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Critical success factors for new product development in the Hong Kong toy industry

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Abstract

Hong Kong's manufacturers have become some of the world's most efficient toy producers, and are also the world's biggest exporter of toys. However, the Hong Kong toy industry is mainly Original Engineering Manufacturing (OEM) and does not invest large amounts in R&D activities such as the development of new toy designs and the creation of new toys. With increasing competition from Mainland China and other Asian countries, it is important for Hong Kong companies to invest more in R&D and to develop their own design capabilities or more value-added edges which cannot be substituted easily by their competitors. Therefore, this research paper aims to explore the critical success factors (CSFs) for new product development (NPD) in the Hong Kong toy industry, and, novelly, examines both the project and functional levels. Using the Biblical Metaphor Model, this research identifies a group of critical success factors for each phase of NPD. Moreover, the research also reveals which factors have been implemented and which have not. The implications from this research, therefore, are rather obvious, and companies should be able to easily identify the areas in which improvement is needed in the future. Since the research is custom-designed for the Hong Kong toy industry, and previous research indicates that NPD is both country- and industry-specific, the specific results should not be applied to other industries in other countries. However, the actual research design and data analysis framework could be used to investigate the same problem in other industries.

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1. Introduction

The toy industry is one of Hong Kong's oldest and largest export industries, and it is generally agreed that Hong Kong is the world's leader in toy exporting. In 1996, its production output had reached HK\$ 2.5 billion (HKTDC, 1999). One of the strengths of Hong Kong's toy industry lies in its ability to incorporate technology and skills from other industries such as clothing, electronics, and metal industries. Building on their base in plastic moulded toys, Hong Kong's toys manufacturers have added production skills from such industries. As a result, they have been able to upgrade the quality of their goods and obtain good profits. The second advantage of Hong Kong toy companies has been the movement of their locations of production to Mainland China and other Asian countries such as Thailand, Malaysia and the Philippines, so that product costs can be dramatically reduced. As a result, Hong Kong's role is shifting

towards quality control, management, marketing, and new product design.

As well as their leadership in toy exporting, Hong Kong's toys manufacturers have also become some of the most efficient toy production managers in the world, particularly when toy production involves components made of different materials. Through their Original Engineering Manufacturing (OEM) contracts, Hong Kong's toy manufacturers are also well informed about the market trends in the major toy markets of the US, Western Europe, and Japan.

The market for toys is huge and remains promising. It is anticipated that the demand for toys will increase every year (HKTDC, 1999, 2000). In addition to high-tech toys, toys such as intelligent games and traditional toys will always have their place; no matter what happens in the field of technology, it is likely, for example, that girls will always want to comb a doll's hair, to touch the doll, or dress her. However, Hong Kong's toy exports have recently dropped in all the major current markets as shown in Table 1. Besides the financial crisis, there are other reasons. Hong Kong's toy industry relies on OEM contracts. More than two-thirds of sales are derived from licensing and contract

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Table 1
Market shares and growth rates of Hong Kong toy exports to its main markets

Market	1997		1998		1999	
	Share (%)	Growth (%)	Share (%)	Growth (%)	Share (%)	Growth (%)
USA	48.4	+13	50.2	−2	49.3	−3
EU	22.1	+9	22.6	−4	24.6	+8
Japan	7.0	+28	6.3	−15	3.6	N/A
Chinese mainland	4.0	+32	3.6	−16	3.6	N/A
ASEAN	2.1	+2	1.1	−49	1.4	+25

manufacturing for overseas toy companies (HKTDC, 1996). Many of Hong Kong toy companies do not invest much in R&D, such as the development of new toy designs or the creation of new toys. The lack of R&D and the tendency to produce under OEM contracts have also hindered the development of Hong Kong brand names, although there are a few internationally recognized Hong Kong brand names, such as Playmates, Videotech, and Universal Matchbox. Since the holders of brand names capture a significant percentage of a product's added value at the retail level, Hong Kong toy companies generally operate at relatively low profit margins.

A threat over the next few years will come from increased competition from toy manufacturers in Mainland China and selected companies from Southeast Asia. In Mainland China, the reform of state-owned enterprises could create dynamic, profit-motivated toy companies with a strong outward orientation. These companies will compete for OEM contracts currently held by Hong Kong companies. Therefore, it is important for Hong Kong companies to invest more in R&D, and to develop their own design capabilities or more value-added edges which cannot be easily substituted by their competitors. However, the history of Original Design Manufacturing (ODM) is relatively short, and experience in toy design and development is limited.

The research reported in this paper aims to explore the success factors for new product development (NPD) in Hong Kong toy companies. Research on the critical success factors (CSFs) for NPD is substantial (Balachandra and Friar, 1997; Cooper and Kleinschmidt, 1995; Spivey et al., 1997). However, researchers from Germany, Japan, Italy, and the USA have found that each country has traditional strengths and weakness in NPD (Jürgen, 2000). For example, the USA has particular strengths in the PC industry, Italy and Germany in the machine industry, and Japan and Germany in motor vehicles. These findings imply that NPD may be country-specific. There also seems to be little industry consensus on what constitutes 'best practice' concerning NPD (Jürgen, 2000, p.11). This implies that the successful factors for NPD are industry-specific. Recent research on NPD has tended to focus on specific industries, for example, the semiconductor industry (Iansitia and Westa, 1999),

auto industry (Dröge et al., 2000), electronics industry (Orihata and Watanabe, 2000), and the food industry (Ilori et al., 2000).

With its global market, short product life-cycle (as short as a couple of months), small R&D team for each new product (one or two persons), and cross-border manufacturing in China and other Asia countries, the Hong Kong toy industry should specialize in NPD. However, no research investigation has been conducted on the success factors for NPD in Hong Kong toy companies. The research reported in this paper was designed especially to explore the success factors for NPD in the Hong Kong toy industry.

The paper is organized as follows. After this introduction, the relevant studies from the literature are reviewed in the second section. Research methodology and empirical data are reported in the third section, followed by data analysis and results in the fourth section. In the fifth section the results are discussed and implications explored. The final section summarizes the research.

2. Literature review

2.1. Critical success factors for NPD

Proficiency in NPD can contribute to the success of many companies. According to Poolton and Barclay (1998), 'if companies can improve their effectiveness at launching new products, they can double their bottom line. It's one of the areas left with the greatest potential for improvement.' Many studies have focused on CSFs associated with the success or failure of NPD. A selection of such research studies is reviewed below and summarized in Table 2.

Lynn et al. (1999) developed a model of the determinants of new product development success. They sent informants a series of cases and asked them to identify 11 key factors as shown in Table 2. Lester's (1998) study identified a range of potential problems that can derail well-intentioned NPD efforts. By working through these problems, Lester discovered 15 CSFs in five areas of new product development. Poolton and Barclay (1998) identified a set of six variables that have consistently been identified in the literature as being

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