

Chapter 17

A Pragmatic Profile Approach to Evaluating Environmental Sustainability Investment Decisions

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ABSTRACT

This chapter contends that environmental sustainability is a subject of great contemporary importance, but due to biases associated with traditional project appraisal approaches, projects that have strong environmental issues may be neglected. The chapter then presents a modified version of the pragmatic financial appraisal profile model by including an environmental assessment in the form of the 'environmental score index.' An illustrative case study is used to outline the important aspects of this new approach. The chapter concludes that this approach will help to fill a gap in the environmental investment literature, where there is a paucity of comprehensive, structured, and transparent methodologies that can prove acceptable to management decision-makers from a variety of functions and viewpoints.

INTRODUCTION

Due to the increase of pressures by various stakeholders on organisations and industry to be more proactive with regard to environmental sustain-

ability in their processes, products and practices, environmentally influential capital investments have started to gain significant attention in the literature (Zhu and Sarkis, 2007).

The importance of environmental sustainability has been raised in the literature. Sarmiento et al., (2005) found that 92% of Portuguese com-

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panies made “environmental investment because of the negative impacts of probable ecological accidents”. They also found that a large part of this investment was in tangible capital assets. If, for example, we look at the water industry, agricultural emissions in parts of France have increased in recent times to become a serious threat to water quality (Ekins, 2003). However, traditional appraisal models are inappropriate in such a uniquely regulated industry (Tebbutt, et al., 2003).

It is acknowledged that a first step in developing a proactive environmental management program has been to identify the myriad of subtle ways environmental issues impact company cost and revenue streams (White, 1996). The limitations existing with various investment appraisal approaches when it comes to environmental issues, including the need to incorporate strategic considerations into corporate decision-making, planning and control processes, has long been recognised by environmental accounting researchers (Burritt, 2004; Burritt and Saka, 2006). The mainstream academic literature on investment appraisal appears to focus on traditional financial evaluation techniques and tools with little recognition of environmental issues as a factor in the decision process of organisations (Ross and Wood, 2008).

There is empirical evidence to show that environmental benefits accrue over a much longer time-horizon than typical investments in organisational projects (Regnier and Tovey, 2007), making their inclusion into investment appraisal and justification even more difficult. In addition to long time planning horizons, there are issues with the various costs and benefits that are associated with green decisions and factors. The United States’ Environmental Protection Agency’s (USEPA) well known cost categorisations (USEPA, 1995) include conventional, hidden, contingent, relationship/image, and societal costs, which range, respectively, from easier to measure to most difficult to measure categories. Thus, there will also be a mixture of relatively tangible traditional costs

to less tangible and non-traditional cost categories. It is difficult to integrate these characteristics of environmental costs into traditional capital investment appraisal tools. Thus, there is a need for tools that can effectively help organisations make decisions concerning capital projects that include environmentally sustainability dimensions. Organisations need to make a business case for such projects, irrespective of whether they are initiated through regulatory or competitive pressures. One solution is the adoption of the financial appraisal profile approach.

Introducing an Environmental Aspect to the Financial Appraisal Profile Model

The FAP model (Lefley and Ryan 2005, Lefley and Sarkis 2007, Lefley 2008a, Lefley and Sarkis 2009) was designed as a three-dimensional (financial, project specific risk, and strategic) model for the appraisal of capital investments. In this case study, we add a fourth dimension, focusing specifically on environmental sustainability issues. Introducing this fourth environmentally oriented dimension will enhance the evaluation, and therefore make for better decision-making of those projects that have significant environmental implications. Such environmental factors being, in the main, ignored by conventional financial appraisal models because of the difficulty, some would argue impossibility, in valuing them in financial terms. We then present a case study that offers some insights into the application of the FAP model. Finally, we summarise the chapter, identifying various issues that may arise with the technique with managerial implications clearly defined.

Evaluating Capital Projects

Numerous methods/models have been recommended for the evaluation of capital projects. However, the strategic evaluation and justifica-

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