

Screening ‘dynamic’ documents for ambiguity

Anastásios Perdicóulis

Assistant Professor, ECT, UTAD (<http://www.tasso.utad.pt>)

Senior Researcher, CITTA, FEUP (<http://www.fe.up.pt/~tasso>)

Visiting Researcher, Oxford Institute for Sustainable Development, OBU, UK

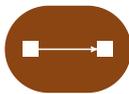
Abstract

‘Dynamic’ documents referring to systems, processes, or plans require an ambiguity screening before entering a free-standing review.

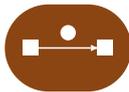
1 Introduction

Technical documents referring to systems, processes, and plans (Perdicóulis, 2014c) are expected to be information-rich (Perdicóulis, 2012a) and complex due to their ‘dynamic’ nature¹. Such characteristics imply a certain challenge in the conception and transmission (at the issuing side), comprehension (at the receiving side), as well as the review of ‘dynamic’ documents for the purposes of formal assessment.

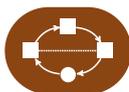
A Systems PlanningSM review of systems, processes, or plans sets out to discover shortcomings in (a) content and/ or (b) reasoning and communication (Systems Planning, website, Studio:Undertakings). The process can be either free-standing or interactive, most of the times requires some preparatory diagramming², and typically entails a qualitative simulation of the documented mental models. The general protocol for this type of review is Diagrammatic Causal Analysis (DCA) (Perdicóulis, 2010, 2014b).



SYSTEM is a set of interacting elements, forming a whole — for instance, a city, state, enterprise, or a ‘situation’. SPML™ system diagrams are of the type ‘element–relationship’.



PROCESS is a sequence of (executable) actions and states — for instance, an operation, project, or an ‘agenda’. SPML™ process diagrams are of the type ‘action–state’.



PLAN is an aggregated, coherent scheme for action — for instance, a programme, policy, strategy, or ‘measure’. SPML™ plan diagrams are of the type ‘concern–intent–action–outcome’.

¹The adjective ‘dynamic’ (from δύναμη [Gk], force) is commonly used in relation to systems or processes, considering that their elements ‘force’ one another.

²Systems Planning Modelling Language (SPML™).

The admittance of a system, process, or plan document for a free-standing Systems PlanningSM review (i.e. with the authors not present) requires a screening for ambiguity in both its content and presentation. Hence, the general principles of ‘scientific writing’³ are embodied into four screening criteria (Figure 1) to ensure a satisfactory level of clarity — or a tolerable level of ambiguity.

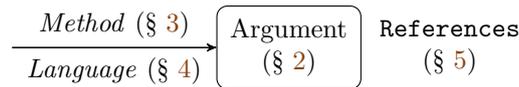


FIGURE 1 The important aspects of ‘dynamic’ documents become their screening criteria

ARGUMENT (§ 2) conveys the *content* of systems, processes, and plans; it is typically expressed with *elements and links*, revealing structure and function.

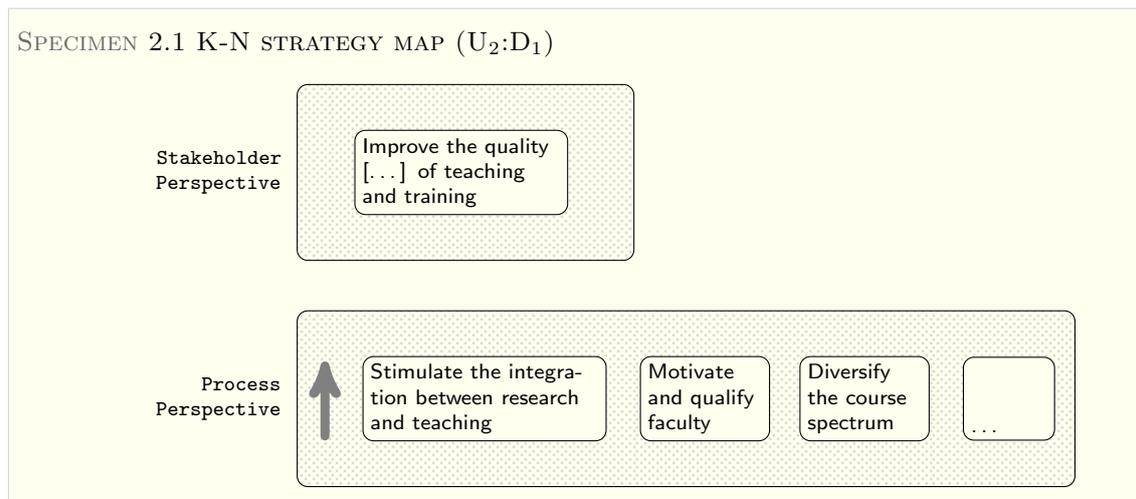
METHOD (§ 3) conveys the *reasoning and procedure* of content creation — e.g. SPMTM (Perdicoulis, 2010, 2014b), SWOT (Perdicoulis, 2012d,e), K-N (Kaplan and Norton, 2000, 2004).

LANGUAGE (§ 4) conveys *meaning* through semantics and syntax in alternative ways — e.g. English text, SPMLTM (Perdicoulis, 2010, 2014a).

REFERENCES (§ 5) point to *data, information* (e.g. principles, standards), and/ or *sources* required for knowledge and/ or operations (e.g. comparisons, assessments).

2 Argument — Completeness, coherence, and clarity

The argument of the ‘dynamic’ document must be sufficiently complete, coherent, and clear to permit its conversion to specific diagrams: ‘element–relationship’ for systems, ‘action–state’ for processes, and ‘concern–intent–action–outcome’ for plans (Perdicoulis, 2014c). These requirements may be conditioned by limitations in the conception, transmission, or both (Specimen 2.1).



³Traceability regarding the sources of information, objectivity regarding facts and judgements, precision regarding internal refinement, and accuracy regarding external correctness (Perdicoulis, 2012b).

K-N strategy maps (Kaplan and Norton, 2000, 2004) describe relationships such as physical or logical causality (Perdicoulis, 2014a) at a low resolution (or high ambiguity) because they merely link ‘perspectives’. In Specimen 2.1, for instance, even if the authors have full knowledge, it is not possible from the reader’s point of view to know the precise causal relationships among the text blocks because the K-N ‘perspectives’ connect at a ‘high level’.

SPECIMEN 2.2 SWOT ELEMENT (U₂:T₁)
 Excellent regional and national reputation and good international reputation^a.

^a‘Strong’ point

Another celebrated technique in planning and management, the SWOT analysis, is notorious for its ambiguity in the arguments (Perdicoulis, 2012d,e). For instance, Specimen 2.2 apparently transmits an institutional ‘strength’: its reputation; however, the document provides no indications as to (a) how ‘reputation’ is being created (e.g. an ‘upstream’ causal pathway) or (b) the consequences of ‘reputation’ (e.g. a ‘downstream’ causal pathway) (Figure 2). The SWOT statement may serve administrators seeking kudos, but it is practically meaningless for strategy-makers as it is devoid of dynamics.

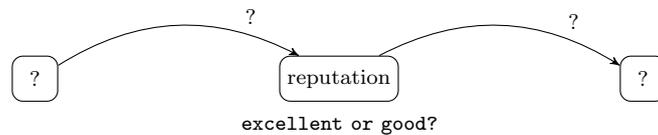


FIGURE 2 The ‘point-thinking’ SWOT analysis is concerned with selected *isolated states*

SPECIMEN 2.3 SWOT ELEMENTS (U₂:T₂)
 (a) Commitment to quality^a
 (b) Quality [...] of faculty [...]^b
 (c) Quality system of [the institution]^c

^a‘Strong point’
^b‘Strong point’
^c‘Weak point’

The three assessments presented in Specimen 2.3 were taken from a strategy document — by coincidence, from the same page. While each assessment (partial argument) may make sense on its own, the set of the three (i.e. the ‘full’ argument) raises questions: for instance, how exactly ‘quality’ is involved in strong and weak points? Hence, in addition to the shortcomings with causality (Figure 2), the ‘point-thinking’ nature of SWOT analysis is also unable to cross-check the partial arguments for global coherence (Perdicoulis, 2012d,e).

3 Method — Choice and compliance

Authors in general have the freedom to choose the method they find most suitable for their purpose, unless ‘higher’ (e.g. corporate) choices impose restrictions. As the methodology spectrum is currently quite broad (e.g. SPM™ (Perdicoulis, 2010, 2014b), SWOT (Perdicoulis, 2012d,e), K-N (Kaplan and Norton, 2000, 2004)), choosing the right methodology requires solid experience as well as research.

If the chosen method is well known, its identification is sufficient to indicate the procedure used to create the system, process, or plan — e.g. Specimens 2.1 and 2.2. If the method has been created *ad hoc*, then a complete description of the protocol must be provided. More importantly than indicating or fully describing their way of work, though, authors must ensure that the method is followed. Compliance with a method requires discipline — for instance, documenting every adaptation of standard procedures, or registering every innovation.

In the particular case of combining methods in a single document — e.g. K-N strategy map (Specimen 2.1) and SWOT analysis (Specimen 2.3) — authors should ensure that there are no conflicts of procedure or content (e.g. in assessments or conclusions).

4 Language — Adherence to the rules

In a similar way to the method (§ 3), the language to be used in a ‘dynamic’ document is largely a matter of choice (e.g. text-based, diagram-based). From there on, a commitment is established to follow the rules of the chosen language (e.g. about *semantics* and *syntax*), which are responsible for clarity. Non-disclosure of, or non-adherence to the language rules may lead to ambiguity, which may disqualify the document for a free-standing review. To illustrate the importance of language in a ‘dynamic’ document, let us consider Specimen 4.1.

SPECIMEN 4.1 TEXT/ LISTS (U₁:T₁)

2. STRATEGIC ALIGNMENT

[...]

2.3 Strategic Orientation — These strategic actions stand on 4 fundamental objectives: 1. Foster the exchange of students, faculty, researchers [...]; 2. Acquire knowledge [...]; 3. Promote teaching service [...]; 4. Promote projects [...]; 5. Develop a policy [...]; [...] promote mechanisms [...]^a.

2.4 Strategic Objectives — [...] it is our wish^b to: cooperate with institutions [...]; [...] participate in programmes [...]; [...] develop actions [...]; etc.

The institution intends to attain the following objectives:

1. Reach the target of 20% of students and faculty participating in [...];
 2. Increase by 5% the [number of] students [...];
 3. Promote participation with [...];
- etc.

2.4 Actions to Implement — 1. Reinforce the cooperation [...]; 2. Promote the number and quality of [...]; 3. Establish policies [...]; etc.

^aThe fifth option is beyond the promised four (4), and also presents two ‘objectives’.

^bThese ‘wishes’ appear before the list of ‘objectives’.

Observations about the use of language in the text of Specimen 4.1 reveal significant ambiguity:

1. The ‘objectives’ of the strategy are divided into categories (e.g. fundamental, strategic) with no stated relations between them (e.g. hierarchy), which needs further explanation.
2. The intended *states* at the ‘fundamental objectives’ are accompanied by verbs of high-level *action* (e.g. ‘foster’, ‘acquire’, ‘promote’, ‘encourage’); the existence of action next to the objectives is potentially misleading or confusing.
3. When the same verbs are repeated in the ‘actions to implement’, then the semantic categories of ‘objectives’ and ‘action’ are clearly confused, and in this case a free-standing review cannot be initiated.
4. Some of the ‘objectives’ are quantitative (e.g. Increase by 5% [...]), but time frames (e.g. deadlines) are missing. Hence, quantification does not have sufficient rigour to be credible, and the attainment of the objectives cannot be assessed.
5. Even if the objectives are ‘insufficiently’ stated and the action is ‘correctly’ stated, it will not be possible to implement the action because a great part of the verbs indicate ‘high-level’ (i.e non-implementable) actions.

5 References — Meticulous correspondence

References to external sources of information (Perdicoulis, 2014d) are quite common in scholarly documents, but occasionally also necessary in ‘dynamic’ documents. If in-text citations are made (e.g. in an author-year format, as in Specimen 5.1), then it is necessary to include a corresponding list of references where the bibliographic entries are properly identified. Negligence to ensure this correspondence shows lack of rigour in the use of sources of information (Perdicoulis, 2012b).

SPECIMEN 5.1 QUOTATION (U₁:T₂)

[Quote] (Author, YYYY).^a

^aNB: The source is not referenced — the strategy document has no list of references.

Due to their ‘dynamic’ nature, systems, processes, and plans make intense use of internal references (including corporate obligations) mainly for *comparisons* and *assessments*. Depending on their use, internal references may be considered as ‘standards’, ‘criteria’, or ‘targets’ (Perdicoulis, 2014e).

Specimen 2.2 — besides its original concerns about causal reasoning in the argument (§ 2) — raises a sensitive concern regarding internal references: the setting of *double standards*. If the complex, twin-perspective situation is globally assessed as a ‘strength’, does that mean that ‘excellent’ is to be set as the *domestic* target and ‘good’ the *international* target? This imbalance raises questions of ambition, effort, capacity, competence, commitment, quality, shareholder value, and self-respect: Why is the institution not aiming for ‘excellent’ in every case? Why settle for a ‘compromised’ reputation abroad? Or, perhaps, the ambiguity arises from yet other weaknesses of the SWOT analysis — either an intrinsic weakness, or an inappropriate application: i.e. merging two assessments in a single statement, which reduces the resolution of information.

6 Discussion

Systems, processes, and plans may be formed and reside in their author’s minds, but can also be shared verbally or through documentation. The latest trends in private and public administration communicate strategy, for instance, in large volumes of text, or in more efficient formats such as strategy maps (Kaplan and Norton, 2000, 2004; Perdicoulis, 2010, 2012c). Nonetheless, despite the impressive volumes of information, ‘big-data’⁴, abundant consulting services, training opportunities, and collective experience, ‘dynamic’ documents are not immune to incompleteness.

When ‘dynamic’ content is verbally transmitted, there is a chance for the reviewers to resolve eventual ambiguities by asking clarification questions — even though this requires efficient interaction, patience, tact, time, and concomitant consultant fees. When the ‘dynamic’ content is committed to documentation, it has the obligation to be ‘self-sufficient’ or ‘stand-alone’: (a) well thought of, and (b) well authored. If a ‘dynamic’ document requires the team of its authors to explain it, then it is not suitable for a free-standing review. There are alternatives, though, at different levels of investment: initiating an *interactive* review, sending the document ‘back to the drawing board’, or strengthening the planning competences of the authors (Perdicoulis, 2011).

7 Conclusion

Stand-alone ‘dynamic’ documents are expected to be clear in content as well as in transmission. Authors must reflect well on their situation and intents, and state those clearly. Upon screening failure, ‘dynamic’ documents may have their ambiguities explained by their authors, or go back to the drawing board. A long-term investment option for the authors is strengthening their own planning competences.

References

- Kaplan, R.S., and D.P. Norton (2000) Having Trouble with Your Strategy? Then Map It. *Harvard Business Review*, **September–October**.
- Kaplan, R.S., and D.P. Norton (2004) *Strategy Maps: Converting Intangible Assets into Tangible Outcomes*. Harvard Business School.
- Perdicoulis, A. (2014e) Verbs of essence. *Systems Planner*, **29**.
- Perdicoulis, A. (2014d) To quote or to cite? *ETYMOS*, **7**.
- Perdicoulis, A. (2014c) *Objects*. Perdicoulis Publishing: Folio Division, Technical Collection.
- Perdicoulis, A. (2014b) *Methodology*. Perdicoulis Publishing: Folio Division, Technical Collection.
- Perdicoulis, A. (2014a) *Language*. Perdicoulis Publishing: Folio Division, Technical Collection.
- Perdicoulis, A. (2013b) Correlation and causality. *oestros*, **12**.
- Perdicoulis, A. (2013a) The ‘Efficiency’ document series. *Efficiency*, **1**.
- Perdicoulis, A. (2012e) System to strategy. *Systems Planner*, **11**.

⁴‘Big-data’ is a recent trend in numerical analysis and discovery of patterns, similar to the concept of ‘data mining’, relying on correlations — which are completely distinct from causality (Perdicoulis, 2013b).

Perdicoúlis, A. (2012d) Safeguarding SWOT. *Systems Planner*, **6**.

Perdicoúlis, A. (2012c) The semantic content of strategy maps. *Systems Planner*, **5**.

Perdicoúlis, A. (2012b) Scientific writing. *oestros*, **5**.

Perdicoúlis, A. (2012a) Information and understanding. *oestros*, **2**.

Perdicoúlis, A. (2011) *Building Competences for Spatial Planners: Methods and Techniques for Performing Tasks with Efficiency*. London: Routledge.

Perdicoúlis, A. (2010) *Systems Thinking and Decision Making in Urban and Environmental Planning*. Cheltenham: Edward Elgar.

Systems Planning (website) <http://systemsplanning.org>

