Chapter One: HOW TO POSITION YOUR PORK OPERATION

Chris Hurt, Michael Boehlje, and Jeffrey Hale

Introduction

“We must all obey the great law of change. It is the most powerful law of nature.”
Edmund Burke

“The world hates change, yet it is the only thing that has brought progress.”
C. F. Kettering

“Things do not change; we change.”
Henry David Thoreau

The pork industry is awash in change, yet these quotations remind us of some basic truths. Change is universal, it is continual, and it is powerful. Humans tend to dislike change because of the threats it brings, yet change is how we move forward. And most importantly, to cope with change, it is we who must change rather than hope that our surrounding world will change in directions that favor us.

These principles ring true in the pork industry. The changes are numerous, and they are complex. It is an environment in which decision-making is difficult. Nearly everyone has questions: How do I keep up with the technology? Can I remain independent? Will market outlets remain available? Will production shift to other regions? Will integration dominate? Can I compete?

The goal of this book is to help you cope with change in the pork industry. It is our firm belief that nearly everyone who wants to be a part of the pork industry of the 21st Century will be able to find a place. However, to enhance your competitive position you will have to explore new technologies, find ways to adopt new technologies, evaluate how to overcome any disadvantages of smaller size, learn to increase coordination while reducing variability in your pork products, as well as find creative ways to organize and finance modern pork systems.

This book is comprehensive. It is a coordinated effort to bring you information on changes occurring in nutrition, genetics, reproduction, health, buildings, equipment, marketing, and finance. It attempts not only to provide you with information about this broad range of topics, but also to examine the economic returns for implementation. It is not meant to give you the answers, but rather to provide you with potential alternatives to consider in your business. Finally, the intent is for you to read the book with the idea of making a long-term business plan; that is, we
want you to “position your pork operation for the 21st century.” As you read, keep these thoughts in mind.

**Make Change Work for You**

To take advantage of change, you must understand the reasons for the changes and consider the implications of those changes. With this in mind, we open with an overview of the drivers of change and implications for the industry.

**Think Strategically**

Designing a strategy to move your business from where it is today to where you want it to be tomorrow requires strategic planning. It is a process that we encourage you to go through as you review this book. Get your information into a decision making framework. The objective of this book is for you to ultimately develop a long-term plan for your business direction.

**Understand Costs Economics**

It is clear that the margins in pork production will narrow and that the industry is becoming much more cost competitive. Costs are driven by a number of factors, but key among these are: technology, size and scale of operations, production efficiencies, and prices of input items. We will help you understand these facts in evaluating sow operations of various sizes: 1200 sows, 600 sows, 300 sows, and 150 sows. These evaluations include detailed specifications, drawings, budgets, and more.

**Know the Technologies**

Technologies are a fundamental key to long-term competitiveness. The following chapters describe technologies, show how they can be implemented in smaller operations, and examine possible economics of adoption. Technologies covered in the book include: All-In/All-Out; Segregated Early Weaning; Accelerated Scheduling; Split-Sex Feeding; Phase Feeding; Artificial Insemination; and Enhanced Genetics.

**Recognize Change in Markets**

The marketplace for live hogs has already experienced fundamental shifts. More is on the way. A movement to carcass pricing is likely. Greater coordination between producers and packers is anticipated. Independent producers are expected to work in greater alliances with independent input suppliers and packers. Thus, risks sharing among participants in the industry is explored.

**Remember There Is “Strength in Numbers”**

How can you overcome the disadvantages of smaller size? How can you assure yourself access to complex technology and access to a marketplace for hogs? At several points in the book,
we show you ways to work cooperatively with others in networks for buying inputs, selling hogs, obtaining information, or even producing together.

**Rethink Financing and Business Organization**

There are many ways to finance and organize your business. In fact, we supply you with a list of nearly 50 alternatives. Is ownership the only alternative you have considered? Contracting and production networks are options that may fit the longer term goals of some.

**Develop a Long-Term Plan**

Planning is the job of the manager. It is up to you. This book provides many alternatives for you to consider. It is a comprehensive approach that in one publications attempts to help you understand the complexities of the changes that surround the industry. It not only describes those changes, but in most cases attempts to evaluate the economics of adopting those alternatives. At the conclusion of the book it will be up to you to set the course for your business, that is, to develop your long-term plan.

**Implement Your Long-Term Plan**

You will have fundamental decisions to make: Am I committed to the longer-term? How can I better assure my competitive position? If I cannot achieve the necessary size or level of production efficiencies, should I be in a system with someone else? Should I begin to decide how and when to leave the industry?

Once you formulate these basic questions into a plan of action, it’s your responsibility, as the manager, to implement these changes. Implementation means following through on the best plans you can develop for your business.

**Position Your Business**

By understanding the reasons for change and understanding the direction of change, your goal becomes to position your business to take advantage of change.

*If your business is aligned in the direction of change, then change is an opportunity and not a threat.*
Causes and Implications of a Changing Pork Industry

During the 1950s as the poultry industry made its dramatic structural movement toward vertical integration, many declared, “the pork industry will follow suit.” But the pork industry did not follow—at least for 40 years. Today, however, participants in the pork industry seem surprised by the resurgence of structural adjustment, and the implications for industry participants are of enormous importance.

The pork industry is a huge sector within the agricultural economy. Retail sales total about $27 billion dollars per year, of which about $16 billion flows to the marketing segment and $11 billion to about 200,000 domestic hog producers. Traditionally this industry has been centered in the hog-corn belt which spans the Midwest, and that tradition continues. The 12 North Central states, from Ohio and Michigan on the east, to the Dakotas, Nebraska, and Kansas on the west, accounted for about 72% of the hogs marketed in 1995.

But geographic change is also afoot. The hog-corn belt has lost nearly 10% of U.S. market share since 1985, with the losses concentrated in the major hog states of Iowa, Illinois, Indiana, Ohio, Wisconsin, and Missouri.

Drivers of Change

Historical data clearly shows that the trend to larger, more specialized hog production and pork processing operations has been ongoing for 60 years or more, but the rate seems to have accelerated in recent years. In 1980, 670,000 farms produced hogs. Only 208,000 such farms remain; which means nearly 70% have left in 15 years.

Who is leaving the industry? It’s the small farms. Of the 462,000 farms that left the industry since 1980, most (85%) had less than 100 hogs in inventory. The remaining farms leaving were under 500 head of inventory. Here are some factors driving this change.

* The pork industry has a record as a high margin business. Farms on the Iowa State University records program achieved in excess of a 25% annual average rate of return on capital in hogs since 1980. High returns have attracted outside investors.

* There remains a wide variation in costs among producers, and some know how to consistently operate at low costs. The range between the highest costs one-third and lowest costs one-third on the Iowa records data is nearly $28 per hog.

* The industry is now highly technical and technologically dynamic. New technologies have names like All-In/All-Out, Multiple-Site Rearing, Segregated Early Weaning, Split-Sex Feeding, Phase Feeding, Artificial Insemination, and Enhanced Genetics. These technologies are health enhancing, costs lowering, and risk reducing, allowing greater and greater concentrations of animals.
The last major investment surge in hog production was in the late 1970s. Therefore, much of the physical and human capital in the Midwest is now of a different era and subject to technologic obsolescence.

Much of the new technology cannot be fully implemented using the existing physical and human resources in traditional hog areas.

Economies of scale exist in hog production, and the industry is still far from exploiting these known economies.

While most of the economic inefficiency in the industry is likely to be in the hog production sector, additional economic benefits can be gained from improved coordination of a stable supply of consistent quality hogs through processing and by better matching pork production to consumer desires.

Many in the industry believe that domestic and foreign consumers will demand more highly differentiated pork products in the future, perhaps requiring coordinating mechanisms other than spot markets and including contracting and vertical coordination.

**Traits of Pork Industrialization**

Industrialization is the term economists use for the movement of the industry to much larger farms which use standardized production procedures. These procedures are much like those used in many manufacturing industries in the U.S.

You can recognize industrialization in the pork sector by mega hog operations, rapid growth of contract production, movement toward vertical coordination of production and processing, and an inflow of capital from investors. These investors have a vision of building a more highly coordinated pork system which is more consumer responsive and delivers superior economic performance relative to the market coordinated system in the Midwest.

The industry in North Carolina has led the trend toward pork industrialization. Drawing heavily from principles observed in the state’s integrated poultry industry, they have surged to become the second leading pork producing state. By learning more about the North Carolina systems, Midwest producers can observe possible ways to make their pork systems more efficient.

In North Carolina, they have built the largest pork processing plant in the world. This new plant will process over 8% of all the hogs in the country. It is twice the size of any Mid-western plant. The supply for the plant will be coordinated with a tiny handful of mega producers. With this tightly coordinated system, they will be able to supply meat retailers and consumers with the most consistent quality available today and do so in large volumes. In addition, since coordination of the entire production to consumption sector is provided by a few executives, they will be able to rapidly adapt to changes in production technology or consumer desires. If this model were to become the norm, today’s pork volume could be supplied by 12 plants and about 50 producers.
The new mega operation uses the newest cost effective and sophisticated technology. Some of this technology was applied for nearly a decade before the Midwest began to explore its use. Once the optimum technology is found, it is then standardized into buildings, equipment, genetics, nutrition, health programs, and management techniques. In addition, it is applied in large units to minimize fixed costs per hog and employs detailed monitoring and control systems to enable continued improvement.

In North Carolina, contract production is also part of industrialization. The “integrator,” as the mega farm owner/manager is called, owns the hogs, provides the feed, medication, transportation, and technical services. Local farmers then invest in buildings and equipment, and provide land and labor. In return they receive a contractual fee and sometimes additional financial incentives for superior performance. Profits or losses accrue to the integrator. Contracting allows integrators to grow rapidly by leveraging their own equity and management resources, since other farmers provide substantial portions of the capital, land, labor, and management.

This is truly a pork manufacturing system, based upon discovering technologies and then applying those technologies with the sole objective of producing low cost, consistent, high quality pork at moderate prices and to coordinate production on long-term agreements with the packer. This is a system which, if successful, can be replicated many times over.

There are other local factors contributing to the phenomenal expansion of North Carolina’s industrialized pork sector. Resource costs for labor and buildings are lower than in the Midwest. Lenders have seen the success of the contract system and are seeking ways to stabilize farm incomes as potential loss of revenues from tobacco looms in the future. And many argue that the environmental regulations are less stringent, essentially allowing the mega producers to achieve scale economies at some unknown cost to the environment.

Others are following North Carolina’s lead in developing similar new highly coordinated pork systems in states such as Missouri, Oklahoma, Arkansas, Texas, Colorado, and Utah.

Changes Make People Anxious

The realization of participants from farmers to those in the input and the marketing sectors is that their specialized physical and human resources will become worthless if they cannot be a part of the new pork industry.

The questions extend beyond those directly involved with the industry. How do production practices and higher animal concentrations affect water and air quality? Will the farmer lose the traditional independent status? Will industrialization affect the social structure of the local community? What is the economic impact on local communities when huge hog operations buy many of their inputs from outside the community? What happens to the profits from the operation; do they now flow to an investor in some far off urban area? When does the industry become too concentrated and begin to extract monopoly profits from consumers?
Likely Implications

Some implications seem evident at this time; others will depend upon the decisions made by industry participants and public policy makers. But as a starting point some economic observations seem to be in order.

* Many current producers have high costs, utilize dated technology, have small diversified farms which retard their ability to gain managerial intensity, and are nearing retirement age without sufficient sizes of operations for someone else to acquire and operate. They will likely be replaced by larger, more specialized, and more managerially intense operations.

* A large number of pork producers will continue to leave the industry. Currently, 45% of the nation’s hog inventory is on farms with less than 1000 head of hogs. As a group, this segment is losing U.S. market share at a rate of nearly 3 percentage points per year. This trend is likely to continue, and much of this groups’ contribution could be lost.

* Over time, the industry will move toward much larger and lower costs units to exploit known economies of size.

* Out migration of smaller farms in coming years, especially the under 500 head size and some larger operations, may total around 35% of today’s production. At the current trend this could occur in a decade.

* With lowered costs, increased coordination, and improved quality, the pork industry could have net growth of 15% over the next decade.

* With potential for 35% outmigration and 15% net growth, the industry will largely be transformed. Who will produce these hogs, and where will they be raised?

* For the Midwest to maintain its dominant market share, the region will need to rebuild and recapitalize.

* If economic advantages of improved coordination of production and processing are evident, the Midwest industry will be forced to find ways to reduce variability, to improve marketing efficiency, and to provide better signals between consumers and producers. In other words, it will have to move away from a traditional commodity orientation toward a consumer- and cost-driven pork system.

* The Midwest can no longer rely on its natural resource base and industry infrastructure as sufficient conditions for industry location. Integrated firms are large enough now to provide all of their own support and can take their systems where they will be allowed to operate.
The greatest returns in the pork system of the future will increasingly flow to those who can put together technology packages and deliver differentiated products to the world’s consumers, not to those who own the production facilities, as in the past.

**What Will the Industry Look Like?**

Structural change will continue in the pork industry, but the degree of integration remains unclear. There remains a major existing investment in the more traditional commodity-oriented systems, especially in the Midwest, and it is likely that substantial portions of this system will be able to remain competitive.

In general, the Midwest industry has examined the types of changes needed to be fully competitive with more highly integrated systems. With positive attitudes and a willingness to change, it is premature to write the independent producer and independent packer out of the industry. Their continued success will depend on their ability to incorporate some of the best features of the highly coordinated operations with the unique advantages of independent operations. It seems very likely that a number will be able to accomplish this task, but much of the Midwest industry remains vulnerable.

Three models of pork production systems are likely exist. The first is the integrated model which has evolved in the past five years. The second is the traditional independent producer and packer. These producers will likely be larger farms which have evolved from family farms. They will be large enough to obtain the needed technology and keep up with constant changes in technology. The third system will be a more highly coordinated system of producers, suppliers, and packers working together to form larger buying, selling, and production groups able to overcome some of the disadvantages of size, yet acquire technology similar to very large integrated operations.

The challenge to independent producers, suppliers, and packers is to find ways to adapt current technology and enhance coordination in existing systems.

Now it is time to shift your focus from the industry in general to your own operation. Change is evident, but how do you make the decisions needed to “position” your hog operation? We now turn to ways to put the complex decisions that will be required into an organized and orderly process.
Planning Your Strategy

Moving any enterprise from where it is today to where you want it to be tomorrow is not possible without the aid of a strategic system of planning and decision making. Entropy, a law of physics, tells us that organization is not the naturally occurring state in nature, that overcoming disorder requires the input of energy. In this application, the energy required to overcome entropy is strategic planning and decision making.

Here we provide a framework for the implementation of a strategic planning system. First, strategic options available to pork producers are outlined; then the steps involved in strategic planning and decision making are detailed.

Strategic Options

There are nine strategic options available to the firm. Six of these options deal with growth (increased income or volume, but not necessarily facility size). The other three explore non-growth options.

1) Focus/Specialize

“Stick to your knitting” is a very applicable cliché in this context. The focus of much of a swine producer’s managerial time is committed to improving efficiency and reducing cost. Lower cost producers will tend to have the ability to stay competitive and maintain future operations. Concentrating on one activity (farrowing or finishing, or hogs rather than hogs and grain) can aid in cost reduction through a more intensely managed operation.

2) Intensify/Modernize

The ability to push more production through the same fixed asset base is the concept. A more intensely run operation spreads fixed costs over greater output, lowering the overall cost of production. Accomplishment of this strategy is possible through both a more intensely managed current operation and the adoption of more modern, more intense production technologies.

3) Expand

The most common strategic move for many pork producers is expansion of facility size. This over-used method has merit after all possible efficiencies have been implemented in current facilities.

4) Diversify

Diversification, the opposite of specialization, involves the addition of new enterprises to the firm. Generally this option is considered a risk-reducing method. However, due to the fact that the economic forces that affect one agricultural enterprise generally affect others, this option may not be as advantageous for risk reduction as one might think. Diversification may also cause management time to be spread too thinly across enterprises. Diversification may have more
potential in the exploitation of synergy by capitalizing on such factors as: underutilized skills and/or resources, multiple products in the same marketing channel, or knowledge and management skills.

5) **Replicate**

When growth of the firm is the desired course of action, one option to consider is replication of an existing operation on a different site rather than the expansion of the current unit. This option allows for decentralized management in smaller units. It is the multi-plant strategy of the industrial complex. This option becomes important as issues of odor nuisance and waste handling become more critical.

6) **Integrate**

Moving forward, backward, or horizontally into production/processing may provide real benefits to the system. An example is packing plants on the East Coast raising hogs for their plants. This activity helps the packers eliminate some variability in quality and supply. An example for moderate size producers is becoming part of a cooperative gilt multiplier to supply replacement gilts.

7) **Network**

There are proven economies of size in production and marketing in pork production. Expanding a single firm to the size where those size benefits are available is not always the most prudent option. Networking allows a group of smaller operators to look like a large operation to the marketplace.

8) **Delay/Wait and See**

The decision making team may survey current conditions and determine that they are not sure what direction to take. In the short-run, inaction may have merit. Buying time may provide for new opportunities to manifest themselves. But the key issue with this strategy is to develop a decision trigger that will result in action.

9) **Exit**

There are many in the industry who are surveying their situation and wondering if continuing is the most logical plan. Therefore, a strategic option is a planned ceasing of operations.

These nine strategic options are shown graphically in Figure 1-1. Starting at the top of the diagram, the initial decision is to either move toward making a decision or delaying. If you use the delay option you need to establish a definite decision trigger that will cause you to move toward a decision.
If the decision is to grow-improve, then you should go through the three-step process of focus, intensify, expand. This means to increase the focus on your existing business, intensify the management, and expand your core business. In essence this means to strive to improve what you currently are doing. Most firms will go through this three-step process several times in an attempt to continuously improve.

Once you have gained the maximum advantage in your existing operation, you should consider additional ways to improve or to expand your business. These include: diversify, replicate, integrate, or network.
Strategic Planning/Decision Making

The strategic decision making process involves answering the following questions.

1) What Is the Current Situation?

Proper preparation of a strategic plan must begin with an assessment of where your operation currently stands. It is impossible to determine how you are going to get where you want to be if you don’t know where you are now. There are three major areas to consider.

A) What Are My Resources/Finances?

This area of concentration is designed to provide information about the value and capacity of the capital and human resources of the operation. The productive capacity and economic value of fixed assets such as land, buildings, and equipment are determined. This process does not focus on the saleable market value of the operation, rather management abilities, labor, and capital supply, along with the capacity to assume additional risk.

B) What Are My Skills/Interests?

Most hog enterprises are a reflection of the personality of the owner and/or manager. Therefore, it is crucial to the future of the operation that the owner/manager complete a self-assessment of skills and interests. This information will provide an indicator of direction the operation should be headed to be compatible with the true desires of those who are leading the move.

C) What Is the Outlook?

Just as it would not be prudent to set sail in a small craft during the hurricane season without first checking for warnings, setting the operation off on a strategic course without first considering the future economic environment would be equally unwise. The planning team charting the future course must have a firm grip on the business climate the firm will face during the next few years.

2) What Are My Goals/Objectives?

The planning team must decide where they want the business to be in both the short-term and long-term. This involves goal-setting and determining the objectives of being in business. These goals provide a framework for choosing among the various strategies that will be generated.
3) **What Should I Do?**

After the planning preparation is completed, the next step involves determining and choosing one of the many possible opportunities which exist for the operation. There are four ideas to consider.

A) **What Are the Opportunities?**

The management team needs to brainstorm and consider the possible courses that could be followed.

B) **Which Opportunity Looks Best?**

Based upon the framework established in the pre-planning work done by the management team, each of the possible opportunity should be evaluated. Does the opportunity use the resource base of the operation most efficiently? Is the opportunity compatible with the goals/objectives of management? Additionally, is the opportunity in keeping with a level of riskiness that is palatable to management?

C) **Is the Opportunity Possible?**

The opportunity that has been chosen must now be compared to the capacities of the business. The financial feasibility should be considered by completing a financial analysis including: balance sheet, income statement, cash flow statement, capital budget, and ratios. Additionally, the plan should be considered in the context of its non-financial feasibility. Will it fit with secondary goals such as time management, personal freedom, etc? Finally, it is important that the individuals involved with implementing the plan are comfortable with it.

D) **How Do I Implement the Opportunity and Manage Constraints?**

There will exist possible implementation problems and constraints for any selected plan. The more effort put in by the management team to identify and understand these during the planning phase, the easier it will be to manage them and more successfully implement the plan.

4) **Did It Work?**

Even an outstanding planning effort will not insure that the plan selected will move the operation exactly in the expected direction. After its implementation, the plan must be monitored, and the following questions must be considered.
A) Was Performance As Expected?

A plan has been chosen for the operation with a set of expectations for performance. As time moves forward, it is important to have a set of tools designed to provide a benchmark to compare the actual performance of the plan to those expectations.

B) How Should I Revise?

A plan needs periodic adjustment to obtain peak performance. As more information about the plan and its effect on the business becomes available, that information must be used to modify the plan in ways that will improve future performance. This requires periodic, regular monitoring and modification.

Summary

Changes occurring in the pork industry make most participants anxious about their ability to compete. Yet understanding the reasons and implications of these changes, and then “positioning” your business in the direction of change is the best way to align your business for the future. The process of establishing a long-term direction for your business is called strategic planning. As you read this book it should be your goal to begin formulation of your business’s strategic plan.