Chapter XIII
Modelling the New Product Development Process:
The Value of a Product Development Process Model Approach, as a Means for Business Survival in the 21st Century

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ABSTRACT
Success in new product development (NPD) can be considered a general aim for any company wishing to survive in the 21st Century. It has been found that positive effects can result from the existence of formal “blueprints” and “roadmaps” of the NPD process. This chapter discusses numerous NPD processes which can assist a company to capture what it does, and follow a structured development route, from which it is possible to gain a better understanding of how to improve the development process, and thus reap the potential and tangible benefits. This chapter’s focus is at organisations that are considering implementing a new product development (NPD) process in order to improve repeatability and ultimately sustainability of their innovative capabilities, a necessary and vital component for survival. It aims to bring an understanding of the underlying characteristics that may contribute to a potential and successful outcome during the development process within organizations, through the adoption of a structured NPD process.
INTRODUCTION

The design and development of products has been, and is continually the focus for many different authors. The pre-occupation with design and development exists because getting it right is so important. A revealing comment from Norman and Peterson (1999, p65) advises why companies are so desperate to understand what they do, and how they can make things better: “...all good companies can innovate, but fewer are able to be innovative again and again.” No one has been able to capture the ultimate prescription for success, even some of the same authors publish different observations, depending upon the orientation and audience.

WHAT IS A NEW PRODUCT?

There are numerous definitions by various authors (Cooper, 1999, 2001; Cooper et al, 1997; Hart, 1996; Ozer, 1999, 2004; Tracey, 2004) however one common similarity characterises a new product as ‘one not previously manufactured by a company’. One of the foremost aims of any development programme should be to get the right product or service, to the market or customer as quickly as possible. This can limit the chance of a competitor gaining an advantage by first entry, and therefore one enjoying an early market position. The cost of development, whether large or small, is a burden on the cash flow of an organisation and pressure will be applied for an early payback of cash spent (Hultink and Hart, 1998). For example, marketing functions can expend vast resources, determining which products should be offered to particular markets and at what price. Restrictions on new product scope that are imposed are usually derived from a combination of the mission statement, or strategy of a company and the attractiveness of the market (Cooper and Kleinschmidt, 2000).

THE NEW PRODUCT DEVELOPMENT PROCESS

The potential for innovation is considered to be a fusion of a perceived user needs and a technological opportunity for fulfilment of this need (Jenkins et al, 1997). Innovation is often used interchangeably with other words and phrases, or can be used with varying emphasis, depending upon the subjects that are under consideration (Hultink and Hart, 1998). It has been discussed (Wright and Swain, 1995) that ‘innovation’ is a term invariably used by research and design people; ‘new product development’ is a phrase generally referred to more in marketing and management; and ‘design’ is a common word in engineering. However, to many who are embroiled in the act of NPD, they will note that the three have subtle, but important differences. There appears to be a hierarchy of activities that these phrases encompass. ‘Innovation’ can be considered as the unit of technological change and an invention, if one exists in the situation, it is part of the process of innovation (Harborne and Johne, 2003). New product development, for all intents and purposes, can be viewed as a slightly less radical phrase such that the development of a ‘new’ product does not have to involve innovation. New products are different from those which already exist, in terms of major or minor changes (Nok and Radnor, 2004). The ‘newness’ may be new creations (such as original innovations; or products new to the world or new to the company); additions, improvements and revisions (with greater emphasis on particular values); repositioning of the product (e.g. novel ways to use it in a different market segment, or possibly the use of branding); or simply cost reductions (lower price, or improvement in through life costs) (Booz, Allen and Hamilton, 1991). Figure 1 illustrates a typology for product ‘newness’ categories. It is the product design and development that is the interest of this research.