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MARKET ORIENTATION IN PRODUCTION AGRICULTURE:
MEASUREMENT, RELATIONSHIPS, AND IMPLICATIONS

BY

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DISSERTATION

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ABSTRACT

Over the past several decades, the agricultural marketplace has transitioned from a completely price driven, homogeneous, commodity market towards a more differentiated and fragmented product market characterized by heterogeneous consumers, firms and value offerings. Examples of this change are seen in product differentiation strategies such as grass-fed beef, free-range chicken and organic soybeans. While the strategic landscape may have changed, many beef producers still focus their scarce managerial and capital resources solely on the improvement of production efficiency, often leading to mediocre performance. Within these new complex agricultural markets, such as the beef value chain, market oriented producers may be able to better utilize *non-price* signals to observe value opportunities, and thus achieve superior performance. Utilizing a sample of Illinois beef producers, this study uses existing measurement scales and a postal survey to empirically assess the level of market orientation, innovation, entrepreneurship and organizational learning among Illinois beef producers, and measures the relationship these unobservable resources have on firm performance. This research contributes to the existing literature by assessing the market orientation of single decision-maker firms managed by the owner as opposed to management teams of large organizations. Findings show that even within the context of production agriculture, a market orientation is a significant driver of firm performance. Secondly, this research shows that market oriented firms are able to clearly define how they provide value, and what impact value discipline clarity has on firm performance.

To Heather

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CHAPTER 1

MOTIVATION

1.1 INTRODUCTION

Following the invention of John Deere's steel plow and Cyrus McCormick's reaper, agricultural producers have attempted to improve financial performance through increases in production efficiency. Increasing efficiency is a laudable goal for any firm, but for many producers it has long been seen as the only means of improving performance within undifferentiated commodity markets. Perceiving little control over farm-gate prices, the overwhelming managerial response has been to focus on lowering costs of production through increased output per unit of input. The rapid adoption of genetically modified organisms in crop production and growth promotants in livestock production indicates that this managerial strategy is still in vogue.

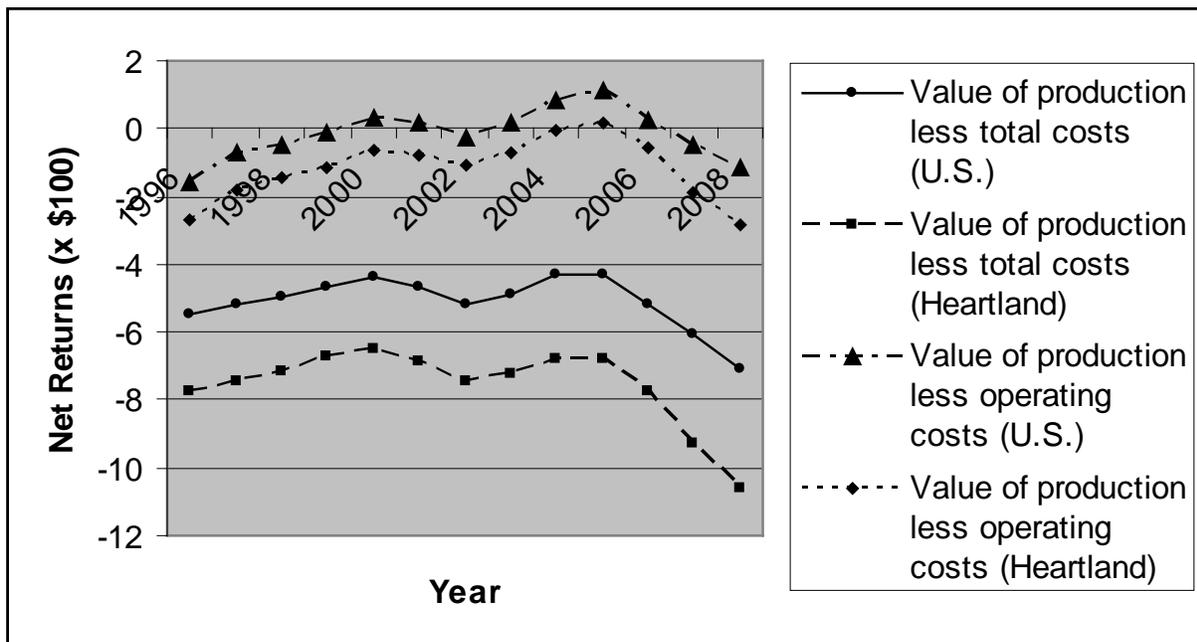
While these managerial responses may be logical in static environments where competitor capabilities and customer preferences are relatively stable, they may not provide the desired performance benefits within dynamic environments. Recently, it has been argued that the agricultural system has been undergoing a transformation from a traditional commodity market characterized by homogeneous production to an increasingly segmented market with heterogeneous products (DiPietre, 2000). In differentiated markets, performance is dictated by the producer's ability to produce a specific product and deliver it to the appropriate market. Thus, the key to improved performance may reside in the producer's awareness of market opportunities that occur as a result of the transition from a completely homogeneous to a differentiated market.

Although some entrepreneurial firms have taken advantage of new opportunities to differentiate their production, many producers have maintained the status quo and continued to focus solely on efficiency, and in turn, continued to produce a homogeneous product. Firms choosing to maintain the status quo may do so as a result of embeddedness¹ on the part of the manager, or it could be caused by limited awareness of, and little motivation to meet, the changing needs of the market. However for many agricultural firms, the inability or

¹ Embeddedness in this sense refers to situations where characteristics of production and marketing are deep-seated in societal norms and historical relations. Rooks et al. (2000) state transactions can be embedded through a history of repeated transactions (temporal embeddedness) or through the specific network where transactions occur (network embeddedness). Within the agricultural setting specific to this research, social embeddedness takes the form of a strict adherence to one method of production or a specific means of marketing the agricultural product.

unwillingness to change production practices to meet new market standards, while still focusing almost solely on efficiency, has thus far not led to superior performance (Figure 1.1). In fact, the opposite could be argued as the cow-calf industry has been plagued by mediocre performance (Jones, 2000). Mediocre performance is not a surprising result to strategists who earlier acknowledged that strategy imitation often leads to lower levels of firm performance (Porter, 1991; Teece, Pisano, and Shuen, 1994).

Figure 1.1. Historical returns of U.S. cow-calf producers (1996-2008)²



Source: USDA

While strategy imitation may be a potential contributor to mediocre performance within the beef industry, it is not the only explanation for lower performance. There is little in the strategy literature that states that efficiently providing a product which meets public grades and standards is not a viable strategy for producers. In fact, Porter (1985) describes this as the ‘low-cost’ generic strategy and Treacy and Wiersema (1993) describe this means of production as operating under an ‘operational excellence’ value discipline. An important stipulation within the

² The Heartland region includes portions of Kentucky, Minnesota, Missouri, Ohio and South Dakota, as well as Illinois, Indiana, Iowa.

operational excellence value discipline of Treacy and Wiersema (1993) is the requirement that the efficient product must meet all required standards established by the market.

One plausible reason for mediocre performance within the cow-calf sector may be a lack of producer awareness of consumer demands. Specifically, producers may be unaware that once latent demands on the part of the consumer may have transformed into expressed demands. The anonymous, and potentially non-repeating, nature of spot market transactions within the beef industry could exacerbate this problem. In these situations, competitive firms participating in arm's length, adversarial transactions behave strategically to try to extract rents at the expense of their trading partner. Further, asymmetric information on product characteristics *ex ante*, and little exchange of production information *ex post* leads to few opportunities to improve market awareness. Combined with a marketing system where production is bought and sold in large lots with prices based on broad averages, it is not surprising that producers may be unaware that agricultural and food markets and the consumers within them have indeed changed.

Producers with an appropriate market orientation may be aware of such changes and thus be able to capitalize on new opportunities to create value within commodity and differentiated markets. Specifically, a market orientation is culture within the firm which focuses on the creation of superior value for customers (Narver, Slater and Tietje, 1998). Within complex agricultural markets such as the beef value chain, market oriented producers may be able to receive and interpret *non-price* signals which can be utilized in the search for opportunities to create value. Through the marketing channel, producers receive noisy price signals which convey information on valuable characteristics of production. However, these signals are often insufficient for two main reasons. First prices for live cattle are based on large lots priced on broad averages which increase the degree of difficulty in determining the true source of value (Purcell, 1969). Secondly, the price paid by downstream channel partners is derived demand based on the ability for the channel to market the finished product, but this information is rarely passed back to the point where the value is first created. Firms with a culture of market orientation may find that the search for value opportunities is more robust when price signals are complemented by the generation and dissemination of market intelligence gathered through customer and competitor vantage points (Kohli and Jaworski, 1990; Narver and Slater, 1990).

Although findings on the effectiveness of a market orientation within commodity industries have thus far been inconclusive (see Narver and Slater, 1990 and Pelham, 1997), there

is little doubt of the performance implications in heterogeneous markets. Since the industrialization of agriculture, there have been extensive changes in the agricultural industry. Previously traditional homogeneous markets have now been replaced with increasingly segmented markets based on varying production practices along with specific attributes associated with the final product. Examples of these changes include, but are not limited to, grass-fed beef, free-range chicken and organic soybeans. In order to survive and thrive in this changing market, firms may find that a market orientation is an important resource³ as it enables the firm to quickly become aware of the needs of the market and the underlying sources of value, irrespective of the market in which they operate.

1.2 IMPEDIMENTS TO THE DEVELOPMENT OF A MARKET ORIENTATION

A market orientation has been defined in behavioral terms (Kohli and Jaworski, 1990), in cultural terms (Narver and Slater, 1990) and in relational terms (Helfert, Ritter and Walter, 2002). While there are differing definitions among researchers, the overarching focus of a market orientation is on the continual search for methods to provide superior value to the consumer (Narver, Slater and Tietje, 1998). The provision of value may occur by providing a standard product at a lower cost, or it may occur at higher price points for augmented products which increase consumer utility. While there has been a wealth of research on the market orientation concept in other industries, little has been done to examine the importance of a market orientation within production agriculture.

One reason for the lack of research on market orientation in production agriculture is the continued perception among firms of its limited applicability. Until recently, there has been little anecdotal evidence that becoming more market oriented had any discernable impact on firm-level performance in agriculture (notable exceptions include Gow, Oliver and Gow, 2003 and Grunert et al., 2005). While there have been brief innovations in terms of production or marketing arrangements, it seems firms and industries have continually reverted to commodity

³ Grant (1991, p. 118) has previously defined resources as “inputs in the production process.” Amit and Schoemaker (1993, p 35) go further and define resources as “stocks of available factors that are owned or controlled by the firm.” In this context, as a market orientation culture encourages behaviors involved in the search for value, this culture can be seen as a specific factor available to the firm. This culture, therefore, could provide managers with the available information in order to discern the specific opportunities of value creation which are available to the market oriented firm.

production where standardization of production and marketing leaves little room for greater profit opportunities.

The nature of the pricing mechanism within agriculture may also limit the development of a market orientation. Researchers have shown that the behavior of firms and supply chains is influenced by the reward systems in place (Reukert, 1992; Chen, 1996). Within the beef industry, Purcell (1969; 2002) has argued that the pricing mechanism was failing to accurately signal demanded changes in production practices from the retailer back through the channel to the cow-calf producer. These weak indicators were not able to adequately signal that the behavior of producers needed to be modified in order to meet the needs demanded by the market.

The introduction of grid pricing as a means of rewarding producers for carcasses that met various yield and quality standards is a means at alleviating some of these concerns (Schroeder et al., 1998). Innovative pricing mechanisms such as tournaments and grid pricing may provide the requisite motivation to encourage entrepreneurial producers to increase their market orientation to increase awareness of future opportunities. Such reward systems seem to validate Chen's (1996) take on how motivation can influence behavior and strategy choice within the firm.

The structural characteristics of the traditional beef marketing channel have also hindered the development of a market orientation. Typically, the channel begins with the cow-calf operation which produces the calf and sells it to either a backgrounder where more weight is added or directly to the feedlot. At the feedlot, more weight is added until the animal is transferred to processing, and finally, the consumer through retail outlets. These arms-length, and often adversarial transactions within the channel are characterized by ownership changes at the point of sale, and little information sharing between parties. These characteristics, namely adversarial relationships and less developed linkages between actors in value chains, have been shown by Harris (2000) as well as Jawroski and Kohli (1993) to limit the development of a market orientation in practice.

As a response to a number of these market imperfections, entrepreneurial firms began forming production alliances. Within these alliances, production was no longer coordinated solely via market prices, but rather through vertical coordination directed by a channel captain. Common modifications were the use of differential pricing based on quality to better motivate producers and increased communication between segments to improve information transfer. Utilizing these innovations, firms within production alliances were able to remove some of the

barriers to developing a market orientation. Harris (2000) found that firms with increased communication systems and integration devices were more likely to be highly market oriented. Similarly, Harris and Piercy (1999) found that the degree of market orientation increased as vertical communication increased and decreased as confrontation increased.

While some alliances have succeeded (e.g. Laura's Lean ®), still others have failed (e.g. Future Beef). The perceived low success rates of new product and marketing innovations, combined with the 'success syndrome' (Nadler, 1998), have led some firms to maintain production practices based on socially embedded cultural norms. Nadler (1998) describes the success syndrome as occurring when firms believe the strategies that were successful in the past will continue to be successful in the future. The result is the persistence of an internal focus on efficiency rather than externally towards consumers and markets. These firms do not wish to risk failing in the development of new, innovative methods to provide value to customers when success is not an absolute certainty.

Relying solely on an efficiency strategy, however, can lead to a singular mindset geared towards internal factors rather than towards the consumer (Harris, 2000). In the extreme, an internal focus may lead to the firm becoming unaware of market changes and therefore unable to provide the attributes of even the standardized product (Day, 1999; Leonard-Barton, 1992). Furthermore, within production agriculture the ability to develop a sustainable competitive advantage based on efficiency may be limited as the resources required to become the low-cost producer are often imitable and substitutable (Barney, 1991; Peteraf, 1993). Following Porter's (1991) comments relating to performance attenuation stemming from the imitation of strategic positions, Pelham (1997) suggests that a market orientation may be a valuable resource for smaller firms as they are more nimble and need not be wholly invested in a strategy focused solely on efficiency.

1.3 FROM HOMOGENEOUS TO FRAGMENTED MARKETS

Agricultural marketing...must become more dynamic to produce the goods and services expected of it. It must be capable of carrying out the complex function of identifying and fulfilling the varying and changing wants of consumers."

-- Moore and Hussey (1965, p. 422)

While more than forty years have passed since the advice of Moore and Hussey (1965) was given, beef producers remain confronted with consumers who demand ever-changing attributes while facing stronger competition from both foreign and domestic producers as well as other protein sources. In such dynamic environments, the willingness of producers to incur the direct and indirect costs associated with meeting consumer demands has important ramifications in terms of firm performance. However, while products which meet or exceed the new stated requirements may provide increased consumer value and allow producers to differentiate their product from their competitors, it is often not required and contrary to the cost-minimization mind-set under which producers have historically operated. In order for current producers to survive and stave off consolidation, they may have to discover new methods to increase market awareness in order to provide products the consumer is demanding, even at the expense of increased costs of production.

The increased use of local farmers' markets, direct marketing, community supported agriculture, and on-farm retailing may be examples of entrepreneurial responses triggered by a market orientation within agriculture. It is important to note that consumers within such markets attach value not only to the quality of the product or service, but to the experience involved in the acquisition of the specific item as well. Through these innovative mechanisms, consumers participate in experiences in addition to receiving the benefits from tangible product attributes (Pine and Gilmore, 1998). Through on-farm retail or farmers' markets, consumers are able to interact with producers while completing their transactions in a similar manner as they would in a traditional retail market. Knowing which, if any, experiences are going to be valued in the future is going to take more than a single-minded focus on efficiency and may require a shift in focus from a wholly competitor oriented operation to one that is customer oriented as well. This would lead some to conclude that a market orientation, while not common in production agriculture, could lead to performance benefits.

Through a market sensing capability, a market orientation could potentially provide firms the ability to discover and provide products which meet the specific needs for both channel partners and ultimate consumers (Day, 1994a). While it is often assumed that market oriented firms produce differentiated products, that stipulation is not necessarily true. Firms operating within homogeneous markets may find an appropriate market orientation to allow the firm to keep abreast of changing product requirements within the commodity market. Firms choosing to

differentiate their production may find a market orientation useful in discovering where such opportunities may occur. However, it has thus far not been clearly demonstrated that a market orientation is an important resource within agricultural settings.

1.3.1 Changing consumers

Identifying the changing wants of consumers is increasingly more difficult now than when Moore and Hussey (1965) first offered their advice to agricultural producers. Recent research has found that consumers can be segmented across characteristics not thought of 40 years ago. Schroeder and Mark (2000), along with Grunert et al. (2005), both find that production characteristics relating to food safety concerns and other product attributes can now be used to help define consumer segments. Recently, Ziehl, Thilmany, and Umberger (2005) and Thilmany, Umberger, and Ziehl (2007) showed that consumers can be grouped into specific segments according to their preferences for not only the characteristics of the product (i.e. tenderness, marbling), but increasingly by the characteristics of how it was produced (i.e. natural, organic).

Increasing segmentation within the beef industry can further be seen by examining consumer's willingness to pay (WTP) for desired attributes. For example, Feuz and Umberger (2001) and Feuz, Umberger, Calkins and Sitz (2004) showed that changes in product flavor and aging method can lead to different WTP for diverse consumer groups. Lusk and Fox (2002) showed that consumers have higher WTP for labeling when these labels signal differences in credence attributes. If consumers can be segmented into specific groups based on tastes and preferences, the onus, then, is on the producer or value chain to signal points of differentiation to the consumer. These findings may embolden specific alliances or individual firms to develop specific methods to signal differences in product quality and other important attributes. Food labeling is one such method which is gaining momentum due to its potential to signal quality which may lead to increased market share and higher prices.

Labeling may provide information specific to a single firm, or it could have a broader reach. An example of a broad labeling scheme in practice is the "Label Rouge" poultry system developed in France (Westgren, 1999). Label Rouge is more than simply a label; it is similar to a process verification system where strict standards have to be met before the Label Rouge authentication is awarded. Despite significant price premiums for Label Rouge products,

consumers have embraced this signal of quality (Westgren, 1999, pg. 1108). Within the U.S. beef industry, the Certified Angus Beef (CAB) program was developed to attempt to replicate the results of the Label Rouge program. In this system, Angus cattle must meet ten production and quality specifications before the product can be labeled Certified Angus Beef. Labeling can signal more than quality. Potentially capitalizing on the findings of Feuz, Umberger, Calkins and Sitz (2004) and Lusk and Fox (2002), other schemes have been developed to signal specific attributes such as country of origin (COOL) or various production methods (e.g. organic, antibiotic-free). Producers may benefit from such practices, provided they can verify their production meets the required characteristics as it has been shown that groups of U.S. consumers are willing to pay a premium for beef products labeled “U.S. Certified Beef” (Loureiro and Umberger, 2003, pg. 300).

While these findings are non-exhaustive, these results presented here begin to show that consumers are not homogeneous entities, rather they are quite heterogeneous. Consequently, the days of ‘beef’ demand may be history as researchers have shown that consumers are beginning to place different values on products containing different characteristics relating to both the product in question as well as the means of production. Given changes in the way consumers purchase beef, it follows that entrepreneurial value chains have formed to attempt to meet the challenge of providing heterogeneous consumers different products to meet their specific needs.

1.3.2 Changing market characteristics

During the 1970s and 1980s, consumer demand for beef products declined while demand for poultry and pork products increased (Lamb and Beshear, 1998; Purcell, 2002). Explanations for the shift in demand centered changing consumer preferences (Lamb and Beshear, 1998) along with the perceived increased convenience of competing proteins relative to beef (Eales and Unnevehr, 1988). Worth noting is that the pork and poultry industries had begun to transition away from a production channel where production was coordinated through spot markets to a more coordinated supply chain. Through vertical coordination, pork and poultry integrators were able to respond more quickly to changing consumer preferences than were independent beef producers. Therefore, the increase in poultry and pork consumption may be attributable to the ability of these industries to design production contracts where production was specifically tailored to meet the needs of the intended market.

Although the pork and poultry industries responded to these changes by transitioning to a more vertically coordinated value chain where information was shared between segments, social embeddedness within the beef industry has hampered similar innovations in the value chain. Production in the beef industry has historically been coordinated via markets; therefore the pricing mechanism was generally the only signal which transmitted information from the retail meat counter up-stream to the livestock producer. The independent nature of beef producers combined with adversarial nature of market transactions had inhibited the implementation of production changes directed toward consumers. Purcell (2001) noted that this coordinating mechanism has not been able to adequately meet the changing needs of consumers, and this may have been aggravated by the failure of USDA grades and standards to adequately signal the level of quality to the consumer (Ferrier and Lamb, 2007).

These issues have provided innovative and entrepreneurial producers with opportunities to capture rents by providing products which meet the specific needs of consumers. The incongruity between what is demanded by the consumer and what the firm *thinks* is demanded by the consumer is one of the opportunities for innovation described by Drucker (1985). Faced with such opportunities, some firms have begun to modify production and marketing practices to meet specific needs of specific markets. Taken together, these modifications have caused some researchers to observe that the beef industry has shifted from a strictly commodity market to an increasingly differentiated product market (Barkema, Drabbenstott and Welch, 1991; DiPietre, 2000; National Meat Case Study, 2007). This shift is not only seen in the U.S. beef industry. Binden and Jones (2001) reported that similar shifts are occurring in Australia as producers there try to satisfy the demands of consumers in Japan and South Korea.

Within the U.S. beef industry, strategic responses to the changing marketplace have been varied. Some entrepreneurial producers have begun to form coordinated value chains where information on quality and performance is shared among channel partners. Examples include, but are not limited to Laura's Lean®, Tallgrass Premium Beef®, and Country Natural Beef®. Tallgrass Premium Beef® also has further innovated by expanding its operation to include retail outlets where producers can benefit by having access to real-time information on product quality.

The use of direct marketing through farmers markets or on-farm retail has been another entrepreneurial response. Although at a much smaller scale compared to production alliances, these producers have also begun to take control of the consumer market interface. This control

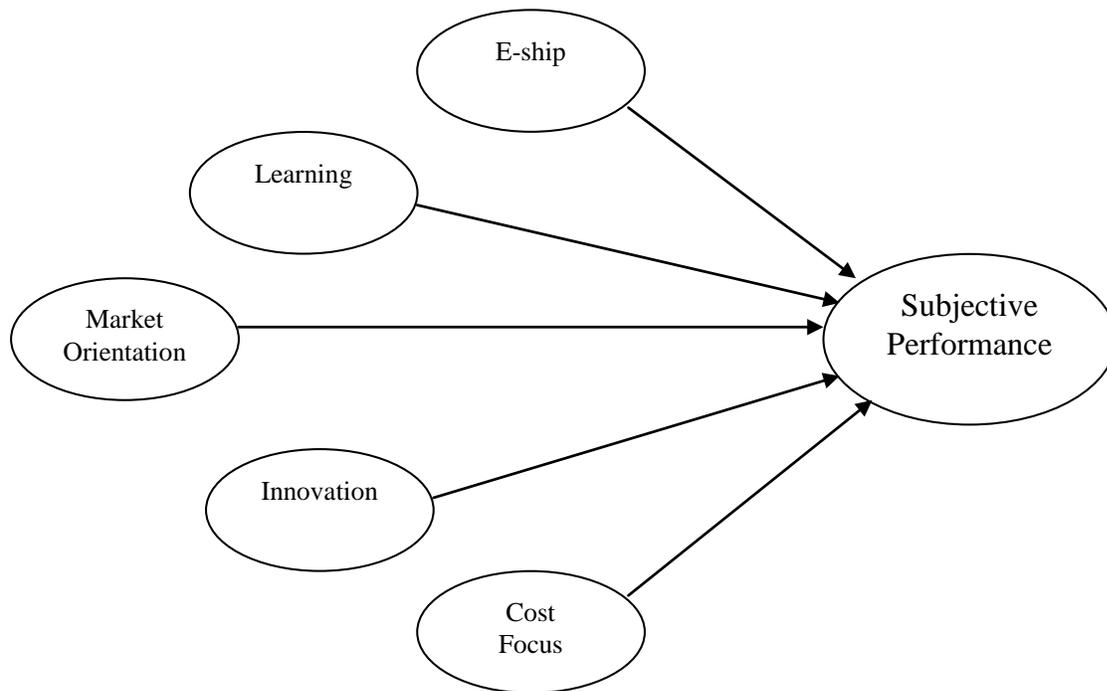
enables producers to more readily adjust production to provide products that meet very specific needs while also establishing a long-term relationship with their clientele. While differentiation based on consumer relationships is increasing, other producers have continued to provide homogeneous, commodity beef through the traditional production channel.

1.4 THEORETICAL MODELS

The beef industry is a dynamic market where customer needs are evolving and competitor strategies are changing so firms can better meet the changing needs of the market. In such situations, a market orientation may be an important resource for beef producers. In combination with actual prices, a market orientation may enable producers to successfully discover opportunities to provide superior value to the market. By utilizing channel relationships and other non-price signals, market oriented firms may achieve superior performance relative to less market oriented rivals. Furthermore, organizational learning on the part of the manager can also contribute in the search for value. Innovation and entrepreneurship may be the vehicles where information on opportunities is capitalized in practice.

In combination with a focus on efficiency, this research will examine several models of Illinois beef industry where firm performance is determined by the level of market orientation, innovation, entrepreneurship and organizational learning. A general framework for the model is presented in figure 1.2. Specific research questions to be investigated follow.

Figure 1.2. Theoretical models of market orientation and firm performance



1.5 RESEARCH QUESTIONS

Even though the market orientation literature has provided researchers with many answers, several interesting questions remain. Among them, what is it that makes market oriented firms successful in the first place? Furthermore, are these relationships present only in certain contexts? We begin by first asking the question of context: Does the market orientation-performance relationship that has been found in other industries and cultures hold in agricultural settings? Previous research has been conducted in other commodity industries and found that the market orientation-performance relationship is significantly influenced by the heterogeneity of the product-market in question (Pelham, 1997, 1999).

Secondly, what makes a market orientation so valuable? Previous research studies have shown that market oriented firms have outperformed their counterparts without explicitly stating the reason for the superior performance other than stating that these firms were better able at meeting the needs of the market. Porter (1991) described this gap as the “Why?” question. That is, why do market oriented firms seem to outperform their less market oriented counterparts? Why are they better able to meet the needs of their customers than are their rivals? Is it

increased awareness, increased capability or something else altogether? Some have theorized that one reason for the superior performance is the idiosyncratic nature of the market orientation resource (Morgan and Hunt, 1995; Peteraf, 1993; Barney, 1991) which impedes the ability of other firms to imitate and deteriorate the value of the market orientation resource.

It has been argued that a market orientation is only one of several resources that can lead to superior performance. A cursory examination of the empirical literature would lead one to agree with this reasoning since research studies within agriculture have shown both entrepreneurship (Ross and Westgren, 2006) as well as innovation (Verhees and Muelenberg, 2004) to lead to improved performance. Outside of agriculture, Hult and Ketchen (2001) examined the performance implications of a positional advantage, and model the positional advantage of a firm as the combination of market orientation, innovativeness, entrepreneurial capability, and learning focus of a firm.

1.5.1 Market orientation in homogeneous markets

The findings of Harris (2000) suggest alliances may be more market oriented than firms operating within traditional production channels, however, these findings do not demonstrate that a market orientation is any less important to firms operating within the traditional channels. A firm-level market orientation, while potentially more difficult to develop due to less formalized linkages between market segments, still may be present. Furthermore, as many firms do not operate at a size to provide economies of scale, a market orientation may be a source of competitive advantage in such markets. Therefore, this dissertation will answer the following question:

- 1) Is there a market orientation-performance link in production agriculture and is this link present within traditional marketing channels?

1.5.2 Market orientation and positional advantage in agriculture

While marketing and strategy scholars have long established the importance of a market orientation in determining firm performance, other firm resources have also been shown to affect firm performance. Entrepreneurship, innovation, and organizational learning have also been found to contribute to firm performance (see Farrell and Oczkowski, 2002; Hurley and Hult, 1998; Ross and Westgren, 2006). Recently, Hult and Ketchen (2001) found that a positional

advantage, the combination of market orientation, innovation, entrepreneurship, and organizational learning, to be a driver of firm performance. Therefore, this dissertation will answer the following question:

- 2) Is there a relationship between positional advantage and firm performance in production agriculture?

1.5.3 Market orientation and value disciplines

Narver, Slater and Tietje (1998) stated that along with the performance benefits, market oriented firms also express clarity on their chosen value discipline. Value disciplines describe separate means of providing value for customers including operational excellence, product leadership, and customer intimacy. These concepts were developed by Treacy and Wiersema (1993, 1997) but the examination of the hypothesis by Narver, Slater and Tietje (1998) has yet to be empirically tested. Therefore, this dissertation will answer the following:

- 3) Does an increased market orientation lead to clarity on the firm's value discipline?

1.6 POTENTIAL CONTRIBUTION

This dissertation extends the work of Tregear (2003) that focused on the market orientation of craft food processors, and Grunert et al. (2005), which examined the market orientation of entire value chains by examining the market orientation of producers/first handlers within traditional commodity systems. This research builds from the work of Narver and Slater (1990), which examined market orientation within one firm in the forestry industry and Hult and Ketchen (2001), which examined the interrelationships between market orientation, innovation, entrepreneurship and organizational learning within the manufacturing industry. While some of these empirical studies (Grunert et al., 1995; Narver and Slater, 1990) have been conducted on the importance of a market orientation in agriculture, there does not seem to be any research studies where the market orientation of the participants in up-stream segments of an agricultural value chain were empirically measured and tested. Narver and Slater's (1990) seminal paper focused on the market orientation of various strategic business units (SBU) of a single manufacturing firm in the Pacific Northwest. Also, this dissertation evaluates the market orientation of single-decision maker firms managed by the owner rather than management teams within SBUs of a large organization. Furthermore, this dissertation utilizes a survey

methodology employing measurement scales to empirically measure the level of market orientation, along with innovation, entrepreneurship and organizational learning among Illinois beef producers, rather than through an interview framework like Tregear (2003) and Grunert et al. (2005). Many of the survey items were previously tested measurement scales used in published research, with some modification to the verbiage to be relevant to agricultural producers. The survey and the modifications are explained in greater detail in Chapter 3.

Another contribution this research makes is the development of a valid value discipline scale. A multi-item scale to measure the value discipline of the firm was developed to test the theory of Narver, Slater and Tietje (1998) suggesting that market oriented firms express clarity on their value discipline. Clarity on the value discipline is interpreted to mean that the firm positions itself along the border of the value triangle developed by Treacy and Wiersema (1993). Lastly, building off of the work by Hult and Ketchen (2001), this dissertation examines the concept of positional advantage and its importance as a driver of firm performance.

The remainder of this dissertation is structured as follows. Chapter 2 describes previous research on market orientation in theory and practice. Chapter 3 describes the survey instrument utilized in this research in greater detail along with information on scale reliability. Chapters 4 through 6 examine different models of market orientation in production agriculture. Chapter 7 examines firm performance across various value disciplines. Chapter 8 provides the conclusions of this dissertation and discusses managerial and policy implications.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Over the past two decades, research has examined the performance implications of market oriented firms. This research has shown market orientated firms achieve superior performance relative to rivals across both industries and cultures (Han, Kim, and Srivastava, 1998; Hult and Ketchen, 2001; Langerak, 2003; Narver and Slater, 1990; Pelham, 1997). While empirical studies have been conducted across the globe using data sources ranging from manufacturing firms to retail chains, little research has been conducted to examine the effectiveness of a market orientation within a production agriculture setting. This apparent gap provides an opportunity to examine the performance implications of up-stream firms within a traditional commodity market as the market orientation of food processors has so far been found to be an important determinant of performance (Grunert et al., 1995). Furthermore, research examining the importance of a market orientation within food retailing is ongoing (Elg, 2003, 2007; Harris and Piercy, 1999). It is somewhat surprising that within the food value chain, the importance of a market orientation has been examined for all other segments except producers/first-handlers of the underlying commodity.

Some might suggest the market orientation of up-stream input suppliers within agrifood chains is immaterial given the market orientation of food processors. One argument against this suggestion is provided by the recent growth of strategic alliances. Formed to improve information transfer between production segments, alliance producers may be better able to utilize market and production information in the search for value (Mulroney and Chaddad, 2005). Mulroney and Chaddad (2005) further point to the desire for up-stream producers to capture a larger share of the food dollar and that this can only be accomplished through the provision of products which more precisely meet the needs of down-stream channel participants. Increased and improved communication between segments within strategic alliances allows for the transmission of more fine-grained information than the somewhat course-grained information which is transferred through the traditional pricing mechanism.

Within traditional agrifood chains, the often adversarial relationships coupled with arms-length transactions do not allow for much information transfer. This has previously been cited as

a reason for the low level of market orientation among up-stream firms (Harris, 2000). It is exactly this lack of communication between segments within the beef channel that has been singled out by the National Cattlemen's Beef Association (NCBA) as a potential area of improvement for the industry as a whole (NCBA, 2005). Market intelligence gathered through channel communication could allow for improved managerial decision making relating to genetic selection and production practices which affect both the quality and yield of finished cattle. These market oriented behaviors could ultimately lead to improved performance within strategic alliances as well as for individual firms.

Given the recent changes in the beef industry, this dissertation will evaluate the level and effectiveness of a market orientation within this specific sector of agriculture. The beef industry is becoming increasingly segmented due to the increase in alliance production and branded products, but it is still a largely homogeneous market (Drovers, 2008; National Meat Case Study, 2007). Furthermore, alliances and direct marketing strategies developed to improve the capture of rents which accrue to strategic relationships point to a potential for a market orientation to be an important resource for firms moving forward. Furthermore, the beef industry provides an interesting context in which to examine the market orientation concept as there are a significant number of firms operating along the entire spectrum of organizational forms from spot markets to vertical coordination, and these firms can choose to provide value in a variety of ways.

What follows is an extensive review of the early market orientation literature to establish a basis for understanding. Then, utilizing theories developed within the strategy literature, and more specifically the resource based view (RBV) of the firm, a market orientation is examined as a potential resource available to the firm. As resources are the foundation of capabilities, the concept of a market orientation as a dynamic capability is then examined. Finally, the empirical research on the market orientation-performance relationship is examined in both heterogeneous and homogeneous markets.

2.2 THEORETICAL FOUNDATIONS

In the decade of the 1990s, the market orientation concept went from an idea discussed among practitioners and academics to a rigorously developed and tested concept which can be empirically measured. The study of the market orientation concept has continued, aided by the seminal works of a handful of researchers (Day, 1994a; Kohli and Jaworski, 1990; Narver and

Slater, 1990). While these influential researchers had their own individual conceptualizations of a market orientation in theory and practice, common threads are evident. First, the search for value was universally seen as the genesis for the development of a market orientation. Secondly, each conceptualization of a market orientation has within it embedded a cultural component which, in turn, influences the behavior of the firm and its employees (Lafferty and Hult, 2001).

Narver and Slater define a market orientation as the “culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value...” (1990, p. 21). The question then becomes: what is superior value? Anderson and Narus define value as “... the worth in monetary terms of the technical, economic, service, and social benefits a customer company receives in exchange for the price it pays for a market offering” (1998, p. 54). Superior value therefore means delivering a product with the largest difference between benefits and costs. Value can thus be created in any number of ways depending on the resources and capabilities of the firm. Ultimately, however, value is created by providing consumers with increased perceived benefits per unit of cost (acquisition and ownership) through augmented products with increased benefits, through similar products at lower costs, or a combination of both.

If a market orientation culture creates the necessary behaviors to search and provide superior value, the question becomes; what are the necessary behaviors? Narver and Slater (1990) argue that first, the firm must be aware of the expressed and latent needs of the market. Awareness of consumer needs is achieved through a customer orientation. However, Narver and Slater (1990) state it is not enough to simply meet the needs of the immediate consumer. Market oriented firms are able to see the whole channel and provide products which meet the needs of immediate buyers, but also meet the needs of their buyers’ buyers (Narver and Slater, 1990; p. 21). In addition, a competitor orientation is needed to determine if superior value is currently being provided by rival firms (Narver and Slater, 1990). The information gathered through both customer and competitor orientations is transmitted throughout the firm with what Narver and Slater deem interfunctional coordination (1990, p. 22).

At nearly the same time, Kohli and Jaworski (1990) developed a somewhat different conceptualization of a market orientation. Through the use of field interviews, they came to see a market orientation as the integration of three distinct behavioral components. Built upon a focus on the consumer, Kohli and Jaworski submit that the “starting point of a market orientation

is market intelligence” (1990, p. 4). Similar to the customer and competitor orientations of Narver and Slater (1990), the generation of market intelligence involves gathering information on customer needs as well as competitor actions to meet these needs.

Secondly, market oriented firms disseminate the intelligence gathered throughout the firm so it can be used in the development of products and services to meet the specific needs of the market. Within large firms, this can involve several departments/business units. In the smaller firms that are typically seen in production agriculture, dissemination may be instantaneous or nearly so. Finally, Kohli and Jaworski (1990) point to the firm’s responsiveness to the market intelligence. Intelligence generated without a response has very little value to a firm. Based on current capabilities a firm can choose the appropriate response to the market intelligence either by modifying existing products or services or by introducing a new product or service.

The market orientation definitions of Narver and Slater (1990) and Kohli and Jaworski (1990) share common themes regarding the behavioral actions of the firm. Both focus on the generation of specific market intelligence and the firm’s response to the market intelligence. The question then becomes; are there certain situations where a market orientation is more valuable? Specifically, do market dynamics and the degree of competition moderate the market orientation performance relationship? Subsequent research examined the appropriate settings where a market orientation may be valuable (Jaworski and Kohli, 1993; Slater and Narver, 1994).

Jaworski and Kohli (1993) and Slater and Narver (1994) both examined the importance of a market orientation in determining firm performance within competitive and turbulent markets. Jaworski and Kohli define turbulence as “the rate of change in the composition of customers and their preferences” (1993, p. 57). It is hypothesized that if customers are changing rapidly, market oriented firms may be more aware than rivals of these changes and thus better able to achieve superior performance. Increased awareness of consumer changes stems from the generation of market intelligence occurring within market oriented firms. Additionally, competitive intensity is also hypothesized to moderate the market orientation-performance relationship. In highly competitive industries, the existence of rival firms and their desire to provide superior value to consumers would presumably increase the importance of a market orientation. It is thought that highly market oriented firms would be more aggressive in the

generation of market intelligence leading to the discovery of opportunities to provide superior value to the market.

Contrary to their hypotheses, both Jaworski and Kohli (1993) and Slater and Narver (1994) find that the competitive environment does not moderate the market orientation-performance relationship. Slater and Narver (1994) go on to suggest that it would be a mistake to attempt to fine-tune the level of market orientation to match the competitive environment. The reason being, developing a culture of market orientation is a lengthy process and inherently should be forward looking to meet both current and *future* needs of the market, not reactionary to match current conditions. Therefore, managers in any industry should strive to become more market oriented as market opportunities and competitive threats are fluid. Slater and Narver (1994) suggest that a market orientation consisting of the generation of intelligence on customer needs and competitor actions would thus be valuable in any market.

2.2.1 Market orientation and firm resources

Wernerfelt describes resources as those assets which are “tied semi-permanently to the firm” (1984, p. 174). Using a different point of view, Penrose described the firm as “more than an administrative unit; it is also a collection of productive resources for the purpose of producing and selling goods and services” (1959, p. 24). Regardless of point of view, resources are often divided according to certain characteristics they possess. Examples include as physical and human (Penrose, 1959) or tangible and intangible (Grant, 2002), but the division in the classification of resources can go on as far as needed (Penrose, 1959, p. 74). A market orientation could be classified as both an intangible and a human resource as it has been described as a culture which aligns the behaviors of the firm in the search for opportunities to create value (Narver and Slater, 1990; Narver, Slater and Tietje, 1998).

Firm cultures have previously been examined as a source of both competitive advantage (Barney, 1986) and superior performance (Webster, 1995). An organizational culture has been described as the set of “values, beliefs, assumptions and symbols that define the way in which a firm conducts business” (Barney, 1986, p. 657). In other words, in firms with strong organizational cultures, employee behavior is influenced in such a manner so that it is consistent with the culture and values put in place by management. For example, Webster describes a marketing culture as “that component of a firm’s overall culture that refers to the pattern of

shared values and beliefs that help employees understand...the marketing function and thereby provides them with norms for behavior..." (1995, p. 7). As a market orientation culture is based on the behaviors of employees and managers, it should be present at current levels as long as key employees remain with the firm.

If, as according to Deshpande and Webster (1989), an organizational culture is the pattern of shared beliefs which help to provide norms for behavior within the firm, how is a market orientation culture developed? If culture is based largely on repeated behavior, how does a firm establish the 'correct' behaviors? Chen (1996) submits that behavior is driven by three factors. The first factor influencing behavior is the awareness of opportunities that are available to the firm. Firms cannot act upon potential opportunities if they do not know they exist. Market oriented firms that generate market intelligence along customer and competitor orientations would likely be more aware of opportunities to provide superior value than less market oriented rivals.

Awareness of opportunities to provide superior value could also be moderated by the absorptive capacity of the entrepreneur (Cohen and Levinthal, 1990). Absorptive capacity refers to the ability of the firm to understand external processes based on previous experiences and knowledge within the firm. Firms that have been market oriented for a prolonged period of time may have higher absorptive capacities relative to firms that have recently developed their market orientation. That is, firms that have been market oriented for a longer period may more fully understand the underpinning sources of value relative to their more inexperienced rivals with similar levels of market orientation.

On the whole, awareness could be influenced by complicated factors such as the entrepreneurial proclivity and learning orientation of the owner/manager to less complicated factors such as the number of magazines and other trade press read by the producer. Without the presence of such factors, firms may not be aware of opportunities for improving performance through a change in strategy. These firms may well be the 'defenders' described in Miles and Snow (1978) and Zajac and Shortell (1989). Awareness of opportunities is influenced by several factors and is likely heterogeneous across firms and managers. Even with similar market orientations, firms may perceive opportunities differently. This differential is described by Penrose (1959) as the 'subjective opportunity set' of the entrepreneur.

Motivation is the second factor which would influence behavior within a firm. Provided the firm is aware of opportunities to compete along different product-market or service-market attributes, the firm must still be motivated to act upon these opportunities. Improved performance stemming from higher prices received may be one such motivator. Within an agricultural context, the 2008 Alliance Directory (Drovers, 2008) reveals that participating producers are able to receive price premiums over commodity prices for cattle marketed through various alliances (Drovers, 2008).

While price is one motivator, market access may be another inducement which leads individual producers, or entire value chains, to modify production and marketing practices to satisfy a specific market. The case of Creekstone Farms Premium Beef's attempt to voluntarily test all cattle for BSE or 'Mad Cow' disease is one such example.⁴ The proposed implementation of comprehensive testing was an attempt to satisfy the needs of Japanese and Korean consumers who were wary of U.S. beef following the initial case of BSE in the U.S. in 2003.

2.2.2 Market orientation and dynamic capabilities

Following awareness and motivation, the capability to act upon perceived opportunities is the final factor influencing behavior described by Chen (1996). While awareness and motivation are important, the firm must have the capability to actually provide the necessary product or service in order to capitalize on market intelligence. Day (1994a) refers to the group of competencies which are used to satisfy identified market needs as spanning capabilities. Examples include new product and strategy development. If the firm does not currently possess the ability to transform the market intelligence into a product, it may find it necessary to invest in the specific resources needed to build these capabilities. Homburg, Krohmer and Workman (2004) refer to this as a strategy formulation framework. As such, the transition from awareness to motivation to capability is often not immediate. If a firm makes a strategic shift to a market in which it has little previous experience, or to a product requiring dissimilar capabilities, there may be a significant lag between when the firm is aware of the opportunity and when the firm is able to take advantage of the opportunity.

⁴ Creekstone Farm's attempt ultimately failed when the U.S. Department of Agriculture appealed the decision to allow comprehensive testing under the premise that comprehensive testing would undermine the effectiveness of random testing (Quaid, 2006).

While resources may be valuable and provide the basis for sustainable competitive advantage, resources alone do not provide superior performance (Grant, 2002). While resources are necessary, the capability to use the resources may be the sufficient condition needed in order for the firm to create value. In order to fully capitalize on its value creating potential implementation or deployment of the resource is needed (Dierickx and Cool, 1989). Knowing which resources are appropriate for specific markets may contribute to the success of their deployment, and therefore, may be a dynamic capability of market oriented firms. Day specifically describes capabilities as the “complex bundles of skills and accumulated knowledge...that enable firms to coordinate activities and make use of their assets” (1994a, p. 38). If the market orientation culture is a resource at the firm’s disposal, what capabilities are needed to properly make use of this intangible resource? Day (1994a) maintains that market oriented firms may possess several distinct capabilities, including market sensing, channel bonding, and customer linking.

Market oriented firms may be better able to generate and disseminate market information throughout the firm or marketing channel or to quickly determine the changing needs of the market. This may lead to increased awareness of opportunities to provide value, a capability which Day (1994) terms the market-sensing capability. Market-sensing capabilities allow the firm to sense changes in the demand for attributes and can lead to superior performance due to first-mover advantages for firms with increased awareness. In an increasingly differentiated and segmented market, the market sensing capabilities will become increasingly valuable as firms which possess these resources will be able to more quickly react to changes in the drivers of customer value.

Dierickx and Cool (1989) provide an interesting framework to examine the dynamic between firm resources and capabilities, and present a metaphor of firm resources as a stock of water in a bathtub. Capabilities contribute to the asset stock while competition erodes the stock (read: ability to create value) of the resource. The capability in this framework is the ability to generate market information and transform it into market intelligence. As it is developed, this capability will continually contribute to the market orientation stock of the firm. This framework is congruent with Slater and Narver’s (1994) suggestion that a market orientation is costly and time-consuming to develop. The Dierickx and Cool (1989) framework further clarifies the

statement by Slater and Narver that “a market orientation is inherently a learning orientation” (1995, p. 67).

2.2.3 Market orientation and sustainable competitive advantage

Morgan and Hunt (1995) outlined the case for a market orientation to be a source of sustainable competitive advantage (SCA) by arguing that a market orientation meets all requirements set by Barney (1991) and Peteraf (1993). While the rareness of a market orientation may be diminishing, there is little evidence to suggest that the heterogeneity of the resource is deteriorating. Given the studies that have shown a market orientation to lead to superior performance (Narver and Slater, 1990; Jaworski and Kohli, 1993), it can be argued that a market orientation is valuable. Furthermore, it is proposed that the development of a market orientation is both socially complex and causally ambiguous, limiting its ability to be perfectly imitated (Morgan and Hunt, 1995). Gathering and disseminating market intelligence from a variety of sources limits the ability of imitator firms to precisely determine which specific behavior or information source provides the advantage. Finally, the public nature of much of the information prohibits ex post limits to competition. Though customer loyalty and first mover advantages may provide some exclusivity to information, this is likely on a very small scale and does not prevent rival firms from establishing similar relationships with other customers.

The ability to learn faster than competitors may also be a capability of market oriented firms, and one that ultimately may lead to sustainable competitive advantage (de Geus, 1988; Slater and Narver, 1995). Using the bathtub analogy of Dierickx and Cool (1989) this would be akin to having a larger ‘flow’ capacity which enables firms to accumulate a market orientation stock more rapidly than rival firms. The value of the asset stock can depend on how easily rival firms can reverse engineer the process involved in developing the asset stock in question. Even though a market orientation may be becoming decreasingly rare, it is still rather difficult to accurately determine the precise time paths and location of the “flows” of market intelligence which contributes to the market orientation of the firm.

2.3 EMPIRICAL STUDIES EXAMINING MARKET ORIENTATION

Research studies such as Narver and Slater (1990) and Kohli and Jaworski (1990) were beneficial for several reasons. First, these seminal articles were invaluable as a starting point for

future research. Also, these articles helped to define and clarify the concept of a market orientation in both theory and practice. Further, the measurement scales developed aided other research examining the performance implications of a market orientation in a variety of contexts. The majority of the empirical studies that followed have examined the market orientation concept within large manufacturing firms in the developed world. In almost all cases, firm performance was the dependent variable which was influenced by the market orientation of the firm. Firm performance has been measured in a variety of ways, ranging from return on assets and new product success using objective data to perceived performance using subjective data.

Following the initial research studies on the market orientation-performance relationship, research has questioned whether environmental moderators influence the effectiveness of a market orientation (Jaworski and Kohli, 1993; Slater and Narver, 1994). Empirical findings suggest that a market orientation is important regardless of competitive intensity and market turbulence. These findings spawned a growing research on the effectiveness of a market orientation in both heterogeneous and homogeneous markets, as well as theoretical papers on focusing on the development of a market orientation (Narver, Slater, and Tietje, 1998) and the cultural and organizational impediments to its development (Harris, 1996, 2000).

2.3.1 The importance of a market orientation in heterogeneous markets

While Slater and Narver (1995) maintain that a market orientation should be important in any business environment, much of the research has been conducted in largely heterogeneous markets. When customers and products are heterogeneous, it has been argued that a market orientation would be extremely valuable as it aids in awareness and discovery of opportunities to meet the specific needs of the market (Kohli and Jaworski, 1990). Increased awareness may allow for firms to successfully launch new products and gain market share. Im and Workman, Jr. (2004), as well as Baker and Sinkula (2005), find a positive relationship between the market orientation of a firm and the successful implementation of new products. However, Jaworski and Kohli (1993) do not find any relationship between market orientation and market share. These important results, along with the findings of Narver and Slater (1990) which found that a market orientation was positively associated with superior performance within differentiated markets led to more research examining this relationship in other contexts.

Market heterogeneity can be caused by differences among firms or differences among consumers. Firm size is one area of potential differentiation among firms and has often been used as a control variable in studies examining firm performance. Firm size can be seen as a proxy for the availability of firm resources which could be used in the development of a market orientation. Liu (1995) found that larger firms are more market oriented than their smaller counterparts. However, Liu (1995) was unable to determine the direction of the market orientation-size relationship. Tregear (2003) found that among small craft food processors in the UK, market orientation was an important determinant of firm performance. These empirical findings may suggest that the level of market orientation is not determined by firm size, but rather by the importance managers place on becoming market oriented.

Market heterogeneity can also be examined across national cultures. Organizational behaviors common in one area of the world may not be so in other areas, and these behavioral differences may be influenced by cultural norms. As the market orientation-performance relationship was first examined using data from U.S. manufacturing firms (Narver and Slater, 1990; Kohli and Jaworski, 1990) further research into this relationship was warranted. Using a sample of Japanese firms, Deshpande, Farley and Webster (1993) found that a customer orientation (a component of Narver and Slater's (1990) market orientation definition) is positively related to firm performance. Greenley (1995) however, does not find a direct effect of a market orientation on firm performance within a sample of U.K. firms. Deshpande and Farley (2004) show market orientation and firm innovativeness have been shown to positively impact firm performance across developing and developed economies in Asia. Similar empirical results have been found in samples using manufacturing firms in Australia (Farrell and Oczkowski; 2002) and the Netherlands (Langerak; 2003). Deshpande and Farley (2004) do note, however, that innovativeness may be relatively more important in the developed world while in the developing world a market orientation plays a greater role in determining firm performance.

As changing industry dynamics may provide firms with profit opportunities, it has often been hypothesized that a market orientation would be more valuable in highly turbulent environments. While earlier empirical studies have found no such relationship (Jaworski and Kohli, 1993; Slater and Narver, 1994), other research has sought to further examine the moderating role of market turbulence on the market orientation-performance relationship across environments and cultures. Corroborating the results of Jaworski and Kohli (1993) and Narver

and Slater (1994), Langerak (2003) also found no evidence of market turbulence moderating the market orientation-performance relationship in a sample of manufacturing firms in the Netherlands. However, Han, Kim, and Srivastava (1998) did find that a market orientation was an important determinant of technical and organizational innovations in turbulent environments which occur with changes in government regulations. Further, Homburg and Pflesser (2000) and Grewal and Tansuhaj (2001) also find market dynamism to influence the market orientation-performance relationship in Germany and Thailand, respectively. These empirical results further cloud the discussion of the moderating effects of environmental turbulence on the market orientation-performance relationship and give credence to the statement by Slater and Narver (1994) that regardless of environmental dynamics, a market oriented business should be successful in any business environment.

2.3.2 The importance of a market orientation in homogeneous markets

Kohli and Jaworski (1990) hypothesized that there were certain conditions where a market orientation may not provide firms specific benefits in excess of the cost of its development. Specifically, when competition is limited and market preferences are stable, Kohli and Jaworski (1990) argued that a market orientation may provide limited advantages to the firm. In these cases, firms with large amounts of market power may achieve superior performance by providing a product which meets the only the minimum required standards. Instead of directing firm resources to the development and maintenance of a market orientation, such firms can instead use scarce resources in the search for increased efficiencies which could further lower their costs of production.

Results from research examining the market orientation-performance relationship in homogeneous markets have thus far been mixed. Narver and Slater (1990) found a U-shaped relationship where firms with extreme levels (high and low) levels of market orientation in commodity industries outperformed firms with an average level of market orientation. Pelham (1997), however, found that a market orientation was not a significant driver of performance in commodity markets, while finding that a market orientation was an important determinant of firm performance in differentiated and segmented markets. However, Pelham (1999), again within a commodity environment, found that a market orientation may be an important resource for small firms. Pelham (2000) argued that for small firms unable to achieve economies of scale,

a market orientation may allow them to leverage their flexibility and lack of internal bureaucracy to exploit market niches.

These empirical results suggest that a market orientation within production agriculture may not directly lead to superior performance. Provided production meets the required standards, firms with limited market orientations may perform better than those who are beginning to develop a market orientation. These results, however, may change if market conditions change. Granted, if markets and consumers remain stable, the development of a market orientation may be an unnecessary cost. However, one must be fairly certain that consumers and markets are going to remain stable. As Pelham (2000) points out, market oriented firms may be better positioned to exploit market niches as opportunities present themselves.

2.4 FIRM PERFORMANCE IN AGRICULTURE

Porter (1991) maintained that superior financial performance was attributed to the ability of the firm to achieve an advantageous competitive position in relation to competitors. While still largely a homogeneous market, a positional advantage is vitally important in agricultural settings if firms are to achieve superior performance. In homogeneous markets, firms have often focused on improving efficiency as the production of undifferentiated commodity products limits the ability to improve firm performance through higher prices. Strategies of these firms, therefore, have often focused on the development of the resources needed to become the low-cost producer in order to provide superior value to the market.

As a result, previous research examining firm performance in agriculture has generally focused on the structural characteristics of successful firms. Interestingly, much of this work attributed the success to various tangible resources which may or may not be able to provide sustainable competitive advantages to the firm using the requirements set forth by Barney (1991) and Peteraf (1993). In a study of farms in the U.K., Lund and Hill (1979) show that larger farms have somewhat higher performance ratios. Other research studies have also shown firm performance to be positively affected by firm size (e.g. Mishra and Morehart, 2001; Purdy Langemeier, and Featherstone, 1997). Lund and Hill (1979) however warn that an increase in farm size may not necessarily lead to an increase in efficiency.

The caution of Lund and Hill (1979) would seem appropriate as Barney (1991) and Peteraf (1993) would question the ability of a tangible resource such as farm size to provide superior competitive advantage in the long-run. The difficulty for farm size alone to provide the firm a superior competitive advantage resides in the inability of this resource (land or livestock numbers) to provide ex post limits to competition, barriers of substitution, and imperfect imitability. Indeed Porter (1991) asks why some firms are able to achieve economies of scale. An analogous situation would be: Why do some firms operate larger farms than others? It may be that these firms may possess superior managerial ability which allows them to do so.

Sonka, Hornbaker, and Hudson (1989) found that within a sample of Illinois grain farms, farm size and cropping patterns were not significant drivers of firm performance. While performance differences were observed, Sonka, Hornbaker, and Hudson (1989) noted that further research is warranted to adequately determine the underpinning causes of these performance differences. Perhaps heeding this call, Ford and Shonkwiler (1994) and Epshtein (2005) found that managerial ability was a significant driver of firm performance in Pennsylvania and Russia, respectively. Ford and Shonkwiler (1994) modeled financial, dairy, and crop managerial ability as a structural equation model using several objective measures as indicator variables. In this sense, the managerial ability of the farmer was reflected in the observable data of milk sold per cow, veterinary expense, calves sold per cow, and milk sold per man.

In static markets characterized by homogeneous firms and products, a focus on increasing production efficiency is warranted. However, Sporleder notes that “agricultural commodity markets are evolving toward the differentiated products and contractual or integrated and controlled-supply markets usually characterizing manufacturing sectors of the economy” (1992, p. 1226). The market for agricultural products is no longer entirely homogeneous; rather a portion is becoming increasingly dynamic and characterized by increasing product differentiation coupled with increasing coordination between segments. Within dynamic markets, Teece, Pisano, and Shuen (1997) elucidate the concept of dynamic capabilities and how competitive advantage can develop from processes and routines which occur inside the firm.

Teece, Pisano and Shuen (1997) stated that competitive advantage is a function of managerial and organizational processes, specifically coordination, learning, and reconfiguration. Organizational learning has been found to be an important complement to a market orientation

(Farrell and Oczkowski, 2002). Building from this foundation, research studies are beginning to examine the importance of dynamic capabilities within agricultural settings.

Firms with a distinct capability of organizational learning may be able to transform market information into market awareness. Increasingly, research has examined firm awareness within agricultural contexts. Using a case-study approach, Gow, Oliver and Gow (2003) found awareness of opportunity gaps to be a significant driver of improved performance for individual firms in the New Zealand pork industry. Opportunity gaps are areas where performance can be improved by providing an augmented product to meet the needs of a specific clientele. The corollary in agriculture, and what many commodity producers practice, is the search for performance or efficiency gaps. Efficiency gaps provide producers an avenue for improving performance by providing a standard, undifferentiated product at a lower cost to the buyer.

Along the same lines, Ross and Westgren (2006) use the theory of entrepreneurship to develop a framework to assess awareness of opportunities and their performance implications within the U.S. pork industry. Recently, Ross and Westgren (2009) showed that within homogeneous landscapes, efficiency is the preferred strategy for wealth creation while both efficiency and alertness provide opportunities to create wealth in heterogeneous landscapes.

Additionally, research has begun to examine the market orientation-performance relationship in food and agriculture at the firm level (Tregear, 2003; Verhees and Muelenberg, 2004) and in terms of entire value chains (Grunert et al., 2005). Tregear (2003) and Verhees and Muelenberg (2004) find that a market orientation is a significant driver of firm performance in the artisan food and cut flower industries, respectively. Grunert et al. (2005) however, find evidence which suggests that the presence of market orientation within food chains is concentrated downstream, away from producers and first-handlers. This evidence does not, however, mean that a market orientation is not important for producers in these channels.

While the research studies on market orientation in agriculture provide some conflicting results as to the importance of a market orientation at the firm level, these research studies are important as they provide other researchers a point of departure to study a market orientation in other agricultural contexts. Within heterogeneous markets, awareness of potential opportunities to create value combined with the capability to transform market information into a product may lead market oriented firms to achieve superior performance.

2.5 RESEARCH GAP

Many empirical studies have been conducted on the market orientation of firms across a variety of industries and cultures. Only a handful of research has chosen to measure the market orientation within a single industry (e.g. Han, Kim, and Srivastava, 1998) to control for industry effects (Table 2.1). Recently research has begun to measure the market orientation of firms operating at various stages of value chains within food and agriculture (e.g. Tregear, 2003; Verhees and Meulenberg, 2004) as well as the market orientation of the value chains as a whole (Grunert et al., 2005). Using a postal survey of Dutch rose growers, Verhees and Meulenberg (2004) find that market orientation is an important determinant of both innovation and firm performance. Tregear (2003) finds that market oriented behaviors are present in a small sample (20 firms) of craft food processors in northern England. While Verhees and Meulenberg (2004) conducted a postal survey to measure the level of market orientation of rose growers, Tregear (2003) measured the market orientation of the food processors using an interview approach. This methodology may allow for a more tailored measure of market orientation, however, it is prohibitively costly to implement over a large sample. Furthermore, the results from interview based studies may be difficult to generalize to larger agriculture populations due to their limited sample size.

Grunert et al. (2005) expands the work of Tregear (2003) by measuring the market orientation of entire value chains, focusing on the Danish bacon, Brazilian orange juice, Norwegian cod, and New Zealand lamb chains. Again, using an interview approach, Grunert et al. (2005) find evidence of market oriented behavior throughout different segments of food chains, regardless of national culture. While market intelligence is disseminated throughout the channel, Grunert et al. (2005) find little evidence of intelligence generation at the producers/first-handler level of the value chains examined. While this methodology may allow for a more tailored measure of market orientation, it is prohibitively costly to implement over a large sample, and as such the empirical results from these research studies may be difficult to generalize to even larger agriculture populations due to their limited sample size.

Table 2.1. Previous studies examining the market orientation-performance relationship

	Supportive	Opposite	Non-Significant
Market Type			
Heterogeneous	Baker & Sinkula (1999a) Baker & Sinkula (2005) Deshpande & Farley (2004) Farrell & Oczkowski (2002) Harris & Ogbonna (2001) Homburg, Krohmer & Workman, Jr. (2004) Hult & Ketchen, Jr. (2001) Hult, Hurley & Knight (2004) Im & Workman, Jr. (2004) Jaworski & Kohli (1993) Langerak (2003) Narver & Slater (1990) Noble, Sinha & Kumar (2002) Pelham (1999) Slater & Narver (1994) Tregear (2003)	Grewal & Tansuhaj (2001)	Deshpande, Farley & Webster, Jr. (1993) Greenley (1995) Harris (2001)
Homogeneous	Han, Kim & Srivastava (1998) Grunert et al. (2005) Verhees & Meulenber (2004)		Narver & Slater (1990) Pelham (1997)

Furthermore, much of the previous research on the market orientation-performance relationship was conducted within industries where the singular goal of profit maximization was a reasonable assumption. Within production agriculture, some research has begun to question this assumption (Harper and Eastman, 1980; Sumpsi, Amador and Romero, 1997). Harper and Eastman (1980) found that goals relating to quality of life at both the family level and firm level were more important than goals associated with income and profit. Sumpsi, Amador and Romero (1997) find that profit maximization is only one of several managerial goals, along with minimizing managerial difficulty. Harman et al. (1972), however, did find maximizing profit and income to be more important goals among farmers from Texas and Oklahoma.

This presents an interesting opportunity to examine the importance of a market orientation within settings where profit maximization may not be the most important goal of the producer. In her study of English craft food processors, Tregear (2003) found that quality of life and the continuation of the enterprise were important goals of the manager. While this study does not determine a hierarchy of goals for beef producers, it does examine the market orientation of producers who are located further upstream in the production channel than craft

food processors and of producers who derive significant portions of their farm income from sources other than beef production.

Similar to the research of Verhees and Meulenbergh (2004), this dissertation will examine the importance of a market orientation within one up-stream homogeneous market segment. By using one industry and one specific segment as the focal point of this research, results may allow for more meaningful comparisons across firms as external forces such as market and technological turbulence are homogeneous across markets and firms. Furthermore, by examining the effect of a market orientation on firm performance, this research can begin the discussion within the agricultural economics discipline on the importance of a market orientation and other dynamic capabilities.

2.6 SUMMARY

The theoretical foundations of a market orientation were carefully examined in this chapter. The works of Narver and Slater (1990) and Kohli and Jaworski (1990) have spawned a large and growing research literature examining the importance of a market orientation across cultures and industries. The resource based view of the firm is utilized to examine the market orientation culture as a potential resource which can lead to the development of dynamic capabilities and sustainable competitive advantages for the firm. It is argued that superior market awareness, which stems from a market orientation culture, may provide market oriented firms with significant advantages in terms of the discovery and the capitalization of opportunities to provide superior value to consumers.

A market orientation has been found to be a significant driver of firm performance within heterogeneous markets (Farrell and Oczkowski, 2002; Narver and Slater, 1990). Within homogeneous markets, however, results have been mixed (Narver and Slater, 1990; Pelham, 1997). These empirical findings may suggest that within agricultural markets, the cost of developing a market orientation may outweigh the benefits. However, Slater and Narver (1994) show that the market orientation-performance relationship is not moderated by environmental factors. Slater and Narver (1994) go on to submit that a market orientation will benefit firms within any business environment.

Within the agricultural literature, firm performance has been a topic of great interest to researchers and policy makers. Much of the empirical studies examining firm performance

within agriculture have attempted to explain observed performance differences using the presence or lack thereof of various tangible resources (e.g. land, liquidity). As these resources provide little barriers to imitation and substitution, their ability to provide firms with a sustainable competitive advantage may be limited (Barney, 1991; Peteraf, 1993). The presence of intangible and human resources has increasingly been used to explain observed performance differences among agricultural firms (Gow, Oliver and Gow, 2003; Ross and Westgren, 2009). Included in this developing literature is the examination of the importance of a market orientation in agricultural value chains (Grunert et al., 2005). However, little research has been conducted examining the importance of a market orientation among producers/first-handlers of the underlying commodities within these increasingly segmented and differentiated value chains. This research will attempt to fill this research gap by examining the market orientation of Illinois beef producers who market their production using both traditional, commodity-based channels, as well as through alliances where production is coordinated across various stages of production.

CHAPTER 3

THE SURVEY INSTRUMENT

3.1 INTRODUCTION

The survey instrument developed for this dissertation was designed to measure the impact of various subjective factors (market orientation, entrepreneurship, innovation, cost focus, learning orientation) on farm performance while controlling for several objective factors. Of particular interest were the demographic characteristics of the farm/manager as it relates to farm size, education level, age of principal operator, and experience. Subjective performance, as opposed to objective performance, was measured to alleviate respondent concerns over respondent anonymity and a general unwillingness for owner-operators to share personal financial data. While objective performance measures would be preferred, it has been shown that subjective performance is highly correlated with objective performance (Dess and Robinson, 1984), thus alleviating some concerns regarding the interpretation of results.

The market orientation of any firm is a subjective reflection of its current and past activities as it relates to customer interaction, the generation of market intelligence, and the reaction to in-house and public sources of market information. In an attempt to quantify these behavioral actions, previous research (Kohli, Jaworski and Kumar; 1993; Narver and Slater, 1990) developed measurement scales to assess the behavioral components inherent in a market orientation. Similarly, multi-item measurement scales have been developed to measure entrepreneurship (Matsuno, Mentzner, and Ozsomer, 2002), innovation (Hurley and Hult, 1998), organizational learning (Farrell and Oczkowski, 2002) and the cost focus of the firm (Homburg Workman, Jr., and Krohmer, 1999; Kotha and Vadlamani, 1995). As these underlying variables are not easily measured using traditional balance sheet or income statement data commonly used on agricultural research, a survey instrument was designed that included these measures.

Surveying agricultural producers is a common approach in data gathering. Farmers are often surveyed by government agencies and university extension professionals to measure farm income, farm wealth, as well as per acre production costs of various crops. While some surveys focus on collection of objective data such as farm size, farm income, and detailed farm-level expenses, the collection of subjective information on factors underlying the behavior of agricultural producers under risk and uncertainty is increasing. For example, Pennings and

Garcia (2001) used computer-aided interviews to measure risk attitudes and risk preferences of agricultural producers in order to develop a construct to measure global risk attitude. Also, Sherrick et al. (2003) measured Midwestern farmers' preferences for crop insurance programs consisting of varying attributes. Continuing along these lines, this dissertation utilizes a survey to subjectively measure the performance implications of various dynamic capabilities within a sample of Illinois beef producers.

3.2 MEASURING MARKET ORIENTATION

In the preceding two decades, several research studies have been conducted examining the level of market orientation within firms. Seminal articles such as Narver and Slater (1990) and Kohli and Jaworski (1990) were beneficial for several reasons. First, their influential articles began the discussion which centered on the market orientation of firms and the performance implications of its development. Secondly, these initial papers provided subsequent research studies with measurement scales which were used to assess the market orientation of other firms across a wide range of industries.

Several methods can be employed to measure the market orientation of the firm. A market orientation can be measured in innovative ways such as using semi-structured interviews (Tregear, 2003), or by coding annual letters to shareholders (Noble, Sinha, and Kumar, 2002). However, the vast majority of previous studies have measured market orientation via surveys which included established measurement scales. Two such scales are the MKTOR scale developed by Narver and Slater (1990) and the MARKOR scale developed by Kohli and Jaworski (1990). Within survey methodologies, the potential for single informant bias and acquiescence response bias has been raised as a concern (Phillips 1981; Schriesheim and Hill, 1981). Due to these potential issues, some empirical studies have abstained from measurement scales altogether in their research on the market orientation concept. Grunert et al. (2005) and Tregear (2003) employed an interview approach to determine the level of market orientation in their study of agricultural value-chains and craftspersons, respectively. One shortcoming of this methodology is that it is prohibitively costly to administer to a large sample.

To avoid informant bias altogether, Noble, Sinha, and Kumar (2002) measured the market orientation of publicly traded companies through the examination of letters to shareholders. This methodology allowed for the collection of independently audited financial

data in the form of annual reports while also allowing for the objective determination of the effectiveness of a prior market orientation on future performance. A potential shortcoming of this methodology, however, is that the subjective interpretation of phrases in the letters to shareholders is conducted by independent researchers, not by people who have intimate knowledge of the firm in question.

3.3 SURVEY METHODOLOGY

The sampling frame for this dissertation was obtained from a mailing list from the Illinois Beef Association. The original list contained the names and addresses of over 1700 members of the Illinois Beef Association as of May 2007. The list was inspected and ineligible commercial businesses were purged from the population. The remaining names were randomly split into two pools allowing for two waves of the survey to be mailed.

Response rates are of critical importance in survey research. Extremely low response rates can limit the applicability of findings or otherwise weaken the statistical significance of the results. Pennings, Irwin, and Good (2002) found that when surveying agricultural producers, researcher studies need to be careful in selecting the dates of administration as time constraints during planting and harvest seasons can attenuate response rates. Adhering to this advice, the first set of surveys was sent out in June of 2007 followed by a second wave of surveys in November 2007.⁵ Both waves employed a three-contact sequence consisting of the initial survey along with a personalized letter stating the need for cooperation and a return envelope. After two weeks, a reminder postcard was mailed to non-respondents. If after two more weeks there was still no response, non-respondents were mailed a replacement survey along with a personalized letter and return envelope. In total, the survey mailings lasted a total of eight weeks, which is within the timeframe recommended by Czaja and Blair (2005).

Respondents were asked to provide answers to all agree/disagree survey questions using a 6-point likert scale. A neutral choice was omitted in order to force respondents to either agree or disagree with the statement in question. Previous studies have shown 6-point scales to be of similar quality to 5-point and 7-point scales (Chang, 1994; Green and Rao, 1970). In the first wave of the survey, a total of 170 usable responses were received. This resulted in a 21.6% response rate (170/785) which is similar to that of other management studies. However, the use

⁵ The full survey instrument can be seen in Appendix A.

of structural equation modeling (SEM) often requires sample sizes of 200 or greater, depending on model complexity. Therefore it was decided to use the second tranche of firms and a second wave of the survey was mailed in November 2007. In total, 347 completed and partially completed surveys were received, yielding a 22.1 % response rate (347/1570). In cases where the survey was only partially completed, imputation by regression was used to infer missing item responses.

The two waves were tested for non-response bias according to the methods outlined in Armstrong and Overton (1977). No statistically significant differences were observed among early and late respondents within each wave of the survey, suggesting that non-response bias may not be an issue. Therefore the measurement and path models tested in subsequent chapters will use samples drawn from both early and late respondents.

3.4 MEASURING MARKET ORIENTATION IN AGRICULTURE

The majority of previous empirical studies examining the performance implications of a market orientation have used large corporations as the sampling frame. Notable exceptions include Bigne and Blesa (2003), which empirically measured the market orientation of small craftspeople in the ceramic industry in Spain. These firms, unfortunately, can hardly be seen as similar to agricultural production. Tregear (2003) utilized an interview methodology to assess the market orientation of food processors in the U.K. While the research has benefitted from the use of interview methodologies to evaluate the market orientation of firms, an empirical measurement of agricultural producers market orientation would further the literature by examining the concept of a market orientation within single decision-maker firms in a traditional commodity industry.

One potential roadblock to this research agenda was the potential for the measurement scales to come off as not relevant to the farmers operation. Tregear (2003) argued for the use of interview methodologies as it allows researchers to measure the market oriented behavior of managers in their own terms. Within established measurement scales, a number of the original scales referred abstractly to managers or to the organization as a whole. Heeding the advice of Tregear (2003), the word *manager* was changed whenever possible to reflect the general tendency for these firms to be managed by the owner. Similar modifications were made by Liesen, Lilly, and Winsor (2002) in their study of tourism organizations. While rewording the

scales to fit the audience in question is preferred, one must be careful to not significantly alter the underlying meaning of the measurement scale. To account for those instances where it was believed that significant rewording was not practical; a text box outlining useful definitions was included. This outline allowed the original scales to be free from encumbering translations to agriculture while still enabling the questions to be as user-friendly as possible. A few exemplars of these changes follow (changes in bold). The first example outlines one of the changes made to the market orientation scale, specifically the inter-functional coordination component.

Original wording from Slater and Narver (1990)

*All of our managers understand how everyone **in our company** can contribute to creating customer value.*

Modified wording for agricultural production

***People on our farm** understand how everyone can contribute to creating customer value.*

In pre-testing of the survey instrument, we used the word *employees* instead of *people*. This re-wording was met with some resistance as owner-managers pointed out that they did not have employees; work on the farm was largely conducted by themselves or with the help of family members. As such, the change was made from *employees* to the more broad *people*. The following example highlights one of the changes made in the learning orientation scale used by Farrell and Oczkowski (2002).

Original wording from Farrell and Oczkowski (2002)

*Learning **in my organization** is seen as a key commodity necessary to guarantee survival.*

Modified wording for agricultural production

*Learning **on my farm** is seen as a key commodity necessary to guarantee survival.*

As these examples indicate, the rephrasing was limited to words which, left unchanged, had the potential to distract from the true meaning of the scale. By slightly modifying the wording to fit an agricultural audience, respondents did not have to decipher what was meant by ‘employee’ or ‘organization,’ and could simply answer the question that was asked.

3.5 CONSTRUCT RELIABILITY AND SCALE VALIDITY

In order for reasonable conclusions to be drawn from this dissertation, the validity and reliability of the measurement scales used in the subsequent chapters must be analyzed. Validity and reliability cannot be presumed based on previous research studies; it must be examined in each research context. Whereas defendants in court are innocent until proven guilty, measurement scales are invalid until proven valid (Bryant, 2000). In reality, researchers can never prove validity, but evidence can be gathered to reasonably assume measurement scales are reliable and valid. In the following section, construct reliability and validity will be discussed and the empirical results underlying these theoretical concepts will be displayed. In this dissertation, the majority of the measurement scales were taken from previously published studies. Measurement scales were gathered following a thorough literature review to increase the probability that the measurement scales exhibited excellent empirical validity and reliability results. Further, a new scale used to measure value discipline clarity was developed for the study. Validity and reliability analysis for the new scale is included in Chapter 5.

3.5.1 Construct reliability

Reliability is an important concept in the development of accurate and valid measurement scales. When testing for unobservable theoretical constructs, it is important that the scales reliably measure what they are intended to measure. Specifically reliability refers to the repeatability of individual test performance described by the individual propensity distribution (Lord and Novick, 1968). Strube (2000) posits that the observed item response to a given scale (the observed score) is comprised of the ‘true’ score and random error.

$$(1) \quad x = t + e .$$

The true score is unobservable and can only be estimated. In the context of this dissertation, one cannot truly ‘know’ the level of market orientation within a firm, but it can be estimated. Using equation 1, Strube (2000) suggests that for reliable scales, variance in x is caused by differences in the underlying construct in question across individuals, not because of random error. Sitjsma (2009) shows that true reliability can be shown using the sum of item scores from the scale in question

$$(2) \quad X_+ = \sum_j^J X_j.$$

$$(3) \quad \rho_{X_+ X_+'} = 1 - \frac{\sigma^2 e}{\sigma^2 X_+}.$$

Construct reliability is often measured using the alpha coefficient popularized by Cronbach (1951). However, Sitjsma (2009) suggests other methods to measure reliability as alpha is a lower bound to true reliability. Sitjsma (2009) suggests using λ_2 proposed by Guttman (1945) as well as the more stringent measure of reliability, greatest lower bound (glb). Sitjsma (2009) goes on to show that for a given glb, the true reliability can be found on the interval [glb, 1], while alpha lies outside of this interval. For the purposes of this dissertation, construct reliability will be measured using two different measures, Cronbach's alpha (1951) and Guttman's λ_2 (1945). While the glb has been shown to provide a more accurate estimate of reliability, Socan (2000) suggests that the glb only exhibits these qualities when sample sizes are large. Further, it is important to note that reliability is a necessary, but not sufficient condition for validity.

3.5.2 Construct validity

Validity of a construct refers to the ability of a construct to measure what it is intended to measure. Bryant proposes that "in the context of research, validity concerns whether a particular inference or conclusion that one wishes to make is accurate, reasonable, or correct (2000, p. 101). There are several forms of validity including content, construct, and discriminant validity. Content validity measures how thoroughly the construct measures what it is intended to measure (Bryant, 2000). That is, does the scale measure all facets of the theoretical construct in question? Content validity is related to face validity, which is a subjective assessment by a panel of experts that the scale measures what it is intended to measure. For this dissertation, face validity was examined using both experts and practitioners in the field of agriculture.

Construct validity refers to how well, or how accurately the proposed measurement scale actually measures what it is hypothesized to measure. Construct validity examines how well a scale measures the 'true' value of an underlying construct. As the 'true' value of the theoretical construct is impossible to measure with absolute certainty, numerous means of assessing validity

have been examined. By using previously tested and validated scales, the possibility that the indicator variables were not measuring the intended construct was reduced, but not entirely eliminated.

For this dissertation, validity was examined using factor analytic techniques available through SPSS 16.0, a statistical software package. Objective measures of validity include internal consistency, inter-item correlation, as well as discriminant validity. Fornell and Larcker (1981) suggest that if the average variance extracted (AVE) of the scale is greater than 50 percent, then internal validity is present as a greater portion of variance is explained by the scale than by random error. Inter-item correlation examines whether items within a scale are correlated with each other. Worthington and Whittaker (2006) suggest to only retain those items where factor loadings are greater than 0.32, as these scales are likely not measuring what they are intended to measure. Streiner and Norman (1995) find that items which do not have inter-item correlations greater than 0.20 are likely measuring a different construct from the rest of the items. This cutoff ensures that items which remain are highly correlated with each other as uncorrelated items could suggest an attenuation of scale validity.

Confirmatory factor analysis (CFA) is another method to test construct validity. As many of these scales were developed from existing scales, the structure of the scale can be assumed to be the same across contexts. Using this assumption, a CFA can be conducted within a structural equation model (SEM) to test for goodness of fit for the measurement scale in question. A scale is assumed to have construct validity if the goodness of fit for the measurement model is acceptable and corroborates earlier research results.

3.6 MEASUREMENT SCALES

3.6.1 Market orientation

The concept of a firm's market orientation was measured using the scale first developed by Narver and Slater (1990). In this manner, a firm's market orientation is comprised of a customer and competitor focus as well as the coordination of market knowledge within the firm. As with all the measures used, the verbiage was modified to fit with production agriculture and pre-tested the scales with extension personnel so construct meaning was not lost in translation. The MKTOR measurement scale developed by Narver and Slater (1990) initially focused on three behavioral components as well as two decision criteria. Following validity checks and reliability

analysis, the two decision criteria, long-term focus and profitability, were dropped from the measure. The three behavioral components which remained, including customer orientation, competitor orientation, and inter-functional coordination, have been refined and used in numerous research studies to date (Farrell and Oczkowski, 2002; Greenley, 1995; Hult and Ketchen, 2001; Morgan and Strong, 1998). The MARKOR scale (Kohli and Jaworski, 1990; Kohli, Jaworski, and Kumar, 1993), which focuses on intelligence generation, intelligence dissemination, and firm responsiveness, has also been popular in recent studies (i.e. Baker and Sinkula, 1999a; Bigne and Blesa, 2003; Homburg, Khromer and Workman, Jr., 2004).⁶

Table 3.1. Reliability and validity for the market orientation scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Customer Orientation (based on Narver, Slater, and MacLachlan, 2004)	0.769	0.762	57.63%		
We continuously try to discover additional needs of our customers of which they are unaware				0.846	0.634
We incorporate solutions to unarticulated customer needs in our new products and services.				0.826	0.614
We innovate even at the risk of making our own products obsolete.				0.527	0.332
We work closely with lead customers who try to recognize their needs months or even years before the majority of the market may recognize them.				0.794	0.580
Competitor Orientation (based on Narver and Slater, 1990)	0.865	0.861	52.44%		
Employees on our farm share information concerning competitor's activities.				0.656	0.536
Top management regularly discusses competitor's strengths and weaknesses.				0.660	0.543
We target customers where we have an opportunity for competitive advantage.				0.615	0.494
Members of our farm collect information concerning competitor's activities.				0.758	0.643
We diagnose competitor's goals.				0.802	0.699
We identify the areas where the key competitors have succeeded or failed.				0.758	0.633
We evaluate the strengths and weaknesses of key competitors.				0.797	0.679
Interfunctional Coordination (based on Narver and Slater, 1990)	0.758	0.757	57.57%		
We generally regularly visit our current and prospective customers.				0.718	0.503
We freely communicate information about our successful and unsuccessful customer experiences across all business functions.				0.725	0.509
All of our business units (marketing, production, research, finance/accounting) are integrated in serving the needs of our target markets				0.817	0.616
People on our farm understand how everyone in our business can contribute to creating customer value.				0.772	0.557

⁶ In comparing the two rival market orientation measures, it was decided to employ the MKTOR measured developed by Narver and Slater (1990). While often used, both scales have been the focus of some criticism regarding their development and reliability (Farrell and Oczkowski, 1997; Gauzente, 1999). However, the MKTOR scale has been shown to be more applicable across populations (Mavondo and Farrell, 2000). Along these lines, the main caution in our study regarding the MARKOR measure centered on the relevance of intelligence dissemination within single-decision maker firms. Within such firms, any market intelligence generated would be simultaneously disseminated throughout the firm, leaving little room for variability in the measure of market orientation across firms.

3.6.2 Organizational learning

The Organizational Learning scale attempts to measure the learning culture of the firm. Firms valuing learning may be more likely to be innovative and to continuously question the rationale for current business practices. Farrell and Oczkowski (2002) and Slater and Narver (1995) found that organizational learning was an important determinant of firm performance and innovativeness. To measure organizational learning, the 11-item scale developed by Farrell and Oczkowski (2002) was used. The retained items measure the ‘learning culture’ of the farm business. Portions of this scale could also measure the ‘shared vision’ of the firm. This scale has been used in several subsequent studies including Abernathy, Shultz and Bell (2007) and Farrell, Oczkowski and Kharabsheh (2010).

Table 3.2. Reliability and validity for the organizational learning scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Learning Orientation (based on Farrel and Oczkowski, 2002)	0.778	0.77	53.15%		
The basic values of this farm include learning as key to improvement				0.786	0.596
Our take is that learning is an investment, not an expense				0.844	0.653
Learning on my farm is seen as a key commodity necessary to guarantee survival.				0.840	0.661
There is little commonality of purpose in my farm/marketing channel.*				0.619	0.452
Personnel in this farm realize that the very way they perceive the marketplace must be continually questioned				0.487	0.339

3.6.3 Entrepreneurship

Covin and Slevin (1989) developed a scale that measures the entrepreneurship orientation of the firm. The Entrepreneurship Orientation scale initially consisted of three distinct components: proactiveness, risk-taking, and innovation. The scale used in this dissertation measured entrepreneurial tendency and was taken from Matsuno, Mentzer and Oszomer (2002). A scale to measure innovation was already included in the survey, and proactiveness was thought to likely be highly correlated with a customer orientation. This scale measures the risk-taking portion of the Covin and Slevin (1989) Entrepreneurship Orientation scale. Therefore, the full Entrepreneurship Orientation scale of Covin and Slevin (1989) was not included for space considerations and so discriminant validity could be preserved. The indicators from the Matsuno, Mentzer and Oszomer (2002) scale measured the inclination of managers to use

innovative marketing strategies to improve performance or whether they chose to ‘play it safe’ when it comes to forming solutions to management problems.

Table 3.3. Reliability and validity for the entrepreneurship scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Entrepreneurship (based on Matsuno, Mentzer, and Ozsomer, 2002)	0.686	0.683	61.44%		
On our farm, we like to implement plans only if we are very certain they will work.				0.791	0.500
On this farm, we like to ‘play it safe.’				0.836	0.567
On our farm, we tend to talk more about problems rather than opportunities.				0.720	0.428

3.6.4 Innovation

Firm innovativeness has been described by Nelson and Winter (1982) as a change in routine. Other research studies have modeled innovativeness as the ability for the firm to develop ‘new to the firm’ and ‘new to the world’ technologies or strategies. Within the context of agricultural production, a large portion of the innovation in the industry occurs outside the farm gate. Innovation within the firm is generally seen as the adoption and implementation of new technologies or production practices. For this dissertation, firm innovation was measured using a scale developed and tested by Hurley and Hult (1998). Similar to the entrepreneurship scale, the innovation scale measured the penchant for managers to utilize innovative strategies to solve problems on the farm.

Table 3.4. Reliability and validity for the innovation scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Innovation Orientation (based on Hurley and Hult, 1998)	0.747	0.736	72.43%		
Technical innovation based on research results is readily accepted.				0.852	0.480
We seldom seek innovative ideas.*				0.753	0.565
Innovation is readily accepted in project management.				0.842	0.554
Individuals are penalized for new ideas that don't work.				0.887	0.342
Innovation in our organization is perceived as too risky and is resisted.				0.840	0.567

3.6.5 Cost focus

As segments of the U.S. beef industry can still be thought of as commodity markets, a cost-leadership strategy is employed by many within the industry. A cost focus, therefore, may still

be an important factor for some in determining firm performance within an increasingly segmented industry. Furthermore, including this scale allows for the testing of other influences on firm performance while simultaneously accounting for the cost focus of the firm. The cost focus of the firm was measured using a combination of scales developed by Homburg, Workman, Jr., and Krohmer (1999) and Kotha and Valdamani (1995). The scale was intended to measure the manager's focus on production efficiency and cost reduction as a means of improving performance.

Table 3.5. Reliability and validity of the cost focus scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Cost Focus/Internal Orientation (based on Homburg, Workman and Krohmer (1999) and Kotha and Valdamanni (1995))	0.734	0.726	50.99%		
Improving the operating efficiency of the business is a top priority.				0.847	0.653
We have a continuing goal to lower operating costs.				0.808	0.581
We hardly ever seek to improve production practices so that we can lower costs.				0.621	0.389
Achievement of economies of scale or scope is an important element of our strategy.				0.516	0.333
We closely monitor the effectiveness of key production practices.				0.727	0.573

3.6.6 Channel trust

The Channel Trust scale attempts to measure the level of trust that agricultural producers have in their production and marketing channels. In general, the scale attempts to assess the level of honesty between channel participants as well as whether firms within the channel exhibit a stakeholder approach when making decisions. If channel partners believe the information and other signals sent through the channel, they may be more apt to implement production or marketing changes directed by channel communications. Channel trust was measured using an eight item scale developed from Doney and Cannon (1997). The trust scale has subsequently been used by several research studies including Hewett, Money and Sharma (2002, 2006) and Auh (2005).

Table 3.6. Reliability and validity for the channel trust scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Trust (based on Doney and Cannon, 1997)	0.845	0.84	64.07%		
Members of our marketing channel keep promises they make to our business.				0.660	0.380
Channel members are not always completely honest with us.*				0.863	0.499
We believe the information that channel members provide us.				0.841	0.593
Members of our marketing channel are genuinely concerned that our business succeeds.				0.869	0.619
When making important decisions, channel members consider our welfare as well as their own.				0.758	0.584
We do not trust channel members keep our best interests in mind.*				0.794	0.603
Our channel partners are trustworthy.				0.678	0.714
We find it necessary to be cautious with our channel partners.				0.856	0.578

3.6.7 Channel commitment

Similar to channel trust, commitment to a marketing channel is also important if firms are going to implement specific changes to their operation. Within the context of the beef industry, certain marketing channels require firms to invest in specific genetics before firms are allowed to market production through the segmented channel. If the genetics are not valuable in other channels, a lack of commitment could potentially limit implementation, regardless of the level of trust in the information. Channel Commitment was measured using a seven item scale developed by Morgan and Hunt (1994). The Channel Commitment scale of Morgan and Hunt (1994) has been used in several subsequent studies and was found to have high reliability and validity estimates (Hewett, Money, and Sharma, 2002).

Table 3.7. Reliability and validity for the channel commitment scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Commitment (based on Hewett, Money, and Sharma, 2002)	0.874	0.872	60.80%		
The relationship that my business has with this marketing channel...					
is something that we are very committed to.				0.826	0.726
is very important to my business.				0.850	0.761
is of very little significance to us.*				0.596	0.499
is something my business intends to maintain indefinitely.				0.807	0.712
is very much like being family.				0.767	0.653
is something my business doesn't really care about.*				0.741	0.665
deserves our business's maximum effort to maintain.				0.841	0.761

3.6.8 Market turbulence

The market turbulence scale attempts to measure the degree of change that agricultural producers are sensing in the marketplace. Within an agricultural context, market turbulence refers to how customers' preferences are changing due to changes in demand from downstream purchasers. Changes in derived demand for feeder cattle (production from cow-calf producers) could be driven by several factors which concern consumers, ranging from a preference for grass-fed or organic production to a traceable product. This scale, first developed by Jaworski and Kohli (1993), has been used in several subsequent research studies, including Dwairi, Bhuian and Jurkus (2007) and Dayan and Di Benedetto (2008). Unfortunately, in the context of production agriculture, the reliability as measured using Cronbach's (1951) alpha does not meet the threshold of 0.70 suggested by Nunnally (1978) for ongoing research.

Table 3.8. Reliability and validity for the market turbulence scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Market Turbulence (based on Jaworski and Kohli, 1993)	0.623	0.612	59.94%		
In our business, customers' product preferences change quite a bit over time.				0.712	0.421
Our customers tend to look for a new product all the time.				0.738	0.448
Sometimes our customers are very price-sensitive, but on other occasions, price is relatively unimportant.				0.540	0.307
We are witnessing demand for our products and services from customers who never bought from us before.				0.604	0.370
New customers tend to have product-related needs that are different from those of our existing customers.				0.524	0.293

3.6.9 Technological turbulence

Along with market turbulence, Kohli and Jaworski (1993) developed a scale to measure technological turbulence. This scale is intended to measure the degree of technological change that producers perceive in the agricultural marketplace. Outside of animal agriculture, recent advancements have allowed producers to benefit from the adoption of technological breakthroughs such as genetically modified crops which reduce the need for pesticides and auto-steering capabilities in agricultural equipment to increase efficiencies. Within animal agriculture, the use of hormones to increase production and RFID (radio frequency identification) equipped ear tags to track and manage livestock are two examples where technological advancements can benefit both the producer and the consumer. The technological

turbulence scale, first developed by Jaworski and Kohli (1993), has been used in several research studies, including Dwairi, Bhuian and Jurkus (2007), Dayan and Di Benedetto (2008), and Menon, Jaworski and Kohli (2007). Further refinement of this scale is needed for use in the context of production agriculture as the reliability of the technological turbulence scale as measured using Cronbach's (1951) alpha does not meet the threshold of 0.70 suggested by Nunnally (1978) for ongoing research.

Table 3.9. Reliability and validity for the technological turbulence scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Technological Turbulence (based on Jaworski and Kohli, 1993)	0.67	0.670	60.54%		
The technology in our industry is changing rapidly.				0.779	0.483
A large number of new product ideas have been made possible through technological breakthroughs in our industry.				0.756	0.507
Technological developments in our industry are rather minor.				0.759	0.463

3.6.10 Firm performance

Firm performance was measured using seven subjective performance indicators. These indicators were included to measure both the producers' satisfaction with their individual and comparative performance. Respondents were asked to rate their satisfaction using a 6-point Likert scale with their return on assets, cash flow, production and marketing investments, and overall performance. To assess comparative performance, respondents were asked to rate the overall performance of the farm business as well as prices received relative to their competitors. Subjective performance was used as our sample consisted of small, privately held businesses which are generally unwilling to share confidential financial data, even in an anonymous setting. While objective measures of performance would be preferred, Dess and Robinson (1984) showed a strong correlation between subjective and objective measures of performance. Single informants were used in this study, so some bias may be introduced due to 'halo effects,' which occur when indicators measuring dependent constructs are biased by the independent variables. However, this bias could not be eliminated as these firms are generally one-farmer operations.

Table 3.10. Reliability and validity for the firm performance scale

Measurement Items (only retained items are displayed)	Guttman's λ_2	Cronbach's Alpha	Variance Extracted	Factor Loadings	Corrected Item-to-Total Correlation
Overall Firm Performance (based on Jaworski and Kohli, 1993)	0.832	0.818	68.98%		
The return on farm assets did not meet expectations last year.*				0.819	0.637
We were very satisfied with the overall performance of the farm last year.				0.827	0.688
The return on production investments met expectations last year.				0.849	0.753
The cash flow situation of the farm was not satisfactory.*				0.779	0.553
The return on marketing investments met expectations last year.				0.712	0.657
The prices we receive for our product is higher than that of our competitors.				0.863	0.285
The overall performance of the farm last year exceeded that of our major competitors.				0.802	0.524

3.7 DISCRIMINANT VALIDITY

Discriminant validity was also checked to ensure observed variables were measuring only one factor, and thus were not highly correlated with other latent variables. As shown in Table 9, diagonal entries (the square root of the extracted variance from each latent variable) are all larger than the off-diagonal entries (Pearson correlations) between latent variables. Discriminant validity is indicated when the square root of variance extracted is greater than the correlation with other latent constructs (Fornell and Larcker, 1981). The results presented in Tables 3.1 through 3.10 show that the measurement scales, except for market and technological turbulence, exhibit a high degree of internal consistency. Discriminant validity among the retained scales show that each latent variable measuring a distinct theoretical construct (Table 3.11).

Table 3.11. Discriminant validity of theoretical constructs

	Market Orientation	Learning	Entrepreneurship	Innovation	Cost Focus	Trust	Commitment	Market Turbulence	Technology Turbulence	Firm Performance
Market Orientation	0.590									
Learning	0.359**	0.513								
Entrepreneurship	0.162**	0.138**	0.614							
Innovation	0.236**	0.454**	0.312**	0.724						
Cost Focus	0.382**	0.447**	0.065	0.437**	0.510					
Trust	0.147**	0.207**	0.235**	0.340**	0.148**	0.641				
Commitment	0.393**	0.335**	0.131*	0.339**	0.262**	0.468**	0.608			
Market Turbulence	0.393**	0.190**	-0.068	0.035	0.131**	0.022	0.266**	0.599		
Technology Turbulence	0.160**	0.291**	0.285**	0.417**	0.166**	0.291**	0.214**	0.103	0.605	
Firm Performance	0.317**	0.281**	0.129*	0.261**	0.213**	0.259**	0.253**	0.139**	0.214**	0.690

Note: Diagonal entries are variance extracted, off-diagonal entries are Pearson correlations. ** indicates correlations are significant at the 0.05 level; * indicates correlation is significant at the 0.10 level.

3.8 SUMMARY

The market orientation concept has been examined within a variety of contexts. Previous studies (Farrell and Oczkowski, 2002; Slater and Narver, 1995) examined the effect of a market orientation within heterogeneous manufacturing firms. This dissertation examines the market orientation concept within an agricultural setting. Previous scales were identified and subsequently modified to fit with the context of the U.S. beef industry. These concepts were measured using a survey developed and implemented in 2007 (Appendix A).

Confirmatory factor analysis was employed to measure scale reliability and validity. As seen in Tables 3.1 through 3.10, the previously tested scales exhibit adequate reliability and validity characteristics. Discriminant validity (Table 3.11) was also examined to ensure the measurement scales were measuring only one distinct construct. In subsequent chapters, these constructs will be used in the development of structural equation and regression models to determine if the relationships found in other environments hold within an agricultural context.

CHAPTER 4

MARKET ORIENTATION AND PROFITABILITY: EVIDENCE FROM HOMOGENEOUS MARKETS⁷

4.1 INTRODUCTION

A market orientation has been defined as a firm's ability to generate and disseminate market intelligence through the firm as well as the marketing channel and, in turn, use this new knowledge to create products which meet the expressed as well as latent needs of consumers (Kohli and Jaworski, 1990). The building blocks of a market orientation are thus access to and the correct interpretation of appropriate market information. Working backwards from the buyer-supplier interface, market oriented firms search for possible sources of value creation derived from market intelligence, and subsequently determine whether they can meet these needs based on their own core capabilities.

As outlined in Chapter 2, the concept of a market orientation and its affect on firm performance has been extensively researched within the marketing literature (Day, 1994; Jaworski and Kohli, 1993; Slater and Narver, 1990). This research showed that firms that are closely aligned with and better understand their clients achieve superior performance as a result. Recent empirical studies have found market orientated firms to have superior performance across a variety of industries and regional locations, such as small craft firms in Spain (Bigne and Blesa, 2003), large Japanese corporations (Deshpande, Farley and Webster, 1993), and various strategic business units (SBU) of a single forest products firm in the United States (Narver and Slater, 1990). Superior performance has been attributed to the ability of the market oriented firm to provide products, services and solutions that more appropriately meet consumers' expressed and latent needs. The breadth of regions and business environments where a market orientation has been shown to improve performance measures gives credence to the findings of Slater and Narver (1994), which state that in *any business environment*, firms with a higher degree of market orientation are better positioned for successful outcomes.

While numerous research studies have examined the market orientation-performance relationship in a wide variety of competitive environments, relatively little research has been

⁷ Portions of this chapter have been presented at the American Agricultural Economics Association Annual Meeting, Orlando, FL, July 27-29, 2008.

conducted examining the performance implications of a market orientation in production agriculture. Previous research utilizing data from commodity markets other than agriculture have shown the market orientation-performance relationship to be somewhat ambiguous. Narver and Slater (1990) found a positive, but non-significant relationship between market orientation and firm performance within commodity SBUs in their study, while Pelham (1997) found no relationship when examining small industrial manufacturing firms. Pelham (1997), however, did find a market orientation to be an important determinant of performance in segmented markets.

Consequently, this chapter fills an important gap in the research as it examines the relationship between market orientation and firm performance within homogeneous markets. Specifically, one of the questions that direct this chapter is: To what extent is the level of market orientation a determinant of performance in the Illinois beef industry? Additionally, by stratifying our sample of Illinois beef producers by production type (i.e., cow/calf vs. feedlot), growth strategy (increase in size vs. remain the same size or decrease in size) and alliance participation, it can be determined if the relationship between market orientation and firm performance are consistent across industry segments and firm strategies.

Additionally, this chapter examines the relative importance of production efficiency and market orientation as it relates to firm profitability. While the U.S. beef industry has traditionally been largely commodity based, growth of niche markets and production alliances has resulted in increased coordination and increased segmentation within the industry. Producers operating outside of these niche markets typically focus solely on increased efficiency as a means of improving performance as they typically have little control over prices received. However, this strategy may bear little fruit for many in the beef industry as studies have shown economies of size begin with herd sizes of 500 or more cows (Langemeier, McGrann and Parker, 1990) while over 90% of cow/calf operations in the U.S. have fewer than 100 cows (ERS, USDA, author calculations). Given the perceived inability of small firms to improve performance based solely on efficiency, Pelham (1997) maintains that a strategy built upon a market orientation may yield a better chance of providing a sustainable competitive advantage.

4.2 THE NATURE OF THE U.S. BEEF INDUSTRY

The U.S. beef industry has historically been characterized as a homogenous commodity based business composed of numerous buyers and sellers interacting in anonymous markets. Within

this commodity marketing structure, prices are determined by a broad set of public grades and standards based upon subjective pooled equilibrium of perceived quality and product attributes. As the only market information mechanism, a pooled lot pricing system is very inefficient in signaling changes in consumer demand for specific product and service attributes and passing this information along the channel to producers. This inefficiency has been blamed for the fall in beef demand in the period of the 1970s to the 1990s (Purcell, 2002).

A possible reason for the inefficiency in transmission of information in the price mechanism is the disregard for price in terms of the commodity producer's profit equation.

$$(1) \quad \pi = pq - cq$$

Firm profit is found by subtracting firm variable costs from firm revenue where p is the price received by the producer and c is per unit cost of production, and q is quantity produced. As commodity producers generally take the price received as something over which they have little control, their reliance on improving efficiency seems warranted.

Porter (1985, 1991) stated that cost leadership is one of several generic strategies that firm can employ, along with differentiation and focus. By achieving a cost advantage over the competition, firms with lower costs of production can earn profits even at low market prices. As outlined earlier, this strategy may not be successful in the beef industry given that fewer than 10% of producers have the necessary herd size to achieve economies of size. Conversely, other firms may choose to improve performance, and possibly achieve SCA, through a product differentiation strategy. In a differentiation strategy, firms provide products and/or services which possess distinguishable, demanded characteristics and as such, earn premium prices for the augmented product offering.

In that vein, research studies have shown that firms can achieve higher farm prices by providing increased value to downstream channel participants, even within traditional agricultural commodity environments. Lalman and Smith (2001) found Oklahoma producers earned a premium price for preconditioned cattle when comparing to an average price for calves in the area. Underlying cattle prices did not influence demand for preconditioned cattle, but it did seem to reduce the price incentive for preconditioned cattle as the supply dwindled and special sales had to be suspended. Similarly, a Montana study found prices for 600-pound calves

to be over \$12.00/head higher when calves were enrolled in an approved age- or source-verification program while vaccination programs yielded a \$14.00/head premium (Vanek et al., 2007). In addition to the premium prices received, participation in such programs may also allow producers access to carcass data following processing of the cattle. These data could aid decision makers as it relates to culling decisions and genetic selection. In the absence of this fine-grained production data, culling and genetic selection decisions are largely based on production efficiency measures, and not on the quality of the final product.

Since beef demand fell and beef subsequently lost market share to pork and poultry producers, beef production and marketing alliances have been formed at an increasing rate. These alliances were formed to produce a product offering which possessed the specific attributes demanded by consumers. These distinguishable attributes have generally been focused on natural, organic, or grass-fed beef product offerings. Some of the benefits of alliance participation are higher prices received due to producing value-added products as well as the assurance of a marketing channel through which to market the cattle. Perhaps not coincidentally, the amount of branded beef offerings has been increasing in recent years (National Meat Case Study, 2007).

Given the above examples, it is suggested here that a market orientation is an important resource in both commodity and value-added markets. The increased awareness gained by highly market oriented producers allows them to internalize appropriate market information and earn higher prices for providing the specific product attributes demanded by consumers. In a niche value-chain, a majority of the information may be gathered by the channel captain who directs other participants in terms of genetic selection or production practices to be followed. Channel-level market orientation of this nature is important as it provides a more efficient method for the transfer of information to producers regarding the expressed and latent consumer attribute requirements for use in the production of value-added products. In the commodity channel, the focus is exactly the opposite. Here, producers already have an efficiency mind-set, and a market orientation allows them to continue to provide the commodity product if minimum grades and standards change in the future. Conversely, producers may choose to leave the commodity market and provide an augmented product which provides a point of differentiation, and a possible price premium, in an otherwise homogeneous marketplace.

4.3 CONCEPTUAL MODEL AND THEORETICAL FOUNDATIONS

Recent contributions to the market orientation literature have highlighted the importance of organizational learning on the development and the effectiveness of a firm's market orientation (Farrell and Oczkowski, 2002). Commitment to learning is important as superior market knowledge, if continually generated, enables the firm to more quickly react to changes in the market in terms of consumer demands and competitor reactions. If higher prices and excess economic rents are to be earned for products which provide consumers desired attributes, it is important that firms learn which attributes would provide the most value, and if the value-attribute relationship changes over time. An important consideration when establishing a culture that fosters organizational learning is that firms must prevent turning core competencies, in this case market learning, into core rigidities by failing to focusing on continuous learning (Leonard-Barton, 1992). Failure to continually learn may result in market embeddedness similar to the 'tyranny of the served market,' (Hamel and Prahalad, 1991). In this instance, a firm's narrow focus on current customers can limit its ability to identify changes in the market as a whole.

Additionally, using a survey of business executives of both large and small firms, Baker and Sinkula (1999a) find support for a learning orientation to directly affect both innovation and firm performance. In a similar study, Baker and Sinkula (1999b) found support for direct effects of market orientation and learning orientation on performance, but found the mediating relationship of learning on market orientation to be not statistically significant. In the beef industry, it is suggested that market sensing capabilities brought about by organizational learning would increase a firm's ability to innovate as well as increasing their market orientation. Organizational learning may also improve the cost focus of the firm through increased absorptive capacity (Cohen and Levinthal, 1990). Being efficient is a superior quality in many industries, but is of great importance for firms who participate in commodity markets. In this case, firms participating in a commodity marketing channel could increase efficiency through a learning orientation.

H1: An increase in the learning orientation of the firm will lead to an increase in market orientation.

H2: An increase in the learning orientation of the firm will lead to an increase in firm innovativeness.

H3: An increase in the learning orientation of the firm will lead to an increase in the cost focus of the firm.

Changing the operating procedures of a firm brings increased risk as some changes may not be successful. However, provided the modification is based on accurate market knowledge, the change could dramatically improve firm performance. In a rapidly changing market, an entrepreneurial move that is unsuccessful could lead to negative returns and the unwillingness to change in the future. Therefore, consideration of the business environment in which the firm operates is also important. To minimize downside risk, it is important that the change in strategy is based on accurate market information while also being congruent with the current capabilities of the firm.

While agriculture may not be the first industry one might look at in search of entrepreneurial behavior, interesting research has been conducted on the importance of entrepreneurship within agricultural settings. Ross and Westgren (2006) show that positive economic rents can be earned by entrepreneurial producers in a simulation of the U.S. hog industry, and producers can earn positive rents through innovative processes such as segregated early weaning and contracting.⁸ Outside of agriculture, Naman and Slevin (1993) maintain that innovation and entrepreneurship will be beneficial to firms in ever-changing markets. Conversely, some firms may be either unwilling or unable to change. Unwillingness to change may be caused by what Nadler (1998) describes this as the ‘success syndrome’ which is present when firms believe the strategies that have been successful in the past will continue to be successful in the future. However, an unwillingness to change in the face of turbulent environments can potentially hamstring the future successes of the firm. Failure to respond to change can exacerbate the transformation of core capabilities into core rigidities stemming from an increased focus on historical routines which may no longer be valuable in changing markets.

Based on the inability to determine the successfulness of an entrepreneurial act *ex ante*, the direct and indirect effects of entrepreneurship on performance could be positive or negative. If the information on which the strategy change is based is from a trusted and accurate source, and the firm has the capability to act upon this information, one would hypothesize the direct

⁸ Ross and Westgren (2006) define these rents as Schumpeterian in nature (Schumpeter, 1934), as they are new and/or more efficient sources of supply for the production channel. The efficiency gain is due to more hogs per sow and lower transaction costs, respectively.

effect on performance would be positive. Firm performance may also be indirectly affected by the entrepreneurial nature of the manager. In their study of manufacturing firms, Matsuno, Mentzer and Ozsomer (2002) find the entrepreneurial penchant of a firm to have a positive and significant effect on the firm's market orientation, but a negative direct effect on firm performance. As they also find a market orientation to have a positive direct effect on firm performance, the entrepreneurship level of the firm can be said to have an indirect effect on performance. Similarly, the entrepreneur could choose to focus internally rather than externally, and as such, the entrepreneurial proclivity of the manager could positively affect the cost focus of the firm.

H4: An increase in entrepreneurship within the firm will increase the market orientation of the firm.

H5: An increase in entrepreneurship within the firm will increase the innovativeness of the firm.

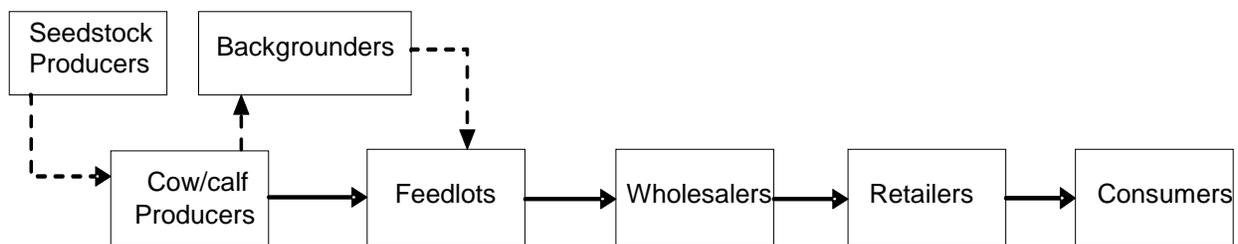
A firm that is able to learn from their customers and other sources faster than the competition may have a competitive advantage in the marketplace (Slater and Narver, 1995). With this knowledge, firms can provide augmented products to meet customers current, articulated needs and also search for methods to meet the latent, or unarticulated, needs of current and future consumers. As a firm discovers consumers' latent needs and translates this knowledge into new products, performance measures should improve as revenues increase due to premium prices and/or increased sales. In either commodity or non-commodity channels, higher beef prices can be earned by providing downstream users product attributes which they value.

While not a traditional agricultural market, Slater and Narver (1994) found a statistically significant relationship between market orientation and performance in their research on several SBU's of a forest product firm, even when accounting for competition. Similar empirical results displaying the performance implications were found in several business environments including large UK firms (Greenley, 1995), small to medium sized enterprises in the UK food sector (Tregear, 2003), UK manufacturing firms (Liu, 1995) as well as in buyer-supplier relationships (Bigne and Blesa, 2003).

Day (1994) discusses the capabilities that a market focused firm can leverage to earn increased profitability measures. These capabilities include, but are not limited to, market

sensing, customer linking, and channel bonding. All of these capabilities are generated by market knowledge and have the ability to lead to increased performance measures within the firm. While it may not be obvious, channel linking is also important in commodity industries where ownership changes across segments (Figure 4.1).⁹ As such, an upstream firm can focus on meeting the needs of the end-user or simply the next segment of the marketing channel through customer linking. In the U.S. beef industry, a historical lack of communication between segments limited customer linking capabilities. As a result, guidelines for increasing communication between market participants were outlined in the 2005 National Beef Quality Audit (NCBA, 2007). Where traditional adversarial relationships between segments have diminished the communication needed to improve the product offering, customer linking and its ability to coordinate production may help the industry as a whole meet the needs of consumers.

Figure 4.1. The beef value chain¹⁰



The ability to quickly sense and react to changes in the market allows market oriented firms' greater flexibility when crises occur. In their study of Thai firms during the Asian economic crisis of the late 1990s, Grewal and Tansuhaj (2001) find strategic flexibility to be more important than market orientation during times of crisis in highly competitive markets, but suggest a market orientation and flexibility should be concurrently developed. Food safety issues stemming from the initial occurrence of BSE¹¹ in the U.S. in 2003, along with other food

⁹ Schroeder and Kovanda (2003) illustrate the production/marketing channel to consist of Seed Stock producers, Cow/Calf producers, Backgrounders, Feedlots, Packers, Retailer/Wholesaler, and finally the end-user. Some producers and alliances choose to operate in more than one segment of this marketing channel.

¹⁰ Dashed lines symbolize upstream transactions which may or may not occur. Solid lines symbolize transactions which occur with regularity in the traditional value chain.

¹¹ BSE or bovine spongiform encephalopathy is more commonly known as 'mad cow' disease. It is a neurodegenerative disease that affects cattle.

scars, point to an increased need to develop standards to ensure food safety. Consumers would obviously gain from this change while producers could also benefit through increased market access and possibly consumer trust. A market orientation may help in determining how to implement these standards while also maintaining strategic flexibility.

H6: An increase in the market orientation of the firm will lead to an increase in firm innovativeness.

H7: An increase in the market orientation of the firm will lead to an increase in firm performance.

Nelson and Winter (1982) define innovation simply as a change in routine. Innovation can also be thought of as the implementation of new ideas generated through an increased market orientation. Market oriented firms are thought to gather information concerning consumer's current and future needs, but what happens following the gathering and dissemination of this information? Provided a firm has the capacity to innovate, it is likely market information is transformed into product innovations to meet consumer needs. Product and market innovations need not be frame-breaking, however. Incremental changes such as increased communication with downstream partners would be innovative if communication is not typical of the business relationship. At the industry level, increased communication between industry segments would meet a goal of the 2005 NBQA. At the farm level, increased channel communication could aid producers in making decisions regarding the modification of production practices or in alteration the genetic make-up of the herd.

In their study of a sector of the U.S. government, Hurley and Hult (1998) found innovation to be an important driver of performance. Similar results were found in research studies using data from large Japanese firms, (Deshpande, Farley, and Webster, 1993) U.S. banks, (Han, Kim, and Srivastava, 1998) and New Zealand firms, (Darroch and McNaughton, 2003). In all cases market knowledge was the primary driver of the innovation. Increased market knowledge allows firms to modify routines in a way that provides the consumer with the attributes which they desire. In this dissertation, innovation is conceptualized as the willingness to use new ideas to improve the cattle operation, but the specifics of the innovation is left to the respondent. In this instance, the innovation could be a means of improving efficiency through a

technological innovation or by improving the product offering through an externally focused innovation.

H8: An increase in firm innovativeness will lead to an increase in firm performance.

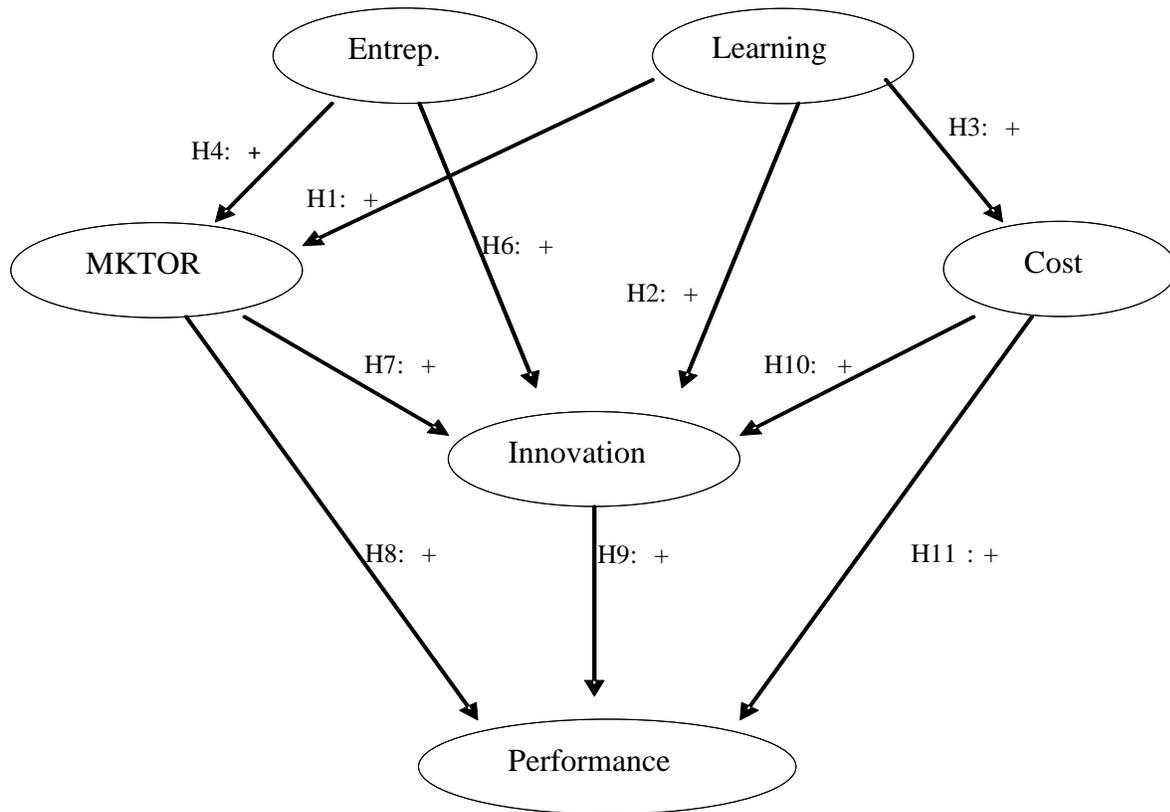
A market orientation is inherently an external view of the current environment in which the manager operates. Market information is gathered, processed and implemented to modify routines in order to improve the product offering and, in turn, earn a premium price for doing so. However, it is still important to maintain a balance between the external and internal focus of the firm. In fact, once an innovation has caught on in the marketplace, the entrepreneurial rent from the innovation is likely to have already disappeared as increased competition has removed most price premiums. Therefore, the cost focus of the firm is also included as a determinant of firm performance.

Ritchie (2003) maintained that increased efficiency in beef production is a necessary condition for high net income. In order to increase income, the producer needs to increase output efficiency or increase prices received. Higher prices could be earned by producing products with desired attributes, but being able to efficiently provide an augmented product may be more important long term. In some sectors of the beef industry, efficiency may be more important than a market orientation in the short-run, provided the market is stable and not undergoing rapid change. A producer operating in the commodity beef sector may still feel increasing efficiency is their only method of improving performance. Support for this mind-set is given in Narver and Slater's (1990) study of the commodity SBUs of the forest product firm they studied in their seminal article. They found performance to have a U-shaped relationship to the level of market orientation in the commodity SBUs; that is, on average an SBU with a low level of market orientation outperformed those with a medium level of market orientation.

H9: An increase in the cost focus of the firm will lead to an increase in firm innovativeness.

H10: An increase in the cost focus of a firm will lead to an increase in firm performance.

Figure 4.2. The conceptual model with hypothesized relationships



4.4 RESULTS AND DISCUSSION

4.4.1 Methodology

A structural equation model (SEM) is employed to study the relationships between the proposed independent variables and firm performance. A SEM is useful as it allows the researcher to simultaneously test the measurement model and the path model of relationships between dependent and independent variables. It is also beneficial as it allows for measurement error in both the explanatory variables as well as the model as a whole (Bollen, 1989).

The measurement component of the model consists of several latent (unobserved) variables which influence the respondents' answers to indicator variables in the survey instrument. The errors in the latent variables include the effects of omitted variables as well as measurement error. The latent, or unobserved variables, are hypothesized to cause covariation among observed responses in the survey data. The structural component consists of the path

analysis where hypothesized relationships are tested for significance. In a SEM, rather than minimizing the difference between the individual and predicted cases, the model tries to minimize the difference between the sample covariance matrix and the covariance matrix predicted by the model (Bollen, 1989).

Using the purified scales discussed in Chapter 3 as variables, the relationships depicted in the path diagram (Figure 4.2) were tested using a SEM with maximum likelihood estimation. Control variables were also included in the path diagram to account for firm size (acres and size of herd), manager experience, and manager education. The number of magazines the manager receives was also included as an explanatory variable on market orientation.

The results of the SEM and fit statistics are shown in Table 4.1. The findings show the data largely corroborate the specified hypotheses. Several fit statistics are reported and they point to a reasonable model fit.¹² The RMSEA and χ^2/df demonstrate a good fitting model. However, the remaining fit measures are not above the typical thresholds, therefore these results should be interpreted with some caution.

¹² χ^2/DF is the value of the χ^2 statistic divided by the degrees of freedom of the model. Values less than 5 indicate adequate fit. IFI is the incremental fit index is a measure of fit similar to the normed fit index (NFI) however IFI was developed by Bollen (1989) to address issues of sample size and parsimony. Values again range from 0 to 1 with values close to 1 indicating good fit. TLI is the Tucker-Lewis Index and is similar to the IFI in that it corrects for model size and complexity. Values range from 0 to 1 with values above 0.90 indicating good fit. CFI is the comparative fit index and is another alternative to the NFI for studies with small samples. Values range from 0 to 1 with values over 0.90 indicating good fit. RMSEA is the root mean squared error of approximation and is a parsimony-adjusted index that corrects for model complexity. Values less than 0.05 indicate good fit and values less than 0.10 indicate mediocre fit. (Byrne, 2001)

Table 4.1. Results from path diagram

Path from...	Path to...	Hypothesis	Hypothesis		Bootstrapped		Bootstrapped		C.R.	P
			Supported	Estimate	S.E.	Estimate	S. E.			
Learning	Market Orientation	1	Yes	0.367	0.08	0.363	0.075	4.582	***	
Learning	Cost Focus	2	Yes	0.520	0.075	0.515	0.097	6.982	***	
Learning	Innovation	3	Yes	0.406	0.076	0.413	0.109	5.369	***	
Entrepreneurship	Market Orientation	4	Yes	0.106	0.051	0.113	0.062	2.091	0.037	
Entrepreneurship	Innovation	5	Yes	0.195	0.046	0.191	0.051	4.189	***	
Market Orientation	Innovation	6	Yes	0.147	0.06	0.144	0.082	2.426	0.015	
Market Orientation	Overall Performance	7	Yes	0.178	0.097	0.184	0.129	1.845	0.065	
Innovation	Overall Performance	8	Yes	0.243	0.104	0.234	0.116	2.332	0.02	
CostFocus	Innovation	9	Yes	0.252	0.057	0.249	0.077	4.393	***	
CostFocus	Overall Performance	10	No	0.013	0.089	0.016	0.106	0.15	0.881	
Experience	Overall Performance			0.007	0.003	0.007	0.003	2.095	0.036	
Magazines	Market Orientation			0.030	0.012	0.029	0.011	2.404	0.016	
Fit Statistics		χ^2	d.f	$\chi^2/d.f.$	IFI	TLI	CFI	RMSEA	RMSEA confidence interval	
		1365.898	717	1.905	0.881	0.869	0.88	0.051	.047-.055	

Hypotheses 1-3 examined the relationship between organizational learning and other latent variables. The data show building a learning culture is important if one wishes to develop a market orientation or find innovative methods to solve management problems ($\gamma = 0.367$, $\gamma = 0.406$, respectively).¹³ A culture of learning was also shown to have a positive influence on the cost focus of a firm, thus all hypothesis were supported.

The importance of entrepreneurship on a firm's market orientation and innovativeness was examined through H4 and H5. Entrepreneurship is shown to have a statistically significant influence on the market orientation ($\gamma = 0.106$) and innovativeness ($\gamma = 0.195$) of firms. The data also showed firm innovativeness to be an important determinant of firm performance (H8; $\gamma = 0.243$). Through innovation, learning and entrepreneurship have an indirect effect on firm performance.¹⁴

The cost focus of the firm was found to be influential of the firm's innovativeness (H9; $\gamma = 0.252$), allowing for an indirect affect on firm performance, but a direct effect was not supported by the data. The data also showed the degree of market orientation to have a statistically significant influence on subjective performance, both indirectly through innovation (H6; $\gamma = 0.147$) and directly (H7; $\gamma = 0.178$).

Further examination was conducted to test for equality of the measures between production types and alliance participation. To test these relationships the data was sorted by production type and alliance participation, and the model was re-evaluated. The equality of factor loadings was not able to be rejected between each respective group. This means that the loading of an indicator variable would have the same weight on the latent variable regardless of the production type or alliance status of the producer. Likewise, the equality of path coefficients could not be rejected in the production type group, meaning the relationships between the independent and dependent variables shown in Table 4.1 are representative of both cow/calf and feedlot operations in Illinois.

¹³ When interpreting coefficients, a one unit change in the influencing latent variable would elicit a change equal to the coefficient in the latent variable receiving the influence. Latent variables have the same scale as their indicator variables, thus the range is from 1-6.

¹⁴ Indirect effects can be measured by multiplying path coefficients together. For instance, the indirect effect of learning on performance (through innovation) is $0.406 * 0.243 = 0.0986$. Total effects can be found by combining all indirect and direct effects. Other indirect effects can be interpreted similarly.

However, the equality of path coefficients was able to be rejected when comparing producers who participate in an alliance to those who do not. The results are shown in Table 4.2. One interesting result that emerges from this comparison is the importance of a market orientation versus a cost focus in the respective groups. Contrary to what was initially suspected market orientation, firm innovativeness, and entrepreneurship are all shown to be more important within homogeneous markets (i.e. non-alliance). Upon further consideration, this result is plausible as producers within this market may be striving to differentiate their product in an otherwise undifferentiated marketplace.

In addition, alliance producers seem to place more importance on a cost focus than on a market orientation. This could be that the channel captain of the alliance has already done the needed market research and alliance participants have a market orientation by default. Moreover, as alliance members, these producers have already begun to differentiate themselves from producers in general, and now are focused on reducing costs to further improve performance.

Table 4.2. Comparison of path coefficients when measurement weights are equal

Path from...	Path to...	Group					
		Alliance (N=87)			Non-Alliance (N=264)		
		Estimate	S.E.	P	Estimate	S.E.	P
Learning	Market Orientation	0.470	0.147	0.001	0.323	0.078	***
Learning	Cost Focus	0.836	0.185	***	0.399	0.079	***
Learning	Innovation	0.508	0.216	0.019	0.393	0.079	***
Entrepreneurship	Market Orientation	0.076	0.071	0.280	0.112	0.065	0.085
Entrepreneurship	Innovation	-0.036	0.062	0.558	0.255	0.061	***
Market Orientation	Innovation	0.407	0.160	0.011	0.117	0.068	0.084
Market Orientation	Overall Performance	0.298	0.294	0.311	0.188	0.102	0.066
Innovation	Overall Performance	-0.313	0.265	0.238	0.339	0.113	0.003
Cost Focus	Innovation	0.156	0.160	0.330	0.251	0.063	***
CostFocus	Overall Performance	0.477	0.243	0.050	-0.096	0.095	0.314
Experience	Overall Performance	0.001	0.006	0.816	0.009	0.004	0.019
Magazines	Market Orientation	0.034	0.018	0.061	0.027	0.015	0.073
Significance of Models							
					df	χ^2	P
H0: Measurement weights equal; H1: Measurement weights unequal					30	41.81	0.074
H0: Structural weights equal; H1 : Structural weights unequal					15	29.26	0.010

The question of whether it is more important to be externally focused or internally focused was also answered in this chapter. The results seem to show that, even in a commodity marketplace, a balance of both external and internal mind-sets is warranted. This model, while one of many that could be supported by the data, shows an external focus towards the market to be of greater importance than an internal or cost focus as a means of improving performance. This differs from the historical tendency for producers to focus solely on internal efficiency, potentially at the expense of an external focus towards the final consumer.

4.5 THEORETICAL CONTRIBUTIONS AND IMPLICATIONS

The purpose of this chapter was to examine the performance implications of a market orientation in a commodity industry. Overall, findings are consistent with other research studies, which show a market orientation to be a positive influence on firm performance. However, the main contribution this research makes to the literature is that it shows the market orientation-performance relationship holds even within commodity markets. Typically in a commodity value chain, the goal is to be the low-cost producer as this is perceived as the only means of increasing profitability. Using a dataset consisting of cow-calf producers and feedlot operators, evidence was found that supports the hypothesis that a market orientation may also have performance implications in the beef industry.

Taken together, the results lead to an important discussion: Is a market orientation more important than a cost focus within the agricultural sector? The answer may be that neither is *more important* than the other, but a sense of balance between an internal and external focus is reasonable. For too long, producers have operated under the impression that they could do little to influence the prices they received, and recent evidence points to the contrary, even within commodity markets (Lalman and Smith, 2001). Furthermore, the growth of production and marketing alliances may point to the gains to be made through differentiation in the marketplace.

A potential development from this research is the increase in information transfer between market segments in the beef industry. This information could lead to improved production decisions for the upstream producers as well as an improved product to provide value to downstream processors and end-users. As shown in the importance of organizational learning and market orientation, improved quality and quantity of market information could aid in decision making and may well lead to improved performance measures at the farm level.

CHAPTER 5

POSITIONAL ADVANTAGE WITHIN SMALL FARMS¹⁵

5.1 INTRODUCTION

According to the 2007 U.S. Census of Agriculture, over 80% of the farms involved in cattle production have herd sizes under 100 head (USDA, author calculations). Short (2001) shows that economies of scale are not present in small operations, hence commentators have begun to suggest that small farms will need to increasingly focus on their customers as well as competitors to ensure their continued existence within today's increasingly segmented food marketplace (Spiller, Zuhlsdorf, and Mellen, 2007). Research studies have indicated firms that have an appropriate market orientation, and can leverage this through a positional advantage can achieve superior performance vis-à-vis competitors (Hult and Ketchen, 2001). If this result also holds for small farms, then they may be able to not only survive, but thrive in an increasingly segmented and ever-changing marketplace which has historically been dominated by large firms striving to achieve economies of scale. The ability of small firms to flourish may lead to an increase in the economic and socio-economic benefits attributed to small farms including increased rural employment and the stemming of rural emigration (Hazell, 2005).

Rural sociologists and agricultural economists are equally interested in the characteristics and performance of small farms. However, there is some ambiguity as to what exactly constitutes a small farm? The USDA defines a small farm as one that generates less than \$250,000 in annual sales (USDA, ERS, 2005). A more general definition describes a small farm *as one where the farmer or farm family participates in the day-to-day labor and management of the farm, and owns or leases its productive assets; those firms that are managed by the owner/farmer* (WSDA, 2008). Still more definitions could be found based on the size of the farm in acres or by the number of livestock raised on the farm. For the purposes of this paper, we will use the definition based on management and control.

Among small operations, a differentiation strategy may be more easily attainable than a low-cost strategy given the main driver of the low-cost strategy is economies of scale (Porter,

¹⁵ This chapter is based on a paper presented at the 111th EAAE-IAAE Seminar 'Small Farms: decline or persistence' held in June 2009 at the University of Kent, Canterbury, UK.

1985). Furthermore, the historically mediocre performance of the cow-calf sector (Jones, 2000) may be attributed to the imitation of strategy choice by the industry as a whole (Teece, Pisano, and Shuen, 1997). The development of a market orientation may help farmers who are not able to achieve economies of scale decide on how to most effectively differentiate their production based on market signals and their current capabilities. During the past two decades there has been a vibrant discussion surrounding the performance implications of becoming market oriented and, more recently, how a firm could develop a market orientation (Narver, Slater, and Tietje, 1998). The benefits of a market orientation include, but are not limited to, improved performance as well as increased success of new product development.

As outlined earlier, a market orientation has been defined as a culture within the firm centered on the creation of customer value (Narver, Slater, and Tietje, 1998). As firms must be aware of what consumers actually value, the development of a market orientation begins with a learning orientation. The development of a market orientation is further amplified based on the ability of the firm to discover and deliver the products and services which are valued by the market. Firms that are able to discover the unmet needs of the market and develop products to meet these needs may improve performance through price premiums, increased sales, or both. As a result of this awareness, studies have shown market oriented firms to have superior performance in a variety of industries and cultures (Deshpande, Farley and Webster, 1994; Narver and Slater, 1990; Tregear, 2003).

Conceptually, a positional advantage is defined as a superior advantage in relation to the competition achieved through the provision of either a low-cost or differentiated product (Porter, 1991). A market orientation could allow firms to determine, through the customer and competitor focus, where value could be created within competitive landscapes. More recently, however, it has been shown that a market orientation is not the only resource contributing to improved performance. In their study of 181 multi-national corporations, Hult and Ketchen (2001) found that the market orientation of a firm was only one component of the overall positional advantage of the firm, which was modeled to also include entrepreneurship, innovation, and organizational learning. They hypothesize that it is the combination of these four distinct capabilities which provide the firm the capability to create value for the customer. Furthermore, Pelham (2000) has suggested that the interaction of these capabilities (especially a market orientation) within small firms may be a reliable source of competitive advantage. The

source of this advantage lies in the fact that small firms are more flexible, are able to exploit market niches, and exhibit a faster response to market intelligence compared to their larger counterparts.

The objective of this chapter is to determine if the concept of positional advantage as defined by Hult and Ketchen (2001) is relevant in an agricultural setting. Several authors have singularly examined the importance of market orientation, innovation, entrepreneurship and organizational learning within agricultural settings. Grunert et al. (2005) found there to be significant performance implications of becoming market oriented in several agricultural value chains, while not objectively measuring the level of market orientation. Along with the importance of a market orientation, Micheels and Gow (2008) found innovation, entrepreneurship and learning to be important drivers of firm performance in the Illinois beef industry. Recently, Ross and Westgren (2006) examined the role of entrepreneurship within agriculture and found entrepreneurship to be an important resource in the search for rents using a simulation of hog producers. This research provides an important extension to the previously conducted research on market orientation and other resources as it combines these components into a single latent factor, and examines the effect of a positional advantage on performance within small firms.

5.2 SMALL FARMS

In the past several decades, the number of small farms in the U.S. has declined tremendously¹⁶ (Steele, 1997). Recently, it has been reported that small farms (less than \$10,000 in sales) have increased in number, at the expense of farms with sales from \$10,000 to \$250,000 (Hoppe et al., 2007). In an industry such as agriculture characterized by homogeneous price takers employing a low-cost strategy based in part on economies of scale, small farms may find it difficult to compete directly with their larger counterparts. In the case of beef farms, Short (2001) indicated that economies of scale exist for farms over 250 head. Unfortunately, according to the 2007 Census of Agriculture (USDA), only 3% of beef farms have herd sizes above this threshold.¹⁷ Further clouding the discussion, Jones (2000) found low-cost firms in all size classes in his study

¹⁶ Steele (1997) defined a small farm as one with less than \$20,000 in sales.

¹⁷ Percentage based on number of farms with beef cows greater than 200 head divided by total number of farms. Therefore, this estimate is likely the upper bound.

of the U.S. beef industry. This empirical finding is consistent with the discussion of cost drivers by Porter (1985) which along with economies of scale, also includes learning, capacity utilization, and linkages, to name a few.

As noted, achieving economies of scale may be difficult for small farms; therefore these smaller farms may choose to pursue a differentiation strategy leveraging their flexibility to operate in niche markets (Steele, 1997). This strategy has been increasingly important as innovative beef producers have turned to direct marketing as a means of increasing the value of their production (Gale, 1997). Also, some producers have established production alliances where they can pool resources and cattle to leverage both customer linkages as well as economies of scale in processing. Producers who utilize direct marketing or production via alliances may be able to leverage these relationships by using the more fine grained information to develop new products or services and to improve production practices.

5.3 THEORETICAL FRAMEWORK

Small farms may benefit from moving away from traditional marketing channels where communication is limited to channels characterized by more direct linkages with the final consumer. This framework enables small firms to take advantage of their strategic flexibility and responsiveness, as this may be their most important asset. Based on market intelligence gathered by the producer or other sources, innovative producers may be able to transition to a new strategy more rapidly than their larger counterparts. What is ultimately important, however, is that the firm must understand the value chain from the buyer's perspective. Specifically, what attributes are being sought by the market? Does the firm have a comparative advantage in providing these attributes? Building off of Narver and Slater's (1990) definition of a market orientation being comprised of a customer focus and competitor orientation, market oriented firms can take advantage of new information to develop a strategy where there are few direct competitors. Therefore, how this information is leveraged is an essential component of the value creation process.

It has been shown that the components of Hult and Ketchen's (2001) concept of positional advantage are important drivers of firm performance in agriculture (see Micheels and Gow, 2008; Ross and Westgren, 2006). Micheels and Gow (2008) found that a firm's market orientation directly affected firm performance and was moderated through the innovativeness of

the firm. Verhees and Meulenbergh (2004) found that market orientation, entrepreneurship, and innovativeness contributed to firm performance in a study of rose producers in the Netherlands. What these findings show is that no matter what industry the firm operates in, market intelligence is a valuable resource producers can use to determine methods to provide superior value to their customers.

However, there has been no examination of the importance or the consequences of a positional advantage in agriculture. It may be, as Hult and Ketchen (2001) suggest, that the whole is more valuable than the individual component contributions, as the inter-relationships between the components and firm performance may not be linear. If this is the case, the positional advantage of a firm may allow for more rapid discovery of 'opportunity gaps' where firms can provide valuable products to markets where there is unmet demand. Gow, Oliver, and Gow (2003) found that awareness of opportunity gaps was a source of improved performance in pork production systems.

A positional advantage, modeled as the interaction of four important resources, may enable the firm to develop a strategy which allows them to earn profits, or more correctly, rents, from the development of superior products. As Mahoney and Pandian (1992) point out, resources and competencies are fundamental components of the resource based view (RBV). Whereas Hunt and Morgan (1995) have argued that a market orientation is a valuable resource capable of providing sustainable competitive advantages, there may be other resources which contribute to the effectiveness of a market orientation.

At their most elementary level, one could argue that all components of Hult and Ketchen's (2001) model of positional advantage (market orientation, innovation, learning, and entrepreneurship) are built upon market awareness and knowledge of customer demands. This commonality allows for the combination of the constructs to form something more valuable than their individual sums. A market oriented firm may be aware of customer needs, but they also need to be entrepreneurial and innovative to capitalize on this market knowledge. Internalizing this information into a strategy formulation or strategy implementation approach may allow small firms to develop a positional advantage relative to rival firms which allows them to not only survive in these competitive markets, but to thrive (Homburg, Krohmer and Workman, Jr., 2004).

5.4 TESTABLE HYPOTHESES

A market orientation has been shown to positively influence firm performance through the provision of superior value for customers (Bigne and Blesa, 2003; Kohli and Jaworski, 1993; Narver and Slater, 1990). Day (1994a) has argued that the source of value creation, and ultimately the performance benefits, is the capability of the market oriented firm to accurately sense the changes in the market. The value of this capability is obvious in dynamic industries, but can the same be said for commodity products common to agricultural production? That answer appears to be yes. Grunert et al. (2005) studied several value chains from a variety of countries and found the overall market orientation of the channel to be an important driver of channel performance. A market orientation allows firms to keep abreast of changing conditions within a specific market while also enabling the firm to discover points of differentiation from the commodity product. Therefore, firms with the appropriate capabilities may choose to exit the commodity channel and receive some benefits for providing a differentiated product. The growth of branded beef offerings (National Meat Case Study, 2007) and the increasing level of beef produced through alliances points to a segmentation of the beef industry into differentiated and non-differentiated production channels (Drovers, 2008). As such, the following hypothesis is examined:

H1: A market orientation is a positive indicator of the positional advantage of a firm.

According to Naman and Slevin (1993), the entrepreneurial firm is characterized by the ability to innovate and react to changing environments. In an agricultural setting, Ross and Westgren (2006, 2009) show that entrepreneurial firms can achieve higher returns compared to less entrepreneurial firms. The entrepreneurial concept, being focused on opportunities to earn premiums based on rivals' miscalculation of the value a resource can provide, is similar to a market orientation. The combination of entrepreneurship and the other constructs could provide firms with a positional advantage from which the firm can seek means to create value for customers; therefore, we examine the following hypothesis:

H2: The level of firm entrepreneurship is a positive indicator of the positional advantage of the firm.

Technological innovations have been widespread in agriculture and have enabled firms to increase production while decreasing the level of inputs used in the production process. In the beef industry, marketing innovations have become more common as an increasing number of firms have moved from the commodity channel to an alliance-based production system (Drovers, 2008). These innovations have allowed firms, with the help of channel captains, to provide value for both downstream partners in the value chain and the ultimate consumer through differentiated products. Depending on the capabilities of the firm and the chosen market, firms may choose to innovate with a goal of increasing efficiency, or they may choose to innovate as a means of differentiating their product from that of their competitors. As such, the following hypothesis is examined:

H3: The level of firm innovation is a positive indicator of the positional advantage of the firm.

What may be ultimately the core resource that provides value for the firm is its ability to learn faster than its competitors (Slater and Narver, 1995). A culture which encourages learning will enable firms to discover opportunity gaps and to capitalize on them through technological or marketing innovations. Baker and Sinkula (1999a) show that a learning orientation, combined with a market orientation, leads to an increase in relative market share. Market share may not be important for individual producers, but for alliances with valuable brands (Certified Angus Beef, for example), increasing market share may be an important goal for the alliance.

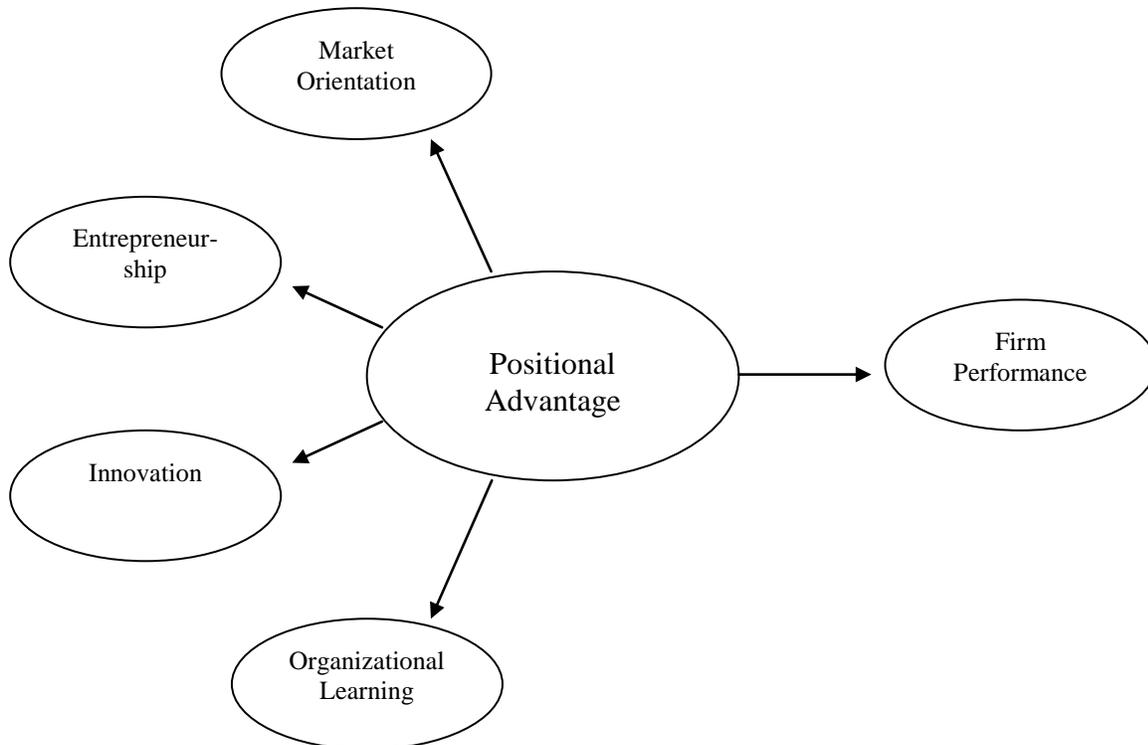
H4: The level of organizational learning is a positive indicator of the positional advantage of the firm.

It is necessary to clarify that these four constructs do not *cause* a firm to have a positional advantage over their competition, but rather the opportunities each firm sees for possible areas of competition determine the effort put into developing a market orientation, a learning orientation, an entrepreneurial focus, and innovativeness. As noted by Hult and Ketchen (2001) other variables could contribute to the positional advantage of a firm, but we focus on the four developed by Hult and Ketchen in order to replicate their model in an agricultural setting.

A positional advantage may allow firms to develop capabilities in order to implement certain strategies, or conversely to implement strategies which are congruent with their current capabilities (Homburg, Krohmer, and Workman, Jr., 2004). As several research studies have shown a market orientation, innovation, entrepreneurship and learning to have performance implications when tested individually, it is hypothesized that a positional advantage would as well. The interaction of market knowledge with the entrepreneurial focus of the firm could lead to changes in products or simply how the product is marketed. It is assumed all changes would be based on market information which is centered on the creation of customer value. Assuming superior products should garner premium prices, we hypothesize the following:

H5: An increase in the positional advantage of the firm will lead to an increase in firm performance.

Figure 5.1. The hypothesized model of positional advantage and firm performance



5.5 RESULTS

5.5.1 Methodology

The relationships between the latent constructs were modeled in a structural equation model (SEM). The confirmatory factor analysis of the higher-order factor model of positional advantage was first analyzed to determine if our data fit the model first hypothesized by Hult and Ketchen (2001). Model fit was analyzed using the goodness of fit index (GFI), the incremental fit index (IFI), and the Tucker-Lewis index (TLI) along with the root mean squared error of approximation (RMSEA) and the Chi-Square index (χ^2) divided by degrees of freedom (df). The data fit the model reasonably well as the GFI = 0.895, IFI = 0.931, TLI = 0.93, RMSEA = 0.051, and $\chi^2/df = 1.916$, all indicating an acceptable fit.

Following the testing of the measurement model, the path model shown in Figure 1 was tested. Again, the data seem to fit the model well as the GFI = 0.872, IFI = 0.919, TLI = 0.91, RMSEA = 0.049, and $\chi^2/df = 1.833$. As shown in Table 5.1, market orientation, entrepreneurship, innovation and organizational learning are all positive indicators of a higher-order factor, positional advantage. These results confirm H1-H4. It is also shown that the positional advantage of a firm is positively related to firm performance, confirming H5. These are all latent constructs, so one must be careful when interpreting these results.¹⁸

These results indicate that within the context of the Illinois beef industry, a market orientation, organizational learning, entrepreneurship, and innovativeness are important determinants of firm performance. Furthermore, these latent factors are all influenced by the positional advantage of the firm. That is, as a firm looks to improve their positional advantage vis-à-vis their rivals, increases in innovativeness, learning, entrepreneurship, and market oriented behaviors can lead to improved performance. Results indicate that resources should be first directed at improving innovativeness, followed by organizational learning and finally entrepreneurship. It is important to note, however, that these factors are highly related and therefore a balance should be struck in terms of resource allocation.

¹⁸ The estimate of 0.710 for the relationship between positional advantage and performance means that for every one-unit increase in a firm's positional advantage, their level of subjective performance will increase by 0.71 units. Other results can be interpreted similarly.

Table 5.1. Results of the path model (pooled sample).

Path From...	Path To...	Estimate	S.E.	p-value ^a
Measurement Model				
Market Orientation	Customer Focus ^b	1.000		
Market Orientation	Competitor Focus	1.116	0.124	***
Market Orientation	Coordination	1.096	0.124	***
Positional Advantage	Market Orientation ^b	1.000		
Positional Advantage	Entrepreneurship	0.664	0.174	***
Positional Advantage	Innovation	1.822	0.328	***
Positional Advantage	Organizational Learning	0.998	0.201	***
Path Model				
Positional Advantage	Performance	0.710	0.197	***

^a *** Indicates p-value is less than 0.001

^b Indicates the parameter loading was fixed to 1 in order to ensure identification of the model.

5.6 POSITIONAL ADVANTAGE AND FIRM SIZE

While the entire sample of Illinois beef producers could potentially fall within the definition of a small firm according to the definition based on ownership and control, the relative importance of a positional advantage for smaller firms compared to larger firms is also of interest. To examine the effect of size on the importance of positional advantage, the sample was divided into two groups of producers on the basis of herd size. Based on the sample, the demarcation point was 100 head. Only cow-calf producers were included in determining differences based on size due to the limited number of cattle feedlots in the sample.

The differences between the two groups were examined based upon the assumption that the structural model depicted in figure 5.1 is appropriate for both groups. Further testing is conducted to determine whether the factor loadings between the two groups are equal (H_{Γ}) and if the path coefficients between latent variables are equal (H_B). Differences between the two groups are examined using a chi-square difference test, where significant differences between the models would allow us to reject the respective hypothesis of equality and assume that the measures for large and small farms are not equal. Results of the group analysis are presented in Table 5.2.

The first pair-wise comparison was between the original model and one where the measurement weights, or factor loadings, were constrained to be equal. Using a chi-square difference test, the change in χ^2 is found to be 38.918 with a corresponding change of 25 degrees of freedom for the constricted model. The critical value for 25 degrees of freedom is 37.65 at the 5% level. The critical value at the 1% level of significance is 44.31. Therefore, support is found for inequality of measurement weights at the 1% level between large firms (greater than 100 head) and small firms (less than 100 head) in our sample. The second pair-wise comparison was conducted assuming the measurement weights to be equal. The previous pair-wise test demonstrated this not be the case, so it can be assumed that these groups are not invariant in either their measurement or structural weights.

The results of the group analysis demonstrate that the measurement weights were found to be significantly different across groups; signifying the factor loadings (similar to those depicted in Table 5.1 for the pooled sample) are different for firms with large herds compared to firms with small herds (Table 5.2). Specifically, the results of the test for moderators indicate that a positional advantage is of greater importance for small farms than for large farms. Furthermore, in all cases except for entrepreneurship and competitor focus the smaller farms have higher estimates for the components of a positional advantage than do larger farms. That is to say smaller farms can increase their positional advantage relative to larger farms more easily through organizational learning and innovation than through entrepreneurship. Larger farms believe they can improve their positional advantage more rapidly through a competitor focus and through entrepreneurship. This belief may be caused by the fact that larger firms currently have economic advantages derived from their increased size which could allow them to improve upon these advantages with an increased investment in competitor monitoring and responsiveness. Overall, these results lead to the conclusion that the importance of a positional advantage is different across size classes of Illinois beef farms.

Table 5.2. Estimates from group analysis

		Group			
		Farms < 100 Head (N=234)		Farms > 100 Head (N=62)	
Path From...	Path To...	Estimate	S.E.	Estimate	S.E.
Measurement Model					
Positional Advantage	Market Orientation	1		1	
Positional Advantage	Entrepreneurship	0.625	0.229	0.630	0.316
Positional Advantage	Innovation	1.965	0.495	1.411	0.428
Positional Advantage	Organizational Learning	0.989	0.274	0.692	0.277
Path Model					
Positional Advantage	Performance	0.930	0.302	0.261	0.244
Significance of Models					
			df	χ^2	P
H0: Measurement weights equal; H1: Measurement weights			25	38.918	0.038
H0: Structural weights equal; H1 : Structural weights unequal			31	42.206	0.086

5.7 DISCUSSION

The concept of the positional advantage of a firm was introduced by Hult and Ketchen (2001) as a higher-order factor consisting of the market orientation, entrepreneurial focus, innovativeness, and learning orientation of a firm. This dissertation replicates the model of Hult and Ketchen (2001) to examine the importance of positional advantage in an agricultural setting. Building upon the growing literature (see Micheels and Gow, 2008; Ross and Westgren, 2006), which examines the effects of entrepreneurship and market orientation on firm profitability in agriculture, this dissertation examines the inter-relationships between these similar, yet singular latent constructs. Using a sample of Illinois beef producers, this study finds a positional advantage is an important driver of firm performance within small farms.

Firm innovation, broadly defined by Nelson and Winter (1982) to be a change in routines, and measured in the construct developed by Hurley and Hult (1998), is found to be the most important capability a firm uses to leverage its positional advantage. This result is understandable as it is only through innovations, however slight, that the ideas of value creation developed through the market orientation and entrepreneurial proclivity of the firm can be commercialized.

The level of entrepreneurship was found to be the least likely avenue for opportunities to create value through a positional advantage. This result, however, does not lessen the overall importance of entrepreneurship in the search for value in agriculture. In order to develop a market orientation, firms must be entrepreneurial as they are inherently taking a risk by allocating resources to the search for customer needs rather than the traditional search for efficiency. To that end, Micheels and Gow (2008) found that the entrepreneurial focus of a firm is a significant driver of market orientation of Illinois cattlemen.

The culture of learning was also found to be an important component of a firm's positional advantage. Firms that value learning continually question their own routines and search for opportunities to provide value through both traditional and non-traditional means. A firm with a learning culture may have improved performance as they are continually able to determine sources of value and are able to leverage their current capabilities into providing this value. As stated by Slater and Narver (1995) the ability of the firm to learn faster than their rivals may be a source of sustainable competitive advantage.

When examining the relationship between positional advantage and firm performance across firm size within the sample of Illinois beef farms, some interesting findings are discovered. Small firms may be more flexible in their strategy compared to their larger counterparts, and results of this study indicate that the importance of a positional advantage on firm performance is more important for smaller farms. Further examination of this result is warranted as conceptually, all of the producers in our sample were 'small' producers with similar flexibility and responsiveness. Further, it was found that within this sample, measurement weights cannot be assumed to be equal. Essentially this means that a farmer with a small herd size may answer an individual survey question differently than a farmer with a large herd size even if the underlying latent variables are equal. Behaviorally this indicates that firms with a larger herd size place a different level of importance on determining competitor goals and actions than a farmer with a smaller herd size.

5.8 CONCLUSIONS

This chapter provides an extension of the marketing and strategy literature to production agriculture. Similar to the arguments of Homburg, Krohmer, and Workman, Jr., (2004) a firm may strive to develop a positional advantage as a means of implementing a specific strategy. By

becoming more aware of market conditions through a learning orientation and a market orientation, firms can better determine if there are valuable opportunities available based on their current capabilities and competitor strategies. Using a positional advantage, firms may decide that a move away from the traditional commodity market provides greater opportunities to create value by augmenting the traditional commodity product through a differentiation strategy.

For small firms, a positional advantage relative to their rivals may be an important resource ensuring long-term survival. Small firms may have an advantage relative to their larger counterparts in terms of strategic flexibility and response time. These advantages may allow for a firm to quickly react to market information signaling an opportunity to provide superior value to a specific market or customer based on a specific attribute.

Finally, this chapter gives credence to the argument that in order to improve performance, managers must allocate some effort to the analysis of opportunities to provide value for customers along with striving to increase efficiency. It must be noted, however, that value must continually be seen through the eyes of the consumer. Increased efficiency may be the source for value creation for some markets while augmented products may be the valuable attributes in others. This study contributes to the discussion as it is shown that customer awareness as well as methods to provide demanded attributes can be a source of value to even small firms. As such, small firms may find they can increase firm performance, by leveraging flexibility and developing a positional advantage, even in a traditionally commodity-based market. Future research in this area could examine the effects of a positional advantage over a longer time frame and in a variety of agricultural markets.

CHAPTER 6

DO MARKET ORIENTED FIRMS DEMONSTRATE CLARITY ON THEIR CHOICE OF VALUE DISCIPLINE?¹⁹

6.1 INTRODUCTION

Previous research studies have suggested that market oriented firms achieve superior performance due to their ability to market products and services that more accurately match the expressed and latent needs of consumers (Kohli and Jaworski, 1990; Narver and Slater, 1990). The justification for superior performance is based on the ability of the market oriented firm to transform information into knowledge, and thus, tailor the product offering to meet specific consumer needs and provide superior value relative to available alternatives. Treacy and Wiersema (1993) extended the value creation argument by stating that when a firm decides on its product offering and the methods in which it provides value to consumers, it is also essentially choosing the customer base to which this product will be marketed. To be able to successfully market one's products and services, it is vital that the firm is aware of their target audience and their value proposition.

Anderson and Narus define value as "... the worth in monetary terms of the technical, economic, service, and social benefits a customer company receives in exchange for the price it pays for a market offering" (1998, p. 54). Firms may choose to compete based on a singular source of value, or they may choose to provide a product which encompasses all components of a consumer's value proposition. In that vein, Treacy and Wiersema (1993) developed the idea of separate value disciplines, including *Customer Intimacy*, *Product Leadership*, and *Operational Excellence*, where each value discipline relates to a singular component of the definition of value. They describe value discipline clarity as the ability to narrow the focus of the business to a particular means of providing value while maintaining broad industry standards in the remaining drivers of worth (1993, p. 84). Thus, it can be interpreted as operating on a boundary of the value triangle is tantamount to clarity of one's value discipline.

Among strategy and marketing scholars, it has long been argued that knowing what customers value and how a firm can build competencies to provide value is a benefit to firms,

¹⁹ The foundation for this chapter has been published in Volume 12, Issue 3 of the International Food and Agribusiness Management Review and was a Best Paper finalist at the 2009 IAMA Annual Forum and World Symposium.

and may ultimately be a source of competitive advantage. However, upon examination of the literature, no study has been conducted to test the market orientation-clarity link put forth by Narver, Slater, and Tietje (1998). To test this relationship, a new scale was needed to measure value discipline clarity. Using a sample of Illinois beef producers, a novel value discipline scale was developed and tested based on several factors, including product quality, relationship building, pricing and production. These factors were chosen as they are major components of a customer's value proposition.

The livestock industry was chosen as a setting to test these relationships as there is growing evidence, anecdotally at least, that all three value disciplines are articulated by U.S. cattlemen. Agricultural industries have typically been viewed as commodity markets characterized by homogeneous products and firms. However, growth in production and marketing alliances may signal a shift away from the commodity marketplace to a segmented industry with heterogeneous products and firms. For instance, several production alliances have been formed as a means for like-minded producers to offer products with different combinations of attributes which provide value for heterogeneous consumers.

In an ever-changing marketplace, it is important that firms understand how they provide value to downstream partners as well as the ultimate consumer. A market orientation may enable firms to discover opportunities to create and provide value, independent of their chosen value discipline. Narver, Slater, and Tietje (1998) argued that a market orientation was, at its core, a business culture which leads to continuous value creation for the customer. In the search for opportunities to create value, it is extremely important to understand how the product in question fits into the buyer's value chain and what attributes of the product the purchaser actually values (Anderson, Narus and van Rossum, 2006). One outcome of a market orientation is the firm's ability to express "clarity on their value discipline and its value proposition" (Narver, Slater and Tietje, 1998, p. 243). This clarity of value discipline enables the firm to more accurately determine the specific attributes which are most important to consumers, and avoids the pitfall of trying to become all things to all customers. Failure to be clear on the one's value discipline results in what Porter (1985) describes as becoming 'stuck in the middle'. The objective of this paper is to test if market oriented firms are more focused on the means of providing value to their customers.

Beef producers have historically focused on increasing production efficiency as they often have little control over prices received. The growth of production and marketing alliances, along with direct marketing via farmer's markets points to a shift away from a strict operational excellence (OE) value discipline to one with an increasing focus on customer intimacy (CI). Producers operating within the CI area of the value triangle focus on discovering unmet customer needs through a close relationship built through repeated transactions. This relationship could provide market oriented producers with a valuable source of information. This information could be leveraged to allow producers to quickly discover and meet the specific requirements of consumers, while earning premium prices for doing so. A product leadership (PL) value discipline is shown through the fast adoption of technologies used in the development of new and innovative production strategies and information processing.

Given the consequences (on a firm level) of the assertion by Narver, Slater, and Tietje (1998), it is puzzling that no empirical work has been conducted to determine if there indeed is a relationship between a market orientation and value discipline clarity. This is important as the firm's location on the value triangle has serious long-term implications concerning the ability of the firm to defend their strategy choice. Therefore, the goal of this research article is to develop and test a scale to measure value discipline clarity and to determine the factors which influence clarity of value discipline.

6.2 THEORETICAL FOUNDATIONS

Treacy and Wiersema (1993) developed three different value disciplines that firms can apply based on how their customer base's specific value proposition for the product in question. This development is grounded in Porter's (1985) work on competitive advantage where firm strategies are grouped into two generic categories (low-cost and differentiation) in conjunction with two types of market focus (broad and narrow). Porter (1985) submits that value creation must first begin with an assessment of how the product fits into the buyer's value-chain. Depending on several factors, buyers may prefer a product with standardized attributes at a lower cost or a product with augmented attributes which demand a premium price. Superior value is created when the difference between perceived value and the cost of acquisition is greater than alternative products.

Treacy and Wiersema (1997, pg xiii) point out that the choice of value discipline “...defines what a company does and therefore what it is.” Specifically, the three value disciplines developed by Treacy and Wiersema (1993, 1997) are *Operational Excellence*, *Product Leadership*, and *Customer Intimacy*. Firms operating with an operational excellence value discipline strive to be the low-cost (acquisition and ownership) provider of a standardized product in the market. Commodity producers, having little control over prices received would likely be pursuing this value discipline whether they are aware of it or not. Firms who have neither the capabilities nor the desire to compete on a cost basis can otherwise compete based on innovative products, as in a product leadership value discipline, or through exemplary customer service and tailored production as seen in the customer intimacy value discipline.

What is value discipline clarity and why is it important? Clarity is the singular focus on a specific discipline the firm uses to provide value to the customer. Treacy and Wiersema (1993) as well as Porter (1985) point to the benefits to focusing on one source of value provision for the customer while maintaining industry standards in the remaining components. With a clear focus on how the firm is going to provide value, the firm can begin to build the resources and competencies needed to meet this objective. Firms who do not have a clear focus on their source of value risk becoming not market oriented, but rather, reactionary to changes in the market (Day, 1999). Firms compelled by the market operate within all areas of the value triangle, striving to meet each and every need of the customer, while not fully understanding what is ultimately driving consumer needs. These reactionary firms are therefore not able to develop and strengthen core capabilities and consequently their disjointed efforts dilute the company’s offering. Amassing the core competencies needed to meet the standards of each customer through a singular product is either impossible or prohibitively expensive. Thus, Treacy and Wiersema suggest, firms should choose one value discipline and build core competencies around achieving that goal, and go on to develop four ‘Rules of Competition’ (1997, Ch 2).

Rule 1: Provide the best offering in the marketplace by excelling in a specific dimension of value.

Rule 2: Maintain threshold standards in other dimensions of value.

Rule 3: Dominate your market by improving value year after year.

Rule 4: Build a well-tuned operating model dedicated to delivering unmatched value.

In order to continuously provide value, the firm must be aware of the buyer’s value chain and how the product in question actually provides value to the customer. A market orientation

has been defined as both a corporate culture stressing the continuous creation of customer value (Narver, Slater, and Tietje, 1998) as well as managerial actions manifested in the search for market information, the spread of this information throughout the firm, and the managerial response to the market information (Kohli and Jaworski, 1990). Upon examination, it appears that managerial actions are consequences of a market orientation culture present within the firm. Firms with a culture that stresses consistent creation of superior value for the customer (through differentiated products, efficient production, or other means), will actively seek out information as to how to best meet the needs of the market.

Similar to the managerial actions developed by Kohli and Jaworski (1990), Narver and Slater (1990) measured market orientation as three equally important behavioral components, namely a customer orientation, a competitor orientation, and inter-functional coordination. Firms utilize a customer orientation to determine what products or attributes are valued by the customer they hope to serve. What follows is a competitor orientation where the firm analyzes whether these desired attributes are being adequately met by competitors, and if market characteristics and the current capabilities of the firm allow for competition within this specific market. Inter-functional coordination refers to the transfer of market knowledge between managerial groups within the firm. The interaction of these three behavioral components is integral to the strategy development of the firm (Homburg, Krohmer, and Workman, Jr., 2004).

Through their customer focus, market oriented firms are able to determine which products and services are currently valued by the market, and potentially the latent needs underlying these values. A market orientation, however, is more than simply being customer-led (Slater and Narver, 1998). A market oriented firm is also acutely aware of their competitors offering. This knowledge aids the market oriented firm in determining: 1) their ability to compete directly for these customers based on current competencies in providing the valued product or service, and 2) their ability to withstand the anticipated response from rivals. Internalizing this valuable information leads highly market oriented firms to a clear understanding of how they can provide value for customers in a potentially less competitive market.

It is for these reasons that a market orientation has been found to have significant performance implications across a variety of industries and cultures (Deshpande, Farley and Webster, 1993; Narver and Slater, 1990; Pelham, 1997). By offering products which meet

unique needs of customers, firms have been able to see increased returns as well as increased new product success. While Pelham (1997) questioned the performance implications of a market orientation in commodity industries, Narver and Slater (1990) found a U-shaped relationship between market orientation and performance. That is, firms with extremely low and extremely high levels of market orientation outperformed business units with a moderate level of market orientation. While this dichotomous relationship may provide short-term performance benefits to firms with depressed and elevated levels of market orientation, the benefits to highly market oriented firms may be more sustainable. This is due to the fact that highly market oriented firms are not focusing solely on the product, but rather the needs of the consumers demanding the product (Day, 1999). Furthermore, highly market oriented firms may be able to map the value disciplines of rivals to determine opportunities for discontinuous leaps in the customer's value proposition, thereby transforming themselves from a firm who is driven by the market to one that is driving the market (Jaworski, Kohli, and Sahay, 2000; Kumar, Scheer, and Kotler, 2000; Tuominen, Rajala, and Moller, 2004).

6.3 THE DEVELOPMENT OF A VALID MEASURE OF VALUE DISCIPLINE

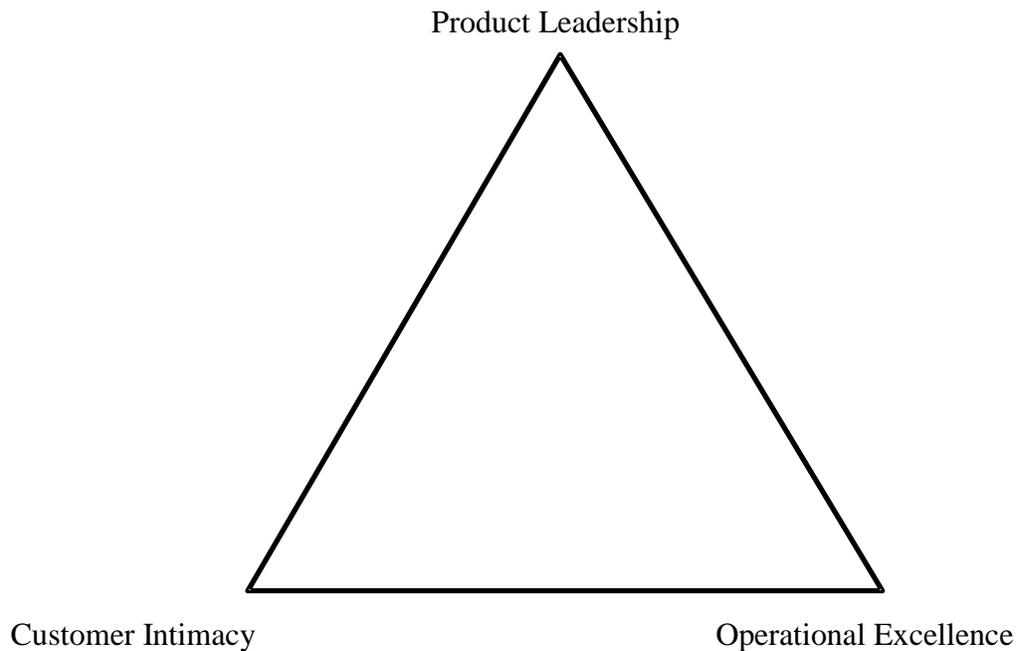
Each value discipline is hypothesized as a one-dimensional construct measuring the means in which a product's value proposition fits with the buyer's value chain. Four components of the value proposition were used, including pricing, product quality, production practices, as well as relationship building within the channel. Short phrases were drafted to correspond to the various value disciplines within each component of the value proposition, resulting in a multi-item scale. Specifically, each statement was framed in such a way as to remove any ambiguities about which value discipline it was referring to, stopping short of identifying the value discipline by name (See Appendix A). Producers were asked to assign a total of 100 points among the three statements depending on which statement fit their operation best.

A one-dimensional construct for each value discipline is necessary as the goal is to measure clarity on the chosen value discipline. As suggested by Porter (1985), firms who focus on a generic strategy (*i.e.* low-cost or differentiation) do not get 'stuck in the middle' and are able to clearly define how they provide superior value for customers. Similarly, Treacy and Wiersema (1993), point to the need for firms to focus on a singular value discipline around which their product offering is built while simultaneously maintaining industry standards in the

remaining disciplines. Therefore, it is hypothesized that clarity on a specific value discipline is analogous to proximity to the border within the value triangle. Within the firm, however, the choice of value discipline can differ across product lines or regions. As firms employ various strategies for long-term profit, the individual value disciplines *Operational Excellence*, *Customer Intimacy*, and *Product Leadership* are presented as an equilateral value triangle (Figure 6.1).

In order to adequately measure the choice and clarity of value disciplines, a population of firms was needed consisting of firms operating within all value disciplines. As evident by the growing number of production and marketing alliances, there seems to be a migration from operational excellence to other value disciplines. At the firm level, direct marketers appear to operate using a customer intimacy value discipline, as they repeatedly interact with a select group of customers and may be able to tailor production to meet their specific needs. This can also be seen at the aggregate level as some alliances strive to market their products with in-store promotions using actual producers (i.e. Country Natural Beef) or providing producer profiles on alliance websites (i.e. Laura's Lean Beef). Other alliances may operate within a product leadership segment as they continually search for new products to market containing various attributes ranging from grass-fed to natural, to sustainable. Even with the increasing segmentation of the beef market, there are still a considerable amount of producers who operate anonymously through the commodity market and an operational excellence value discipline.

Figure 6.1. The value triangle



6.3.1 Construct reliability and consistency

Internal consistency for the new scale was tested using a split-sample method as suggested by Churchill (1979). Reliability analysis was conducted on the first sample and was repeated on the second sample. Following initial purification of the scales, construct validity was tested on the full sample. The scale reliability and item-to-total correlations are displayed in Table 6.1. The items measuring production practices did not have item-to-total correlations exceeding the threshold recommended by Streiner and Norman (1995) and were removed from the scales. From the remaining items, coefficient alphas for each value discipline exceed 0.60, the threshold suggested by Nunnally (1978) for exploratory research.

Table 6.1. Value discipline reliability analysis

Item	Sample 1 N = 195		Sample 2 N = 148	Combined Sample N = 343	
	Cronbach Alpha	Item-to-Total Correlation	Cronbach Alpha	Cronbach Alpha	Item-to-Total Correlation
Customer Intimacy	0.729		0.794	0.761	
We are able to set or negotiate above market prices due to our close relationships		0.498			0.558
We try to develop individual business relationships		0.599			0.657
Through our close relationships with customers, we adopt practices to ensure our product meets customer specs		0.563			0.572
Product Leadership	0.573		0.650	0.604	
We are continuously developing new technology that provides us a price advantage		0.276			0.313
We are recognized as a leader in innovation of new beef production technologies and are able to establish product differentiation		0.422			0.474
Innovative technologies allow for the screening and selection of animals through the production process to ensure quality		0.451			0.472
Operational Excellence	0.792		0.822	0.805	
We are unable to influence prices we receive so we rely on increasing efficiency		0.525			0.576
We are generally unaware of exactly who our customers are and do not establish relationships with them		0.718			0.738
We only invest in minimum process control systems		0.677			0.656

6.4 HYPOTHESIZED DRIVERS OF VALUE DISCIPLINE CLARITY

A market orientation, culturally-based within all players in the firm and focused on the search for customer value, could lead the firm to a specific means of providing value to the market. A customer orientation will generate market intelligence relating to buyers and how they view the value proposition of the product in question. Based on this knowledge, firms can begin to improve the level of value the product provides. A competitor orientation focuses the intelligence gathering and dissemination on the value proposition being provided by rival firms, and whether the firm should choose to compete directly with a similar product offering based on market conditions, core competencies, and other factors. As firms become more market oriented, or as the culture of market orientation becomes more ingrained in the day-to-day

activities of the firm, we would expect increased clarity on how the product offering provides value to the customer. As such, the following hypotheses are presented:

H1a: An increase in the market orientation of the firm leads to an increase in value discipline clarity.

H1b: Highly market oriented firms express greater clarity on their value discipline.

Innovation can be seen through a variety of prisms. It is often thought that innovative firms continuously develop new products and services, and this is one method to create superior value for the customer. Combined with a market orientation, firms can utilize innovation to create products and services that are currently not being offered by rival firms (Han, Kim, and Srivastava, 1998). Conversely, Nelson and Winter (1982) characterize innovations simply as a change in routines. Within this characterization, any number of innovations can be used to create value for buyers. Increased communication between segments in the beef industry, an issue that has been singled out as in need of addressing in the 2005 National Beef Quality Audit (NCBA, 2005), could lead to increased value for downstream partners if the communication leads to superior value relative to the traditional, anonymous transactions between segments. Outside of an OE value discipline, a move to direct marketing could also be seen as an innovation as there was a shift from arms length transactions to one based more on relationship development between the parties of the transaction. Therefore, the following hypothesis is presented:

H2: An increase in firm innovativeness will lead to an increase in value discipline clarity.

Entrepreneurial firms have long been in search of opportunities to create value where others see none. To create profit opportunities, entrepreneurial firms recombine resources to capture unrealized value. Alvarez and Businetz in describing entrepreneurship within the framework of the resource based view indicate that "...entrepreneurship is about cognition, discovery, pursuing market opportunities, and coordinating knowledge that lead to heterogeneous outputs" (2001, pg 757). This definition is strikingly similar to the behavioral definition of market orientation developed by Jaworski and Kohli (1993) who state that a market

orientation is comprised of intelligence generation, intelligence dissemination, and the firm's response to the market intelligence.

Entrepreneurship research within agriculture has focused on the ability for agropreneurs to recognize profit opportunities. Ross and Westgren (2006) were able to find positive and statistically significant returns to entrepreneurs in the pork industry. These profits were based on the firm's ability to recombine resources in such a manner to create a product which was valued by the market. Firms that are able to determine where opportunities for value creation lie will be able to focus their attention on the means for providing continuous value for the market in the future. As such, the following is hypothesized:

H3: An increase in entrepreneurship will lead to an increase in value discipline clarity.

Slater and Narver (1995) argued that the firm's ability to learn faster than their competition may be their only source of competitive advantage. This claim may be especially applicable in agriculture where innovations put into operation by producers are either easily imitated or substituted, thus eliminating the ability to extract rents from their implementation. Learning has also been found to be an antecedent to the development of a market orientation (Day, 1994). A firm culture which values learning and questions the status quo of the firm will be one that continually searches for the creation of superior value. This culture is likely to be related to the level of education the manager has attained. The search for superior value and the firm's commitment to learning lead to the following hypotheses:

H4a: An increase in the learning orientation of the firm will lead to an increase in value discipline clarity.

H4b: An increase in the education level of manager will lead to an increase in value discipline clarity.

Traditionally, agricultural firms focused on increasing production efficiency as a means to increase profits. As producers of standardized products, they perceive the only way to improve profits and increase buyer value is to produce the undifferentiated product at the lowest possible cost. This strategy is a natural fit for an OE value discipline. Furthermore, these producers can increase perceived value by augmenting the standardized product to decrease the

cost of ownership for downstream channel partners. Within the beef industry, preconditioning cattle for the feedlot is one method cattlemen can use to increase downstream buyer value while still operating within an operational excellence value discipline. However, opportunities to capture economic rents are dependent on the speed of imitation by rivals. If the pricing mechanism shifts from price premiums for the provision of the attribute to a price discount for non-provision, then value will again be measured solely on acquisition costs. Hence, it is hypothesized:

H5: An increase in the cost focus of the firm will lead to an increase in value discipline clarity.

Along with behavioral and cultural components, the length of time a firm has been present in the market may also contribute to value discipline clarity. As firms grow and mature, it may become clearer to them how their product offering fits into the buyer's value chain. Early in the firm's life cycle, firms may chase the latest trends in the hopes of earning premium prices without fully understanding the underlying determinants of the price premiums. Increased clarity can be useful in the development of new products or services which can continue to provide superior value for consumers. However, experience could also be a hindrance if it leads to a single-minded focus on the current needs of the market as opposed to identifying latent needs and future demands. A tunnel vision approach to current customers may provide short-term benefits, while hamstringing the firm's future opportunities as limited attention has been paid to develop the capabilities needed to meet future needs of the market (Hamel and Prahalad, 1991; Leonard-Barton, 1992). These shortcomings, while severe, may not necessarily cause the firm to be unclear on how its current product provides value for the customer. What this embeddedness may cause, however, is the potential of a product in the future to no longer meet the threshold standards of the market. Therefore, the following hypothesis is presented:

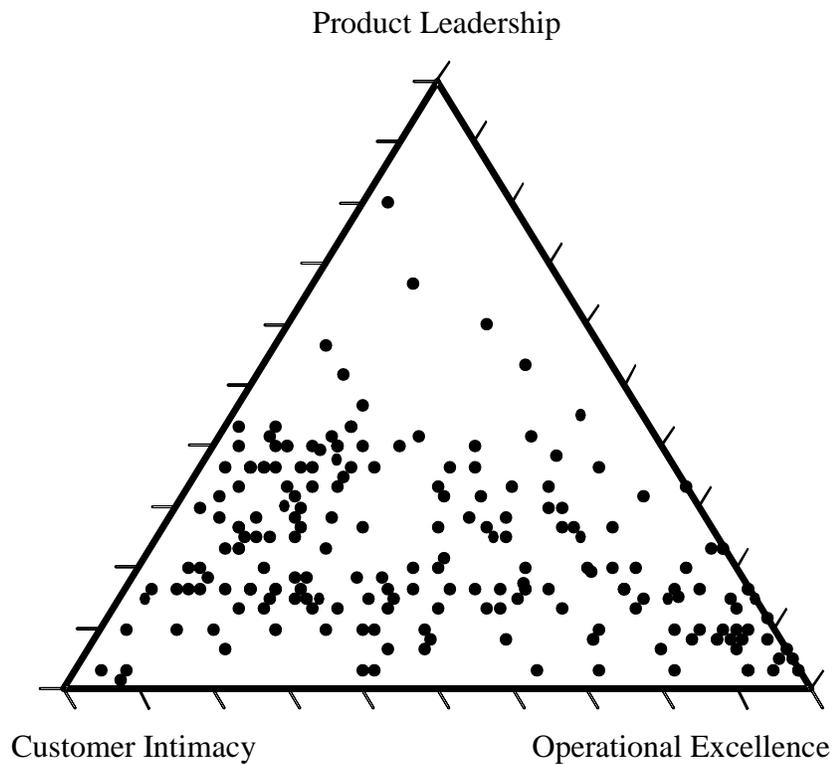
H6: An increase in managerial experience will lead to an increase in value discipline clarity.

6.5 RESULTS

After testing for validity, a ternary plot displaying the value disciplines of Illinois beef producers was created using an Excel program (Graham and Midgley, 2000). Ternary plots are commonly

used to decompose the singular factors of a 3-item mixture where the sum of the components must equal 1. To obtain the coordinates for the ternary plot, the averages across value disciplines were used (i.e., the average customer intimacy score for quality, pricing, and relationship building was used to obtain the customer intimacy coordinate). To measure the firm's clarity on their chosen value discipline, we employ a half-taxi metric (Miller, 2002) and measure the distance from the point to a boundary of the value triangle. This distance is simply the minimum of the three coordinates which is used to place the producers on the value triangle (Figure 6.2).

Figure 6.2. The value disciplines of Illinois beef producers



Independent variables were created using the sum of the retained items for each measurement scale.²⁰ Scales were centered by subtracting the mean from each item. This was done to ensure the individual scale was not highly correlated with the square of the scale in question. We hypothesize that the firm's clarity on their chosen value discipline would be a function of their market orientation (MKTOR), the square of their level of market orientation

²⁰ Variables were also created using factor scores within SPSS 16.0. These scores were created using principal components analysis, promax rotation and the Anderson-Rubin method for saving factor scores.

(SQRMKTOR), their innovativeness (INNOV), their focus on learning (LEARN), their level of entrepreneurship (ENTRE), as well as their cost focus (COST). Experience as measured by years involved in producing beef and a dummy variable where 0 = no college degree and 1 = college degree were also included as control variables.

6.5.1 Empirical results

An ordinary least squares (OLS) regression analysis was applied to test the hypotheses outlined earlier. The OLS regression utilized a sample of 344 Illinois beef producers. As a robustness check, OLS regressions using factor scores as variables was also conducted. A further robustness check using a step-wise regression was also conducted. While the sample includes producers from both the cow-calf and feedlot segments, as well as producers participating in an alliance and independent operators, a combined sample was initially tested. The results are presented in Table 6.2. In the model using summated scales, six of the eight independent variables have significant coefficients, with four of the six significant at the 0.05 level. Neither education (H4b) nor the level of entrepreneurship (H3) had any discernable effect on value discipline clarity, or lack thereof, as shown by the insignificance of the coefficient. The insignificance of these variables could be caused by many factors. As this sample covers only one year, firms could be in various stages of an entrepreneurial shift in value discipline, clouding the ability to ascertain the effect of entrepreneurship on clarity.

Table 6.2. Drivers of value discipline clarity

	OLS -Summed Scales			OLS-Factor Scores			Step-wise Regression		
	Estimate	Standard Error	t-statistic	Estimate	Standard Error	t-statistic	Estimate	Standard Error	t-statistic
MKTOR	0.190***	.044	4.305	0.715***	.216	3.316	0.967***	.187	5.184
SQRMKTOR	-0.006 **	.002	-2.704	-.054	.040	-1.341			
LEARN	-0.378*	.201	-1.882	-1.237*	.645	-1.919	-1.495**	.558	-2.681
ENTRE	0.219	.020	1.111	.502	.570	.880			
INNOV	-0.363**	.173	-2.102	-.654	.401	-1.632			
COST	0.361**	.172	2.098	1.105*	.647	1.708			
Experience	0.055*	.030	1.851	.053	.033	1.630			
College	-1.007	1.036	-.972	-.982	1.094	-.897			
Constant	15.05***	1.661	9.060	13.095***	1.416	9.249	13.731***	.523	26.280
R-squared	0.129			.114			0.083		
Adj R-squared	0.108			.091			0.077		

Interestingly, in all models tested, the effect of a market orientation on value discipline clarity is opposite of the proposed hypothesis (H1a). The positive sign indicates that value discipline clarity is reduced as market orientation is increased. One possible explanation for this may be the lack of a longitudinal study. As this model is examined with only one year of data, the positive sign may be attributed to firms who have just begun to develop their market orientation and have begun to shift their focus, possibly to an entirely different value discipline. The square of market orientation, however, has a negative coefficient, as hypothesized (H1b) when modeled using summated scales, but a statistically insignificant negative coefficient when using factor scores. Here, highly market oriented firms are shown to be able to increase their focus on a specific value discipline.

Firms with a learning orientation were also shown to express clarity on their value discipline as shown by the negative coefficient (H4a) in all models tested. This empirical finding fits with the statement by Slater and Narver (1995) who challenged that a firm's only true source of competitive advantage is their ability to learn faster than their competitors. Conversely, experience seemed to make unclear the specific value discipline of the firm (H6). This finding is contrary to our stated hypothesis but may provide preliminary evidence to demonstrate the adverse effects of embeddedness within changing markets.

The negative coefficient on firm innovation corroborates our hypothesis (H2). The results indicate innovative firms are able to modify routines and practices in order provide products which more closely fit into the buyer's value chain. Innovation does not have to be technological, however, as can be seen through the positive coefficient on the cost focus variable (H5). Similar to the experience results, a cost focus has long been the dominant strategy in agriculture. Firms who are focused solely on cost efficiency may, as Day (1999) argues become oblivious to the market and lose sight of their product's ability to maintain industry standards, thereby decreasing the value the buyer places on this product.

6.6 DISCUSSION

One of the objectives of this dissertation was to determine whether market oriented firms are more explicit in the methods used to provide value to customers. Results were mixed, leading to a need for careful discussion as to the importance of a market orientation in determining value discipline clarity. Results indicate that moderately market oriented firms are not explicit in their self assessment of how they provided value to downstream partners or customers. In fact, value discipline clarity decreased as market orientation increased. This result contradicts the suggestion of Narver, Slater, and Tietje (1998) as well as the stated hypothesis. An important consideration is that the market orientation scale measures only the quantity, *not the quality*, of the market oriented behaviors of the firm (Day 1994b). As this is the first attempt to measure the market orientation-value discipline relationship, further research is warranted.

The square of market orientation, conversely, was found to contribute towards value discipline clarity. However, careful interpretation is needed as this was measured using a centered market orientation scale. High squared market orientation values are associated with firms with extreme levels of market orientation (both high and low). Essentially, the data show Illinois beef producers with extremely high and extremely low levels of market orientation express clarity on their value discipline. Firms with extremely low levels of market orientation may operate within the operational excellence value discipline, and through embeddedness, focus solely on producing a low-cost product. Almost by default, they express clarity on their value discipline as they feel controlling costs is their only means of increasing performance. These results are somewhat similar to the market orientation and profitability results found by

Narver and Slater (1990), which found that firms with both high and low levels of market orientation out-performed those firms with median levels of market orientation.

Narver and Slater (1990) maintain that highly market oriented firms focus on determining customer needs, and the most efficient method to meet these needs. Beef producers with extremely high levels of market orientation may be displaying the characteristics presented by Narver, Slater, and Tietje (1998), such as value discipline clarity, market leading as opposed to following, and seeing themselves as service providers. By focusing on current customer needs and where they are heading, highly market oriented firms may be able to effectively remove themselves from the 'commodity' market even while participating in it. Through a market orientation, firms may be able to alter their production to provide downstream partners, as well as final customers, products containing valuable attributes.

6.7 CONCLUSIONS

One of the objectives of this dissertation were to 1) develop a measure to quantify clarity on the firm's choice of value discipline and 2) to determine if a market orientation increased value discipline clarity. A scale was developed and tested which measured a firm's choice of value discipline. Using a sample of 343 Illinois beef producers, it was shown that highly market oriented firms are able to clearly define how they provide value to their customers. Firms who are able to elucidate how they provide value may be more aggressive in the pursuit and development of the specific capabilities which are needed to provide continuous superior value for customers.

This model was able to show that highly market oriented beef producers express clarity on their value discipline, partially confirming the hypothesis by Narver, Slater, and Tietje (1998). To do so, a scale was developed and tested which measured the firm's choice of value discipline, in a similar manner to the Miles and Snow (1978) strategy typologies. Following the development of their scale, much research was done on the differences between *analyzers*, *prospectors*, *reactors*, and *defenders*. Similar work could be done on the performance outcomes and cultural differences between firms within the different value disciplines.

As more firms eschew the commodity market in favor of a more differentiated approach, it will become increasingly important to recognize exactly how one provides the most value relative to the competition. The search for value within these highly competitive markets will

shift dramatically depending on the chosen value discipline of the firm. As channels of communication evolve within once adversarial value-chains, market oriented firms will be better positioned to create a differentiated product based on specific relationships, product innovations, or low acquisition and ownership costs. The development of the specific capabilities will be determined by the choice of value discipline. In the search for continuous value creation, the development of the resources and capabilities needed to cultivate lasting relationships is essential. This enables firms to discover and meet the ever-changing needs of the market, and potentially create sustainable competitive advantage.

CHAPTER 7

ASSESSING PERFORMANCE ACROSS VALUE DISCIPLINES

7.1 INTRODUCTION

Researchers have argued that market oriented firms are able to achieve superior performance relative to their peers (Kohli and Jaworski, 1993; Narver and Slater, 1990). Many explanations for the observed performance differences are given, but all possess a common theme relating to the market oriented firm's ability to provide superior value to consumers. It is theorized that a market orientation, which focuses on intelligence generation and dissemination of market intelligence relating to both customers and competitors, would enable the firm to discover opportunity gaps in the market and provide innovative solutions which provide superior value for consumers (Kohli and Jaworski, 1993). However, superior value can be created in several ways. Generic strategies for creating value revolve around becoming the low-cost producer or becoming a provider of differentiated products (Porter, 1985). Narver, Slater, and Tietje (1998) have suggested market oriented firms are able to clearly define how they provide value to consumers. This, in turn, would allow the firm to efficiently deploy resources to develop only the capabilities needed to succeed. Alternatively, it has been suggested that firms who do not possess this capability become reactive to the market which clouds their ability to clearly define how they provide and as such, they end up becoming 'stuck in the middle' (Porter, 1985).

Opportunities for value creation are best viewed through the customer perspective. Value creation should be thought of as a demand-pull system, not a supply-push system. Therefore, in order to truly provide superior value to downstream channel partners and consumers, the supplying firm must clearly understand the customer's value proposition. Day (1994a) maintains that market oriented firms are able to develop both market sensing and channel bonding capabilities to aid in successful value creation. To be clear, a market orientation only allows firms to see where such valuable opportunities exist. As suggested by Chen (1996), the firm then needs to be motivated to act on the opportunity and also possess the specific capabilities required to be successful. However, a market orientation would be an important resource in determining where investments need to be made internally to develop the required capabilities.

Within the agricultural sector, the raw material which is the first input of the value chain has often been a commodity product, leading many producers to adopt a low-cost strategy as they have little control over prices received. However, an increasing number of producers have attempted to move away from commodity production. An example within the U.S. beef industry would be the move to production alliances. Since the 1990s, the amount of beef produced through production alliances has steadily increased (Lamb and Beshear, 1998; Drovers, 2008). Beef alliances have generally been formed to take advantage of valuable, often proprietary information and to leverage this information to provide a differentiable product to consumers (Schroeder and Kovanda, 2003). As providers of differentiated, and often branded, products alliance producers have benefited from premium prices over and above the commodity price low-cost producers have received. The unanswered question, however, is how does this translate into overall performance? The objective of this research project is to shed some light on the performance differences across value disciplines.

7.2 THEORY

In a strategy sense, the external focus embodied in a market orientation examines customer needs (and competitor actions), while the internal focus examines the firm's ability to adequately provide solutions to meet these needs. By possessing information on customer needs and the opportunities to meet these needs, firms may develop a strategy which allows the firm to succeed in their specific market. White (1986) labeled the external processes the corporate strategy problem (i.e. 'where should we compete?') and the internal processes the business strategy problem (i.e. 'how do we compete?'). The order in which these questions are answered is dependent on whether the firm is choosing a market dependent on its current capabilities or choosing to build capabilities needed to compete in a specific market (Homburg, Krohmer and Workman, Jr., 2004).²¹

Within such competitive landscapes, firms may employ several strategies based on their current capabilities. Porter (1985) describes three generic strategies: cost leadership, differentiation, and focus. Porter also argues a focus strategy can be combined with either cost leadership or differentiation and is used to "narrow the competitive scope within an industry"

²¹ These authors refer to these competing dichotomies as the *strategy formulation perspective* where current capabilities dictate strategy choice and the *strategy implementation perspective* where strategy choice leads to the development of specific capabilities to employ in the chosen strategy.

(1985, p. 15). By focusing on a specific group of consumers, firms may be better able to gather pertinent information and thus create products which are tailored to a specific market. In the language of Day (1994), through a focus strategy the firm may be better positioned to establish channel bonds and customer linkages.

Treacy and Wiersema (1993) first introduced the concept of value disciplines to explain the range of means firms can utilize in the provision of value to consumers. Along with Porter (1985), Treacy and Wiersema (1993) posit that firm performance improves when firms clearly define their strategy and value discipline. Expanding the thoughts of Porter (1985), Treacy and Wiersema submit that “the key to gaining and sustaining value leadership [within a specific value discipline] is focus” (1993, p. 93). That is, in order for firms to sustain success, they have to be able to clearly define *how* they provide value to customers, and how this method of provision is different from competitor offerings. Treacy and Wiersema (1993) describe three such methods to deliver value to the consumer built upon firms’ relative strengths and weaknesses: *Operational Excellence*, *Customer Intimacy*, and *Product Leadership*.²² Narver, Slater, and Tietje (1998) theorize that market oriented firms are more likely to express clarity on their value discipline, that is, they are more likely to operate along the boundary of the value triangle rather than being ‘stuck in the middle’ (Porter, 1985; Treacy and Wiersema, 1993). Strategically, operating along the boundary has several advantages, both offensive and defensive. Firms along the value triangle boundary have closer relationships with customers and are thus better able to gather valuable information which can be used to provide further value. Through this ‘locational advantage’ it may be easier to develop the customer linking capability developed by Day (1994). A second, and possibly more important long-term benefit, is that the boundary is a better strategic location to defend from competition (Figure 1).

Within agricultural value chains, up-stream producers have generally operated under a low-cost, operational excellence value discipline as they are often producers of homogenous products. More recently, entrepreneurial producers have begun to form differentiated value chains via production and marketing alliances. There is a risk that these firms, instead of

²² The operational excellence value discipline is similar to the cost leadership strategy of Porter (1985) and is the dominant strategy in commodity markets such as agriculture. As producers are generally unable to affect the price they receive, increasing efficiency is seen as the only method to earn higher profits in this market. Customer intimacy and product leadership would seem to fall into the differentiation strategy of Porter (1985) with a customer intimacy value discipline focusing on providing the exact product to meet a specific customer’s needs. A product leadership value discipline searches for sources of product innovations and markets them quickly to become the first-mover in the market.

becoming market leaders, are becoming market led and as a result are less specific in their strategy as it relates to how they provide value to down-stream channel participants. In these instances, it may be beneficial for the up-stream producers embody a shared vision of the entire value chain and operate within a customer intimacy or product leadership value discipline.

Recently, Micheels and Gow (2009) found evidence to suggest that highly market oriented and innovative firms are able to clearly define their value discipline. Earlier research by Porter (1985) outlined several cases where the failure of firms was attributed to their loss of focus resulting in the firm becoming 'stuck in the middle.' Firms who are able to clearly define their value discipline should outperform rivals in terms of both effectiveness and efficiency. Customer value, and satisfaction, would theoretically increase when a firm focuses on the specific measures which contribute to the value proposition of consumers. Furthermore, by focusing on developing one specific value discipline, firms would be able to efficiently deploy scarce resources in the development of the capabilities needed for success. Currently, however, the performance differences between various value disciplines have not been examined.

According to Chen (1996), behavioral changes are based on firm levels of awareness and motivation, as well as the capability to implement the behavioral change. Therefore, the location of the firm on the value triangle is based on both the market orientation of the firm (awareness) and the ability of the firm to develop and maintain that position (capability). It is conceivable, therefore, that firms may develop several strategies based on the current capabilities of the firm. As the development of the vital capabilities within each value discipline may occur at varying rates across firms, several strategies may be evident. Firms with a clearly defined value discipline and the time necessary to develop the appropriate capabilities may exhibit a 'pure' value discipline, exemplified by a position on one of the corners of the value triangle. Other firms may see an opportunity to provide value based on a 'hybrid' of two value disciplines, such as low-cost product leadership, or efficient relationship building as seen in some production alliances in the beef industry. A mixed strategy could be the result of the firm moving from one value discipline to another, or it could be a manifestation of the actual strategic choice of the firm. These firms would be located on the value triangle based on the relative importance of their two major value disciplines. Still other firms may lack a clearly defined value discipline and are represented by firms clustered in the middle of the value triangle (Figure 2).

Figure 7.1. Strategic choices within the value triangle

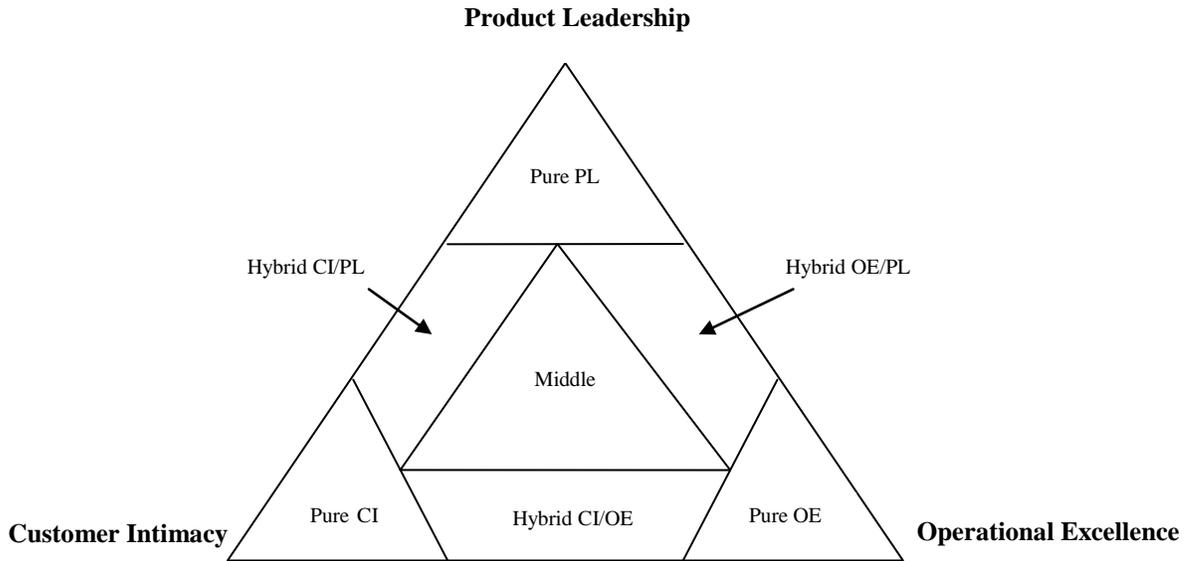


Figure 7.2. The value disciplines of Illinois beef producers



7.3 CLASSIFICATION INTO VALUE DISCIPLINE STRATEGIES

Following the positioning of the firms onto the value triangle, the firms were classified into specific value discipline strategies based on Figure 2. Firms who scored higher than 70 on any value discipline were assigned to the ‘pure’ form of that specific value discipline. Firms with a score of less than or equal to 15 on a singular value discipline, while also having a score less than 70 in the remaining value disciplines, were assigned a ‘hybrid’ value discipline. The remaining firms were categorized as having no clear value discipline. Visual inspection of the classifications was conducted to check for any errors.

One goal of this dissertation was to measure the performance differences among the various choices of pure and hybrid value disciplines. Analysis of variance (ANOVA) methods were used to test for significant differences in market orientation and performance between the different value disciplines. Specifically, the Tukey-Kramer test was employed to examine differences across value disciplines as this test is robust when sample sizes across groups are unequal. Descriptive statistics of the sample can be seen in Table 7.1.

Table 7.1. Descriptive statistics

<i>Variable</i>	Mean	Std Dev	Range	
			<i>Min</i>	<i>Max</i>
Market Orientation	-0.067	2.99	-10.62	7.51
Performance	0.091	1.67	-6.10	4.48
Size (Fed cattle)	184.360	832.94	0	10000
Size (Cow/Calf)	61.040	71.77	0	540
N	309			

7.4 RESULTS

Previous empirical studies have found that market oriented firms have superior performance relative to non market oriented firms (Narver and Slater, 1990; Pelham, 1997). Further, it has been argued that along with performance benefits, market oriented firms are able to clearly define how they provide value to their customers. This has been argued theoretically (Narver, Slater and Tietje, 1998) and shown empirically (Micheels and Gow, 2009). However, no study to date has attempted to examine the performance of firms *across* value discipline strategies. This dissertation attempts to fill this gap in the literature by examining firm performance in the

Illinois beef industry. The results of this dissertation indicate that market oriented firms are not only represented by pure and hybrid forms of the value disciplines elucidated by Treacy and Wiersema (1993). If the theory of Narver, Slater, and Tietje (1998) was correct, we would expect the level of market orientation (MO) to follow a relationship where:

$$MO(\text{pure}) > MO(\text{hybrid}) > MO(\text{Middle})$$

The results presented in Table 7.2 do not follow this expected pattern. The pattern that emerges indicates that market orientated firms do not see themselves as operating within a pure operational excellence value discipline (or that operationally excellent firms are not market oriented). Firms operating with a hybrid value discipline which does not include a significant portion of operational excellence characteristics have higher levels of market orientation than those firms with an operational excellence background. While it may have been expected given the results of previous research, the value discipline with the lowest performance corresponded with the value discipline with the lowest level of market orientation. Firms with a customer intimacy/product leadership value discipline have a significantly higher market orientation than firms utilizing an operational excellence value discipline.

Table 7.2. Market orientation and subjective performance across value discipline strategies

<i>Strategy</i>	Market Orientation	Performance	N
Pure CI	0.658 (2.60) _a	0.507 (1.46)	25
Pure OE	-2.528 (3.22) _{abcd}	-0.574 (1.81) _{ab}	64
OE/CI	-0.147 (2.25) _{de}	-0.183 (1.67)	37
OE/PL	-0.548 (2.54)	1.52 (1.89) _b	6
CI/PL	1.767 (2.18) _{ce}	0.431 (1.55) _a	35
MIDDLE	0.650 (2.60) _b	0.040 (1.59)	145

Note: Table displays scale mean (standard deviation in parentheses). No Pure PL strategy is analyzed as there was only one firm employing this strategy. Standard deviations are in parentheses. Subscripts a,b,c,d,e denote a significant difference between strategies sharing that label ($p = .05$). Performance between Pure CI and Pure OE is significantly different at the $p = 0.10$ level.

The results further indicate that performance for firms within the operational excellence value discipline is significantly lower than that of firms operating under a product leadership hybrid discipline. Few other differences in subjective performance are observed. This is a

surprising result given the theoretical arguments brought forward by Porter (1985) and Treacy and Wiersema (1993). These results do not provide evidence to suggest that market orientation leads to value discipline clarity which, in turn, enables firms to achieve superior performance as they are more aware of customer needs.

Taken together, these results do not suggest a market orientation-clarity-performance link, the choice of value discipline strategy and the performance implications thereof could vary across alliance participation and firm size, in a manner similar to what was observed in previous chapters. Therefore, market orientation and firm performance was analyzed across value discipline strategies for alliance and independent producers as well as large and small cow-calf producers. Results are presented in tables 7.3 and 7.4, respectively.

Table 7.3. Mean levels of market orientation and subjective performance across value discipline strategies and alliance participation

<i>Strategy</i>	Alliance Producers		
	Market Orientation	Performance	N
Pure CI	1.016 (1.90)	0.489 (1.08)	5
Pure OE	-0.743 (3.08) _a	-0.399 (1.24)	8
OE/CI	-1.338 (2.29) _b	-0.465 (1.45)	7
OE/PL	-0.152 (3.65)	0.917 (2.74)	3
CI/PL	3.203 (1.94) _{ab}	0.957(1.92)	9
MIDDLE	0.603 (2.69)	-0.423 (1.51)	31
<i>Strategy</i>	Non-Alliance Producers		
	Market Orientation	Performance	N
Pure CI	0.442 (2.79) _b	0.419 (1.61)	19
Pure OE	-2.795 (3.28) _{abcd}	-0.422 (1.85) ₁	52
OE/CI	0.267 (2.08) _c	0.080 (1.35)	30
OE/PL	-0.943 (1.51)	2.123 (0.57) ₁	3
CI/PL	1.223 (2.14) _a	0.208 (1.45)	24
MIDDLE	0.665 (2.58) _d	-0.422 (1.85)	100

Note: Table displays scale mean (standard deviation in parentheses). No Pure PL strategy is analyzed as there was only one firm employing this strategy. Standard deviations are in parentheses. Subscripts a,b,c,d,e denote a significant difference between strategies sharing that label ($p = .05$) within each specific segment. Subscripts 1,2,3,4,5 denote a significant difference between strategies sharing that label ($p = .10$) within each specific segment.

Figure 7.3. Value disciplines of alliance producers

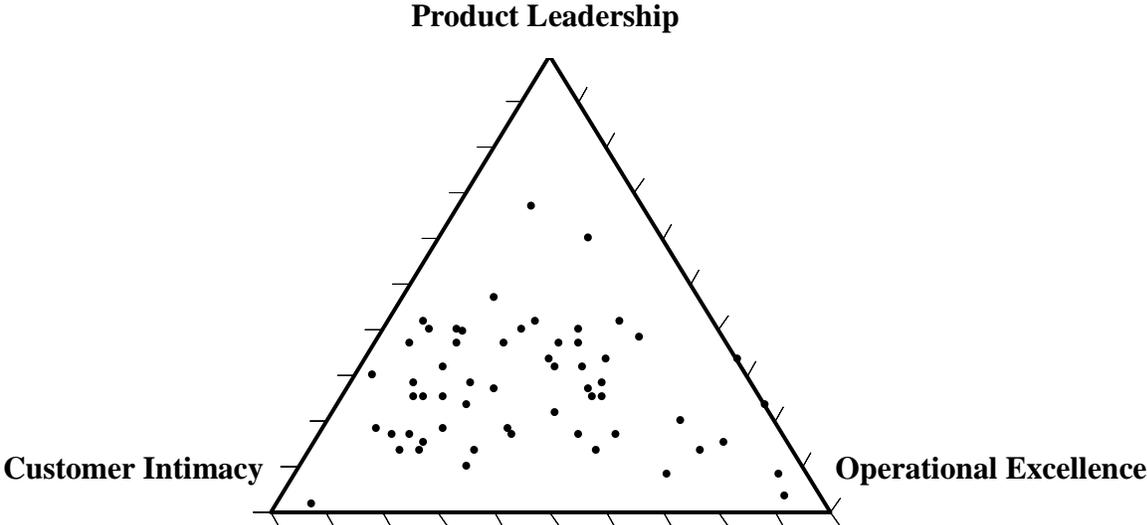


Figure 7.4. Value disciplines of independent (non-alliance) producers.



Results from Table 7.3 indicate that producers within a production alliance have fairly similar levels of market orientation and firm performance across value discipline strategies. However, the differences in market orientation and choice of value discipline have no discernable impact on firm performance, as indicated by the lack of statistically significant differences in firm performance. This result may be influenced by several factors. One factor may be an individual market orientation within a production alliance may not influence firm performance to the same degree that it would outside of alliance participation. Secondly, alliance producers may have improved firm performance simply by joining an alliance and the subjective improvement is similar across participants. The findings for independent producers are similar to the sample as a whole. While differences in market orientation were observed, firm performance was shown to be not statistically significantly different to a large extent.

Table 7.4. Mean levels of market orientation and subjective performance across value discipline strategies and herd size

<i>Strategy</i>	Small (Less than or equal to 100 head of brood cows)		
	Market Orientation	Performance	N
Pure CI	0.639 (2.71) _b	0.663 (1.54) ₁	19
Pure OE	-2.751 (3.37) _{abcd}	-0.574 (1.79) _{a,1}	44
OE/CI	-0.523 (2.39) _c	-0.237 (1.67) ₂	29
OE/PL	0.192 (2.84)	2.085 (1.18) _{a,2}	4
CI/PL	1.048 (1.96) _a	0.225 (1.38)	18
MIDDLE	0.641 (2.72) _d	0.023 (1.59)	107
<i>Strategy</i>	Large (Greater than 100 brood cows)		
	Market Orientation	Performance	N
Pure OE	-2.044 (2.87) _{ab}	-0.699 (1.93)	10
CI/PL	2.441 (2.33) _{a,1}	0.459 (1.70)	15
MIDDLE	0.564 (2.39) _{b,1}	-0.197 (1.50)	19

Note: Table displays scale mean (standard deviation in parentheses). No Pure PL strategy is analyzed as there was only one firm employing this strategy. Standard deviations are in parentheses. Within the Large subsample, No OE/CI, OE/PL, or Pure CI strategies were analyzed as fewer than 2 firms were operating within these subgroups. Subscripts a,b,c,d,e denote a significant difference between strategies sharing that label ($p = .05$) within that specific subsample. Subscripts 1,2,3,4,5 denote a significant difference between strategies sharing that label ($p = .10$) within that specific subsample.

Figure 7.5. Value disciplines of small herd firms

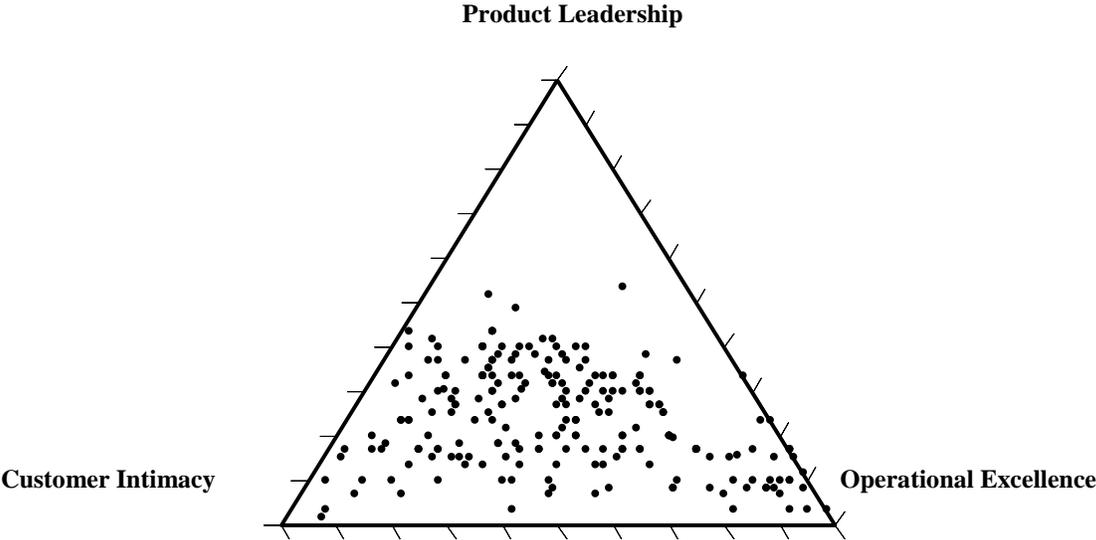
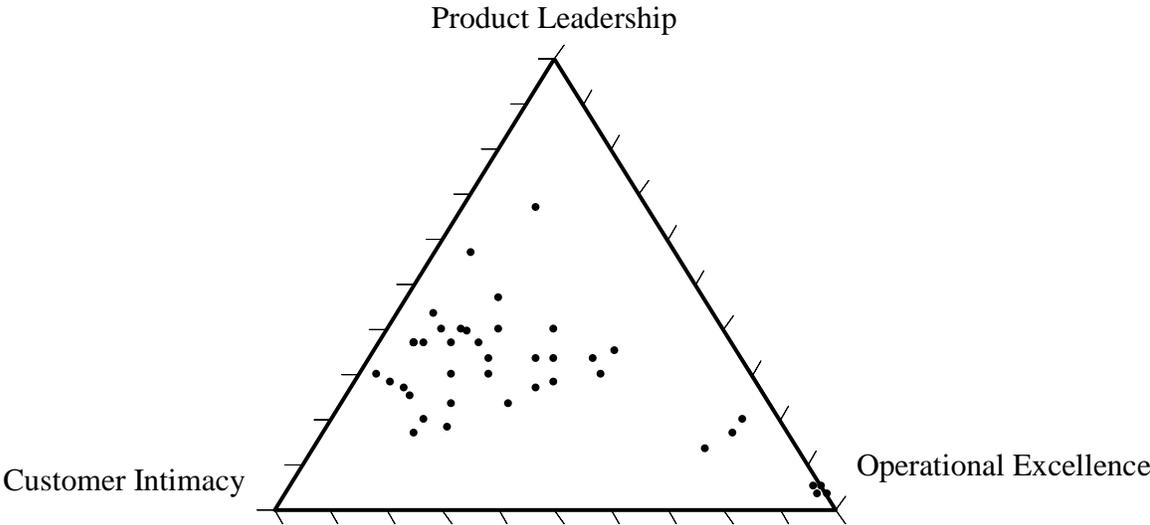


Figure 7.6. Value disciplines of large herd firms



When splitting the sample by firm size²³ some interesting results are observed. Within small firms, a wide range of value discipline strategies are employed, which is not the case for their larger counterparts. When examining firms with small herd sizes the pattern of differences in market orientation across value discipline strategies is similar to that found for the entire sample. Interestingly, the level of market orientation for large herd firms is significantly different across all value discipline strategies. While there are no statistically significant differences in firm performance across value discipline strategies, there is a clear pattern between a market orientation and performance.

7.5 DISCUSSION

Treacy and Wiersema (1993) have suggested that when choosing a value discipline, firms are also simultaneously choosing their customers. This is important as it encourages firms to search for opportunities to provide value for consumers in a manner congruent with their value proposition. A market orientation therefore may enable firms to develop and market innovative methods to provide products and services to meet these changing needs. It is for this reason that Treacy and Wiersema (1993) and Porter (1985) have posited that firms with the ability to define their value discipline would achieve superior performance.

Understanding the means of providing value is important in terms of increased performance through the provision of superior value. However, a clear value discipline may provide other benefits as well. It has been argued that it may be more important that firms avoid becoming 'stuck in the middle' lest the firm end up out of business ala Lacker Airlines (Porter, 1985). However, the results presented here show that performance is not based on the degree of clarity in the value discipline chosen. Contradicting theory, firms with no clear value discipline (MIDDLE) have performance measures which are not statistically significantly different from firms with a pure customer intimacy value discipline (Pure CI). Another interesting result is the lack of statistically significant difference in performance across hybrid value disciplines, especially since there are observed differences in market orientation across hybrid forms. However, one must remember that a lack of statistically significant difference does not necessarily imply a lack of economic differences. To be sure, an increase in market orientation was shown to be related to higher levels of subjective performance. Even if the differences in

²³ Only cow-calf producers were used in the subsample analysis due to the limited number of feedlots in the sample.

performance were not statistically significantly different, there are likely economic differences (read: actual income) that market oriented firms may receive due to an appropriate market orientation.

While this research is not able to clearly show evidence of a market orientation-clarity-performance link, it does show that clarity alone does not guarantee performance. What does this mean for firms? One important implication of these results is the importance of a market orientation as a driver of firm performance. More strongly, as clarity alone is not shown to lead to superior performance, a necessary condition for improved performance may be the presence of a market orientation which allows the firm to truly understand the fundamental drivers of the customer's value proposition. It is possible that only when a market orientation is present can value discipline clarity lead to superior performance.

Another explanation could be found in the concept of 'blue oceans' and 'red oceans' (Kim and Mauborgne, 2005). Firms using an operational excellence value discipline may try to provide superior value through standardized products delivered for a lower cost. However, when many firms are employing a similar strategy, performance suffers as a result (Porter, 1991; Teece, Pisano and Shuen, 1997). This is exactly what has been suggested by Jones' (2000) study of the cow/calf sector in the United States beef industry. This would be what Kim and Mauborgne (2005) consider a 'red ocean'. Within these competitive environments, generally only the largest firms see increased performance as economies of size and scale are important cost drivers. Firms who do not possess these advantages may choose to provide value in a different form. Through an increased market orientation, they may find themselves moving to a 'blue ocean' characterized by less direct competition and an increased opportunity for differentiation.

There are some limitations of this dissertation; therefore, some caution is needed when attempting to generalize these results. One limitation of the study is that it uses data from only one year to analyze value discipline choice and firm performance. Longitudinal data would be preferred, which would allow researchers to 'track' the value discipline and the market orientation of the firm and determine if it was consistent through time. It may be that superior performance accrues to firms with a consistent value discipline (as measured year-to-year) and increased variability in both the choice of value discipline and level of market orientation leads to poor performance. This could potentially explain how firms supposedly 'stuck in the middle'

are more highly market oriented than those with an operational excellence value discipline, and how firms in the middle of the value triangle have similar performance to firms with a customer intimacy value discipline.

7.6 SUMMARY

This chapter analyzes performance across value disciplines. Previous research has suggested that firms who have a clearly defined value discipline are able to achieve superior performance. Surprisingly, there is a dearth of research which explicitly examines this relationship. A survey was conducted in 2007 which measured the market orientation, subjective performance, and choice of value discipline of Illinois beef producers. Firms were subsequently categorized into separate value discipline strategies based on objective criteria. Finally, analysis of variance (ANOVA) methods were utilized to measure differences across value discipline strategies.

This chapter examines firm performance and market orientation across value disciplines. Findings from this dissertation indicate that firms with an operational excellence value discipline (both pure and hybrid forms) have lower levels of market orientation than other firms. Furthermore, firms with a product leadership hybrid value discipline had higher performance than firms using an operational excellence value discipline. While this dissertation lends some credence to the market orientation-performance relationship, it does not provide clear answers to the value discipline clarity-performance link. Further research could examine this question in a longitudinal study to assess how consistency of market orientation and consistency of choice of value discipline affects firm performance.

CHAPTER 8

CONTRIBUTIONS AND IMPLICATIONS

8.1 INTRODUCTION

This dissertation focuses on the concept of a market orientation within the context of production agriculture. Chapter 2 discussed previous research on the market orientation concept as well as the relationship a market orientation has on firm performance. Much of the previous work was conducted in the context of large manufacturing firms which have vastly different resource endowments than agricultural producers. Historically, firm performance within agricultural settings focused on the presence or absence of financial or physical resources such firm size (Purdy, Langemeier, and Featherstone, 1997) or various production and marketing practices (Mishra and Morehart, 2001). While a few research studies have examined the market orientation-performance relationship in agriculture, few have examined this relationship within a traditional commodity sector of the agricultural industry. This dissertation attempts to fill this void by examining the importance of a market orientation within the context of the U.S. beef industry.

There are several methods in which research studies have examined the market orientation of firms. A survey mechanism was employed by a majority of previous researchers in their assessment of the market orientation of firms. Previous empirical studies examining market orientation in agriculture have largely focused on interview methodologies in their assessment of a firm's market orientation. While valuable in their ability to contribute to the development of the market orientation literature, these research studies were limited in scope due to small sample size.

Furthermore, by focusing on a single sector of the agricultural industry, the variability that could be attributed to general macroeconomic factors is limited. Additionally, the technological and market turbulence which could vary across both regions and commodities is accounted for as the sample population consists solely of Illinois beef producers. Illinois beef producers, while producing across a variety of value disciplines and marketing channels, are still largely homogeneous in terms of available tangible resources. Performance differences are thus likely caused by differences in intangible or cultural resources.

The beef industry provides an interesting backdrop from which to conduct this research as beef producers have a multitude of marketing options. They may choose to retain ownership of production throughout the channel allowing them to capture a larger share of the value added during various stages of production. Another option could focus on becoming a small, vertically integrated firm which produces and markets directly to the consumer. On the other hand, beef producers may choose to join or form a production alliance or to market their production through the traditional spot market. This research fills a gap in the marketing literature as it measures the level and effectiveness of a market orientation within both homogeneous and segmented markets. This research also contributes to the agricultural economics literature which has largely focused on efficiency only as a means of improving performance.

The survey administered to Illinois beef producers contained several measurements scales that were modified to fit an agricultural audience. Along with previously tested scales, a new scale measuring the value discipline of agricultural producers was also developed. Using a methodology similar to Miles and Snow's (1978) strategy typology scale, phrases describing *operational excellence*, *product leadership*, and *customer intimacy* were developed and respondents were asked to assign points to each phrase. This allowed for the assessment of the choice of value discipline within agricultural settings, as well as providing a means to test the theory of Narver, Slater, and Tietje (1998) that market oriented firms express clarity on their choice of value discipline. Subsequent chapters use the survey instrument described here and shown in Appendix A in its entirety to develop models which examine the importance of different dynamic capabilities within an agricultural setting.

8.2 MANAGERIAL IMPLICATIONS

8.2.1 Importance of a market orientation

Results of this study show that a market orientation is an important determinant of firm performance even within agricultural settings. Furthermore, this study extends the work of Hult and Ketchen (2001) to find that a positional advantage is important determinant of firm performance within agriculture. Further confirming the hypothesis of Pelham (2000), this study finds that small firms may see comparative advantages and performance implications stemming from their ability to react to new market intelligence. Increasing the market orientation, and the positional advantage, of the firm is an important goal if producers are going to continue to

develop value-added products and services. In order to adequately provide value, firms must communicate with consumers and down-stream channel members to accurately determine the potential sources for value creation.

In order to develop a positional advantage, access to pertinent market information is imperative. Small farmers need to begin to establish linkages with downstream channel partners and final consumers, where appropriate. This would begin the information gathering process which can then be used to formulate or implement a strategy based on current capabilities. Once producers have the required market information, they can leverage their flexibility relative to larger firms to react to specific opportunities that arise. Some of the low-hanging fruit could be increased preconditioning of cattle in commodity systems which increases efficiency for downstream partners (i.e., feedlots). Also, depending on the population demographics of the surrounding area, some producers could benefit from direct marketing a value-added product through nearby farmers markets. Along with the value of the relationship with the grower, some producers may benefit from the growing 'local food' movement where food miles are becoming an increasingly important and valuable attribute of agricultural products.

8.2.2 Importance of value discipline clarity

Slater stated that "...superior performance accrues to firms that have a customer value-based organizational culture (i.e., a market orientation), complemented by being skilled at learning about customers and their changing needs and at managing the innovation process, and that organize themselves around customer value delivery processes" (1997, p. 164). Firm profit is therefore a function of market knowledge, customer awareness, and the innovation needed to capitalize on this knowledge. This assumption has been borne out in empirical studies (see Baker and Sinkula, 1999a; Farrell and Oczkowski, 2002; Narver and Slater, 1990). Firms who intimately understand how they provide value vis-à-vis their competition may be able to direct available resources which strengthen their core competencies in this specific area.

Within the beef industry awareness of one's own value discipline, as well as that of close competitors, may be important as more alliances are formed in an attempt to replicate the performance of earlier ventures. Depending on the market, new entrants may choose to project themselves as providers of products which are not in direct competition with established firms (in a value discipline sense). For instance, rather than competing directly on innovation

capability, new entrants may see better opportunities through the provision of more direct relationships via a customer intimacy framework.

Within the context of the Illinois beef industry, no support is found to suggest that value discipline clarity is a mediating factor in the ability to translate a market orientation or innovation into superior performance. As seen in Chapter 7, firms achieved superior performance across a variety of pure and hybrid value disciplines. Interestingly, firms with an operational excellence value discipline were found to have the worst performance across all value discipline strategies. In theory, firms with increased clarity may be better able to generate information relating to new sources of value for consumers. This information may lead to more rapid development of new offerings which deliver attributes more closely aligned with the latent and expressed needs of the market. Furthermore a high market orientation, combined with elevated levels of entrepreneurship and innovation, may enable the firm to migrate from a highly competitive position (i.e. commodity beef) to a niche where market size and customer relationships, once established, provide significant barriers to entry.

While the performance benefits of a market orientation are well established even in commodity markets (see Micheels and Gow, 2008 and Narver and Slater, 1990), other benefits may also exist. If market oriented firms are able to move to a less competitive market, or closer to the border of the value triangle in highly competitive markets, they may benefit by occupying a more defensible position vis-à-vis rivals. It may be that firms along the border of the value triangle are what Jaworski, Kohli, and Sahay (2000) describe as *market-driving*, whereas market oriented firms not on the border of the value triangle may be *market-driven*. Market driving firms are characterized by their ability to anticipate changes in the market ahead of their competitors or simply creating market changes themselves. Market driven firms, however, are more reactive in nature and are thus not able to achieve any first-mover advantages which may accrue to their market driving counterparts. This may be potentially offset by second-mover advantages such as lower search and implementation costs.

8.3 POLICY IMPLICATIONS

The preceding chapters have shown the value of a market orientation within an agricultural context. Access to credible information is important resource if a firm is going to develop an appropriate market orientation to compete in highly competitive and dynamic markets.

Therefore, in order to develop a positional advantage, it is important that firms have access to reliable market information. This is especially important for firms who have little contact with downstream channel partners and are therefore reliant on public sources of market information. While these findings are based on results from Illinois, access to accurate market information is important throughout both developed and developing countries. In the case of Africa, Hazell (2005) and Ozowa (1995) argue that for small farms to survive, they need access to accurate and reliable market information regarding public and private standards for their production. In developed countries where there is a trend towards the consolidation and industrialization of agriculture, policy makers may find benefits, such as improved community welfare, from improved performance of small farms (Welsh, 2009). Community welfare may increase if small farms are able to establish valuable linkages with consumers through farmers markets or other marketing arrangements, as posited through the Goldschmidt Hypothesis, which states that welfare of the surrounding community is negatively correlated to farm scale (Goldschmidt, 1946).

Policy which increases the dissemination of public/government/university sponsored information relating to changing market structures or customer linkages may improve performance on small farms while also improving community welfare. Small farmers, having limited resources to devote to the generation of their own market intelligence, often rely on government sources or trade publications for these sources of information. Therefore, in developing countries, it is important that some resources be deployed to conducting research on increasing market linkages for small farmers. Furthermore, as Ozowa (1995) points out, this information must be accessible to the farmer in a usable form. While public information may limit the ability for the small firm to be the ‘first mover’ the decreased chance of failure and a smoother transition into the new market for ‘second movers’ may alleviate some of these concerns.

8.4 LIMITATIONS AND FUTURE RESEARCH

The main limitation of this research pertains to the nature of the sample. While this study is one of the first to empirically examine the relationship between market orientation and firm performance within the beef industry, caution is needed in generalizing the results. These findings suggest a market orientation is an important driver of firm performance, a finding which

is consistent with other published studies examining the relationship between market orientation and performance. However, it is important to consider the context of this sample. Specifically, would these results hold in other areas of the country? In 2007, the year the survey was administered, Illinois ranked 18th in terms of number of beef farms (USDA, NASS) with 19,700 farms, but 38th in terms of beef farms as a percentage of total farms (27%). On the other hand, in 2007, Texas had 149,000 beef farms, accounting for 65% of the total farms in the state (USDA, NASS). One could assume that if a market orientation was important in a state where beef is not the most important agricultural industry, it should also be important in states with a larger percentage of beef operations. Future research might focus on areas where beef production is a more important part of the agriculture industry.

Second, this research would benefit from both objective and subjective performance data to remove the single informant bias typical of studies such as this. Given many states have programs where objective financial datasets are available as part of cooperative extension programs, it would be beneficial to use these cooperators as a sample for further research. However, in this case researchers may be trading single informant bias for selection bias as cooperators self-select into these programs and pay a fee for the service provided. Provided it is feasible, a longitudinal study would also be valuable to further examine changes in market orientation over time and how these changes influence firm profits as well as other performance measures.

As the creation of a market orientation and the choice of value discipline is a dynamic process, a longitudinal study may further illuminate the relationship between market orientation and the choice of value discipline. Furthermore, while the internal consistency and reliability of the value discipline scale exceeded the thresholds for exploratory research (Chapter 6), further refinement of the scale is warranted. Purification of the production practices measure, as well as the inclusion of other components of the producer value proposition would be worthwhile endeavors for future research.

This preliminary research contributed to the market orientation literature as well as the agricultural literature by developing a scale to quantify a firm's choice of value discipline. Future research may test for difference in relative importance of innovation, entrepreneurship and market orientation across value disciplines, as well as determining if there are differences in performance across value disciplines. These potential research agendas have broad policy and

managerial implications as agriculture moves forward in an ever-changing customer-driven marketplace.

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APPENDIX A

THE SURVEY INSTRUMENT
Market Orientation and Beef Profitability

Unless otherwise instructed, please circle the number that **best** describes your answer.

Please place a check next to the appropriate line.

- 1 Are you currently producing beef cattle on your farm?

Yes	_____	
No	_____	Skip to end

- 2 Are you currently a member of a beef marketing alliance?

Yes	_____	
No	_____	
Don't Know	_____	

- 3 How many head of cattle do you feed out on your farm? _____

- 4 How many calves do you produce on your farm? _____

- 5 What is the size of your farm in operated acres? _____

- 6 How many acres do you own? _____

- 7 How many corn acres do you have on your farm? _____

- 8 Do you retain ownership of your cattle through the marketing channel?

Yes		1
No		2

- 9 Regarding your farm, what percent of your farm income is derived from your beef operation?

0-24.99%		1
25-49.99%		2
Greater than 50%		3

- 10 How many years have you produced cattle on your farm? _____

- 11 How many agricultural magazines do you subscribe to? _____

- 12 Regarding your beef operation, in the coming years the size of your farm in terms of number of head is likely to....

decrease in size	1
remain the same size	2
increase in size	3
uncertain	4

- 13 What county do you live in? _____

- 14 What is your zip code? _____

These questions relate to different components of your beef operation. Each item contains three descriptions of marketing strategies. Please distribute 100 points among the three descriptions depending on how similar the description is to your beef operation. There is no one right answer and please use all 100 points. Most beef producers will be a mixture of those described.

For example...

<i>Marketing</i>	<i>Strategy 1</i>	<i>15</i>
	<i>Strategy 2</i>	<i>60</i>
	<i>Strategy 3</i>	<i>25</i>
		<i>100</i>

15 Pricing

- We are able to set or negotiate above market prices for our cattle as we have
- S1 established close relationships with our customers and fully understand their specific requirements. _____
- S2 We are continuously developing or adopting new technology that provides us a short term competitive market and price advantage. _____
- S3 Due to being unable to influence current market prices, we strive to continually become more efficient in an effort to reduce costs. _____
- 100

16 Production

- We are continuously developing new and innovative technologies that provide
- S1 our farm with product, production or marketing advantages. _____
- S2 We willingly modify production practices to meet our customers specific product requirements, even if it increases our costs. _____
- S3 We are seen as a leader in production efficiency by our neighbors and peers due to our continuous efforts to produce efficiency gains. _____
- 100

17 Relationship building

- We try to develop individual business relationships with each of our customers and attempt to produce products that meet each of their specific requirements. _____
- As producers and marketers of commodity beef through independent auctions,
- S2 we are generally unaware of exactly who our customers and buyers are and see little value in establishing relationships with them. _____
- As we are recognized as a leader in innovation and early adoption of new beef
- S3 production technologies, we are able to gain access to valuable customer markets and establish product differentiation. _____
- 100

18 Quality

- Through our close relationships with lead customers, we willingly adopt
- S1 production practices, processes and certification systems to ensure our product meets customer specifications and supports their marketing brand. _____
- We only invest in meeting the minimum required level of certification and
- S2 process control systems that are signalled through the pricing mechanism or mandated by regulatory agencies. _____
- Through the adoption and use of innovative technologies, we are able to screen
- S3 and select animals while tracking them through the production process to ensure optimal final product quality in the market. _____
- 100

Useful Definitions

Competitor -- others raising calves, feeder cattle or finished cattle
Customer experiences -- satisfactory or unsatisfactory previous use
Customer information -- feedback from consumers
Customers refers to people who buy your cattle (feeders, packers, end-users)
Economies of scale/scope -- Ability to lower per unit costs by increasing size or number of markets
Innovative market strategies -- "thinking outside the box" when it comes to beef marketing
Marketing channel -- all points of contact between farm and consumer
Marketing channel/channel partners -- the firms/people with whom you are marketing your beef (feedlots, packers, lockers, end-users.)
Marketing investments -- investments made on the farm that specifically relate to marketing methods
Organizational vision -- your goal as it relates to beef production
Product preferences -- what our customers want in terms of cattle characteristics

Production investments--investments made on the farm that specifically relate to improving production efficiency
Products and services refers to your calves, feeder cattle or finished cattle
Return on farm Assets = Net Income + Depreciation / Average farm assets
Risk reducing management processes -- use of futures/options to reduce risk
Target market -- The customer base you are directing your production towards
Technology -- Source/age verification tools; management tools

*For the following sections, please circle the number that **best** describes you and your beef operation.*

1=Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4=Somewhat Agree, 5=Agree, 6=Strongly Agree

19 Customer Focus

- | | | |
|---|--|-------------|
| 1 | We continuously try to discover additional customer needs which they are not aware of yet. | 1 2 3 4 5 6 |
| 2 | We incorporate solutions to unstated customer needs in our new products and services. | 1 2 3 4 5 6 |
| 3 | We rarely brainstorm on how our products and services benefit our customers. | 1 2 3 4 5 6 |
| 4 | We innovate even at the risk of making our previous farming practices obsolete. | 1 2 3 4 5 6 |
| 5 | We work closely with lead customers and try to recognize their needs months or even years before the majority of the market may notice them. | 1 2 3 4 5 6 |

1=Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4=Somewhat Agree, 5=Agree, 6=Strongly Agree

20 Competitor Focus

- 1 People on our farm share information concerning competitor's activities. 1 2 3 4 5 6
- 2 We respond slowly to competitive actions which threaten our survival. 1 2 3 4 5 6
- 3 We regularly discusses competitor's strengths and weaknesses. 1 2 3 4 5 6
- 4 We target customers where we have an opportunity for competitive advantage. 1 2 3 4 5 6
- 5 Members of our farm collect information concerning competitor's activities. 1 2 3 4 5 6
- 6 We diagnose competitor's goals. 1 2 3 4 5 6
- 7 We seldom track the performance of key competitors. 1 2 3 4 5 6
- 8 We identify the areas where our key competitors have succeeded or failed. 1 2 3 4 5 6
- 9 We evaluate the strengths and weaknesses of key competitors. 1 2 3 4 5 6

21 Coordination

- 1 We regularly visit our current and prospective customers. 1 2 3 4 5 6
- 2 We freely discuss our successful and unsuccessful customer experiences with our partners. 1 2 3 4 5 6
- 3 All of our business units (marketing, production, research, finance/accounting) are integrated in serving the needs of our target markets. 1 2 3 4 5 6
- 4 People on our farm understand how everyone can contribute to creating customer value. 1 2 3 4 5 6
- 5 We rarely share resources with other members of our marketing channel. 1 2 3 4 5 6

22 Internal Operations/Cost Focus

- 1 Improving the operating efficiency of the business is a top priority. 1 2 3 4 5 6
- 2 We have a continuing goal to lower operating costs. 1 2 3 4 5 6
- 3 We hardly ever seek to improve production practices so that we can lower costs. 1 2 3 4 5 6
- 4 Achievement of economies of scale or scope is an important element of our strategy. 1 2 3 4 5 6
- 5 We closely monitor the effectiveness of key production practices. 1 2 3 4 5 6

1=Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4=Somewhat Agree, 5=Agree, 6=Strongly Agree

23 Innovation

- 1 Technical innovation based on research results is readily accepted. 1 2 3 4 5 6
- 2 We seldom seek innovative ideas which we can use in our cattle operation. 1 2 3 4 5 6
- 3 Innovation is readily accepted on our beef operation. 1 2 3 4 5 6
- 4 Individuals on our farm are penalized for new ideas that don't work. 1 2 3 4 5 6
- 5 Innovation in our farm is perceived as too risky and is resisted. 1 2 3 4 5 6

24 Learning

- 1 We do not see our ability to learn faster than our competition as the key to our competitive advantage. 1 2 3 4 5 6
- 2 The basic values of this farm include learning as key to improvement. 1 2 3 4 5 6
- 3 Our take is that learning is an investment, not an expense. 1 2 3 4 5 6
- 4 Learning on my farm is seen as a key commodity necessary to guarantee survival. 1 2 3 4 5 6
- 5 We are not afraid to challenge assumptions we have made about our customers. 1 2 3 4 5 6
- 6 There is total agreement on our organizational vision on our farm. 1 2 3 4 5 6
- 7 All employees are committed to the goals of this farm. 1 2 3 4 5 6
- 8 Personnel on this farm view themselves as partners in charting the directions of the farm. 1 2 3 4 5 6
- 9 We rarely question our own biases about the way we interpret customer information. 1 2 3 4 5 6
- 10 Personnel on this farm realize that the very way they perceive the marketplace must be continually questioned and adapted. 1 2 3 4 5 6
- 11 Firms in my marketing channel do not have the same goals as we do. 1 2 3 4 5 6

25 Entrepreneurship

- 1 When it comes to problem solving, we value creative new solutions more than the solutions of conventional wisdom. 1 2 3 4 5 6
- 2 On our farm, we like to implement plans only if we are very certain they will work. 1 2 3 4 5 6
- 3 We value risk-reducing management processes much more highly than innovative methods for profit seeking. 1 2 3 4 5 6
- 4 On this farm, we like to 'play it safe.' 1 2 3 4 5 6
- 5 On our farm, we tend to talk more about problems rather than opportunities. 1 2 3 4 5 6
- 6 We firmly believe that a change in the market creates a positive opportunity for us. 1 2 3 4 5 6

1=Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4=Somewhat Agree, 5=Agree, 6=Strongly Agree

26 Trust

- 1 Members of our marketing channel keep promises they make to our business. 1 2 3 4 5 6
- 2 Channel members are not always completely honest with us. 1 2 3 4 5 6
- 3 We believe the information that channel members provide us. 1 2 3 4 5 6
- 4 Members of our marketing channel are genuinely concerned that our business succeeds. 1 2 3 4 5 6
- 5 When making important decisions, channel members consider our welfare as well as their own. 1 2 3 4 5 6
- 6 We do not think channel members keep our best interests in mind. 1 2 3 4 5 6
- 7 Our channel partners are trustworthy. 1 2 3 4 5 6
- 8 We find it necessary to be cautious with our channel partners. 1 2 3 4 5 6

27 Technological Turbulence

- 1 The technology in our industry is changing rapidly. 1 2 3 4 5 6
- 2 Technological changes provide few opportunities in the beef industry. 1 2 3 4 5 6
- 3 It is very difficult to forecast where the technology in our industry will be in the next 2-3 years. 1 2 3 4 5 6
- 4 A large number of new product ideas have been made possible through technological breakthroughs in our industry. 1 2 3 4 5 6
- 5 Technological developments in our industry are rather minor. 1 2 3 4 5 6

28 Commitment

The relationship that my business has with this marketing channel...

- 1 is something that we are very committed to. 1 2 3 4 5 6
- 2 is very important to my business. 1 2 3 4 5 6
- 3 is of very little significance to us. 1 2 3 4 5 6
- 4 is something my business intends to maintain indefinitely. 1 2 3 4 5 6
- 5 is very much like being family. 1 2 3 4 5 6
- 6 is something my business doesn't really care about. 1 2 3 4 5 6
- 7 deserves our business's maximum effort to maintain. 1 2 3 4 5 6

1=Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4=Somewhat Agree, 5=Agree, 6=Strongly Agree

29 Market Turbulence

- | | | |
|---|--|-------------|
| 1 | In our business, customers' product preferences change quite a bit over time. | 1 2 3 4 5 6 |
| 2 | Our customers tend to look for a new product all the time. | 1 2 3 4 5 6 |
| 3 | Sometimes our customers are very price-sensitive, but on other occasions, price is relatively unimportant. | 1 2 3 4 5 6 |
| 4 | We are witnessing demand for our products and services from customers who never bought from us before. | 1 2 3 4 5 6 |
| 5 | New customers tend to have product-related needs that are different from those of our existing customers. | 1 2 3 4 5 6 |
| 6 | We cater to many of the same customers that we did in the past. | 1 2 3 4 5 6 |

30 Overall Firm Performance

- | | | |
|---|---|-------------|
| 1 | The return on farm assets did not meet expectations last year. | 1 2 3 4 5 6 |
| 2 | We were very satisfied with the overall performance of the farm last year. | 1 2 3 4 5 6 |
| 3 | The return on production investments met expectations last year. | 1 2 3 4 5 6 |
| 4 | The cash flow situation of the farm was not satisfactory. | 1 2 3 4 5 6 |
| 5 | The return on marketing investments met expectations last year. | 1 2 3 4 5 6 |
| 6 | The prices we receive for our product is higher than that of our competitors. | 1 2 3 4 5 6 |
| 7 | The overall performance of the farm last year exceeded that of our major competitors. | 1 2 3 4 5 6 |

31 In what year was the principal operator born? _____

- | | | | | | | | | | | | | | | |
|------------------------|--|--|------------------|---|------------------|---|--------------|---|------------------------|---|--------------|---|------------------|---|
| 32 | What was the highest year of school that the principal operator completed? | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Some high school</td> <td style="width: 20%; text-align: right;">1</td> </tr> <tr> <td>High school grad</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Some college</td> <td style="text-align: right;">3</td> </tr> <tr> <td>Vocational/Tech Degree</td> <td style="text-align: right;">4</td> </tr> <tr> <td>College grad</td> <td style="text-align: right;">5</td> </tr> <tr> <td>Grad/Prof degree</td> <td style="text-align: right;">6</td> </tr> </table> | Some high school | 1 | High school grad | 2 | Some college | 3 | Vocational/Tech Degree | 4 | College grad | 5 | Grad/Prof degree | 6 |
| Some high school | 1 | | | | | | | | | | | | | |
| High school grad | 2 | | | | | | | | | | | | | |
| Some college | 3 | | | | | | | | | | | | | |
| Vocational/Tech Degree | 4 | | | | | | | | | | | | | |
| College grad | 5 | | | | | | | | | | | | | |
| Grad/Prof degree | 6 | | | | | | | | | | | | | |

Thank you for completing this survey. Please return the questionnaire in the envelope provided.

I am sorry we are currently only surveying beef producers, therefore you are not eligible to participate in this **END** study. However, we would appreciate it if you return this questionnaire in the enclosed envelope. Thank you.

If your envelope is lost or misplaced, please return your completed survey to:
 Eric Micheels
 326 Mumford Hall, MC 710
 1301 W. Gregory Drive
 Urbana, IL 61801