Ex ante project assessment

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Abstract

Projects are expected to both satisfy their objectives and not cause significant side effects, so an *ex ante* assessment — i.e. before proceeding with deployment — seems sensible.

1   Introduction

Projects are individual or collaborative undertakings with intended outcomes (Perdicoúlis, 2015c). They can be organised 'strategically' in plans or programmes at a 'higher' tier, but are subject to executive management since they contain implementable actions at a 'lower' tactic or operational tier (Perdicoúlis, 2014e).

Proponents care that projects are adequately prepared before they are brought into action (i.e. implemented or deployed), which can be checked with an internal *ex ante* assessment based on the project's potential (§ 2). From an external perspective (§ 3), in recent years there is a legal obligation subjecting 'large' projects to external *ex ante* assessments regarding their environmental and social impacts as prospective liabilities (Glasson et al., 2013).

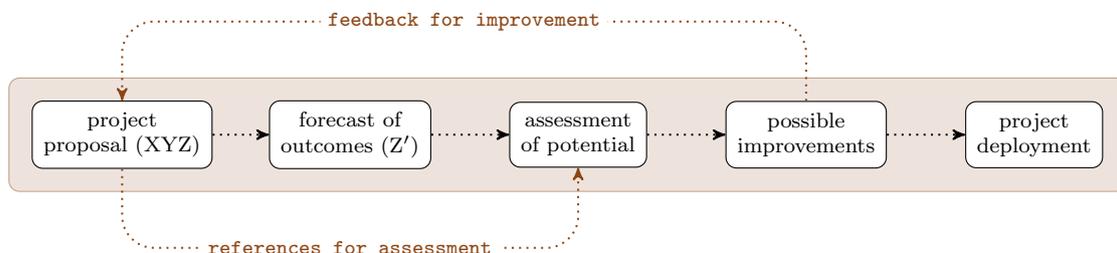## 2   Internal perspective — potential

FIGURE 1   Information flow in an internal *ex ante* project assessment

A project proposal (Figure 1) may be presented in one of two aggregation levels, serving different purposes: (a) as a succinct document such as a 'project charter' (Perdicoúlis, 2015c, XI) subject to a 'quick' assessment; (b) as a detailed document with guidance for the deployment of the project, known as an 'executive plan' or a 'project management plan' (Perdicoúlis, 2015c, XII), subject to a lengthier and more detailed assessment. Since the two types of project proposals differ in the level of detail, their respective *ex ante* assessments will be carried out at the corresponding aggregation levels. In either case, the project proposal (XYZ) and the forecast of its likely outcomes (Z') should contain enough information to allow for the assessment of the potential of the project (Figure 2).
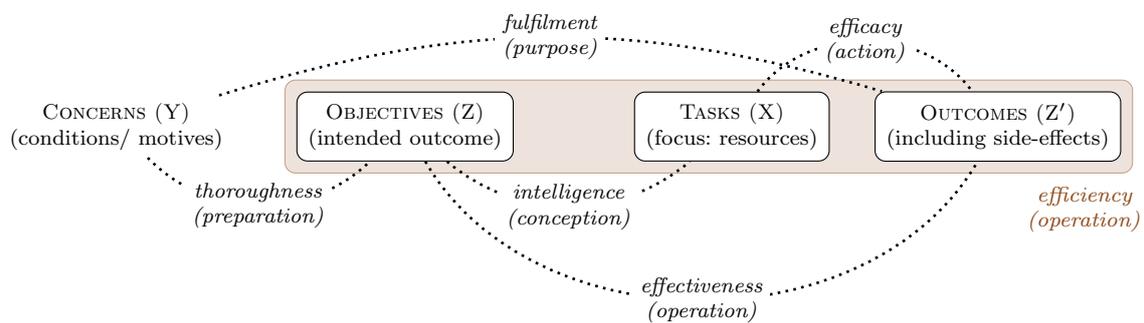

FIGURE 2   A number of *ex ante* assessments (in italics) may be performed with information from the project proposal and the forecast of its outcomes (Perdicoúlis, 2014a, 2013)

Sample outcomes for the complementary assessments of Figure 2 are indicated in Table 1. The 'profile' of the project can be transmitted either qualitatively by brief notes, as in Table 1, or quantitatively — for instance, as a plot (Perdicoúlis and Gonçalves, 2016).

ASSESSMENT	SET	SAMPLE
Thoroughness of preparation	Y, Z	Adequate representation of the concerns (Y) by the objectives (Z)
Intelligence of conception	Z, X	Appropriate actions (X) for the given objectives (Z)
Efficacy of action	X, Z'	Many expected outcomes (Z'); few but significant side effects (Z')
Effectiveness of the operation	Z, Z'	Good coverage of the objectives (Z); significant side effects (Z')
Fulfilment of purpose	Y, Z'	The outcomes (Z') largely satisfy the concerns of the project
Efficiency of the operation	Z, X, Z'	Effective but unexpectedly costly, and with environmental impacts

TABLE 1   Sample outcomes for the assessments of Figure 2

Potential-based assessments are typically internal — e.g. carried out by the project developer team, specialist teams on their behalf, or by the administration of the host organisation — and follow previously agreed or 'standard' procedures and benchmarks (e.g. quality levels). Exceptions are the cases in which projects are submitted for external funding, when assessments are carried out by the potential investor teams — but still, if approved, these investors shall be part of the project team in the future.

The scope of a project's potential should naturally include side effects (§ 3) such as budget or time over-runs, or the use of supplementary resources associated with the execution of tasks (Figure 2), all of which are likely to have repercussions on the overall efficiency of the project (Table 1).

3 External perspective — liability

Projects of 'large' dimensions are expected to bring about significant un-intended changes to the medium in which they are inserted (e.g. regarding the economy, society, and/ or the natural environment), thus creating liability for the project owner. Such changes are technically 'side effects' or 'impacts'[1], extend beyond the scope of the stated objectives of the project, and are subject to a formal *ex ante* assessment such as the Environmental Impact Assessment, or EIA (Glasson et al., 2013; Perdicoúlis, 2002) — Figure 3.
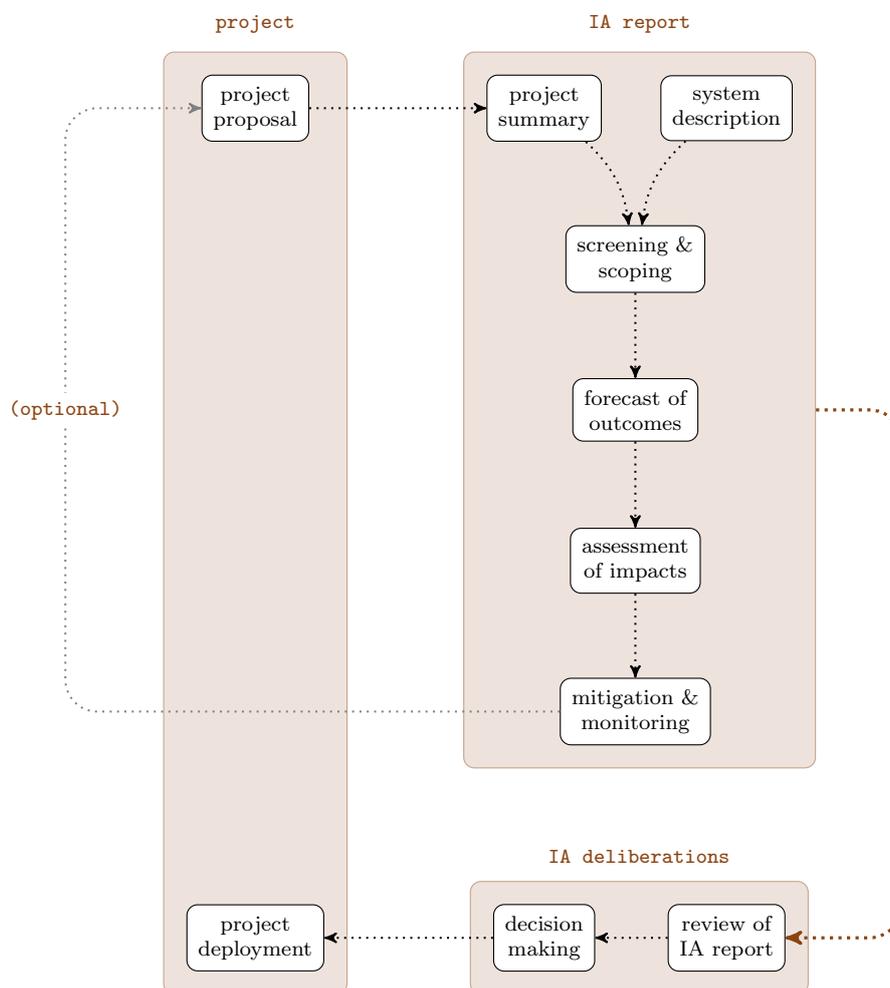

FIGURE 3   Information flow in an impact assessment process

Formal impact assessments first appeared in the 1970s with environmental concerns about engineering projects (Wathern, 1988), but over the years have successfully incorporated social and economic dimensions, and have also expanded their scope beyond the project and well into strategic developments expressed as plans and programmes (Therivel, 2004).

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[1]i.e. occurring beyond the levels that would have been registered in the natural course of development of the medium without the project (Perdicoúlis, 2015d).

Figure 3 represents key information flows across the various documents and tasks of the impact assessment (IA) process. Impact assessment is external to the project development, but both processes are paid for by the project owner and usually developed by different specialist teams — although there is no impediment that a single team could command both specialities.

Being an external assessment, the references for the assessment of the forecast impacts (Figure 4) must represent the opinion and interests of the community, obtained representatively and consensually, and expressed unambiguously (Perdicoúlis, 2014d, 2015a,d). The IA team must discover and define these references for all value judgements ahead of time.
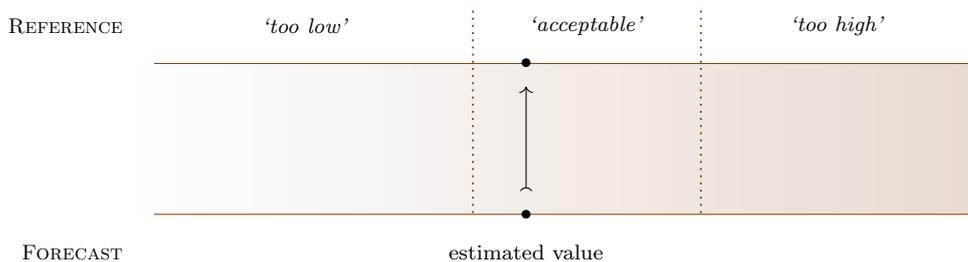

FIGURE 4   Sample community reference for a single indicator

The true 'external' nature of the IA process is marked by the review of the IA report (Figure 3) in two complementary approaches: (a) a technical appraisal by state officials and their selected specialist consultants, and (b) a broad consultation of the general public (moderated by the state agency responsible for the IA process), including the community that is most likely to be affected by the project, and who had previously expressed their preferences to the IA team.

The final decision of the IA process with regard to the project is formalised by a higher-rank state official, such as the minister of the environment, and is a *political decision* with technical substantiation. Hence, the IA process is largely considered and actually used as a decision-support instrument.

4   Discussion

The internal and external perspectives of the *ex ante* project assessment do share tasks (e.g. forecast of outcomes, improvements/ mitigations), but differ in scope (e.g. achievements vs. impacts), stakeholder involvement (e.g. project team vs. community, including the state), and procedure (e.g. internal standards vs. legal requirements).

In the internal perspective, it is important to cycle through as many improvement iterations as possible (Perdicoúlis, 2015b); this implies an investment of team effort, time, and money, but enhances the outcome that matters: the quality of the project. Hence, seen in a broader context, the *ex ante* project assessment is an instrument for the development of a project, as much as it is for deciding whether a particular project is mature enough, or whether project A is better than project B.

The external IA process is generally considered as a decision-support instrument, but also has the important function of helping the project perform better — with an opportunity for minor re-design through the recommended mitigations. The performance of the project at its 'useful', operational

phase can be also coupled with additional frameworks, such as an Environmental Management System, or EMS (Perdicoúlis, 2012).

An interesting contrast results from the *ex ante* assessment of projects (§ 2–3), or merely their documents (Perdicoúlis, 2016), *versus* people in professional environments, such as employees. Since projects and documents are artefacts created for a purpose, their value is usually limited to their capacity to deliver expected outcomes. The same cannot be said of people, as their true value lies in (a) the quality of being human, and (b) the intricate 'backstage' dynamics that provide the conditions for their professional performance (Perdicoúlis, 2015e; Perdicoúlis and Gonçalves, 2016). In the same sense, an apple tree — although not edible — has deeper value and importance than a bushel of apples (Perdicoúlis and Santos, 2015).

5 Conclusion

Ex ante project assessments can be carried out in complementary internal and external perspectives. Internal assessments are capable of enhancing the potential of a project to perform as designed by its developers and expected by its owner, whereas external assessments are capable of identifying likely impacts of the project to its host environment, mitigate them in advance, and prepare a long-term monitoring scheme for continuous quality control. The extra investment in *ex ante* assessment is mandatory for large projects (e.g. through EIA), and is optional — but always worthwhile — for the internal assessment with view to improvement in efficiency.

TECHNICAL NOTE

Figures 1 and 3 are *information flow diagrams* (IFD). They originate from *abstracted* concise process diagrams (CPD) featuring a mix of actions and states linked by information flows. The focus of IFDs is precisely on the information flows, which are represented by dotted arrows (······▸) between the nodes. The nodes may or may not be marked semantically (e.g. actions and states).

Figure 2 is a *concept association diagram* (CAD). In this particular case, the CAD is based on an *abstracted* directed causal diagram (DCD), featuring the XYZ *elements* of the planning problem but not the physical and logical causality relations between them. In this case, the associations between the CAD elements (·······) are annotated with the assessments of the *efficiency* group (Perdicoúlis, 2013, 2014b,c).

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