

Chapter 40

An Investigation of Competitor Networks in Manufacturing Strategy and Implications for Performance

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ABSTRACT

Our study demonstrates the value of taking a more encompassing and explicit view of competition in manufacturing strategy research. In doing so, we go beyond a dyadic-based approach and investigate the ways in which the degree of competition among firms in a network influences performance. Using social network analysis techniques, we develop a novel measure—which we refer to as competitor infighting—that captures the extent to which a firm’s rivals compete amongst themselves. Our results suggest that a firm has a greater, unimpeded opportunity to demonstrate market gains as the degree of competition among its rivals increases, all else equal. In fact, competitor infighting is a better predictor of market performance in our sample than is a simpler, though perhaps more traditional, count of competitors. It serves an important moderating role in the relationship between a firm’s operational weaknesses and market performance. As predicted, we find that as competitor infighting increases, the relationship between operational weaknesses and market performance is diminished.

INTRODUCTION

Operations strategy is a key driver of performance. The prevailing view of manufacturing strategy suggests that a firm’s competitive priorities and portfolio of strategic operations choices—and their corresponding fit with the external business environment—influences its strengths (weaknesses) relative to competitors, which in turn influences business performance (Anand and Ward 2004; Boyer and Lewis

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2002; Clark 1996; Deveraj et al. 2004; Flynn and Flynn 2004; Giffi et al. 1990; Hayes and Pisano 1996; Hayes and Wheelwright 1984; Hill 2000; Narasimhan and Jayaram 1998; Rosenzweig et al. 2003; Silveira 2005; Skinner 1969; Ward and Duray 2000; Ward et al. 1990, 1995, 1996; White 1996). Empirical tests of this view of manufacturing strategy incorporate, at times, the role of competition and its effect on performance. In this chapter we argue the need for, and present, a more nuanced network-based view of competition in manufacturing strategy research. We do so using social network analysis (hereafter SNA).

Porter (1985) has long advocated the importance of considering rivalry among existing competitors when evaluating a firm's performance. Moreover, strategic management studies that adopt a resource-based view (RBV) often evaluate a firm's capabilities relative to competitors (Barney 1991; Sirmon et al. 2010; Wernerfelt 1984).

The need to consider the environment in which a firm competes is similarly a key tenet of manufacturing strategy. Toward that end, empirical studies in manufacturing strategy that relate operational strengths and weaknesses to business performance do provide some evidence regarding a firm's ability to compete with rivals (Barnett 1997). Some of these studies include an additional analysis of the role of competition by forming strategic groups, while others do so by examining more explicit measures of competition—at times in combination with the strategic group approach.

With respect to strategic group studies, naturally, not all firms within an industry will be direct competitors in the sense that various groups of firms will follow different strategies, offering customers different bundles of criteria (Porter 1980). Cool and Schendel (1987) conclude that an industry is likely to be composed of several such clusters or competitor sets of firms. Relevant strategic group studies in manufacturing strategy typically derive such competitor sets using data on competitive priorities (e.g., Frohlich and Dixon 2001; Kathuria 2000; Miller and Roth 1994; Safizadeh et al. 2000; Schoenherr and Mabert 2011) or capabilities (e.g., Bendoly et al. 2007; Zhao et al. 2006).

Implicit to strategic group studies such as these is the idea that firms within the same group compete in a similar fashion and face comparable market conditions (Chen 1996; Chen et al. 2007; Kotler and Armstrong 1989). Accordingly, this analysis approach ignores the possibility that firms within a strategic group may serve different markets—and thus may not compete directly against one another.

Relevant empirical studies that include a somewhat more explicit approach to analyzing the competitive landscape examine the match or fit between the manufacturing strategy and the external business environment. To specifically assess competition's effects on manufacturing strategy and performance, these studies utilize measures such as:

1. The degree of predictability regarding competitors for customers (e.g., Duncan 1972; Mahapatra et al. 2012; Pagell and Krause 1999; Swamidass and Newell 1987; Wong et al. 2011);
2. The degree of competition in target markets (e.g., Amoako-Gyampah and Boye 2001; Krause 1999; Rosenzweig 2009; Saeed et al. 2005; Tang and Rai 2011; Villena et al. 2011; Ward et al. 1995);
3. Industry concentration (e.g., Dean and Snell 1996; Dess and Beard 1984; Hofer et al. 2012; Kotha and Nair 1995; McDougall et al. 1992; Pagell and Krause 2004; Patel et al. 2011); and
4. The total number of competitors in target markets (e.g., Boulding and Staelin 1990; Kekre et al. 1995).

Relative to strategic group analysis, such an approach tends to offer a more fine-grained analysis of the effect of competition on performance among a group of firms. However, it does not take into account the possibility of asymmetric degrees of competition between pairs of firms (dyads) within that group

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