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The relationships among selected business environment factors and manufacturing strategy: insights from an emerging economy

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Abstract

Manufacturing strategy represents the way a firm plans to deploy its manufacturing resources and to use its manufacturing capability to achieve its goals. Recent research has pointed out the important role of the business environment on the manufacturing strategy choices by organizations. However, most of the research has been confined to well-developed economies. This paper extends the research on business environment and manufacturing strategy by presenting results from an emerging economy. Using data collected from manufacturing firms in Ghana we demonstrate that in an emerging economy concerns about the competitive hostility is the factor with the strongest influence on manufacturing strategy choice.

Keywords: Manufacturing strategy; Business environment; Emerging economy; Hierarchical regression

1. Introduction

Conceptual work in manufacturing strategy has clearly established the link between manufacturing strategy and business performance [1,2]. A limited number of empirical studies have also been done to support the existence of the link between business environmental factors and manufacturing strategy content [3–7]. However as noted by Ward and Duray [8], environmental issues have received limited consideration in empirical studies on manufacturing strategy. One of the few studies on manufacturing strategy that includes consideration of environmental issues is the Ward et al. study of 1995 [4]. In that study Ward and his colleagues examined the impact of environmental conditions on the operations strategy of firms in Singapore. A limited number of studies have focused on the development of manufacturing strategy among firms in developing countries [3]. This study will contribute to the existing literature by looking at manufacturing strategy in an emerging economy.

The strategies that businesses adopt are influenced by the economic environment (interest rates, inflation, growth of the economy, competition, labor prices, etc.) in which they operate. Whereas the above statement might not draw any arguments within the context of highly developed economies, it is not known the extent to which that might be true in underdeveloped economies. This is particularly true with regard to the development of manufacturing strategies. Thus, this study seeks to understand the extent to which perceptions about the nature of the business environment influence the selection of specific manufacturing strategies by firms in an emerging economy. The study is confined to manufacturing firms in Ghana. However, as will be argued later, the results obtained here could provide valuable insights for firms in other countries that face similar economic situations.

The purpose of this study is to examine how various business environmental factors influence the choice of competitive manufacturing strategies when a company is facing harsh economic conditions. The paper will identify the

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specific relationships among the business environmental factors of costs, labor availability, competitive hostility, and dynamism and the manufacturing strategies of low cost, quality, flexibility and dependability.

Several contributions are evident from this study. First, the study allows us to understand how models developed to explain the influence of business environment on manufacturing strategy content in mostly developed or rapidly developing economies might (or might not) be applicable in underdeveloped economies. There have been some inconclusive empirical results on the transferability of organizational theories from developed countries to developing countries [9]. Therefore, if it can be demonstrated that the models using data from more advanced economies are applicable in other environments, then the generalizability of those models can be extended and while at the same time broadening the external validity of the theories and constructs underlying those models. The second contribution is an understanding of how different perceptions about the business environment lead to the adoption of different manufacturing strategies. The third contribution is to determine if the factors firm size and degree of foreign ownership help explain the influence that business environment has on the selection of manufacturing strategy.

2. Previous studies and rationale

There has been a growing interest among operations management researchers in manufacturing strategy research since the seminal work of Skinner in 1969. While several studies have highlighted the importance of manufacturing strategy with regard to the overall business strategy and performance of a firm (e.g. [1,5,10–12]), there have been very few studies that have looked at the role that the business environment has on manufacturing strategy choices. Although there were some earlier studies such as the work of Van Dierdonck and Miller [13] who sought to understand the relationship between environmental factors and the design of production systems, perhaps the study done by Swamidass and Newell in 1987 [7] can be credited with having begun the foray into this important area of research. In their study, Swamidass and Newell examined the causal linkages between environmental uncertainty and manufacturing strategy content (specifically, flexibility) and the role that manufacturing managers play in strategic decision making. They noted that although the literature on business strategy explicitly recognized the importance of environmental uncertainty on strategy, the operations management literature had not paid much attention to the effect of the environment when discussing operations strategy.

There have been very few studies since the work of Swamidass and Newell devoted to examining the role that business environment can have on manufacturing strategy content despite the call by researchers for studies in the area [14,15]. Notable among the few studies that have been done was the work of Ward et al. in 1995 [4]. Ward et al. examined the relationships among environmental factors and operations strategy choices among firms in Singapore. Specifically, the authors examined the linkages among business costs, labor availability, competitive hostility and environmental dynamism and the operations strategy choices of low cost, quality, flexibility and delivery performance. They found significant paths linking environmental dynamism with the competitive choices of flexibility, quality, and delivery performance. Thus, some of their findings confirmed those of the earlier work by Swamidass and Newell.

Badri et al. [3] tested the general model proposed by Ward et al. [4] in another environment and found the model to generally hold true. Specifically, Badri et al. [3] used a path analytic procedure to examine the relationships among operations strategy, environmental uncertainty and performance among manufacturing firms in the United Arab Emirates (UAE). They extended the Ward et al. model by including two additional variables: the political environment and government laws and regulations.

The goals of this research are to find out if the general model linking business environmental factors and manufacturing strategy choices is applicable to an emerging economy and secondly to find out if there are additional factors that might explain the choice of manufacturing strategy in those environments. The additional factors are firm size and the degree of foreign ownership. The goal is not to directly replicate the work of Ward et al. or that of Badri et al. Rather, the goal is to understand the extent to which the general theoretical constructs espoused in those studies are applicable in a different economic environment. In that regard, this paper builds on both the work of Swamidass and Newell [7], Ward et al. [4], and Badri et al. [3] as shown in the Table 1.

As noted earlier, few studies on manufacturing strategy have been focused on developing or emerging economies. In a recent forum on strategy in emerging economies, Hoskisson et al. [16] noted that research on firm strategies in emerging economies have focused on China and some countries in Central and Eastern Europe, despite the fact that 64 countries in four regions (Africa/Middle East, Asia, Central and Eastern Europe and Latin America), have been identified as emerging economies by the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development [17]. Hoskisson and colleagues stated that the Africa/Middle East region especially has received little or no research attention. This apparent lack of interest might be due to the perception that African countries do not represent a viable source of low cost manufacturing compared to other developing countries. Existing statistics and actions by multinational organizations however paint a different picture. For example, between 1981 and 1992, the growth rate of foreign direct investment in Africa exceeded that in all other regions. For youth-oriented products, Africa (with over 40% of its population under 18 years) represents one of the most active growth markets [18].