Sustainable Project Life Cycle Management: the need to integrate life cycles in the manufacturing sector

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Abstract

The pressure on businesses to incorporate the principles of sustainable development into policies and activities is mounting. Project management methodologies are not excluded from this pressure. The current project management frameworks do not effectively address the three goals of sustainable development, i.e., social equity, economic efficiency and environmental performance. A prerequisite for aligning these frameworks with the principles of sustainable development is a clear understanding of the various life cycles involved in a project and the interactions between these life cycles. The way forward to achieve true Sustainable Project Life Cycle Management in the manufacturing is subsequently outlined.

Keywords: Managing projects; PEST; Business sustainability; Life cycle management

1. Introduction

The World Commission on Environment and Development (WCED)'s report in 1987 is viewed as a major political turning point for the concept of sustainable development [1]. Since then the influence of the concept has increased extensively and it features more and more as a core element in policy documents of governments and international agencies [1]. The World Summit on Sustainable Development (WSSD) in 2002 highlighted this growing recognition of the concept by governments as well as businesses at a global level [2].

The concept of sustainable development is nevertheless inherently vague [3]. The first formal definition of the concept appeared in the 1987 WCED report (later published as a book “Our Common Future”) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [4]. There are currently over 100 definitions of sustainability and sustainable development, but most agree that the concept aims to satisfy social, environmental and economic goals. These goals are also referred to as the three pillars or objectives of sustainable development [5–7]. Although the concept is thus understood intuitively it remains difficult to express it in concrete, operational terms [8].

Business, as one of the three pillars of society (the other two being government and civil society) [9], has a responsibility towards the whole of society to actively engage in the sustainability arena [10]. The pressure is therefore mounting for businesses to align operational processes with the three objectives of sustainable development [11]. Four different types of drivers for the incorporation of sustainability in business practices have been identified [12]. An adaptation of the identified drivers is illustrated in Fig. 1.

In order to assist business, the International Institute for Sustainable Development (IISD) has suggested the
following definition of sustainable development for the
business community: “For the business enterprise, sus-
tainable development means adopting business strategies
and activities that meet the needs of the enterprise and
its stakeholders today, while protecting, sustaining and en-
hancing the human and natural resources that will be
needed in the future” [13].

1.1. The reaction of business to the sustainability
challenge

Three levels within an organisation have been identi-
fied that can be subjected to change namely, the Strate-
gic Level, Process or Methodological Level and the
Operational Level [14]. In order for sustainability to
manifest within a company, change needs to take place
on all three levels. This is, however, not currently the
case. On a strategic and operational level there are
evidence of the integration of sustainability into the busi-
ness environment. Some companies have started to
define sustainable development for their business, while
others endorse international agreements or include the
principles of sustainable development in the company’s
vision and mission statements. The majority of emphasis
has fallen on the operational level where companies im-
plement Environmental Management Systems and re-
port on the sustainability of their operations in annual
sustainable development reports. Companies also tend
to place an increasing importance on corporate social re-
sponsibility and corporate philanthropic projects.

However, the 2002 PricewaterhouseCoopers Sustain-
ability Survey [15] revealed that of the 101 Fortune 1000
companies that were interviewed, 72% of the respond-
ents do not include the risk and/or opportunities of su-
stainability in their project, investment and transaction
evaluation processes. Research by IWOe-HSG has fur-
ther revealed that traditional business management sys-
tems are solely geared towards financial performance
and therefore exclude environmental and social sustain-
ability aspects [16]. Fig. 2 illustrates the statistics from
the 2002 PricewaterhouseCoopers Sustainability Survey
[15]. The second level of change that is required for an
overall sustainability focus (as is shown in Fig. 2), i.e.,
business processes and methodologies, thus largely ig-
nores environmental and social sustainability aspects.

The traditional top-down and bottom-up approaches
to incorporate sustainability within the organisation
have not seemed to be effective to a large extent. Prac-
tical tools, which systematically include sustainability
within the evaluation processes, are needed to align busi-

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Fig. 1. Drivers for the incorporation of sustainable development in business practices.
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