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Toward Better Defining the Field of Agribusiness Management

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Abstract

Despite the growth and interest in the agribusiness profession, what constitutes agribusiness management research continues to be a perennial debate. This study argues that the advancement of a field is predicated on defining a field's set of fundamental questions or issues because resolution of such issues serves to elevate the field to a high level of research inquiry. In order to advance the domain of agribusiness management in agricultural economics, this study examines four questions of strategy and outlines the pertinent theories used in resolving such concerns. Theories which we feel can advance agribusiness management to be a distinct discipline include Coase's (1937) treatment on the "nature of the firm," Simon's (1957, 1976) concept of bounded rationality, Penrose's (1959) theory of the growth of the firm, and subsequently Barney's (1986, 1991) Resource-Based View. The relevance and implications of this early work should serve as a guide to those seeking to explain an agribusiness firm's existence, behavior, growth and heterogeneity.

Keywords: Agribusiness management, authority, bounded rationality, diversified growth, resources.

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Introduction

Despite the growth and interest in the agribusiness profession, what constitutes agribusiness management research continues to be a perennial debate (Barry, Sonka, and Lajili, 1992; Harling, 1995; Robbins, 1988). Understanding what is or what is not agribusiness management research is fundamentally dictated by its definition. Since Davis and Goldberg's (1957) seminal definition of agribusiness, [1] agribusiness has subsequently been defined in various ways, such as agro-industrialization (Boehlje 1999; Cook and Chaddad 2000), value, or net chains (Lazzarini, Chaddad, and Cook, 2001) or agriceuticals (Goldberg 1999). These definitions share a common emphasis for the "interdependence" of the various sectors of the agri-food supply chain that work towards the production, manufacturing, distribution, and retailing of food products and services (Boehlje, 1999; Cook and Chaddad, 2000).

Despite such an attention to the interdependent nature of agribusinesses, this interdependence cannot be understood independently of the behavior of the underlying agribusiness firm. Agribusiness researchers contend that the behavior of the agribusiness firm is typically explained by neoclassical economic principles of the production theory of the firm (Barry, 1999; Robbins, 1988; Sporleder, 1992; Westgren and Zering, 1998). This appears to be consistent with Harling's (1995) survey of AAEA members. Harling (1995) found that the majority viewed agribusiness management as a sub-discipline of agricultural economics (52% agreed with this statement) and that agribusiness management was the application of economics to agricultural businesses (53% agreed with this statement). In fact, Casavant and Infanger (1984) and Woolverton et al. (1985) viewed agribusiness as a special case of agricultural economics (see also Robbins, 1988).

Although various agribusiness researchers (e.g., Casavant and Infanger, 1984; Robbins, 1988; Woolverton et al., 1985) have viewed economics as "the appropriate tool for thinking about the management" (Harling, 1995, p. 503) of the agribusiness firm, Harling's (1995) survey, nevertheless, found that 70% surveyed viewed economics and management as distinctly different disciplines. In fact, "99% agreed that more than production and cost functions were needed to understand a business" (Harling, 1995, p. 506). Harling (1995), as well as French et al. (1993), have thus argued that in order to advance agribusiness management as a discipline, there is a distinct need for managerial explanations of firm behavior. This was recognized earlier by Westgren and Cook (1986) who noted, "if inroads are to be made in agribusiness management research, cross-disciplinary efforts are necessary" (p. 488).

Yet, despite such earlier calls, the advancement of agribusiness management as a discipline has been "sporadic" (Cook and Chaddad, 2000). Cook and Chaddad (2000) describe that "the evolution of this field [agribusiness management] has been sporadic with bursts of research activity and then periods of little or no activity" (p. 212). Although there are numerous possible explanations, such sporadic developments can be attributed to a basic philosophical challenge faced by agribusiness researchers: agribusiness researchers "…want to be true to their own predilections towards management yet have to satisfy the majority [agricultural economics] that thinks in terms of economics." (Harling, 1995, p. 509). That is, since agribusiness management

[1] The term agribusiness was originally defined as: "the sum total of all operations involved in the manufacture and distribution of farm supplies; production operations of the farm; and the storage, processing, and distribution of farm commodities made from them" (Davis and Goldberg, 1957, p. 2).

in the USA is generally viewed as a sub-discipline of agricultural economics, agribusiness researchers are subject to the belief systems and scientific rules of appraisal of an economics paradigm,[2] and thus agribusiness management research becomes one of "…satisfy[ing] the majority that thinks in terms of economics." (Harling 1995). Consequently, it comes as little surprise that researchers over the years have found it difficult to distinguish research that is agribusiness management from that of agricultural economics (e.g., French et al., 1993). In fact, agribusiness scholars, such as Akridge and Gunderson (2005), have noted "one might characterize the current state of agribusiness scholarship as fragmented: it has been difficult to generate critical mass around any specific area; no true agribusiness literature has been developed" (p. 5).

Hence, given that agribusiness management operates largely within the domain of agricultural economics, [3] the problem facing the advancement of agribusiness management is then how to develop its research identity? [4] To this end, various agribusiness researchers have called for a greater attention to "strategic management" explanations of the firm (e.g., Cotterill and Westgren, 1994; French and Westgren, 1986; Gray et al., 2004; Harling, 1995; Peterson, 1997; Van Duren et al., 2003; French et al., 1993). This is because agribusiness faces the same research challenges and shares a similar focus to firm level behaviors with that of management rather than that of economics (e.g., Akridge and Gunderson, 2005; Gray et al., 2004; Peterson, 1997; Van Duren et al., 2003). For instance, Micheels and Gow (2008) draw on a market orientation perspective (Slater and Narver, 1995) in conjunction with an entrepreneurial approach to explain the performance of beef cattle producers. Mainville and Peterson (2006) enhance Transaction Cost Economics (Williamson 1975) analysis with a grounded theory approach towards studying the vertical coordination decisions in São Paulo's fresh produce market. Sporleder et al. (2008) examines food product innovation from the context of first mover strategy research (Lieberman and Montgomery, 1998).

However, despite these varied advancements to agribusiness management, the advancement of a field is also predicated on defining a field's set of fundamental questions or issues. For instance, progress in the field of strategic management has and continues to be made through its efforts to define its central issues of concern because resolution of such issues serves to elevate the field to a high level of inquiry (Hoskisson et al., 1999; Rumelt et al., 1994). As a result, since there have been increasing calls to draw on strategic management explanations of the agribusiness firm, understanding some of the central questions or issues of strategy can be important to not only help "frame" the research boundaries of agribusiness management, but such framing can be important to highlighting potential limitations in economic treatments of agribusiness research.[5]

[2] This places agribusiness professors at a disadvantage, Gholson and Barker (1985) explains from Kuhn (1977) that, "it is impossible to claim the objective superiority of one paradigm over any other. This is because the rules to appraise scientific procedures - and experimental results - are supplied by the paradigm themselves…Judgments based on such rules, then, would favor the paradigm from where they were selected" (p. 756).
[3] Harling (1995) also reported that many considered its place in departments of agricultural economics as a place of convenience rather than its association with the discipline.
[4] Nothing in this paper is meant to detract from the substantial work agricultural economics perform for agribusiness firms. This specialized research pertains to many areas, including but not limited to: consumer marketing, quantitative analysis, obesity, horticultural economics, international trade, et cetera.
[5] For a complete exploration of the many and varied elements of strategic management, the reader is referred to Mintzberg et al. (1998).

For instance, as the firm is the primary unit of analysis in strategy, a basic question of strategy research is "why are there firms?" (Rumelt, 1994, p. 39; see also Seth and Thomas, 1994). Such a question is non-trivial because Rumelt et al. (1994) argued that economic explanations take the existence of the firm as a given, and thus provide an "unsatisfactory" explanation of a firm's existence. Second, an economic theory of the firm is incomplete in its explanations of how firms behave (Rumelt 1994). This is because the economic theory of firm is predicated on the rational behaviors of "economic man," and thus does not recognize the inherent cognitive and information limits of managers. Third, how firms grow has been a subject of long standing interest by strategy researchers (e.g., Ng, 2007; Sirmon et al. 2007) because the process of firm growth directly impacts a firm's diversification into new lines of business (e.g., Fréry, 2006; Porter, 1996). In fact, the subject of diversified growth is an important area to agribusiness management research because explaining "what business we are in" has been identified as an important issue in this field (French et al., 1993; Westgren and Cook, 1986). Yet, due to the equilibrium orientation of production economics, such economic treatments of the firm understate concerns about the process of a firm's diversified growth. Lastly, since the concept of strategy is fundamentally based on a unique or differentiated competitive position (Porter 1996), the question of "why are firms different?" (Barney, 1986, 1991; Hoskisson et al., 1999; Mahoney and Pandian, 1992; Rumelt et al., 1994) calls into question production economics' assumption of firm homogeneity.

As the field of agribusiness operates largely within the domain of agricultural economics, this study argues that the examination of these research questions and their associated management theories can provide a reference point to help shape dialogue about the boundaries of agribusiness management research. Specifically, the advancement of agribusiness management faces a basic challenge that not only requires "cross-disciplinary" efforts into management (e.g., Akridge and Gunderson, 2005; Boehlje, 2005; Westgren and Cook, 1986), but such efforts also require clear distinctions from economic explanations of agribusinesses. Such distinctions are important to developing management explanations of the agribusiness firm that could not be explained by economic principles alone. Hence, the objective of this study is to examine some of the key questions of strategy and to outline the pertinent theories used in resolving such concerns. In addressing some of the key questions of strategy, four areas of strategy are examined that involve Coase's (1937) treatment on the "nature of the firm," Simon's (1957, 1976) concept of bounded rationality, Penrose's (1959) theory of the growth of the firm, and subsequently Barney's (1986, 1991) Resource-Based View. The relevance and implications of each of these various explanations to the study of the agribusiness firm are also discussed. We conclude with the contributions and implications of this study.

Some Conceptual Underpinnings of Strategic Management

What is Strategy?

Although there are various definitions of strategy, the origins of strategy have been traced to Alfred Chandler's (1962) seminal work on *Strategy and Structure* in which strategy is defined as "…the determination of the basic long term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals" (p. 13). A strategy is a purposeful plan involving the allocation of a firm's internal

resources to service a particular product-market (or service-market) that yields a superior competitive position relative to rival firms. As such, the concept of strategy maintains that deliberated or purposeful action is a core tenet because the firm is not merely a responder to market prices – as reflected by an economic view of the firm (French and Westgren, 1986; Seth and Thomas, 1994), but rather the firm can create fundamental changes to the market. For instance, the strategy of Howard Schultz, the founder of Starbucks, was to put forth a new or innovative coffee retail concept that not only redefined a model for retailing premium coffee, but has subsequently become a subculture in N. American society. Schultz's strategy of redefining the consumption of coffee as a "lifestyle" experience underscores the essence of strategy, which is about developing a unique competitive position through performing activities that are different from those of its rivals. This reflects Porter (1996) contention that "competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value" (p. 64). In the case of Starbucks, especially during their earlier years, their competitive strategy rested on activities involving the development of proprietary roasting curves, extensive training of baristas, a streamlined bean-coffee value chain that preserved coffee freshness; all of such activities created a unique and unrivalled coffee experience that served a newly created consumer group (Ioannou 1998).

Given this concept of strategy, the ultimate goal of a firm's strategy is to create and sustain a differentiated or competitive position that yields long-term gains (e.g., Fréry, 2006; Porter, 1996). Such a characterization of strategy renders it distinct from the economic concept of operational efficiency (Porter 1996). This is because operational efficiencies involve "…performing similar activities better than rivals perform them" (Porter, 1996, p. 62). For instance, since production economics typically assumes that firms are homogeneous, the economic firm is thereby involved in activities that are similar to those of others. Differences between economic firms are thereby restricted to differences in scale (Seth and Thomas, 1994) that involve differences in technical efficiencies from producing the "same" output. While, since the concept of strategy is based on developing "different" activities or positions, strategy is, thereby, distinct from such improvements in operational efficiencies (Porter 1996). Hence, in the language of production economics, strategy is not about operating at the frontier of a firm's production function, but rather involve the development of an entirely different one. Another further distinction is that although improvements in operational efficiencies positively contribute to a firm's performance or profits, the economic concept of operational efficiencies cannot be a source of sustainable gain. This is because improvements in a firm's operational efficiencies are predicated on performing the "same" activity better than its rivals. Since these activities are known by rivals, rivals can eventually imitate a firm's operational efficiencies. For instance, despite being the early adopter to EDI (Electronic Data Interchange) systems in the early 1970s, Wal-Mart's improvements in operational efficiencies in inventory management were eventually imitated by its rival K-mart. In short, although strategy is commonly associated with improvements in operational efficiencies, strategy is fundamentally distinct from the concept of operational efficiency because of its distinct recognition that a firm's unique or heterogeneous competitive positions underlie a firm's sustainable gains.

Why do Firms Exist?

As the concept as well as goal of strategy places the firm as the central unit of investigation (e.g., Mahoney and Pandian, 1992; Seth and Thomas, 1994), a question relevant to the study of

strategy is: why do firms exist? (Coase, 1937; Rumelt et al., 1994). From an economics standpoint, a firm's existence is argued by the "given" existence of its production function. Yet, a production theory of the firm ironically does not offer a substantive explanation for why a firm should even exist at all (Coase 1937). This is because, if markets are efficient, then why are activities that could be performed in the market conducted within the firm? As Coase (1937) notes:

> "Yet, having regard to the fact that if production is regulated by price movements, production could be carried on without any organization at all, well might we ask, why is there any organization?" (p. 388).

Namely, if prices are known (which generally speaking means the absence of transaction costs), a firm can technically exist by outsourcing all of its input and output activities through a series of contractual arrangements. If there are no transaction costs (i.e., no costs in finding the relevant prices, and no costs in drafting, negotiating, and monitoring the terms of a market exchange) in the procurement and assembly of input ingredients, a firm can therefore manufacture a product without physically having a facility because the assembly of these ingredients can be outsourced through a series of costless contractual exchanges. Hence, in the absence of transaction costs, there is no reason why a production economic view of the firm should even exist. But as acutely noted by Coase (1937), there is a transaction cost in using the market. A firm exists because of its ability to reduce the transaction costs.

A firm exists because, through virtue of its "authority," it serves to minimize the transaction costs of market exchange (Coase, 1937; Williamson, 1975). Unlike a production economic view of the firm, authority is the defining feature of a firm, which reflects a super and subordinate contractual relationship between that of the employer and their employees. Within the prescribed limits of an employment contract, the employee in exchange for wages agrees to be dictated by the employer in any circumstance not explicitly stated in the original employment contract (Coase, 1937; Langlois, 2007). Such an authority relationship offers a distinct advantage in reducing the transaction costs of market exchange because an employment contract replaces many market exchanges for one (Coase, 1937; Langlois, 2007; Williamson, 1975). Moreover, since the specific details of an employment contract need not be fully specified (Coase, 1937), an authority relationship can more readily adapt to unanticipated changes. This is because the employer can simply instruct or direct the employee to conduct changes in their work responsibilities to account for new environmental contingencies (Langlois, 2007). As a result, a firm exists because its authority relationship economizes on these transaction costs of market exchange and provides a greater ability to adapt to environmental variation.

By substituting the market price mechanism, Coase's (1937) insights on a firm's authority have been instrumental to Williamson's (1975) Transaction Cost Economics (TCE). Transaction Cost Economics underscore that the market and the firm (i.e., hierarchy) reflect distinct governance structures in which the transaction costs associated with the procurement of a given activity between these alternative governance structures dictate the mode of governance. In other words, Transaction Cost Economics (TCE) is concerned with a "make or buy" decision (Williamson, 1975) in which for a given activity, a firm's choice of either procuring this activity from the market (i.e., buy), such as an outsourcing decision, or to perform this same activity within the firm (i.e., make) is dependent on the governance structure that minimizes transaction costs. This

transaction cost minimizing insight has been the basis for Williamson's (1975) arguments in which he contends "make or buy" decisions can be derived by combining "human behavior as we know it," such as bounded rationality or opportunism, with the dimensions of transactions, such as asset specificity, large/small numbers situations, or uncertainty (Williamson 1975).

In particular, Williamson (1975) asserts that the presence of asset specificity and opportunism (such as, cheating, lying, and stealing) favors the replacement of the market in favor of a firm's authority. In the presence of asset specificity, a firm faces few alternative uses for their assets. For example, in recent years there has been an increasing demand for "small" or bite size potatoes by specialty restaurant companies. The harvesting of such "small" potatoes, however, requires specialized and expensive equipment (upwards of $250,000) that can only be utilized for the harvest of potatoes of this size. Since such harvesting equipment cannot be utilized to harvest other potatoes, such as Russet potatoes, it has a low alternative use value. This asset specificity creates a problem for market-based transactions because, with opportunism, the buyer of the potatoes could "hold-up" the potato producer by demanding price concessions on the sale of their small potatoes. This 'hold up' arises because the specialized harvest equipment has limited alternatives uses, so the potato producer has little choice but to accept this lower price. Due to this hold-up problem, a market-based exchange is avoided because the potato producer would have to incur costs in monitoring and enforcing the terms of the sales agreement with its buyer. In that, due to such higher transaction costs, TCE would argue that this market-based exchange be supplanted by a firm's authority. This is because as an authority relationship enables the direct monitoring and enforcement of employees' actions, a firm's authority can circumvent such problems of hold-up. The potato producer would, thus, favor the integration of a buying activity into the firm, such as a forward integration into potato distribution.

An important distinction of Coase's (1937) insights and its subsequent developments to Williamson's (1975) transaction costs analysis is that they have been instrumental to explaining the vertical integration of agribusinesses. Vertical integration/coordination decisions have been examined in a variety of agribusiness industries, such as pork, cattle, and chicken (e.g., Barry et al., 1992; Cook and Barry, 2004; Cook and Chaddad, 2000; Purcell and Hudson, 2003; Sporleder, 1992). As a result, by addressing the question of why firms exist, Coase's (1937) and Williamson's (1975) insights not only offer a different basis for explaining the nature of the existence of the firm, but their insights have yielded significant implications to explaining vertical integration decisions that cannot be explained using a production economics framework.

How do Firms Behave?

Another salient distinction between strategic management and production economics pertains to their assumptions about firm behavior (Rumelt et al., 1994; Seth and Thomas, 1994). A defining feature of economics is its quest to explain phenomena as the results of rational choice (Rumelt, et al., 1994). For instance, from a production economics standpoint, a firm's profit maximizing behavior is typically modeled by the first order condition where marginal revenue is equated with marginal costs. Such a rational explanation of firm choice is appealing because the underlying mathematical formulism provides unambiguous predictions on the firm's optimal choice of output and subsequent price. Such profit maximizing behaviors are predicated, however, on the assumption that managers face no limitations in their information set and/or abilities in computing their optimal scale and prices.

However, unlike the rational premises of economics, strategic management is founded on a "realist" approach to the examination of the firm (e.g., Godfrey and Hill, 1995; Peterson, 1997). A "realist" approach favors a more holistic understanding of the complexities and details that confront real world businesses (e.g., Godfrey and Hill, 1995; Peterson, 1997). A realist approach recognizes that individual decision making is flawed or at best incomplete. Strategic management research is distinctly cognizant of this fact in which it recognizes that a manager's decision making behaviors are "boundedly rational" (Hoskisson et al., 1999; Rumelt et al., 1994; Seth and Thomas, 1994; Simon, 1957). Specifically, according to Simon (1957), the concept of bounded rationality refers to:

> "The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world or even for a reasonable approximation to such objective rationality" (p.198).

A basic tenet of Simon's (1976) concept of bounded rationality is that he rejects the "motivational and cognitive assumptions underlying the rationality of 'economic man'" (Seth and Thomas, 1994, p. 173). This is because with "economic man" maximizing behavior requires a complete knowledge of all possible states, as well as a complete understanding of their consequences (Simon, 1957, 1976). Simon (1976) argues the more realistic "administrative man" – as opposed to economic man – makes decisions through a mental model that is based on a highly simplified view of the world. As Seth and Thomas (1994) note, the "administrative man" has a limited ability to "formulate comprehensive models of the world and to process information; thus maximizing behavior becomes impossible" (p. 173). As the "administrative man" is not able to maximize amongst all available alternatives, decision making is driven instead by "satisficing."

Satisficing is a heuristic that economizes on an individual's limited cognitive faculties. With satisficing, the administrative man does not seek an optimal or best solution, but rather "…looks for a course of action that is satisfactory or 'good enough' " (Simon, 1976, p. xxix). Simon (1987) explains "satisficing" with an analogy in which he likens the optimizing behaviors of economics to "looking for the sharpest needle in the haystack" (optimizing), while comparing satisficing to "looking for a needle sharp enough to sew with" (satisficing) (p. 244). Hence, unlike the first order calculus of economic agents, managers do not optimize a firm's profits through equating marginal revenue with marginal costs. Instead, managers satisfice by seeking an "adequate" level of profit, "fair price," or some "acceptable" level of market share (Simon 1976).

To elaborate, such satisficing behavior arises when managers are dissatisfied with a current solution or strategy. Dissatisfaction induces a search for a new or alternative course of action. Yet, due to limits imposed by bounded rationality, this search for a new solution does not involve a comprehensive search for all possible alternatives. Rather, the search concludes with the first solution that satisfies or meets the managers' expectations. Such expectations are commonly referred to as a target level of performance (such as a firm's historical performance) and have been commonly described by a firm's "aspirations" (Cyert and March, 1963; Simon, 1976).

Because satisficing stimulates a firm's search, the concept of satisficing has also been instrumental to explaining a firm's risk behaviors (March, 1988; March and Shapira, 1987, 1992). Specifically, when a firm's performance (e.g., profit) falls below its aspirations, the resulting dissatisfaction leads to a search for more attractive and riskier alternatives (March and Shapira, 1987, 1992). This follows directly from prospect theory (Kahneman and Tversky, 1979), which finds individuals tend to be risk seeking in losses. For instance, during the late 1990s when the breakfast cereal industry was facing increasing competition from private label brands, Kellogg experienced increasing financial losses. During this period, the CEO of Kellogg, Mr. Gutierrez, undertook increasing risks by investing in R&D to develop new food breakfast cereal products, such as developing the Nutribars product category (Boyle 2004).

The search for riskier alternatives is, however, arrested with success or when a firm's performance exceeds or satisfies its aspirations (Chen and Miller, 2007; March and Shapira, 1987, 1992). With success, a firm does not want to risk losing what it has earned. Success, thus, leads to risk-averse behaviors that involve a commitment to the status quo (March, 1988). For instance, Chen and Miller's (2007) study of U.S. manufacturing firms found that when a firm's performance exceeded its aspirations, there was an associated reduction in the firm's R&D intensity (measured as R&D as a percentage of sales). Such findings have also been supported by prospect theory, which finds that individuals become increasingly risk averse as they realize increasing gains (Kahneman and Tversky, 1979).

The concept of bounded rationality and subsequent notion of satisficing raises two significant behavioral implications for a theory of the agribusiness firm. First, agribusiness researchers (Westgren and Cook, 1986) have called for a greater psychological or behavioral basis of agribusiness firm behavior. Hence, the behavioral assumption of bounded rationality not only yields a greater consideration for the cognitive constraints of management, but as a consequence distinctly recognizes the decision realities faced by managers. More significantly, however, such an appeal to a more realistic explanation of managerial behaviors not only distinguishes the behavior of the agribusiness firm from that of production economics explanations, but also raises deep-seated philosophical and methodological implications regarding what truly constitutes agribusiness firm management research (e.g., Peterson, 1997).

An appeal to realism yields a second implication that is of direct interest to practicing managers. Since bounded rationality results in "satisficing" behaviors, satisficing impacts an agribusiness firm's response to risk. Namely, during conditions of financial duress, satisficing predicts that an agribusiness firm is more likely to undertake greater risk, such as those risks involved in the exploration of new product initiatives (e.g., Kellogg). Such risk taking involves a form of "explorative" search that extends the firm's existing competencies, technologies, and experiences (March, 1991). For instance, during the early 1990s, increasing public concern over cholesterol led to significant declines in the consumption of eggs in the North America. Egg producers responded by undertaking greater risk-taking activities, including adding new functional attributes to eggs, such as Omega-3, that reduced the incidence of heart diseases. As a result of such risk taking efforts, these explorations led to the development of the Omega-3 egg product (e.g., Bouphasiri et al., 2003; Katz, 1999).

Conversely, as a firm's risk taking behavior is curtailed by success, success favors lower risks activities that involve a commitment to "exploitive search" (March, 1991). Unlike the risk taking behaviors of exploration, exploitive search involves a deepening or a refining of a firm's existing competencies, technologies, and experiences (March, 1991). For instance, SYSCO's commitment to exploit its cost efficiencies in distribution and logistics can be explained by such risk adverse behaviors in which its historic success may limit its ability to extend operations beyond the food service segment (64% of sales in food service) (SYSCO Annual Report, 2007). This is consistent with Prahalad and Bettis' (1986) notion of "dominant logic" in which a firm's success commits its behaviors to those that were successful in the past.

How do Firms Grow?

Bounded rationality has also been the basis for Penrose's (1959) theory of the growth of the firm. However, according to Penrose (1959), a firm's growth is not only subject to limits on a firm's bounded rationality (that is a firm's growth is limited by the imaginations and cognitions of its managers), but Penrose (1959) also argues that a firm grows through a process of diversification. Namely, as one of the most seminal influences to strategic management research (Hoskisson et al., 1999; Kor and Mahoney, 2000; Mahoney and Pandian, 1992; Ng, 2007), Penrose's (1959) theory of diversified growth reflects a distinct departure from the "equilibrium" orientation of production economics in which she attributes a firm's diversified growth from an internal inducement to seek better or varied uses from its heterogeneous, indivisible, and discrete resources.

To explain, Penrose (1959) argues that a firm's resources are heterogeneous insofar as they can render multiple related and even unrelated products/services from the same set of resources (i.e., assets). Resources can be applied in different ways to yield different productive services or uses. For example, should a cheese plant emphasize innovation in the production and sale of cheese (e.g., Leprino Foods) or instead in the production and sale of the co-product whey (for example Hilmar Cheese)? Heterogeneous resources are also indivisible or lumpy, which can create excess capacity. This stands in contrast to the free disposal assumption of the Leontief production function in which Penrose (1959) argues excess resources are not costlessly disposed, but rather are a primary inducement for a firm's growth (again the case of Hilmar mentioned above). However, to fully utilize excess resources, lumpy resources are used in discrete or complementary proportions, whereby the greater utilization of one set of heterogeneous and lumpy resources requires the use of another set of related yet lumpy resources (Montgomery and Wernerfelt, 1988; Penrose, 1959). As these resources are combined in complementary proportions, they yield synergies that favor the discovery of new but related products. Hence, due to the heterogeneous, lumpy, and discrete nature of resources, firms tend to grow in a process that favors related product diversification.

Because one of the research questions of agribusiness involves determining "what business are we in?" (French et al., 1993; Westgren and Cook, 1986), Penrose (1959) can contribute to agribusiness management research by offering an approach to explaining the scope of the agribusiness firm. In particular, a key insight of Penrose (1959) is that the heterogeneous, discrete and lumpy nature of resources can offer internal opportunities for an agribusiness firm to diversify into new and related productive services and products.

For instance, rather than respond to the conditions of market demand, ADM's growth strategy has traditionally been one of building and utilizing its excess processing capacity through discovering new and related product streams (Goldberg and Urban, 1997). Such excess processing capacity stemmed from the fact the investments in processing assets were not incremental in cost (Goldberg and Urban, 1997). The lumpy nature of these assets not only affords internal opportunities to exploit economies of scale, but also scope economies. This is because ADM's processing plants have heterogeneous or multiple uses whereby processing plant assets can not only be used for processing corn for human (e.g. high fructose corn syrup) and animal consumption (e.g. animal feed), but also for the production of corn-ethanol. Hence, ADM's excess processing capacity not only reflected the lumpy resources described by Penrose (1959), but the processing plants exhibited heterogeneous uses. Furthermore, diversification into the corn-ethanol market also requires that the heterogeneous and lumpy nature of ADM's plant assets be combined with other complementary assets. That is, diversification into the corn-ethanol market also requires the greater use of procurement assets in transportation and distribution. Since related diversification stems from developing products that draw on a common pool of assets, ADM's diversification into the corn-ethanol market is thereby reflective of the related growth processes described by Penrose (1959).

One implication of Penrose's (1959) theory of diversified growth is that the heterogeneous nature of resources or assets provides an important extension to economic explanations of technological growth. Penrose's attention to the heterogeneous nature of resources underscores that the discovery of new uses from a firm's lumpy and discrete resources can be an internal catalyst for the development of new production possibilities. This is a significant departure from production economic explanations of firm growth because growth in a firm's production function (i.e., outward shifts in the production frontier) is primarily attributed to exogenous technological advances in the market. Yet, since Penrose (1959) underscores that the growth of the firm is largely a function of a management's ability to seek new varied uses from its lumpy, and discrete resources, a firm's growth is, thereby, not exclusively dictated by the technological developments of the market.

Why are Firms Different?

The emphasis on heterogeneous resources is not only a key underpinning to Penrose's (1959) theory of firm growth, but has subsequently become a defining feature of the ubiquitous Resource-Based View (RBV) (Barney, 1986, 1991; Hoskisson et al., 1999). The RBV (Barney, 1986, 1991) has been argued by many as one of the most significant developments in strategic management research (Hoskisson et al., 1999). This is because as the objective of strategy is to develop a "sustainable" competitive position (e.g., Fréry, 2006; Porter, 1996), the RBV contends that a firm's heterogeneous resources are central to explaining systematic differences in a firm's performance (Barney, 1986; Hoskisson et al., 1999). Specifically, Barney (1986) emphasizes that a firm's resources are heterogeneous in terms of their value, rareness, and inimitability (VRI).[6] These resource traits determine the degree to which a firm can sustain above normal levels of economic performance (Barney 1986).

[6] In subsequent work, Barney (2002) argued the importance of a firm's organization to being able to capitalize upon success once a firm's product or service satisfies the valuable, rare and inimitable (VRI) characteristics.

In explaining Barney's (1986) VRI framework, valuable resources refer to the extent to which a firm's resources can exploit and/or neutralize threats from its environment. For instance, food processing firms that adopt Hazard Analysis and Critical Control Points (HACCP) protocols are considered a valuable resource because it addresses a market need for food safety. A valuable resource, however, is a necessary but not sufficient condition for sustaining a firm's competitive advantage. This is because although HACCP protocols can be viewed as a valuable resource, such protocols are widely and uniformly adopted in food processing industries, and thus cannot be a source of competitive advantage. [7] Furthermore, even if a firm possesses a valuable yet rare resource (for example patents held by an agricultural biotechnology firm), such a resource only offers a temporary source of competitive advantage. That is, patents are inherently imitable because patents require full disclosure to which such public knowledge is provided in exchange for a limited number of years of protection. Hence, as patents expire, patents will eventually be imitated by rivals, and thus are not a sustainable source of competitive advantage. For instance, the ongoing expiration of Monsanto's various patents forces Monsanto to undertake ongoing product innovations to preserve margins. This constant need to evolve gives emphasis to how very difficult it is to achieve inimitability.

Barney (1986), thereby, argues that a firm's sustainable competitive advantage depends on the inimitability of a firm's valued and rare resources. Namely, as inimitable resources incurs a high cost of imitation, inimitable resource precludes other rivals from competing for the rents associated with a firm's valued and rare assets and thus amongst resource traits, inimitability is the linchpin of a firm's sustained competitive advantage (Fréry, 2006; King and Zeithaml, 2001, p. 75). One example of such a linchpin would be Beef Products Incorporated's (BPI) high-protein meat production technology. This technology converts packing plant trim into lean beef trimmings. BPI's technology enables an exact protein percentage standardization of hamburger while simultaneously reducing the probability of an **E coli 0157:H57** contamination in that hamburger. This later and very important result occurs due to increased pH levels in the meat (Salvage, 2003). Such technical advancements are largely unrivaled by BPI's competitors. This is because much of BPI's innovations stem from on ongoing trial and error experimentation processes that involve continually improving upon their established conversion technologies. As such a process involves learning curve experiences that take time to develop, BPI's ability to continually develop innovations that convert meat trim into lean and safe ground beef is thus costly to imitate and thus a source of sustained competitive advantage (Kay, 2005).

A more esoteric concept of inimitability pertains to causal ambiguity. Causal ambiguity refers to the idea that the managers of potentially imitating firms (and even managers within the focal firm) may not be able to fully comprehend or may not be aware of the relationship between a firm's resources and its effect on performance (Barney, 1991; King and Zeithaml, 2001). For instance, managers who are boundedly rational have imperfect judgments about the performance implications of its rivals' resources. Various agribusiness firms appear to be subject to some form of causal ambiguity. Specifically, an agribusiness firm's culture and reputation, for instance, that of Blue Bell Creameries, may be causally ambiguous because this organization's culture is difficult to replicate in an environment that is external to the firm (e.g., Barney, 1991; King and Zeithaml, 2001).

[7] Again, recall Porter's (1996) notion of competitive positioning.

A manager can also experience causal ambiguity pertaining to his or her own firm's competitive advantage (King and Zeithaml, 2001). For example, a manager can fail to understand how his or her own firm's competitive advantage was developed. King and Zeithaml (2001) suggest such a lack of understanding can limit a firm's ability to leverage it resources internally. For instance, many agribusinesses have evolved from small family-farm-owned operations to larger, more complex organizations. With such added complexity, top and middle agribusiness managers are likely to exhibit different interpretations of the key factors contributing to their firm's success. For example, an operational manager will perceive factors that relate to improvements in production efficiencies and cost control as key factors of success, while senior managers might view innovation as a more important factor of success. As a production and innovation focus reflects very different organizational priorities, such differences in perception across the organization's internal hierarchy can contribute to a lack of understanding and communication regarding a firm's critical success factors (Bowman and Daniels, 1995; see also Porter, 1996). Hence, a basic implication of this form of causal ambiguity is that, as agribusiness firms evolve towards greater complexity, internal sources of causal ambiguity may limit their ability to effectively leverage its competitive positions.

Conclusion

The advancement of agribusiness management as a field has been sporadic (e.g., Cook and Chaddad, 2000). Early advancements of a field are often marred with a lack of a research identity (e.g., Kuhn, 1970). Agribusiness management can be thought of being in the pre-"paradigmatic" stage of science, as was strategic management in the early 1970s and 1980s (see Rumelt et al., 1994; Hoskisson et al., 1999). During this period, progress in strategic management has and continues — to a lesser extent — struggle with delineating its central domains of research interest (e.g., Hoskisson et al., 1999; Rumelt et al., 1994). This is because strategic management is inherently a pluralistic field that embraces not only economics, but also fields such as psychology, organizational behavior, sociology, evolutionary biology, etc. Nevertheless, over time, strategic management has matured as an established field of inquiry, as evidenced by the growth in membership for associations such as the *Academy of Management* and *Strategic Management Society* and the growth in highly ranked management journals, such as *Academy of Management Review, Academy of Management Journal, Strategic Management Journal, Administrative Science Quarterly, Organization Science, Journal of Management Studies,* and *Journal of Management*, etc. One factor contributing to this growth has been a focus on a set of central concerns/issues in which their resolution has elevated the disciplinary status of this field (e.g., Rumelt et al., 1994).

However, the advancement of agribusiness management as a field cannot simply be a replication of the model of scientific development used in strategic management. Agribusiness management is distinct from strategic management because it has historically operated within departments of agricultural economics. Hence, the advancement of agribusiness management faces a basic challenge that not only requires "cross-disciplinary" efforts into management (e.g., Akridge and Gunderson, 2005; Boehlje, 2005; Westgren and Cook, 1986), but such efforts also require clear distinctions from economic explanations of agribusinesses. Such distinctions are important to developing management explanations of the agribusiness firm that could not be explained by economic principles alone. In fact, in Harling's (1995) study, he found that 88% surveyed disagreed (7% agreed) with the following statement: "The economic theory of the firm provides

a fully satisfactory explanation of the business for the purposes of agribusiness management" (p. 507). As a result, this suggests agribusiness management could focus on areas that are not well treated by production economic explanations.

Thus, the purpose of this study was to outline four concerns and theories of management that can help define those areas in which a production economics approach would not be a sufficient explanation of agribusiness behavior. For instance, in response to the question of "why are there firms?" Coase (1937) argues that the omission of transaction costs in production economic analyses significantly understates a firm's "authority." "Authority" is instrumental to explaining vertical integration decisions that could not be explained by production economics alone. Second, the question of "how do firms behave?" (Rumelt et al., 1994) emphasizes that managers do not "optimize" in a fashion dictated by production economics, but rather managers make decisions through satisficing heuristics that involve a process of trial and error experimentation. Third, the question of how a firm grows offers an alternative to the equilibrium orientation of production economics. In particular, as the concept of an equilibrium is based on a long term outcome, production economics cannot sufficiently explain a firm's short-run adjustment process, especially in regards to a firm's related diversified growth. Lastly, the question of why firms differ? extends production economic explanations of firm performance. Namely, the RBV extends product economic explanations by not only underscoring the heterogeneous nature of a firm's assets, such as a firm's brand and culture (e.g., Starbucks), knowledge capital (e.g., 3M, Google), technologies (e.g., Monsanto, BPI) etc., but also argues that the Value, Rareness and Inimitable nature of such resources impacts a firm's sustainable competitive advantage.

These four questions of strategy and associated theories can, thereby, serve as one basis for shaping the research opportunities of agribusiness management. However, it is also important to note that these areas of management should not be interpreted as the definitive basis of agribusiness management research, because the advancement of any field is a product of its contributing members. Hence, the purpose of this study is not to provide a comprehensive review of all the central questions and associated theories in strategic management, but rather to provide a point of reference for agribusiness management researchers in identifying a set of research questions, as well as research approaches in examining the behavior of the agribusiness firm. Furthermore, we believe the advancement of agribusiness management not only requires greater attention to management theories but also requires engaging a dialogue between agribusiness management researchers and agricultural economists.

For instance, since agribusiness firms operate in a market environment, agricultural economics offers understanding of markets that can directly impact the functioning of the firm. For instance, the determination of market prices through analysis of factors influencing shifts and movements along demand and supply are important to determining a manager's pricing strategies. Furthermore, agricultural economics research, especially those drawing from Industrial Organizational Economics (e.g. Carlton and Perloff, 2000), finds that market concentration can impact an industry's market power. Market concentration, such as in pork and chicken processing industries, can thereby influence management's ability to exert price discrimination. Agricultural economics is, thus, particularly suited to advancing agribusiness management research on issues relating market level phenomena to which have not been a primal focus of the firm level emphasis of management research. As a result, dialogue between agricultural

economics and agribusiness along these different levels of analyses serves to advance the pluralistic nature of agribusiness management.

Furthermore, inter-firm levels of analysis are also another important feature of agribusiness management research. This is because in addition to the market level orientation of agricultural economics, the agribusiness firm also operates within a complex value chain. Originating from sociology research, value chain networks underscore that pattern of social exchanges amongst value chain members provides a source opportunity as well as constrain (Lazzarini et al., 2001; Omta et al., 2001). A basic premise of social networks and related alliance research in agribusiness studies is that the agribusiness firm is not an atomistic entity but rather the agribusiness firm is "socially embedded" in a pattern of mutual relationships that can advance the interests of the firm (e.g. Lazzarini et al. 2001; Ng et al., 2006). That is, an agribusiness firm's vertical as well as horizontal social exchanges are an important means to accessing external resources that are necessary in the provision of food products and services. This is an important aspect of agribusinesses because the production of food products are services are often the result of multiple technologies that are not held by any given firm.

As a result, this study argues agribusiness management is fundamentally a multi-disciplinary endeavor because it operates at various levels of analysis - firm, inter-firm and market- that requires different disciplinary approaches. As a result, dialogue between the fields of management, sociology and economics and other related fields serves to not only highlight the unique approaches to examining various levels of analysis in agribusiness management research but as a consequence serves to advance the pluralistic nature of this field. Hence, it is such pluralism that serves to uniquely identify agribusiness management as a field in its own right.

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