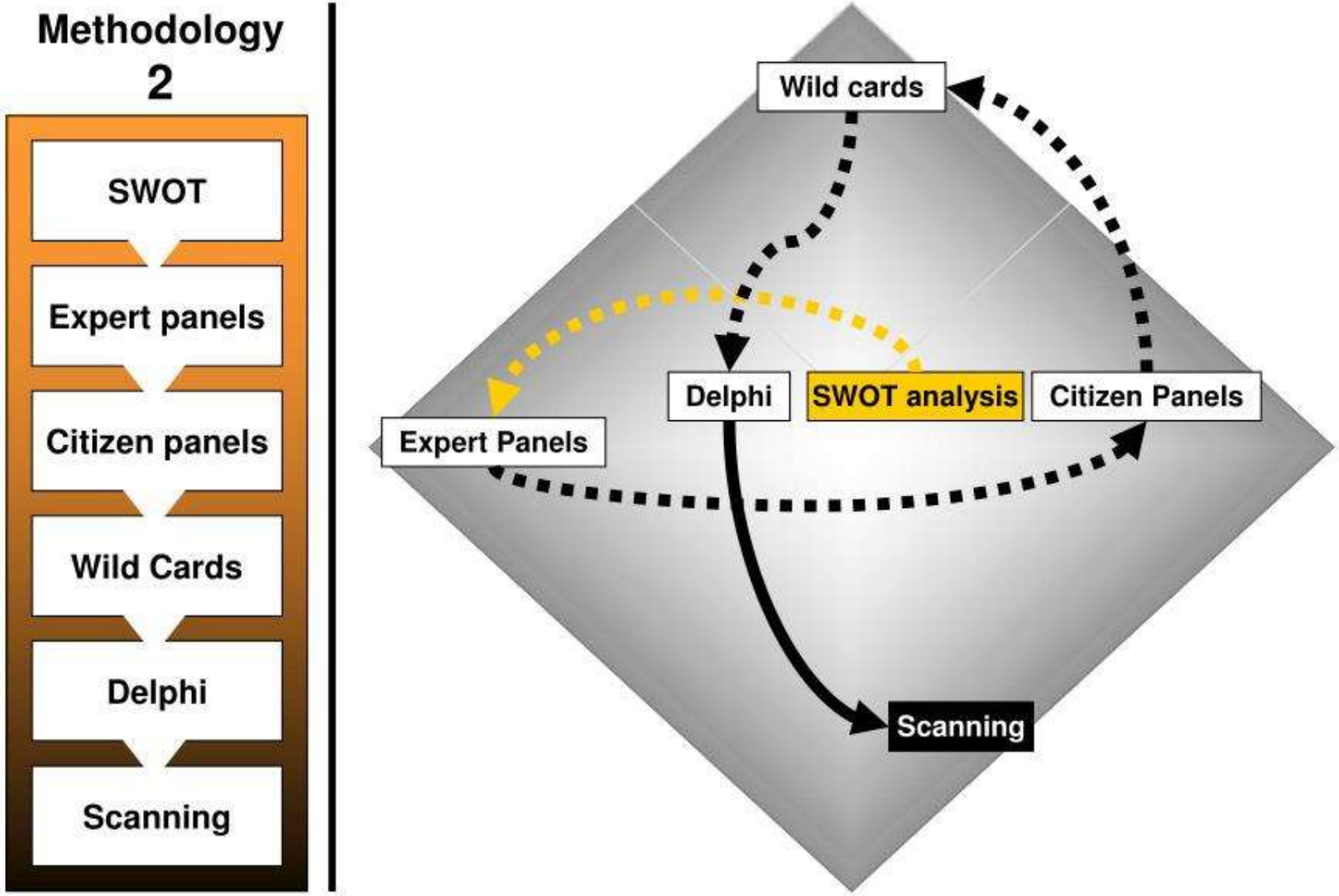
Wild-cards: workshop-type activity aimed at the identification of possible events which may challenge the occurrence of 'highly probable' situations.

Citizen Panels: conference-type activity aimed to identify major public concerns on critical issues.

Expert panels: reduced group of key stakeholders looking at future implications of main findings.

SWOT: internal activity (possibly desk-work) aimed at synthesising outcomes in terms of current strengths and weaknesses as well as future opportunities and threats.

Sequencing methods – example 2



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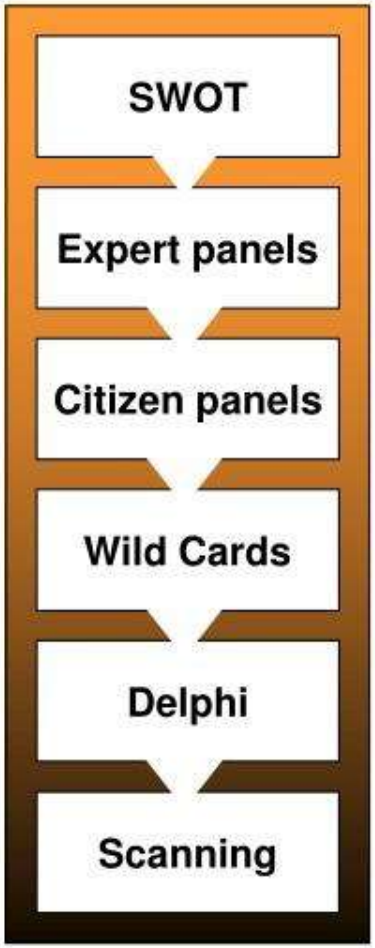


SWOT: large-scale activity (e.g. workshop) aimed at the identification of strengths, weaknesses, opportunities and threats related to a sector / theme / technology / etc.

Expert panels: groups of experts looking at future implications of SWOT findings and clustering main issues into broader dimensions, such as social, technological, economic, …, etc.

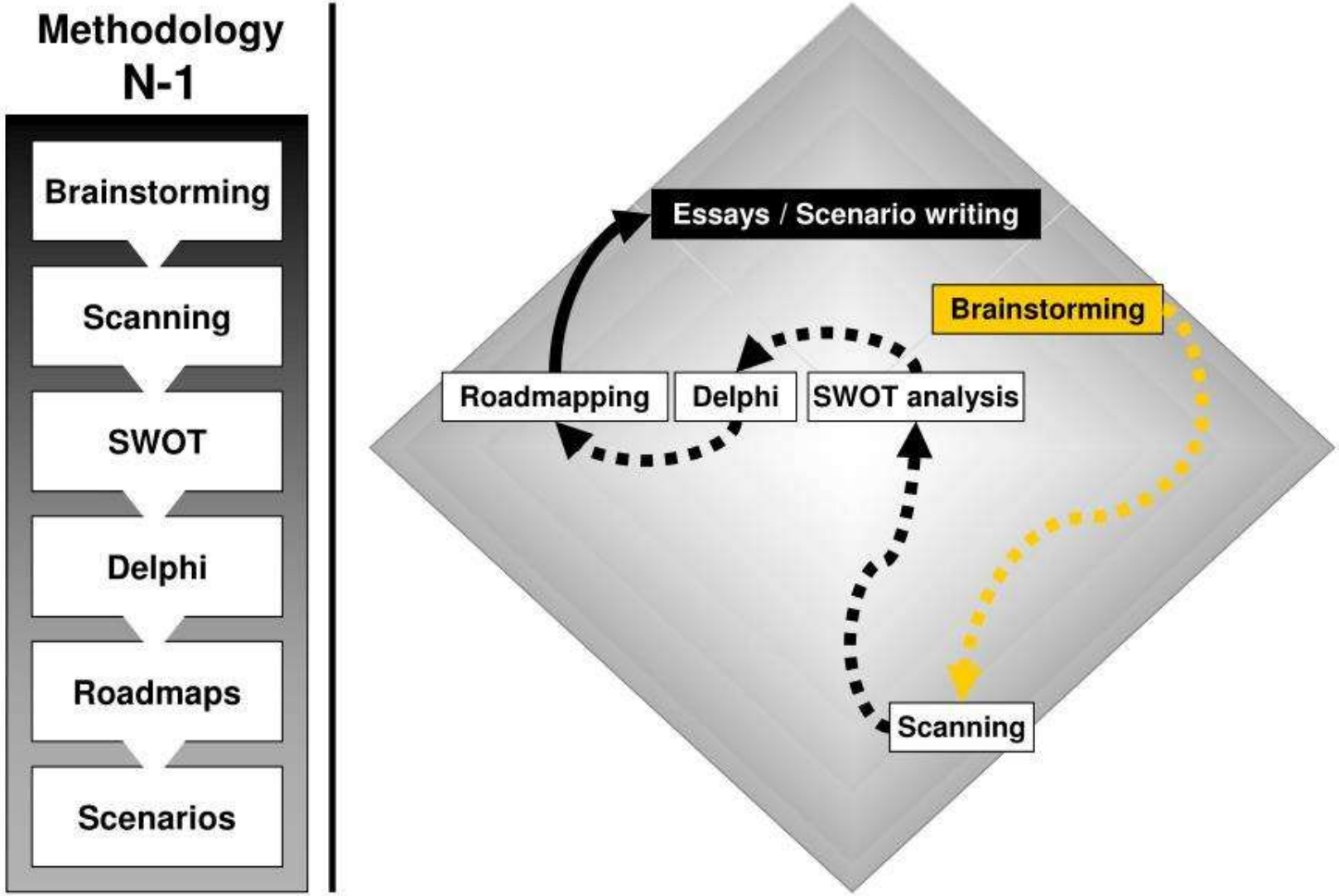
Citizen Panels: regional task forces contextualising main issues and evaluating public acceptance.

Wild-cards: internal activity aimed at the identification of disruptive events and situations.

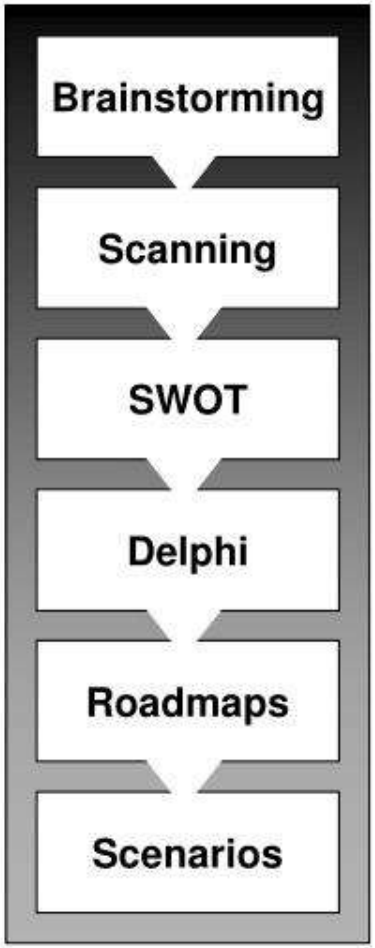
Delphi: large-scale normative study aimed at the formulation of policy recommendations.

Scanning: internal activity aimed to identify the success or failure of similar policy recommendations being implemented in comparable contexts, and better informing decision-making.

Sequencing methods – example 3



Sequencing methods – example 3



Brainstorming: large-scale activity aimed to identify key issues around particular dimensions (e.g. social, technological, economic, environmental, political, values).

Scanning: a desk-research activity aimed to describe and expand the most relevant ideas emerging from the brainstorm exercise.

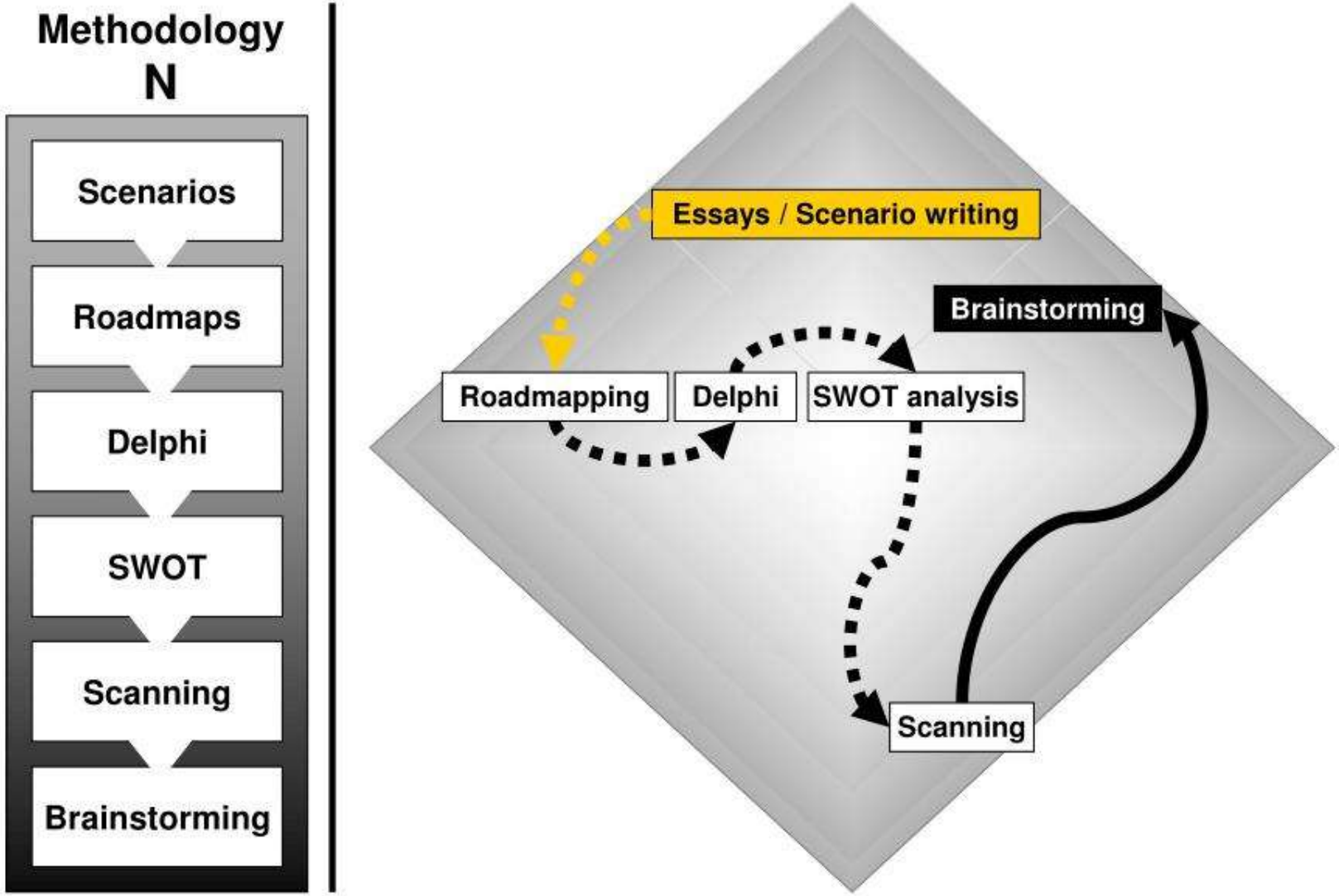
SWOT: a workshop with approx. 20 experts from each of the following sectors (public, private and academic).

Delphi: an exercise targeting a selected group of experts assessing the stage of development of particular technologies.

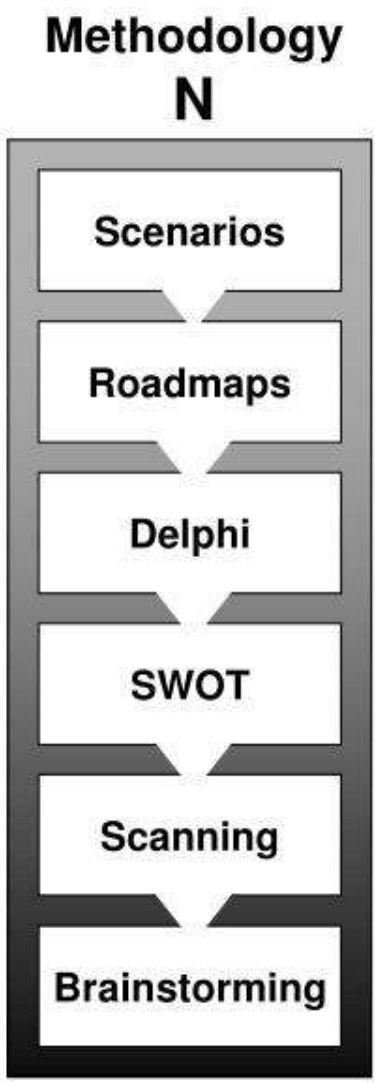
Roadmaps: a panel-based activity looking at market needs and potential linkages between products and technologies.

Scenarios: same panel elaborating a vision of a desirable and feasible aspirational future.

Sequencing methods – example 4



Sequencing methods – example 4



Scenarios: 1 business as usual, 1 negative and 1 positive scenario (desk-research or genius forecast).

Roadmaps: 3 workshops with targeted experts preparing time-line and discussing market needs for each scenario .

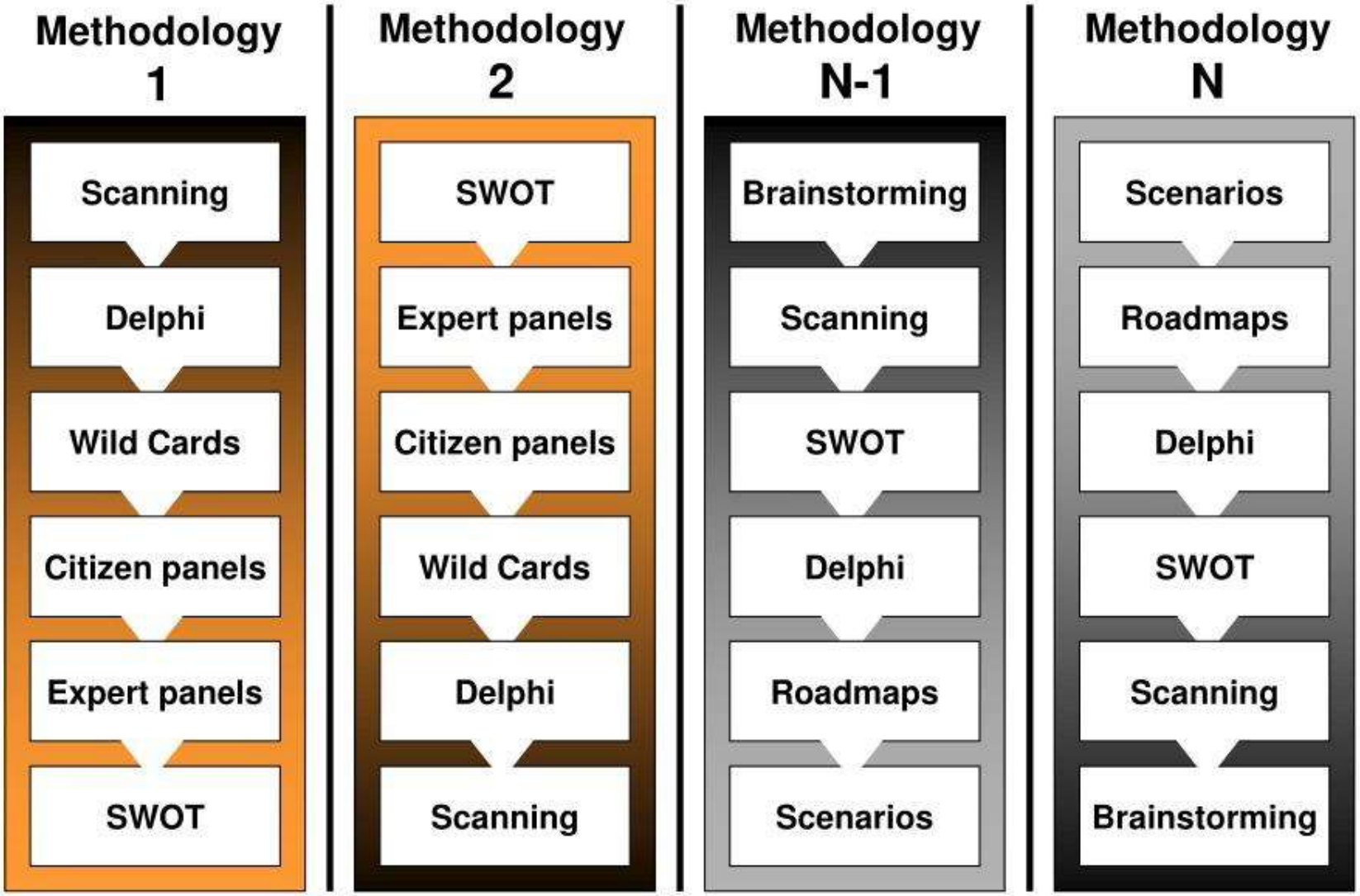
Delphi: a large-scale activity aiming to identify STEEPV impacts of suggested 'action plans' resulting from the roadmapping activities.

SWOT: internal activity looking at the strengths, weaknesses, opportunities and threats of suggested 'action plans' .

Scanning: a parallel process (possibly outsourced) mapping the market penetration of products and services connected to technological developments characterising initial scenarios.

Brainstorming: structured workshops with key stakeholders willing to identify new cooperation and collaboration instruments and exploit existing ones.

Sequencing methods – summaries



Summary remarks

- There are good reasons for using formal methods
- Multiple criteria are used for selecting methods
- No easy classification – methods are rather versatile in how they may be used and combined together
- Consequently, there are no recipe books for doing foresight – different combinations are likely to be needed for different circumstances

Thanks!

Questions and comments?