



Pergamon

Technovation 22 (2002) 699–705

technovation

www.elsevier.com/locate/technovation

# The alignment between manufacturing and business strategies: its influence on business performance

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## Abstract

This paper reports the influence of alignment between manufacturing strategy and business strategy on business performance and the contribution of manufacturing performance to business performance. The research is based on the empirical data from the International Manufacturing Strategy Survey (IMSS) conducted in more than 20 countries. The results include: (1) the alignment of manufacturing strategy and business strategy positively influences the improvement of business performances; (2) the manufacturing–business alignment also positively influences the manufacturing contribution to the improvement of business performance. The conclusion is that only when the manufacturing strategy and business strategy are in alignment, can manufacturing contribute to the improvement of business performance and business objectives can be achieved. The main implication is that the production/manufacturing function should be involved in the strategic decision-making.

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*Keywords:* Manufacturing strategy; Business strategy; Alignment; Performance

## 1. Introduction

Strategy plays the role of a linkage between the external market requirement and internal organizational and technological resources, capability and competitive advantage. Without a proper strategy, the technological and organizational resources and capacities will be unfocused and very often misdirected. For example, many studies (Riis and Sun, 1994; Sun, 2000) have revealed that advanced manufacturing technologies implemented may not contribute to the improvement of business performance if they are not under the guidance of a strategy.

Strategy can be discussed at different levels such as corporate/business strategy and functional strategies. Functional strategies may include manufacturing strategy, market strategy and R&D strategy etc. Manufacturing strategy is a link between business strategy and internal organizational and technological basis. To serve as such a link, manufacturing strategy must be in alignment with business strategy as well as internal organiza-

tional and technological capability. Alignment (or internal and external consistency) is regarded as one of the paradigms on manufacturing strategy (Voss, 1995). However, past practice and literature did not pay enough attention to the alignment between business and manufacturing strategies. As Hill (1995, p. 57) pointed out two incorrect assumptions for the ignorance of manufacturing in strategy. They are: (1) manufacturing is able to do everything; and (2) manufacturing's contribution concerns the achievement of efficiency rather than the effective support of market needs. Strategy literature (Mintzberg and Quinn, 1991) rarely touches manufacturing and production. Although recent research realizes the importance of the issue and research testing the relationship between strategy and performance was reported (Williams et al., 1995), it still lacks empirical testing on the influence of the alignment on business performance. In fact, a review of literature on manufacturing strategy (Bozarth and McDermott, 1998) concluded that "what has not been studied in any depth is the consistency aspects of manufacturing strategy", both internal and external. In this paper, the research on the alignment between business and manufacturing strategies and its influence on performance will be presented.

The paper was structured as follows. After the intro-

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duction (Section 1), the literature will be reviewed and relevant research questions will be raised in Section 2. In Section 3, the source of empirical data will be introduced. The data analysis and the results will be reported in Section 4. The implications and future research will be discussed in Section 5. The last section will include a brief conclusion.

## 2. Literature review and research questions

### 2.1. *Business strategy*

A corporation should seek to respond to the external environment effectively to gain competitive advantages, or the competitive forces (Porter, 1990). Strategies serve to exploit a corporation's capability as a competitive weapon to achieve its mission and objectives. A clear strategy can play an important role in a firm's success. In today's competitive environment, a company more than ever needs a strategy that specifies the kind of competitive advantage that it is seeking in the market and articulates how that advantage is to be achieved. (Hayes and Pisano, 1994). A typical business firm should consider three levels of strategies: corporate strategy, business strategy and functional strategy. Corporate strategy describes a company's overall direction. Business strategy occurs at the business unit level. And functional strategy is concerned with developing a distinctive competence to provide a company or a business unit with a competitive advantage (Hunger and Wheelen, 2001). These three strategies are not mutually exclusive and will link in the implementation of a particular strategy (Mills et al., 1995).

### 2.2. *Manufacturing strategy: the role of manufacturing in business, the development of manufacturing strategy and its relationship with other strategies*

Traditionally, manufacturing activities were not supposed to contribute to the competitive advantages of a company since it was only considered as merely operative and based on obtaining maximum efficiency (Avella et al., 1999). It was even not treated equally important as other functional strategies. Since the business environment becomes more competitive, manufacturing activities have been paid more emphasis. It has been recognized that manufacturing activities could contribute a lot to business performance and it has been put to a posture of strategy — the manufacturing strategy. This was initiated by Skinner (1969) in his semantic article "Manufacturing — missing link in corporate strategy". In this article, he set out the linkage between manufacturing choices and corporate/business strategy. Then he developed the concept of internal and external consist-

ency in "The focused factory" (Skinner, 1974). Skinner emphasized that manufacturing has the potential to strengthen or weaken a company's competitive ability.

Manufacturing strategy is regarded as the manner in which the business unit deploys its manufacturing resources (Hayes and Wheelwright, 1984) and effectively uses its manufacturing strengths (Swamidass and Newell, 1987; Riis, 1992) to complement the business strategy. Several studies have discussed the role of manufacturing strategy in business. Wheelwright (1984) defined four competitive priorities of manufacturing: cost efficiency, quality, flexibility and dependability to articulate how manufacturing can support a company's competitiveness. Similarly, Hill (1995) developed the concept of order-winner which includes price, delivery, quality, product design and variety, and the idea of order-qualifier, with which a company must meet if it is to be in a market. The link between manufacturing strategy and manufacturing performance has also received some attention, such as Ferdows and De Meyer (1990), and Hayes and Clark (1985).

Several works contribute to the relationship or linkage between manufacturing strategy, business strategy, corporate strategy and other functional strategies. One school of literature holds that corporate strategy drives business strategy, while business strategy drives manufacturing strategy. Schroeder et al. (1986) reported that manufacturing strategy appeared to be driven by marketing strategy, although they noted a high degree of congruence between the two. Maruchek et al. (1990) concluded that manufacturing strategy was perceived to be reactive and subordinate to business strategy. According to Miller and Hayslip (1989), manufacturing strategy is "a projected pattern of manufacturing choices formulated to improve fundamental manufacturing capabilities, and to support business and corporate strategy". The other school holds a different idea that manufacturing strategy should not be just reactive but could be proactive. Skinner felt it was possible for manufacturing to become proactive in its contribution to the overall business strategy. Manufacturing should seek to influence corporate strategies. Hayes and Wheelwright (1984) argued that the end-purpose of a manufacturing strategy is to guide the business towards obtaining the production capabilities, which enable it to develop and exploit manufacturing capability proactively as a competitive weapon. Leong et al. (1990) and Zahra and Das (1993) indicated that manufacturing is not only a factor that could support competitive priorities through its close correlation with competitive strategy, but also a determinative factor of the competitive advantages.

The above review can be summarized by Hill's (1995) model, "...functional strategies must be developed that support agreed markets with consistency between the various parts of a business. Only in this way can coherent strategies be forged that align all functions to support

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