Assessing the impact of the manufacturing executive’s role on business performance through strategic alignment

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Abstract

Many researchers over time have stressed the importance of incorporating the manufacturing perspective in the formulation of business strategy. Prior work in this area has tended to focus primarily on the involvement of the manufacturing executive in strategic decision making processes, while relatively little attention has been given to the level of influence enjoyed by the manufacturing executives. This study jointly examines the role of both influence and involvement in achieving better business performance, which we posit is expected to occur through alignment between the organizational and manufacturing strategies rather than directly. A research model based on procedural justice and strategic information management literature is proposed to represent this phenomenon. Structural equation modeling is used to empirically test the research model and its related hypothesis on the basis of data collected from 202 senior manufacturing executives representing mid to large sized firms from diverse industry groups across the US. In addition, interviews with a sub-sample of respondents are used to further explore the contextual nature of these relationships. The results indicate that involvement and influence are indeed two different, but highly related, aspects of the manufacturing executive’s role. The interviews revealed numerous differences between the two with respect to achieving each and individual benefits derived from them. As expected, both involvement and influence are important determinants of strategy alignment with influence appearing to play a more substantive role. More importantly, it is this alignment that affects business performance. Implications of our findings for improving manufacturing practice, along with possible avenues for future research directions in this area, are also provided. © 2001 Elsevier Science B.V. All rights reserved.

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1. Introduction

Over the course of years, many researchers and practitioners have stressed the importance of incorporating the manufacturing perspective in the formulation of business strategy (Skinner, 1969; Anderson et al., 1991; Anderson et al., 1989; Hayes and Wheelwright, 1984; Hayes et al., 1988; Hill, 1994; Leong et al., 1990; Rafii, 1984; Swamidass and Newell, 1987). These authors have argued that the exclusion of manufacturing from strategic business planning results in lack of consideration of manufacturing’s capabilities and limitations in the decisions taken. This often leaves manufacturing in a reactive mode; it cannot support the business strategy as currently configured and cannot acquire the resources needed...
to do so (Hayes et al., 1988; Hill, 1994; Ward et al., 1994). As summarized by Ward et al. (1994, p. 351):

“The nature of manufacturing management’s involvement in strategy making and ties between this issue and firm performance remain important process issues that are worthy of further empirical research.”

While there has been some evidence that the tendency to exclude manufacturing executives from business strategy decisions may be changing, there is room for substantial improvement (Anderson et al., 1991). For example, one of the vice presidents interviewed as part of this study described the lack of involvement of manufacturing in a new product introduction at his organization. Top-level managers, including those from marketing and research and development (but not from manufacturing), made a decision to substantially change a product. Such a change “would have had an enormous impact on manufacturing in terms of cost, retooling, etc. that had not really been thought of.” Manufacturing was finally brought in to the decision-making process, but at the “tail end”. Although that involvement did “change slightly how the product was eventually introduced”, the costs incurred were higher than necessary because manufacturing was left to operate in a reactive mode.

Prior theoretical work in this area has focused primarily on involvement of the manufacturing executive, defined as the extent to which the manufacturing executive actively participates in business-level strategic decision-making (Anderson et al., 1991; Swamidass and Newell, 1987; Ward et al., 1994). Within this research, the strong theoretical agreement that manufacturing involvement should lead to better economic performance has been supported by early anecdotal evidence (e.g. Anderson et al., 1991; Hayes and Wheelwright, 1984; Hayes et al., 1988; Hill, 1994). Yet empirical research that confirms or supports this idea has been limited and the results show a lack of consistency. Results of several of these studies indicate that a more substantive role is associated with greater economic performance (Ho, 1996; Rafii, 1984; Swamidass and Newell, 1987). However, another study examining involvement as one dimension of “manufacturing proactiveness” found that distinction between low and high performers existed only when involvement was also coupled with structural and infrastructural investments. Involvement alone, and by itself, was not enough (Ward et al., 1994). This result led them to conclude that further research is needed in this area to truly understand the role of involvement in shaping business performance.

Given prior work and reasoned expectations, involvement by itself may not be sufficient if it fails to influence decision-making. For example, during the mid-1990s Boeing chose a low-price strategy in competing with its rival, Airbus, in the small plane sector (Browder and Reinhardt, 1998; Greenwald, 1998). The strategy appeared to work with Boeing booking record orders for new planes in 1996. And to meet that increased demand, manufacturing was expected to ramp-up production to over twice the normal rate, cut costs by 25% over a 4-year period, and redesign a production system that had previously produced customized planes. The result was a “tailspin”, a reported loss of around US$ 400 million in 1997 caused by Boeing’s production backlogs, disruptions, and inability to meet delivery schedules. How could such a fiasco happen when the business anticipated record sales? Although manufacturing was represented in the strategic planning process, it was obvious that their influence was limited in affecting the eventual decision outcomes. This left the manufacturing function to operate in a reactive mode, struggling to overcome the lack of resources required to support the overall business strategy.

Relatively little explicit attention has been given in prior operations literature to the level of influence of the manufacturing executive, defined as the extent to which the manufacturing executive can directly affect the outcome of decisions that affect him/her (Keys and Case, 1990; Sapienza and Korsgaard, 1996). And in most cases, no clear distinction has been made between involvement and influence as different characteristics of the executive’s role. For example, Rafii (1984), Anderson et al. (1991) and Ward et al. (1994) referred to involvement and influence as if they are interchangeable. Yet Rafii (1984) focused on influence, while Anderson et al. (1991) and Ward et al. (1994) focused on involvement. Swamidass and Newell (1987) also focused specifically on involvement, but suggested that “intra-organizational power and influence” may be one factor affecting the role of the manufacturing executive in strategic decision making.

Literature in other business disciplines tends to differentiate between the level of involvement
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