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Staff Paper P01- 15 December 2001

STAFF PAPER SERIES

A STRATEGIC MANAGEMENT PRIMER
FOR FARMERS

by

Kent Olson

DEPARTMENT OF APPLIED ECONOMICS

COLLEGE OF AGRICULTURAL, FOOD, AND ENVIRONMENTAL SCIENCES

UNIVERSITY OF MINNESOTA

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The analyses and views reported in this paper are those of the author. They are not necessarily endorsed by the Department of Applied Economics or by the University of Minnesota.

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A STRATEGIC MANAGEMENT PRIMER FOR FARMERS

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ABSTRACT

This staff paper explains the basic process of strategic management. This involves developing a vision of what you want your farm to be in the future, describing the farm's current mission, setting objectives, understanding your chosen industry and your farm's place within that industry, identifying the major advances of building and maintaining strategic advantage for your farm, crafting and testing a strategy for your farm, implementing that strategic plan, evaluating performance, reviewing new developments, and making corrective adjustments, as needed, in the plan and its implementation.

A STRATEGIC MANAGEMENT PRIMER
FOR FARMERS

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A STRATEGIC MANAGEMENT PRIMER FOR FARMERS[1]

by Kent Olson

Strategy is the pattern of actions used by a farmer[2] to accomplish goals and objectives. Strategy is a farmer's game plan for the long haul. Strategy consists of the moves and approaches crafted to strengthen the farm's position, satisfy customers, achieve performance targets, and accomplish what they want to do in the long term. Having a strategy helps a farmer make reasoned, cohesive, and consistent choices among alternative courses of action in an uncertain world.

Strategy consists of the answers to four questions. The questions look deceptively simple; but, since the world is complicated, answering them well requires considerable thought, work, and communication with the people involved in the farm.

What do we want to do?
Where should we put our efforts, and why?
What do we bring to the table?
What do we need to do to compete, survive, and meet our goals?

Answering these questions should not be seen as a one time event. A farmer needs to keep watching and answering them anew as the world changes. This may sound like strategy is a big, complicated plan that never changes, but that is not a correct view of strategic management. In reality, a farmer's actual strategy is partly planned and partly reactive to changing circumstances.

Strategic management consists of planning or developing a strategy, implementing the chosen strategy, controlling the outcomes of the strategy implementation, and adjusting the chosen strategy over time as conditions change (Figure 1). Strategic planning involves the selection of the vision, mission, values, and objectives of the farm; analysis of the external environment; analysis of the internal environment; and crafting the best strategy for the farm in its current environment. Strategy implementation involves designing the organizational structures and procedures needed for the chosen strategy and obtaining and directing the resources needed to put the chosen strategy into action. Strategic control involves designing strategy control systems, comparing actual results to goals and objectives, monitoring the business environment, and modifying the organizational structure, implementation plan or

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[2]Since this paper discusses farm management, I use farm examples. However, very similar questions, principles, and procedures can be used in all other businesses, organizations, and facets of our lives.

Figure 1.

Strategic Management

Strategic Planning:
- Identification of stakeholders
- Development of vision, mission, objectives
- External analysis
- Internal analysis
- Crafting strategy

Strategy Implementation
- Obtain and organize the farm resources
- Direct the resources

Strategic Control
- Measure and evaluate farm performance
- Monitor external events
- Take corrective actions as needed

even the chosen strategy as needed to meet the goals and objectives. These three parts of strategic management are explained and examined in the remainder of this paper.

The sports metaphor of "positioning the business" is very appropriate and often used for describing strategic management. Good team players read the playing field before deciding what to do during the game. They know their own strengths and weaknesses. They see where their own team members are and know what their strengths and weaknesses are. They see where the competitors are and know what their strengths and weaknesses are. They see where the ball is relative to the goal. They see the opportunities and threats and move to the best position to help the team accomplish its goal. Wayne Gretzky, a former player with the Los Angeles Kings and a member of the hockey hall of fame, described his strategy for hockey, "I don't skate to where the puck is. I skate to where the puck will be."

Within this sports metaphor, a farmer crafts a strategy by understanding the business environment, seeing where and what is happening, looking for strengths and weaknesses in both his or her own farm and in the competition, and then the farmer moves the farm to the best position to take advantage of opportunities, to protect the farm from threats, and to help accomplish goals and objectives.

Crafting a strategy can help keep a farmer, as the manager, focused on what is truly important when making decisions (even day-to-day decisions) that will affect the success and survival of the business. Short-term opportunities (a good deal on machinery, for example) or threats ("sign now or lose this chance," for example) may create distractions, and possibly decisions that do not fit the chosen strategy and may not contribute to the long-run goals of the farmer. When a long-run strategy has been

developed, that strategy can be used to evaluate potential opportunities and threats for their ability to contribute to the strategic goals of the farm.

However, let's go back to the idea that crafting a strategy is not a one time event. Short-term opportunities and threats should not be ignored completely. They may be a signal that the business environment has changed so a farm's strategy needs to change. Paying attention to short-term events is part of scanning the environment as described later in this paper.

This need for strategic management is as true for a one-person or one-family farm business as it is for a multi-partner, multi-employee farm. The sole farmer's focus can be diverted from long-term goals just as easily or perhaps easier than a multi-person farm management team. If the sole proprietor has taken the time to develop a strategy, he or she can use that strategy to guide day-to-day decisions.

Conscious strategy development and management (as opposed to freewheeling improvisation, gut feeling, taking advantage of good deals, and drifting along) can provide several advantages.[3] A good strategy development and management process will:

1. Provide better guidance on the crucial point of what the farm is trying to do and to achieve. This guidance is needed whether the farm is a single owner-operator farm or a farm with many employees. Upper management needs to communicate the vision, mission, and objectives to middle management and labor—even if only one person performs all three functions.

2. Make farmers more alert to the winds of change, new opportunities, and threatening developments.

3. Give managers a rationale to evaluate competing budget requests for investment capital and new staff—a rationale that argues strongly for steering resources into strategy-supportive, results-producing areas and not towards "good deals."

4. Help unify the numerous strategy-related decisions by managers and partners across the organization or as the sole proprietor performs different functions for the farm.

5. Create a more proactive management posture and counteract tendencies for decisions to be reactive and defensive.

While all farms may not see each advantage, all farms can receive some benefits from strategic thinking and management. Large farms can benefit, just as large businesses can, from the focusing and communicating that strategic planning creates. Smaller farms with only one or a few stakeholders can benefit because they are doing so many tasks that focusing on strategy for part of their duties can give direction and focus to their other duties. Any size of farm from a sole proprietor on a small farm to a

[3]Adapted from Thompson and Strickland (1995, p.19).

large, multi-operator farm can benefit from the communication and thinking created by conscious strategy development and management.

STRATEGIC PLANNING

Strategic planning involves five elements that will provide the answers to the questions posed at the beginning of this paper.

- ✔ Identification of stakeholders and their values, philosophy, and ethics
- ✔ Development of the farm's vision and mission, clarifying values, and setting objectives.
- ✔ External analysis of the farm's competitive environment including the general economy and the industry which the farm belongs (e.g., dairy or corn). The goal of external analysis is to understand the environment in which the farm operates and to identify opportunities for and threats to the farm.
- ✔ Internal analysis of the farm's operating environment. The goal of internal analysis is to understand how the farm is meeting the current vision and goals and to identify the farm's strengths and weaknesses. Internal analysis includes but is also broader than the financial results.
- ✔ Crafting of the strategy for the whole farm and a complementary strategy for each part of the farm (corn production, hogs, custom work, for example) and each management function (marketing and finance, for example).

Even though these elements of strategic planning are listed in a linear fashion, they are done with many loops back and forward to other elements of the process. Each element needs to be done (and many times redone) before the final strategy is determined for the farm in its current situation.

Identification of Stakeholders

Farming involves more than one person, the farmer. Many people are interested in the farm itself, the outcomes (e.g., profit, products, runoff), and the processes of farming. The farmer, the farm family, the partners, the creditors, the community—they all hold an interest, a stake in the farm. If these stakeholders are ignored or not included in strategy development, conflict will likely occur. And the farm will likely not operate as efficiently as possible and not obtain the goals envisioned by the farmer and the farm family.

Identifying the stakeholders in the farm is a very critical step in strategic planning. Stakeholder groups are people, businesses, and institutions that have some claim on the farm. Stakeholders can be divided into internal and external stakeholders. Internal stakeholders include the farmer, the farm family,

partners, employees, other owners or stockholders, and creditors. External stakeholders may include the farm's customers, suppliers, governments, unions, competitors, local communities, and the general public.

The farm owner is an obvious internal stakeholder; so is the farm operator, who is often the owner, too. On most farms, members of the farm family are also included as internal stakeholders; that is, the family is very concerned and interested in what the farm does and how it is done. Because they feel so close to the farm, family members may want, and even demand, to be part of strategic planning even if they neither work on nor own part of the farm. Older and younger generations of a farm family may be, or consider themselves to be, stakeholders also. For some families and circumstances, the yet-to-be-born generation may also be considered as stakeholders in the farm.

If these potential stakeholders are not recognized and their connections are not dealt with in some manner, the farm may have trouble formulating and implementing a plan for the future. At the least, social friction in the family may result if the actual and perceived connections are not dealt with explicitly.

Sharing the same values within a management team is also very critical to the success of a farm. By identifying the internal stakeholders, they can discuss and identify their shared values, their philosophy of business, and their operating ethics for the farm. These values, philosophy, and ethics can be communicated to employees, suppliers, creditors, and others doing business with the farm to help the farm accomplish its vision and objectives.

Values, philosophies, and ethics can directly affect both what a farm produces, what production methods it chooses to produce those products, and how it relates to its employees, customers, suppliers, and the community. These values, philosophies, and ethics come from personal beliefs, social mores, religion, humanitarian relationships, etc. They also include beliefs in how hard a person should work, what time a person should start work, how many hours a day a person should work, how much leisure time is needed, the value of manual work compared to desk work, the need to be fully honest with others, etc. These seemingly obvious values to some may be viewed differently by others. Differences over even small items like the time to start work in the morning can create problems or be the manifestation of other problems within the management team.

Concern for the environment and farming's impact on the environment is another example of the role of values. Stakeholders on one farm may hold the value that using any chemically processed herbicides, insecticides, fertilizers, etc., is not good for the environment; these values will likely push this farm into using organic production methods and selling in the organic market. Another set of stakeholders on another farm may have a multiple set of values: to produce food as inexpensively as possible without harming the environment. This farm may use some chemicals but not others; it may also evaluate the topography of the land and not farm land on steep slopes and close to water. The public debate over the use of chemicals and the adoption of biotechnology can be viewed as a debate over society's values about the environment and even society's philosophy in terms of what does or does not harm the environment.

The importance of shared values, philosophies, and ethics can not be overestimated. If the internal stakeholders share the same values, philosophies, and ethics, the rest of strategic planning and

even day-to-day management is greatly simplified and the probability of success greatly enhanced. A unified team does not guarantee success; goals and objectives may still not be accomplished due to outside events. However, if differences are not discussed and reconciled within the internal stakeholders, there is no question that conflict will occur and goals will not be accomplished without considering other events.

The reason to discuss and develop a set of ethics for any business is to give people the tools for dealing with moral complexity and the ability to identify and consider the moral implications of their decisions.

Some people argue that businesses (including farms) should also incorporate social responsibility or social criteria and goals into their decision making process. This group says that social responsibility is a sound investment for the business. The opposing argument is that a business' only social responsibility is to use its resources wisely to increase profits as long as it obeys laws and engages in open and free competition without deception or fraud.

Vision, Mission, and Objectives

Vision and mission are almost interchangeable terms. A business mission is usually seen as dealing more with the present and near future while a vision deals with the long-term. A mission statement defines a farm's current business directions and goals and indicates what a farm is trying to do for its customers. In contrast, a strategic vision is the picture of what the stakeholders want the farm to look like in the future, say 10 years or more into the future.

Together, the vision and mission statements should have three main elements:

- a statement of the overall vision and mission of the farm
- a statement of management's key philosophical values
- key objectives that management is trying to accomplish

In today's world, a farm's mission statement needs to define its business using a customer orientation rather than a product orientation. That is, a farm needs to view its business in terms of what customers it is producing for, not what products it is producing. Obtaining this view can be accomplished by answering three questions[4] for the farm. These questions are very closely related to the marketing plan and product selection plan of the farm.

- Which consumer or customer groups are being satisfied?

A farmer needs to answer this for three kinds of consumers or customers. The first group is the final consumers of products produced on the farm or produced from products produced on the farm. This first group of consumers are the people who consume food, wear cotton or wool

[4]Adapted from Abell, 1980, p. 17.

clothes, use agricultural products in construction, etc. For example, (among many decisions) a dairy farmer needs to decide whether the consumer groups being satisfied are all consumer or those who want to avoid rBST, the recombinant bovine growth hormone. Similarly, a soybean producer needs to decide whether he or she is aiming to satisfy livestock producers who want a protein source, consumers who want soy products for human consumption, organic customers, speciality soybean customers, etc.

The second group of consumers are those that buy farm products and transform them into the products used by the final consumer (or the next step in the supply chain). These consumers can be processors such cereal producers, meat processors, sugar processors, cotton millers, dairies, processors, and other companies. This group of consumers also includes other farmers who buy grain and soybean meal to feed animals.

The third group of consumers are those who consume a more intangible set of products produced by farmers. These intangible products include, but are not limited to, environmental quality, hunting access, rural landscapes. Except for the possibility of paying for hunting access, these consumers most likely do not pay farmers directly for these products; but they may stimulate the imposition of alternative policies and regulations that affect how a farmer can operate.

- What needs are being satisfied?

For the chosen consumer group(s), do they want the lowest cost product, a certain set of product characteristics, or do they place a higher priority on something else such as dependable delivery of a consistent quality product, certified organic products, or goods produced locally by family farmers. Cereal producers, such as General Mills, need specific wheat varieties that produce the cereal characteristics that their consumers need. A soybean crusher may need a certain type of soybean that produces an oil with the baking characteristics needed by bakers who need to make products with certain characteristics that the retailer and ultimately the final consumer needs. A hunter wants to have success hunting. The public wants a clean, safe water supply. The list is endless and will vary with the consumers, the geographical location, and the time.

- How are customer needs being satisfied?

How can the farmer produce to be sure that customer needs are being met? For example, if a dairy farmer is aiming at those consumers who want rBST-free milk, several things need to happen to meet the needs of those consumers. The dairyman cannot use rBST of course, but then the milk processor needs to keep that milk separate from milk that may have been produced using rBST and the retail label has to report that the milk comes from cows not treated with rBST. Finally, the milk has to be sold in stores where these consumers will shop.

Identity preservation is becoming increasingly important for meeting the needs of many customers and consumers who want specific characteristics such as a variety of grain, production method, etc.

Following regulations on pesticide use and avoiding over fertilization are two ways that farmers can help satisfy the needs of consumers who need a certain level of environmental quality.

The mission statement should state the core values of the farm. The number of core values is usually small, no more than 3-5, to ensure that they are the core values indeed. These core values drive or guide other values and decisions; they are not changed easily. Core values are kept even if the market changes and penalizes the company for holding those values. If the penalties are large enough, the stakeholders will change the farm mission and operation to alleviate the penalties, but they will not change their core values. Although the exact definitions of the following are debated, examples of the values held by most farmers include land stewardship, honesty, family, commitment to the local community, hardwork, and so on.

The mission statement is the first step in communicating the stakeholders' shared values to a larger audience. Communicating their values can help solidify the commonality of the values among the internal stakeholders and let external stakeholders (such as creditors) know how management plans to operate the farm.

Key objectives also need to be identified and communicated as part of the development of the vision and mission statements. The purpose of setting objectives is to convert managerial statements of business mission and company direction into specific, measurable performance targets. Measurable objectives can serve as yardsticks for tracking performance and progress toward the vision. Without measurement, the organization does not know how well it is performing and whether its long term vision will be accomplished with the current plans (i.e., strategy).

Both financial and strategic objectives are needed.

- ***Financial objectives*** focus on specific measures of financial performance: profitability, liquidity, solvency, financial efficiency. If a farm does not have acceptable financial performance, that farm may not receive the resources (capital and other types) that it needs to meet other objectives and the farmer's vision for the farm.

- ***Strategic objectives*** focus on activities that affect competitive position: entry into a new market, being a low-cost producer, recognition for quality, etc. Strategic objectives are needed to encourage managerial efforts to strengthen a farm's overall business and competitive position.

A farm also needs both long-term and short-term objectives. While long-term objectives are needed to track progress toward the long-term vision, a business also needs to monitor its progress in smaller steps. Performance targets and objectives five or more years ahead cause managers to take actions now to meet those long-term objectives and to consider the impact of today's decisions on longer-term performance. Short-term objectives should be steps towards long-term objectives. They provide the ability to check progress so the strategy can be adjusted, if needed, to achieve the long-term objectives and vision.

Some commonly expressed goals make poor visions and missions, but they can be converted into good objectives. For example, stating the farm's mission as maximizing profit does not describe the business of the farm and probably places too much emphasis on money. However, obtaining a certain income level and its related standard of living is an obvious financial objective for many farmers. Similarly, reducing estimated phosphorus runoff to a certain level and achieving a specific corn yield are good examples of strategic objectives, but zero erosion or maximizing crop yields do not describe a farm's business or mission.

Objectives need to be "challenging but achievable" if they are to push a farm to achieve the vision set by the stakeholders. Thus, several points need to be considered when setting objectives.[5]

- Desired performance levels (e.g., profitability, productivity, efficiency, etc.) will have to reflect what the industry and competitive conditions realistically allow. Performance objectives have to meet industry minimums if the farm is to remain a viable business as well as not surpass realistic maximums for the industry.
- Objectives need to be set to ensure the farm will be a successful performer in terms of its overall vision and mission.
- Objectives need to reflect the potential capability of the farm when pushed.
- To improve future performance, objectives also need to require stretch and disciplined effort on the part of the farm and those working on the farm.
- Having a challenge of trying to close the gap between actual and desired performance levels, can help a farm improve its operations, be more inventive, feel some urgency in improving both its financial performance and its business position, and be more intentional and focused in its actions.

The reason for wrestling with and setting objectives for the farm comes from the experiences of countless companies and managers which shows that companies whose managers set objectives for each key area and then aggressively pursue actions to achieve their performance targets typically outperform companies whose managers have good intentions, try hard, and hope for success (Thompson and Strickland, 1995, p.30).

External Analysis

An external analysis of the farm's competitive environment includes understanding the forces operating within both the general economy and the industry in which the farm belongs (e.g., dairy or corn). External analysis evaluates the environment in which the farm operates, that is, outside of the farm itself. The process of external analysis can be seen as answering eight questions (Figure 2).

[5]Adapted from Thompson and Strickland, 1995, p. 4-5, 34.

Figure 2.

Eight Key Questions For External Analysis

1. What are the conditions and trends in the macro environment?
2. What are the industry's dominant economic traits?
3. What is competition like and how strong are each of the competitive forces?
4. What is causing the industry's structure to change?
5. What key factors will determine competitive success in the industry environment?
6. Which farms are in the strongest/weakest competitive positions?
7. Who is likely to make what strategic moves next?
8. Is this an attractive industry and what are the prospects for profitability?

Adapted from Thompson and Strickland, 1995, p.61.

The Macro Environment. The farm and its industry operate within a larger business environment. Changes in that environment may be important in crafting strategy for the farm. Five dimensions of the macro environment need to be considered: macroeconomic, technological, social, demographic, and political and legal.

The macroeconomic environment. Changes in the growth rate of the economy, interest rates, currency exchange rates, and inflation rates are major determinants of the overall level of demand for an industry's products as well as the supply of inputs. By understanding how the macroeconomy is changing, a farmer can better understand how these forces will affect the farm and what strategic changes may be needed.

The technological environment. Technological change can easily make established products and processes obsolete but at the same time create new products and processes. Continuing to use the same production methods even though new technology has made them physically or economically obsolete will keep a farm from being competitive. Monitoring, evaluating, and updating technology appropriately will help keep a farm competitive.

The social environment. What is socially acceptable and desirable changes over time. This creates both threats and opportunities for an industry. The changing social environment can be seen in even a very minimal list of current debates within and about agriculture and farming: globalization, industrialization, organic versus chemicals, animal welfare, farm size and structure, etc. These could be seen as threats to farmers' freedom to choose production methods. Alternatively, they could be seen as opportunities to serve new and perhaps more profitable markets.

The demographic environment. Changing proportions of the population by age and ethnic segments can have major impacts on the industry. New opportunities can develop with these changes as well as threats of decreased demand for current products. Some demographic changes are slow trends (an aging population, for example); however, they can affect the long-term profitability of major

investments. Other trends, such as changes in the farm labor force, can be rapid enough to affect short-term investments and, perhaps, encourage a current farmer to learn a second language.

The political and legal environment. Changes occurring within the political and legal environment can impact the demand for products, the supply of inputs, and the availability of production processes. In general, the trend towards more open borders and hence freer trade (NAFTA, for example) should increase demand for farm products and the supply of farm labor. Political changes which would change that trend could cause changes in product demand and input supply. Greater concern over the environment may translate into stronger environmental legislation which could result in decreased availability of some inputs, decreased potential to use some production methods, and, perhaps, larger penalties for not following recommended or regulated production methods. Changes in the U.S. farm bill could also affect the potential income of farms, the regulations on what can be produced, etc. Individual state differences can affect the competitiveness of farms within each state. These are a few examples of the changes that need to be monitored. Each industry will have a different list and place different priorities on each element.

Dominant Economic Traits. The second step in external analysis draws our attention to the chosen industry. The industry considered here is not just agriculture or food but the sub-industry within agriculture or farming, say, dairy, hogs, feed grains, food grains, vegetables, fruit, cotton, etc. To better understand an industry, many factors need to be considered to describe its economic traits. By considering the following list even for a familiar industry, a farmer will be in a better position to craft a strategy for his own farm.

- Market size

  What is the total amount sold of milk, corn, cotton, etc.? And in a finer view, what is the amount sold of fluid milk, cheese, organic milk, high oil corn, buffalo meat, wheat, barley, processed carrots, etc.? Small markets do not tend to attract big or new competitors. Large markets, however, often draw the interest of farms interested in expanding.

- Scope of competitive rivalry

  Is it a local, regional, national, international or global industry? Where are the producers located geographically? How important (in quantitative terms) is each production area? Which areas are growing? Which are shrinking?

- Market growth rate and where the industry is in the growth cycle.

  What stage is the industry in: early development, rapid growth and takeoff, early maturity and saturation, stagnant and aging, decline and decay? Fast growth breeds new entry; growth slowdown spawns increased rivalry and a shake-out of weak competitors.

A corn grower may view the #2 yellow market as stagnant and, perhaps aging due to slow growth while the organic, blue corn market could be viewed as early development or moving into a rapid growth stage. Competition within the hog industry could be viewed as due to it being a stagnant and aging industry.

- Number of rivals and their relative sizes

  Is the industry fragmented with many small farms or concentrated and dominated by a few large farms? For agricultural commodities, most industries consist of many relatively small farms. This is true even if only farms with sales over $100,000 are counted. The poultry, hog, some vegetables, and now the dairy industries have experienced considerable concentration and have a few large producers relative to the size of the total market.

- Number of buyers and their relative sizes

  The number of product buyers has a very large impact on how the market works for farmers as producers. More buyers mean more competition and presumably fairer prices for farmers. Fewer buyers mean less competition and a higher chance of less than fair prices for farmers due to a shift in market power. The number of buyers needed to ensure a competitive market is a central question in the concentration debate.

- Prevalence of backward and forward integration

  Integration usually raises capital requirements and often creates competitive differences and cost differences among fully versus partially integrated firms. If an industry is highly integrated through either ownership or contractual relationships, the possibility of entry by new firms may be limited.

- Ease of entry and exit

  High barriers protect positions and profits of existing firms; low barriers make existing firms vulnerable to entry.

- Pace of technological change

  What is the pace in both the production process innovation and new product innovation? Rapid technological change raises the risk factor; investments in technology facilities/equipment may become obsolete before they wear out. Rapid product innovation shortens product life-cycle and increases risk because of opportunities for leapfrogging.

- Level of differentiation of the rival product(s)/service(s)

  With standardized products, buyers have more power because of their ease in switching from seller to seller. With product(s)/service(s) that are highly differentiated, or even weakly differentiated, the seller has more power.

- Presence of economies of scale

  Can companies realize scale economies in purchasing, manufacturing, transportation, marketing, or advertizing. Economies of scale increases volume and market share needed to be cost competitive.

- Capacity utilization levels

  High rates of capacity utilization are crucial to achieving low-cost production efficiency. Surplus capacity pushes prices and profit margins down; shortages pull them up.

- Impact of learning and experience

  If the industry has a strong learning or experience curve, average unit cost declines as cumulative output builds up (because the experience of "learning by doing" builds up).

- Capital requirements

  Large capital requirements make investment decisions critical, create a barrier to entry and exit, and timing of either investment or entry and exit becomes important.

- Industry profitability

  Whether the industry profitability is above or below par will affect the pressure from new entrants or alleviate the pressure due to exits. High-profit industries attract new entrants; depressed conditions encourage exits.

Competitive Forces. Farming, as an industry is often described as an industry with perfect competition. That is, with so many farmers, none of them can control the price they receive for their products. However, in today's marketplace, this view of a farmer facing a perfect market is not correct and will lead a farmer to make incorrect decisions, if it is believed and followed. Today's market places a farmer much closer to the consumer which means a farmer needs to understand the industry and the competitive forces in which he or she operates. Farmers also need to understand the forces affecting the processors to which they sell their products and the forces affecting the suppliers of their inputs.

Porter's "Five Forces Model" is a good framework for analyzing industry competition. In his framework, Porter describes competition in an industry as a composite of five forces:

1. Risk of entry by potential competitors,
2. Rivalry among established farms,
3. Bargaining power of buyers,
4. Bargaining power of suppliers, and
5. Substitute products.

Risk of entry by potential competitors. Potential rivals and competitors may be just down the road for a farmer, or they may be across the ocean. If the risk of entry is low, farmers will have more bargaining power when negotiating both input and product prices. If the risk of entry is high, farmers will have less bargaining power. This competitive pressure may show up at the processor level also and affect farmers indirectly. If the risk of entry by potential competitors is high for a processor, that processor's negotiating power is not as strong with its customers so it can not obtain as favorable of a price for its products which translates into a lower price that the processor can afford to pay the farmer for the raw product.

The level of the competitive pressures coming from the risk of entry by potential competitors depends on the height of barriers to entry. These barriers to entry are determined by several factors.

- The extent to which established companies have brand loyalty. Brand loyalty builds barriers to entry by the unwillingness of consumers to switch from a brand they know and want to a new brand. While brand loyalty may not have a strong, direct effect on farms, the connection is stronger for those farms who are closer to the consumer (direct marketers, contractees, members of cooperatives who sell directly, for example) compared to farms who produce commodities such as #2 yellow corn or hogs for the open market.

- The extent to which established companies enjoy an absolute cost advantage over potential entrants. An absolute cost advantage may occur due to a depreciated plant, established dealers, being farther down the learning curve, etc.

- The extent to which established companies have scale economies, that is, they are large enough to be able to operate at lower costs than a new entrant who would likely be smaller.

- The extent to which government regulation restricts entry. The most obvious government regulations creating barriers to entry are those that govern utilities. Because they have this entry protection, private utilities are usually monitored and controlled by the government. For farmers, government regulations affect how farms operate and thus create advantages to current farms due to knowing and understanding the bureaucratic system of rules, regulations, forms, and potential payments.

Rivalry among established farms. Competitive rivalry is generated by the competitive forces created by jockeying for better market position and competitive advantage within an industry. The extent of this rivalry will affect how a farmer operates and how well a farmer can expect to achieve his or her financial and strategic goals.

The extent of rivalry among established farmers depends on several factors.

- The industry and its competitive structure. Farming is usually described as an example of perfect competition, that is, many producers no one of which has an influential share of the market. This type of industry has its own pressures and rivalry among producers, but it is not as intense as in an industry described as monopolistic competition, oligopoly, or monopoly. The latter two types seldom occur at the farming level, but in some smaller markets, monopolistic competition may be a better description of the economic environment than perfect competition.

- Demand conditions. Is demand growing with new customers, growing with existing customers, stagnant, or perhaps declining? When demand is growing with new customers (for example, new buyers of high oil corn a few years ago), farmers have a much better chance of finding a market or contract for selling the product. However, if demand is increasing but with existing customers, farmers may find it harder to find a buyer because existing buyers and farmers have established relationships that are operating well. If demand is stagnant, farmers will have more trouble finding buyers as the buyers start to look for better and/or lower-cost producers. The extent of rivalry, and thus competitive pressure, is the greatest when demand is declining, because established farmers (those who have had contracts to produce canning vegetables, for example) vie for a shrinking supply of the market (production contracts from the processor, for example, as the consumption of canned vegetables decreases).

- Exit barriers. Higher exit barriers increases rivalry and competitive pressures. Exit barriers can keep the established farms from quitting; thus, they compete to remain or increase profitability and achieve other goals. These exit barriers can take several forms:

    - investments in specialized assets (e.g., a farrowing barn),
    - high fixed costs of exit (e.g., removing a building or cleaning waste facilities),
    - emotional attachments to an industry;
    - relationships between businesses (e.g., production contracts), and
    - dependence on an industry.

In the farming industry, the question “Who are a farmer’s competitors?”can have a complicated answer. Farmers do not always see their immediate neighbors as competitors. In a commodity market, immediate neighbors are not a farmer’s direct competitors because they do not compete for market share (unless the local elevator is almost full during harvest). However, neighbors can be competitors in other markets. For example, farmers know that other farmers (including their neighbors) want a chance to

produce (that is, have a share of the market for) processing vegetables or high oil corn. This knowledge or perception of how many farmers want the chance or contract to produce and how much they want the contract will affect how hard a farmer negotiates a contract with the buyer. More competition will mean less ability to negotiate a more favorable contract; less competition means the farmer has more negotiating power. Farmers in other parts of the country and the world can easily be seen as competitors when they visibly try to take market share away from the local group of farmers.

Bargaining power of buyers. Buyers can be viewed as a competitive threat when they force down prices or when they demand higher quality and better services. With buyers, the competitive pressure grows out of their ability to exercise bargaining power and leverage when negotiating or setting prices for farmers' products. This ability depends on the buyers size and power relative to that of the farmer(s). The recent mergers of buyers of agricultural products have increased the level of concern about the decline of bargaining power of farmers. The increasing use of contracts is another aspect of the buyer gaining bargaining power by controlling the amount of price information in the marketplace.

Bargaining power of suppliers. Suppliers can be viewed as a threat when they are able to force up the price a farmer must pay for inputs or to reduce the quality of goods supplied. With sellers, the competitive pressure grows out of their ability to exercise bargaining power and leverage when negotiating or setting prices for farmers' inputs. The recent mergers of input suppliers and consolidation of present and future input technologies (e.g., seed and pesticide as a single input) will increase the suppliers bargaining power relative to the farmer and allow the suppliers to retain the profit potential of the inputs.

Substitute products. Substitute products limit the price that farmers can seek or ask for without losing customers to the substitute products. With substitute products, competitive pressure comes from the market attempts of outsiders to win buyers over to their products. The advertising campaigns of the pork, beef, and poultry industries are an obvious example of the competitive pressures due to substitute products: each industry feels forced to spend money advertising and also, cannot charge as much as they would like without pushing their customers into buying the other products.

Using the five forces model to understand the competitive environment of an industry does have some limitations. It does present a static picture of competition. The five forces model is more useful when an industry is fairly stable. It may be of limited use during periods of turbulence resulting from rapid innovation or some other discontinuity. However, even during times of rapid change, there can be value in seeing a series of "snap shots" that repeated analysis of the five forces model would provide. The five forces model also underemphasizes the importance of differences among farms. There are wide differences in profit rates of individual farms. Individual resources and capabilities are far more important determinants of the farm's profitability than the characteristics of the industry or sub-industry. Farms that are more innovative in pioneering new products, processes or strategies can often earn much better profits than the industry average. However, even with these limitations, the five forces model can help provide an understanding of an industry and how it may be changing.

Structural Change. The forces of structural change can be divided into major and minor forces. Usually, only three or four forces qualify as major driving forces of change. The most common driving forces[6] and some agricultural examples are listed below.

- Changes in the long-term industry growth rate.
  - Is the market expanding or declining?
  - For example, chicken and turkey consumption is increasing, but beef demand is decreasing.

- Changes in who buys the product and how they use it.
  - Male or female; old or young; different races; etc.
  - At home, away, or take-home; fast food or slow

- Product innovation
  - Convenience foods

- Technological change
  - New and better products
  - Better breeding in animals and crops
  - Management information: gathering and processing
  - Changes in capital requirements, plant sizes, management size

- Marketing innovation
  - Direct buying by processors
  - More specifications coming from grocery stores

- Entry or exit of major farms (or countries)
  - In international grain trade: is China in or out? Russia? The European Union?
  - In the meat industry: IBP becoming a pork processor. McDonald's serving chicken. Smithfield becoming a major hog producer. The potential purchase and merger of Smithfield and IBP.

- Diffusion of technical knowledge
  - To other companies, countries, etc.
  - Large hog facilities being built in more states and by more companies

- Increasing globalization of the industry
  - Transportation improvements allowing more rapid and cheaper movement of products and thus closer alignment of local markets with world markets
  - NAFTA, GATT, etc.

[6]Adapted from Thompson and Strickland, 1995, p. 74-77.

- Changes in cost and efficiency
  - Improvements in technology, better varieties, better machines, better communication of information

- Emerging buyer preferences for differentiated products instead of a commodity product (or for a more standardized product instead of strongly differentiated products)

  - For many farm products, differentiation is not a powerful force. For example, beef is beef when it is fresh; it is not until the processor makes a branded sausage or canned beef stew that consumers can differentiate between products. Similarly, wheat is wheat until it is made into branded bread, pasta, etc.

- Regulatory influences and government policy changes
  - The new farm bill: Federal Agriculture Improvement and Reform Act of 1996
  - New environmental regulations

- Changing societal concerns, attitudes, and lifestyles
  - Health concerns for less fat and less pesticide use
  - Environmental concerns caused by chemical use, erosion, etc.
  - Leisure versus work time

- Reductions in uncertainty and business risk
  - As industries/ sectors mature after major changes, such as the egg industry, risk increases

Key Success Factors. Farms could worry about many measures and conditions and spend valuable time and resources to improve them. But within each agricultural industry there are key success factors (KSFs) that farms must identify and keep at performance levels required by the industry. If the KSFs are kept at the levels required by the industry, other measures of success will follow. If the KSFs are not met, the farm will not perform adequately and its viability is threatened. A KSF can be identified as the word or phrase that would complete this sentence for a farmer: "If we _____, we will be successful." Each farm needs to develop plans and procedures to monitor and improve KSFs. KSFs can be grouped in several ways:

Technology-related
- Science
- Production process
- Expertise in marketing
- Use of computers internally and externally

Manufacturing-related
- Scale economies
- Quality in production

- Labor skills and costs
- Flexibility versus costs

Distribution-related
- Local versus regional markets
- The networks of roads, railroads, barges, etc.
- Costs of distribution

Marketing-related
- Substitute products - competition for shelf space
- Customer desires and needs ("fat free," for example)
- Direct marketing--meeting a customer's needs in quantity and quality

Skills-related
- Labor abilities
- Quality -- getting it done correctly
- Expertise, management

Organizational capability
- Ability to respond to changes
- Management
- Information systems

Other factors: reputation, location, access to capital, etc.

Strong and Weak Competitive Positions. What are the competitive characteristics that differentiate farms? What are the characteristics of the strongest? The weakest? Characteristics that are important to consider include these six points at least: size, location, production methods, age of equipment and/or workforce, specialization, diversification, and vertical integration.

The Next Strategic Moves. Based on their competitive positions, what moves are competitors likely to make? Which companies, regions, or countries may change? What are the makers of substitute products doing or what might they be changing? Will their potential changes make a large impact?

Attractiveness and Profitability. This is an overall assessment of the industry's attractiveness or unattractiveness, special issues and problems, and its profit outlook. This assessment can be made by reviewing the financial reports for farms that are available from the Economic Research Service of USDA and the various farm record associations available in many states as well as observing economic trends in rural economies.

In this section, we examined the procedures for external analysis. These procedures help a farm and manager evaluate and understand the whole industry in which a farm operates (or wants to operate).

Understanding the whole industry is critical to developing strategies that will allow an individual farm to achieve its objectives and ultimately fulfill the stakeholders' vision of the farm in the future.

In the next section, we look inwards and evaluate the condition and situation within the farm itself. This internal analysis is also critical for developing the correct strategies for an individual farm and its objectives and vision.

Internal Analysis

Three main internal factors shape an individual farm's strategy: shared values and culture; personal ambitions, philosophies, and ethical principles of the managers; and the farm's strengths, weaknesses, and competitive capabilities. The importance of the stakeholders developing a set of shared values were discussed earlier in this paper. Beyond the shared values, the managers themselves shape the strategies of the farm by their own ambitions, philosophies, and principles. The work culture created by the shared values and individual managers create a culture within the farm that affects which strategies are chosen, how they are carried out and whether they will be successful within the industry as understood through the external analysis described in the previous section.

The third internal factor is the farm's strengths, weaknesses, and competitive capabilities. A farm's strategy needs to be grounded in what it is good at doing, its strengths and competitive capabilities. It can't depend on its weaknesses for success. Thus, internal analysis, as described in this section, is the evaluation of the farm's strengths, weaknesses, and competitive capabilities. As a first step, a analysis of the farm's financial condition and past performance needs to be made. The goal of this first step is to understand how the farm is meeting the current vision, mission, and objectives. The next steps of internal analysis are identifying the farm's strengths and weaknesses, comparing the farm to other farms in the industry, and developing the strategy that best fits the farm given the external analysis and the evaluation of the conditions and situations within the farm. Internal analysis centers on five key questions (Figure 3).

Figure 3.

Five Key Questions for Internal Analysis

1. How well is the present strategy working?
2. What are the farm's strengths, weaknesses, opportunities, and threats?
3. Are the farm's costs competitive with rivals?
4. How strong is the farm's competitive position?
5. What strategic issues need to be addressed?

How well is the present strategy working? This question also can be asked this way: What is the farm's current financial condition and performance and its strategic success? Starting with financial data allows us to look at the "concrete" results of past strategic and operational decisions. We

are interested in the farm's profitability, solvency, liquidity, repayment capacity, and efficiency. The financial condition and performance will show whether the farm is financially sound and has been meeting both strategic and financial objectives successfully.

Another reason for starting with a financial analysis is to find out whether the farm has a competitive advantage when compared to other farms. Competitive advantage is defined as having a profit rate higher than the industry average.[7] The profit rate is usually measured as either the rate of return on assets (ROA) or the rate of return on equity (ROE). A farm has a sustained competitive advantage when its profit rate has been higher than the average for several years running. These farms are obviously performing better financially than the industry. A major part of internal analysis is striving to understand why some farms have sustained competitive advantage and how that can be continued and replicated on other farms.

Hill and Jones identify four building blocks of competitive advantage: efficiency, quality, innovation, and customer responsiveness. These building blocks need to be worked on and developed and maintained in balance with each other. One, efficiency for example, can not be emphasized over the other three without a detrimental effect on profitability and thus competitive advantage.

- Superior Efficiency

  Efficiency involves using inputs in the most productive way possible. It is commonly measured by the cost of inputs required to produce a given output. Increasing efficiency obviously decreases costs. Other ratios can be used to measure and monitor efficiency: asset turnover, output or sales per worker, yields per acre, productivity per animal, etc.

- Superior Quality

  Quality is defined as meeting and exceeding the customer's specifications. Quality products and services are reliable in the sense they do the job for which they were designed. Note that it is the customers who define quality, **not the farmer**.

  Higher quality (that is, doing a better job of meeting customer specifications) will do several things for a farm. It has been shown in many companies that higher quality will increase efficiency and lower costs, thus helping another building block of competitive advantage. Higher quality will also create a good reputation for the farm and, thus, allow a farm to receive a higher price and(or) increase the market for its products. With higher quality, less time is spent making defective products, fixing mistakes, and hauling away mistakes and scrap. Thus, worker productivity improves, so costs decrease.

[7] A full internal analysis needs to include an assessment of the farm's need to balance (and its success at balancing) other financial and strategic objectives which compete with the profitability objective and, thus, competitive advantage.

- Superior Innovation

  Innovation involves advances in products, production processes, marketing processes, management systems, organizational structures, strategies, etc. It is anything new or novel about the way a farm operates and the products if produces. Innovation that creates a unique product may allow the farm to differentiate itself and receive a higher price. Innovation can also allow a farm to lower its costs below competitors and thus improve profitability.

- Superior Customer Responsiveness

  To be responsive, a farmer must know what the customer needs and how to satisfy those needs—whether the customer is the final consumer, a local elevator, the processor, or a neighbor. Customer responsiveness increases the value the customer receives, the price they are willing to pay, and the likelihood of repeat and new business. If a processor has been pleased with a farmer's performance, that processor will likely be interested in bringing new business to that farmer compared to one they are not satisfied with. The ability to customize products and services (specific varieties, special harvest windows, specific animal characteristics, for example) to the unique needs of individual customers increases customer responsiveness and, thus, the ability to receive a higher price and(or) increase market potential. Faster customer response time in response to a customer query (whether to rent more land or grow a certain product, for example) or for job completion (custom harvest, for example) is superior responsiveness. Superior responsiveness can improve both prices received and market share. Poor response is a major source of dissatisfaction and potential market loss.

Strengths, Weaknesses, Opportunities, and Threats. This is the traditional SWOT analysis: developing and analyzing a farm's strengths, weaknesses, opportunities, and threats. A strength is something a business is good at doing or a characteristic that gives it an important capability. A core competency is something a company does especially well in comparison to its competitors. A weakness is something a company lacks or does poorly or a condition that puts it at a disadvantage. Strengths and weaknesses are internal conditions for the farm.

Some strengths and weaknesses may be identified when performing an analysis of the farm's financial condition and performance (Figure 4). Other strengths and weaknesses may be identified by reviewing the functional areas of the farm: production, marketing, finance, and human resources. In each of the functional areas, both the tangible resources (land, buildings, livestock, equipment, for example) and intangible resources (reputation, technological knowledge, marketing knowledge, for example) need to be evaluated as to whether any resources are obviously better or worse than the competitor's resources. Capabilities, such as the skills at organizing and directing resources or the ability of the farm's organizational structure to make use of those skills, should be compared to the competitor's capabilities. Benchmarking[8] which can show differences in prices, costs and physical efficiencies, can

[8]Benchmarking is described in the next section, "Are Costs Competitive?"

help explain differences in performance which are not explained by differences in resources between the farm and its competitors.

Those strengths which cannot be easily duplicated by another farm are candidates for core competencies. For example, a hog producer may have these strengths: lower feed costs per animal, better performance, and better worker productivity. The first two strengths might be easily duplicated by competitors. The third may be a core competency due to the manager's ability to attract, hold, train, and improve good workers and the difficulty for other managers to achieve the same level of people skills. While not ignoring other strengths (and weaknesses), core competencies should be maintained and used to build and sustain the success of the farm.

Opportunities and threats are, simply put, good and bad things that could be taken advantage of or could happen to a business. Opportunities and threats are external conditions in the marketplace and, thus, should be analyzed as part of the external analysis for the farm. However, they are analyzed again here in an internal analysis in terms of what an individual farm can take advantage of or needs to be protected from because (1) not all industry opportunities and threats are available to or threatening an individual farm, and an individual farm may face opportunities and threats that are unique to its situation.

Figure 4. Identifying Strengths, Weaknesses, and Core Competencies

1. Conduct a financial analysis
2. Review the farm's functional areas for their
   a. Tangible resources
   b. Intangible resources
   c. Capabilities
3. Identify and list the strengths and weaknesses
4. Identify core competencies

A SWOT analysis is not complete with the identification and listing of a farm's strengths, weaknesses, opportunities, and threats. A complete SWOT analysis needs to discuss five additional questions.

1. How should the strengths be used? Which should be moved on?
2. Which weaknesses are critical to success? That is, which need to be improved and which can be ignored for now? From which weaknesses does the farm need to be protected?
3. Which opportunities can be taken advantage of?
4. Which threats are potentially destructive?
5. Can the use of or response to any of these be done together to gather synergism, efficiencies, and other benefits?

Are Costs Competitive? One of the major sources of competitive advantage for farms is having costs per unit lower than competing farms. These competing farms may be next door neighbors or across the oceans. The question is whether the specific farm has lower costs of production and delivery

than other farms producing the same product for the same market. Costs per unit need to be estimated and then compared to other farms. This comparison can be done with USDA costs of production survey data and with the farm record associations present in many states.

Cost comparisons are done in several ways. The very first comparison is a horizontal comparison across farms of the total costs per product unit (bushel, hundredweight, head, for example). A historical comparison shows how the costs have changed over time for both the specific farm and for all farms. A vertical analysis will show the importance or size of the various cost categories and identify which areas show the largest potential for cost reduction. Vertical cost analysis leads into value chain analysis.

A value chain identifies the activities, functions, and business processes that have to be done in designing, producing, marketing, delivering, and supporting a product or service. Value chain analysis breaks down the whole process in detail so a manager can understand how costs are generated and how the process can be changed to improve efficiencies, increase quality, and decrease costs. A major goal of value chain analysis is to identify the farm's sources of competitive advantage (or disadvantage).

To perform a value chain analysis, costs need to be organized by activity rather than by broad category. That is, the list of costs in a whole farm statement or on a Schedule F for tax purposes, is not sufficient to perform a complete value chain analysis. For farm management, a good place to start value chain analysis is enterprise budgets developed from the farm's own records. Enterprise budgets will show the separate activities of, for example, tillage, planting, crop protection, harvest, storage, marketing, feeding, sanitation, housing, health, and transportation. Allocating whole farm costs to separate activities can be difficult, but experience shows the information obtained is worth the effort. These activity-based costs can be compared to the potential value created by each activity to ascertain which activities need to be improved or changed to bring costs more in line with the value created.

The activity-based costs can also be used to compare the farm's cost structure and cost level to competing farms. This comparison can be done by using USDA survey data, but it should be noted that with survey data usually just an average is reported. For improvement to be made, comparisons need to be made with the best farms. This data is harder to come by but is available in the annual reports of farm record associations. Comparisons can also be done by benchmarking with other farms.

Benchmarking involves comparing costs and physical efficiencies of performing activities as well as the physical process of performing those activities. Through tours and private discussions, a farm can identify the best practices of other farms and then, after assuring that they are estimated using the same procedures, compare the costs of those best practices with his or her own practices.

Who would allow another farmer to come in and study not only the physical process but open his or her books to another farmer who is really a competitor? Farmers who realize they need to continuously improve their own farm and can learn from others, that's who. The cooperating farms agree (1) to share data, (2) to produce it on a time schedule, and (3) not to share the data with anyone else outside of the group. Benchmarking sessions tend to be organized by management consultants, farm record associations, and accounting firms. These groups can organize the connections between small

groups of farms and either create or already have comparable data available. Some private accounting firms are industry specific and supply benchmarking studies and information on best management practices to their clients, but not to the general public.

Strength of the Competitive Position. The ability of a farm to improve and(or) maintain competitiveness depends not just on the farm's past record but also on the strength of the position the farm is in. That is, strengths and core competencies found in the SWOT analysis need to be strong in relation to the trends present in the industry. Also, the farm needs to be making the correct moves to position itself to take advantage of the trends in the industry. Upon reviewing both the internal analysis done to this point and the external analysis done on the industry, the farm can be evaluated for the signs of competitive strengths and weaknesses as exemplified in the lists below.

Signs of Competitive Strengths:

- important core competencies
- distinctive strategies
- cost advantages
- good match of the farm's strategic product groups with the industry's growth areas
- above average profit margins
- taking advantage of cost economies
- above average technological and innovational capability
- creative, entrepreneurially alert management
- capable of capitalizing on opportunities
- possessing skills in key areas

Signs of Competitive Weaknesses

- competitive disadvantages
- losing ground compared to other farms
- below average growth
- short on financial resources
- poor strategic product groups compared to industry growth
- weak where best growth potential is
- high cost producer
- not able to take advantage of cost economies
- poor quality of and/or missing skills in key areas

Strategic Issues to be Addressed. At this point, the external and internal analyses are reviewed and put together to assess how well the farm is placed in the industry situation and what strategic issues or points need to be studied, improved, changed, etc. This identification of issues is the beginning of crafting strategy which is described in the next section.

Crafting Strategy

In this, the last step in strategic planning, a strategy needs to be crafted for the overall business and for each part of the business. The term “crafted” is used to describe that this is not a simple, linear process. Those strategies that appear to fit need to be evaluated. The assumptions underlying the evaluation need to be recognized and dealt with in a complete evaluation. The critical factors for success of the potential strategies need to be identified and compared to the abilities of the farm.

Obviously, strategy needs to be crafted for the whole farm, but it also needs to be crafted for each enterprise on the farm. A strategy also needs to be developed for the separate functions of the farm business: production, finance, and marketing. These strategies for each enterprise and function need to be consistent with and supportive of the strategy crafted for the whole farm.

Strategy crafting is the managerial process of deciding how to achieve the targeted results within the farm's physical and economic environment and its prospects for the future. Objectives are the "ends”; strategy is the "means." A well crafted strategy provides direction for day-to-day activities by defining “our way of doing business.”

An effective strategy reflects organizational resources and capabilities and the competitive environment. Good strategies are based on the competitive advantages of a business, that is, on those points at which a business has an edge over its competitors.

Strategy is both proactive (intended) and reactive (adaptive). It is "a blend of (1) deliberate and purposeful actions and (2) as-needed reactions to unanticipated developments and fresh competitive pressures. . . . a combination of planned actions and on-the-spot adaptive reactions to fresh developing industry and competitive events." (Thompson and Strickland, 1995, p. 6)

The factors that shape a farm's strategy can be classified as either external or internal. External factors include:

- Societal, political, regulatory, and community citizenship considerations
  These are usually limiting factors.

- Industry attractiveness; changing industry and competitive conditions
  A farm’s strategy ought to be closely matched to industry and competitive conditions.

- Specific market opportunities and threats
  A well-conceived strategy aims at capturing a farm's best growth opportunities and defending against external threats to its well-being and future performance.

Internal factors include:

- Organizational strengths, weaknesses, and competitive capabilities

A farm's strategy ought to be grounded in what it is good at doing (i.e., its organizational strengths and competitive capabilities); it is perilous for success to depend on what it is not so good at doing (i.e., its organizational and competitive weaknesses).

- The personal ambitions, business philosophies, and ethical principles of managers
  Managers stamp these on the strategies they craft.

- Shared values and culture
  A farm's values and culture can dominate the kinds of strategic moves it considers or rejects.

Strategy should change and evolve as the business environment changes and evolves. However, if a strategy is rewritten or reworked too often, managers are probably guilty of erratic decision-making and weak "strategizing." Large changes in plans and strategy can occur, especially in crisis situations, but, if changes are made too often, confusion will reign within management and employees and performance will suffer.

Managers have to be entrepreneurial (i.e., creative, risk-taking, innovative) when crafting strategy as well as able to do outside-in strategic thinking. Managers must keep their strategies closely matched to outside forces such as changing buyer preferences, the latest actions of rivals, market opportunities and threats, and new trends in the business environment. Managers have to study market trends, listen to customers, enhance the company's competitiveness, and steer company activities in appropriate directions (Thompson and Strickland, 1995, p. 7).

Outside-in thinking can be understood best when contrasted against its mirror: inside-out thinking. A person, manager, company, or any organization that thinks inside-out is (or becomes) risk-averse, accepts currently acceptable performance, concentrates on current plans and operations to do them better, dismisses new trends because "they won't affect us," studies new trends to death, etc. Inside-out strategies tend to be traditional approaches, acceptable to internal coalitions, philosophically comfortable to the current management, and safe in terms of not disturbing current conditions; they are not very forward thinking.

Strategy can also be seen as the pattern of actions and approaches that define a company's overall strategy (Thompson and Strickland, 1995, p. 10).

- Actions to respond to changing industry conditions (shifting demand patterns, new government regulations, the globalization of competition, exchange rate instability, entry or exit of new competitors)
- Fresh offensive moves to strengthen the company's long-term competitive position and secure a competitive advantage
- Efforts to broaden/narrow the product line, alter product quality, or modify customer service
- Efforts to alter geographic coverage
- Efforts to integrate backward or forward

- Actions to capitalize on new opportunities (new technologies, product innovation, a chance to purchase a rival company, new trade agreements that open up foreign markets)
- Defensive moves to counter the actions of competitors and defend against external threats
- Moves and approaches that define how key functions and activities are being managed
- Actions to improve short-term profitability
- Moves to diversify the company's revenue base and enter altogether new industries or businesses

The actual strategy that a farm chooses to follow is most likely a combination of elements of the following generic strategies.

Low cost leadership. In this strategy, a farmer aims to develop a low-cost production position within the industry based on experience, size, and/or efficient operations. For most of agriculture, the only strategy available to producers is this low-cost strategy.

Growth. For many farms the strategy is to increase size as measured by sales, net worth, profit, acres, and/or animals

Prospector. With this strategy, a farmer emphasizes marketing effectiveness and market development. A farmer who chooses this strategy is also likely one involved in a differentiation, niche, or focused strategy.

Protector. Once a market position has been developed with a differentiation, prospector, or niche strategy, a farmer may adopt a defender strategy to maintain, protect, and fortify a secure market position. The recent interest in identity preserved (IP) grains and meat and in contracts is one piece of evidence of farms striving to differentiate their products and to protect their markets.

Reactor. This is the strategy of not choosing a strategy because the manager is unable to develop a competitive advantage and cannot effectively compete in the market place. This strategy if followed for long periods will lead to reduced success at achieving visions, goals, and objectives – if not the death of the farm.

Differentiation. A farm following this strategy strives to create unique perceptions about its product(s) among its consumers. A farm selling directly to the public will most likely be including elements of this strategy in its chosen strategy. The recent interest in identity preserved (IP) grains and meat and in contracts is one piece of evidence of farms striving to differentiate their products and to protect their markets.

Focus or niche. A farm with a focused strategy strives to serve a small but well-defined market niche. Examples of this include a supplier of organic vegetables to local markets and/or restaurants, a producer of rabbit or buffalo meat, a grower of organic blue corn for a food processor, and so on.

Best-cost provider. With this strategy, a farmer may be producing a commodity (milk, for example) but supplying it to a certain market at a reasonable cost and, at the same time, meeting other characteristics (such as delivery, quantity, etc.) that the buyer wants.

Retrenchment. If the current strategy is not working or being accomplished, a farm could take a retrenchment strategy in either a strategic or operational adjustment. A strategic retrenchment involves redefining and reducing the goals upon which the original strategy was built. An operational retrenchment involves revising objectives and timetables toward more realistic levels. These retrenchments may be due to overly optimistic projections of either the external or internal environments or unanticipated changes in those environments.

Alternative proposed strategies need to be compared using a set of tests, but before those tests are described and the strategies evaluated, each proposed strategy should be reviewed to determine whether it is written in a clear, concise fashion and is internally consistent. If it can't be understood or has conflicts between its parts, a proposed strategy needs to be either rejected or rewritten before it can be considered further.

Choosing a strategy. To help choose which potential strategy may be the best strategy for a farm to adopt and follow, several tests can be done. Since each test evaluates alternatives strategies from one perspective, several tests should be used to provide a better overall evaluation and, hence, the choice of the most robust strategy. The following tests can be used to evaluate the merits of one strategy over another strategy.

Vision Consistency Test. How well does the proposed strategy fit with the business and personal vision of the farmer and other stakeholders? If a strategy does not fit with the visions and ambitions of the people involved, the chances of success are low because enthusiasm and attention will be low, so the strategy should be rejected.

The Goodness of Fit Test. How well does the proposed strategy fit with the external analysis of the industry? How well does the proposed strategy fit both the internal analysis of the farm? Even though an idea or strategy sounds great, if it does not fit both the external and internal conditions of the farm, it needs to be rejected.

Building for the Future Test. How well does the proposed strategy help maintain and develop the building blocks of competitive advantage: superior efficiency, superior quality, superior innovation, and superior customer responsiveness? How well does the strategy contribute to value creation, low cost processes, and product differentiation? Does the proposed strategy contribute to building resources and capabilities for the future? If a strategy uses but does not build resources, it should receive a low score on this test. A low score on this test may not require rejection, however. Consider a farmer with no heirs or partners who want to continue the farm business. This farmer may be very justified in following a strategy to use up depreciable assets (buildings and machinery, especially) at a rate correlated with his or her retirement plan.

The Performance Test. How well does the proposed strategy contribute to achieving the strategic and financial objectives of the farm? What are the predictions for income, rates of return, net worth growth, expansion in physical size, transition to the next generation, and so on? The score for performance should not be based solely on high income. The performance score should be based on a balanced view of the proposed strategy's contribution to the strategic objectives of the farm.

Importance Test. Are important issues identified in the external and internal analyses addressed by the proposed strategy, or is it focusing on the trivial? Does the proposed strategy feel comfortable (or enjoyable) but fail to explain how opportunities will be taken advantage of and threats will be defended against? Does it explain how it will build on strengths as well as improve weaknesses, or does it talk about new buildings? For example, does the proposed strategy aim to have the best Holstein herd in the region or the most advanced use of precision farming technology but ignore the need to achieve, say, cost objectives required by the industry to remain profitable? If a proposed strategy does not address the important issues, it should be rejected as it is written. Perhaps the basic idea is sound, but it may need to be rewritten to explain, in terms of the external and internal analyses, why and how the strategy meets the important issues.

Feasibility Test. Is the strategy amenable to programs that can effectively be implemented? Can it be broken down into programs and projects with measurable objectives? Can these smaller parts be accomplished? A well written, grand strategy, which no one can figure out how to implement, is infeasible and should be rejected.

Resource Test. Are resources available to implement the strategy? Can people be hired to do the work needed? Can financing be obtained?

Confidence Test. How high is the confidence that the anticipated outcomes of the proposed strategy will occur? What is the risk that events will occur that will change the expected results – especially in a negative direction?

These tests can be used to identify how different strategies perform or satisfy different objectives and, thus, help improve the final selection process. To use these tests, a farmer and his or her stakeholders give each proposed strategy a subjective score for each test chosen. Their scores come from their opinion of how each strategy would help the farm perform according to different tests. For example, how well does each strategy fit the vision of the stakeholders or fit the external analysis of the industry?

In most instances, the scores range from 1 to 5 with 5 being the highest score. That is, 5 indicates the best a given strategy can do in terms of a specific test. Once a score is estimated for each test, the scores are summed across all tests for each strategy. The strategy with the highest score is the apparent best strategy for the farm. However, since the scores are subjective, a farmer could also drop from consideration those strategies with the lowest scores and spend more time evaluating the remaining strategies before making a final decision.

As an example of scoring and evaluating strategies, suppose a dairy farm has developed four potential strategies. The proposed strategies (and the generic strategies involved) are low cost milk production (low cost leadership), finding new markets for milk (prospector), merging with a neighbor (growth and cost leadership), and producing organic milk for an ice cream manufacturer (prospector and best-cost provider). After describing the strategies, estimating the financial performance of each strategy, and reviewing the farm's vision and objectives, the farmer and others involved gives each strategy a score of 1-5 for all the tests (Figure 5).

In this example, two strategies are tied for the top: merging with a neighbor and producing for the organic market. To choose between these two, the farmer and other stakeholders can evaluate the differences between the scores on individual tests, such as, vision consistency, performance, or confidence. The two strategies could be evaluated in more detail to help the decision.

Also, remember that crafting strategy is a dynamic and cyclical process. In this example, the farmer should not feel constrained to the current list of strategies. Since two were tied with the top score, a new, combined strategy could be developed and considered. In this example, the farmer and the neighbor could develop and consider the combination of merging and producing for the organic market.

Figure 5. Example of scoring proposed strategies

	Strategy Tests (high = 5, low = 1)								
Proposed Strategy	Vision Consistency	Goodness of Fit	Building for the Future	Performance	Importance	Feasability	Resources	Confidence	TOTAL SCORE
Low Cost	2	3	2	3	4	4	3	2	23
New Markets	4	3	3	4	2	2	2	3	23
Merger	3	4	5	3	4	4	3	4	27
Organic	4	3	4	4	3	3	3	3	27

Since these are subjective scores, there is obvious concern that the person doing the evaluation could manipulate the scores in order to obtain a preconceived notion of what they think is the best. These concerns can be met by each evaluator striving to score without following preconceived notions of the desired result. If a group is evaluating the proposed strategies, each member of the group could estimate scores independently and then discuss them as a group. These and other potential problems and solutions are described in the next section.

Improving Strategic Planning. Farmers (and any company or organization) can encounter four problems or weaknesses with formal strategic planning: uncertainty of the future, ivory tower planning, planning for the present, and biases of the managers. Anticipating these problems can improve strategic planning. Let's discuss each of these briefly, and how they can be overcome, plus three other ideas for improving strategic planning.

1. Planning under uncertainty

   Problems due to uncertainty of the future show up in two ways. First, we think we can forecast the future accurately, so we do not incorporate risk and change into our plans. We choose a strategy, and as conditions change we may find that another strategy or an adaptation of the strategy would have been better, but it is too late to recover. Second, we know we can't predict future events accurately, so many people do not think planning is worth while. The resultant strategy is, at best, reactive and profitable by chance. At worst, the farm is put at risk as conditions change.

   Both the problem of blind faith in forecasting and of rejection of planning due to uncertainty can be solved by using scenarios to develop pictures of possible futures. Proposed strategies are analyzed under each scenario, then robust strategies are designed to cope with different scenarios. Scenario planning tends to expand people's thinking and result in better strategies. The process of developing and using scenarios is presented in the appendix to this paper.

2. Ivory tower planning

   In a large farm, managers may not stay in touch with the rest of the farm and the marketplace. Thus, their planning could easily be unrealistic in terms of what the farm can do and in what the market wants or how it will respond. This could also happen in a smaller farm, even in a one-person farm if the manager does not look realistically at what he/she and their farm can do and what is happening in the market.

   The solution may be easier in a single person farm, but the solutions are the same in all sizes of farms. Managers and people involved need to talk to people at every part of the farm and should consider having a "third-person" interview themselves and workers about what is happening. Benchmarking could provide an objective comparison of the farm's productivity and financial measures with other farms in the area and industry. Obtaining and listening to others' evaluation of the market and the economic environment will help open one's own thinking to alternative views of the marketplace and what needs to be done in all aspects of farming.

3. Planning for the present

   A very common problem in crafting strategy is using the fit model alone. We craft a strategy to fit the world and our farm as we see it, but don't incorporate any adaptions needed for the future. We study, analyze, present, discuss, list, and so on; it's all very structured and neat. We fit our

existing resources into the current environment. But we don't spend enough time on developing new resources and capabilities. We don't spend enough time on creation and/or exploitation of future opportunities.

The solution is to develop a strategic intent, that is, a bold ambition for the future. But strategic intent is more than unfettered ambition. Developing a strategic intent helps focus managers' and workers' attention on the vision of what we want the farm to be, motivates people by communicating the value of the target, leaves room for individuals and teams to adapt to changing circumstances, sustains enthusiasm over time by providing new operational definitions as circumstances change over time, and consistently guides resource allocations.

In practice, both fit and intent are used. That is, set an ambitious goal, go through the strategic planning process, continually monitor the external environment and internal performance, and be ready to change if necessary to keep moving towards the bold ambition.

4. Errors caused by cognitive biases

Cognitive biases affect how we think and what we assume to be truth. As individuals, we all have cognitive biases; thinking we don't is a cognitive bias because it's not true. Cognitive biases and potential solutions to deal with them are listed in Figure 6.

Figure 6. Cognitive biases and potential solutions

Cognitive Bias	Potential Solution
prior hypotheses or beliefs	pay attention to evidence that refutes prior beliefs
escalating commitment	don't commit more if things aren't working
Reasoning by analogy (especially overly simple analogies of complex situation)	Ask if the analogy really does make sense in the current situation
Representativeness of our knowledge (generalizing from a small sample or even one vivid anecdote)	Base decisions on large sample theory
Illusion of control	Accept that we don't control everything

The cognitive biases listed in Figure 6 are often evident in individuals. Groups can exhibit a problem called groupthink. When a group starts analyzing and making decisions without questioning their underlying assumptions of the situation, they are said to suffer from groupthink. This may be due to an overly influential member of the group or acceptance of one idea and then rationalization for accepting that one idea or plan.

5. Devil's advocacy

Devils' advocacy involves bringing up all the reasons that might make the proposed strategy unacceptable. This can be a very effective method of developing an improved, robust strategy to deal with different events in the future. Care needs to be taken that this is done in an objective way and, if one group member is doing this, that he or she is not painted as a negative person and possibly taint his/her future with the group.

6. Dialectic inquiry

Dialectic inquiry involves developing a plan (thesis) and a counter plan (antithesis) that represent possible but conflicting approaches to running the farm. The plan and counter plan are discussed and poked at to find weaknesses in assumptions, actions, and so on. Out of this discussion, a better plan should emerge – either a third strategy that is a combination of the first two or a strengthened plan or counter plan is developed because of the discussion. An individual farmer can also benefit from dialectic inquiry by developing a plan and counter plan and then playing opposite roles poking and probing each strategy, trying to find weaknesses.

7. Advisory Board

An advisory board consisting of persons interested in and knowledgeable about the farm but not directly involved in the farm is one way a farmer can benefit from others evaluating his/her plans and ideas. This advisory board can help an individual overcome many of the problems just discussed, although groupthink can still be a problem if it is not addressed directly.

We know how analysis takes place with our models for individual plans and scenarios, but how should a manager compare scenarios, their results, and their impacts on choices. The first step in strategy formulation is trying to decide which scenario is likeliest to happen and, perhaps, actually happening. Some common methods for choosing a strategy include these listed below.

1. Bet on most probable scenario. Decide which scenario is the most likely to happen and craft a strategy to position the business in the best way for the events likely to happen. If one scenario is very likely to happen, this is the wisest and easiest choice.

2. Bet on the scenario that is the "best" for the business. This may be the most profitable scenario or the scenario that will protect current income, asset values, and environment quality. However, choosing a strategy for only one scenario also may be expensive in the sense of what opportunities are given up by not following other strategies or by business failure due to following the wrong strategy.

3. Hedge on what will happen (i.e., keep a door open). Plan on the probability that one scenario will occur but keep evaluating what is happening and be ready to change if needed.

4. Preserve flexibility (don't shut a door). If two (or more) scenarios are considered equally possible craft a strategy that allows flexibility and ability to make adjustments as the future unfolds.

5. Influence the outcome (i.e., what happens). Use advertising and public relations to influence and change consumers opinions and choices. If policy changes are needed, work with legislators and Congress to encourage those changes be made.

   Please note that the idea of influencing outcomes is based on legal behavior. Some companies and persons have gotten into trouble by trying to influence outcomes in illegal ways such as price fixing, collusion, and other unlawful activities.

6. Combine methods: bet on most probable, try to influence the outcome, but keep an eye on the future as it unfolds and be ready to move and change if necessary.

   A robust strategy is viable despite which scenario happens. However, a robust strategy may be very expensive due to the costs of maintaining options so financial goals may not be met. Also, developing a strategy of being ready to move as needed in all or several scenarios may seem robust, but the business may lose by ending up stuck in middle!

Other factors can be considered in crafting strategies. These have obvious advantages but some disadvantages also.

1. First mover advantage. If you are the first to ask about the purchase of land, for instance, you may be the one who gets to buy the land. Being the first to say you are able to produce according to the proposed contract may provide you a chance to participate in a very beneficial venture. The obvious disadvantages are of moving too fast into uncharted waters. Success is not guaranteed to those who move first, nor to those who wait. Success comes when the choices are evaluated and decisions made appropriately to the opportunity.

2. Initial competitive position. By being the first or among the first, a business may have considerable advantage over other, later entries. For example, processors do not share new ideas and profitable ventures with all farmers. The first farmers who receive a chance to consider new, potentially beneficial contracts are those who the processor already knows.

3. Costs or resources required. A large initial investment and high operating costs create greater risks for the business. Smaller investments may allow a strategy to be followed with smaller rewards except that the financial cost is lower if conditions change enough to warrant a change in strategy.

4. Risk. Several aspects of risk can affect the decision on which strategy to follow:

   - The timing of the resource commitment. Having to invest a large among up front increases the risk of losing that investment.

   - The degree of inconsistency of strategies for alternate scenarios. If alternate scenarios require very different investments and operations, the cost of going with one can be great if another scenario is the one that develops in the future.

   - If the probabilities of different scenarios are very different, then the business can see which is the more likely. However, if the relative probabilities of occurrence are very close, the decision is more difficult.

   - If the cost of changing strategies to adapt to future scenarios is low, management has an easier time in crafting robust strategies. However, if the cost of changing is high, management needs to spend considerable time and careful deliberation evaluating potential scenarios and crafting strategies to deal with different futures.

5. Competitor's expected choices. As a last note, management should also consider and monitor what competitors are doing. For farms this involves not only what close neighbors are doing, but also what producers in other regions and countries are doing. The producers of products with close substitutes (such as pork, beef, poultry, and other meat producers) need to consider their competitors' choices or potential choices as they make their own choices.

STRATEGY IMPLEMENTATION

Implementation is, in many ways, the most difficult part of strategic management. Implementation involves designing the structure of the organization, aligning functional strategies (such as, production and marketing) with the chosen strategy for the whole farm, obtaining and directing the needed resources, and adapting the plan and implementation to the change that is inevitable. The difficulty of these tasks is compounded by the need to keep the overall vision in mind without getting immersed in and overwhelmed by the details of day-to-day operations.

The first step in strategy implementation is organizational development and change, that is, altering the organizational structure, staffing, leadership style and employee development approaches to achieve strategic goals. On a farm with multiple operators, partners or staff, assigning specific individuals to manage or supervise different parts of the farm can be a step towards achieving strategic objectives. Examples of changing organizational structure include assigning a specific person to be in charge of the milking herd and its nutrition, assigning a specific person to be in charge of scouting and pest management for crops, assigning a specific person to be in charge of marketing, and so on. These new assignments may necessitate new training. These changes may also require changes in how upper management (perhaps the older generation) manages the farm. Not relinquishing direct control may be one of the

largest obstacles to expanding and achieving objectives because of the redundant management time spent on decisions and on the slowness of decision making if several stakeholders need to be consulted before decisions are made and implementation continues. These obstacles can be overcome by training of both new and old managers. To plan for these changes in the organization, specific steps (with target dates) need to be identified. Some of these steps may be identical to steps identified in the functional areas (marketing, production, finance, and personnel) and in programs and projects – as discussed next.

To implement strategy well, strategies for each of the functional areas should be designed to support the overall strategy. One way to do this is to identify important activities for each of these functional areas that will facilitate that area's contribution to the overall objectives and vision contained in the strategy for the whole farm. These functional strategies should include the points shown below in an example for financing the expansion of a crop farm (Figure 7).

Another part of implementation is to identify programs and projects that are needed to achieve the vision and objectives identified as part of the planning process. These programs or projects are not the whole strategy but pieces or steps needed to accomplish or move forward with the strategy. Examples of these programs or projects are building a new milking parlor, seeking new markets, leasing more cropland, and so on. These projects could be explicitly needed to achieve the stated goals of, respectively, a larger herd, diversified markets, increased size. Under this method of implementation, the farmer (or management team) assigns a program leader (or specifies a certain amount of time by an individual farmer), sets specific measurable objectives with target dates, and allocates the needed human, physical, and financial resources to the program or project. This part of implementation can be planned by specifying, for each program and project, the points listed in the example project of building a new swine finishing barn (Figure 8).

As an example of a strategic program, consider a farmer's decision to become a certified organic producer and capturing those premiums (Figure 9). This farmer knows he has to educate himself on both production and marketing of organic products before he actually starts the 3-year certification process.

Figure 7. Example of a Functional Strategy for Financing a Crop Farm Expansion	
Functional area:	Finance
Specific strategic steps needed:	1. Negotiate land purchase of 1250 acres by, and a land rent contract with, local investor. 2. Negotiate machinery loan. 3. Consolidate and increase operating loan.
Reason/motivation for steps:	Investor with local connections is willing to buy land and rent to us if we can obtain financing for larger machinery line and operating needs.
Plan of action:	1. Negotiate and sign letters of agreements between current land owner, investor, and ourselves. 2. Use letters of agreement to negotiate and obtain financing for machinery and operating capital needs specified in business plan. 3. Talk to F&M Bank here, John Deere Leasing, AgriLease, Wells Fargo in Hutchinson, AgriStar, and perhaps other creditors. 4. If financing terms meet goals stated in projections, finalize and sign financing agreements, and then sign contracts for land purchase and rental.
Responsible person(s):	Mary to negotiate with current land owner and investor. Mary and Bill to negotiate with potential creditors.
Measurable objectives:	Letters of agreement, needed level of financing in agreements, and contracts to purchase and rent.
Target dates:	Letters of agreement by August 1. Finalize financing and contracts by August 25.
Budget and resources needed:	$1000 for attorney fees; 120 hours estimated by Mary and bill; use of car or truck and computer.

Figure 8. Example of a Strategic Project Plan for Building a Swine Finishing Barn	
Title of program or project:	Building a swine finishing barn.
Reason/motivation:	Achieve new operating efficiencies and increase capacity.
Plan of action:	Finalize contractor bid, obtain building permits, initiate and monitor building progress.
Responsible person(s):	Tim
Measurable objectives:	Bid finalized, permits obtained, building started, pit poured, roof and walls, building finished & pigs in.
Target dates:	Bid by April 1; permits by June 1; building started by July 1; pit poured by July 20; roof and walls by August 15, building finished & pigs in by September 15.
Budget and resources needed:	$840,000 and 3 acres.

Figure 9. Example of a Strategic Program to Become Certified in Organic Production	
Title of program or project:	Organic certification and marketing
Reason/motivation:	Estimated budgets show better profits
Plan of action:	Educate, start production, negotiate markets
Responsible person(s):	Steve and Mike
Measurable objectives:	Attend classes, join association of organic producers, finalize budgets and production process, contracts
Target dates:	Classes & joining, winter year 1 Finalize plans & budget, December year 1 Solidify market contacts, January year 2 Produce & control, years 2, 3, & 4 Attend association meetings, all years Become certified in year 4 Market organic products in year 4
Budget and resources needed:	$5,000 for 4 years of training and related expenses; 600 hours for extra planning

Controlling implementation is very similar to controlling the overall strategy. The major difference is the shortness of the time frame for controlling implementation. To control implementation, actual progress towards the objectives identified in the planning of the organization, functional areas, programs, and projects is measured and evaluated and corrective actions taken as needed. This process is discussed in more detail in the next section.

The job of implementing strategy can also be described as primarily a hands-on, close-to-the-scene administrative task that includes the following principal aspects (Thompson and Strickland, 1995, p.11).

- Building an organization capable of carrying out the strategy successfully. (For example, training yourself and your employees and acquiring the necessary resources.)
- Developing budgets that steer resources into those internal activities critical to strategic success. (Budgets of money, labor, and time resources are needed. This can be helped by an analysis of a farm's enterprises and value chains.)
- Establishing strategy-supportive policies (and procedures such as better marketing practices, employee incentive programs, etc.)
- Motivating people in ways that induce them to pursue the target objectives energetically and, if need be, modifying their duties and job behavior to fit the requirements of successful strategy execution better.
- Tying the reward structure to the achievement of the targeted results.
- Creating a company culture and work climate conducive to successful strategy implementation. (Allowing employees to keep the vision in mind and to suggest changes for successful implementation.)
- Installing internal support systems that enable company personnel to carry out their strategic roles effectively day in and day out
- Instituting best practices and programs for continuous improvement
- Exerting the internal leadership needed to drive implementation forward and to keep improving the way the strategy is being executed. (Keeping the vision in mind.)

STRATEGIC CONTROL

Since the world changes, strategic planning and implementation are not one-time exercises. Strategic control is needed to evaluate a farm’s performance and results during and after implementation of the chosen strategy. New developments and circumstances may call for corrective adjustments. The underlying situation may change, implementation may not go as planned, the world changes, so each task of strategic management requires constant evaluation and decisions of whether to change direction, etc. Strategic planning and implementation are never done. Evaluating performance, reviewing changes in the surrounding environment, and making adjustments are normal, constant, and necessary parts of the strategic management process.

Strategic control systems provide the ability to monitor, evaluate, and take corrective actions, as needed, to assure that strategic objectives will be met. Control involves the following steps: choosing the key indicators that measure progress towards objectives, establishing standards against which performance is to be evaluated, creating measurement systems for the key indicators, comparing actual performance to the established standards, evaluating the results, and taking corrective actions, as necessary.

Molz describes strategic control as having two parts: strategic product and strategic process. For strategic product, actual outcomes are compared with targeted outcomes projected in the strategy implementation program. Causes of deviations are evaluated and corrective actions taken as needed. For strategic process, a farmer needs to routinely re-evaluate all assumptions and inputs used to develop the strategic plan and decide whether unanticipated deviations from expectations will alter the viability of the strategic plan. Thus, Molz is saying that a farmer needs to evaluate in two ways: whether the chosen strategy is being implemented as planned and whether the chosen strategy needs to be redesigned.

Hill and Jones suggest that a control system can be separated into five areas: (1) Financial controls for rates of return, income levels, and so on. (2) Output controls such as productivity measures, efficiency measures, cost measures, and so on. (3) Behavior controls such as budgets, standardization of inputs, processes, and so on can be used when it is difficult to monitor outputs. (4) Organizational culture embodies a set of values and norms that control how people behave and respond to stimuli. Identifying and communicating these values and norms can control the behavior of workers and others involved in the farm business. Taking time to instill these values and norms in new employees can assure that they will behave in the ways that the farmer wants them to behave. (5) Reward systems designed to reward behavior and actions that contribute to achieving strategic objectives.

Strategic management is a continual process. Large companies have strategic planning departments that even have an annual schedule of reviewing, monitoring, and evaluating the different parts of the business and its environment. When the year is over, the process does not stop but restarts at the top of the list. There is some flexibility in this schedule due to the changing economy and environment, but the basic idea of strategy as a continual process can always be seen.

For a farmer (most of whom do not have a strategic planning department, I have noticed), the continual part of the strategic management process comes after the planning is done formally for a first time. After the initial development of a strategy, a farmer needs to scan the external environment; evaluate the impact of new conditions and events; and choose any needed corrective actions. Scanning the environment involves listening to both agricultural and general news, monitoring what the government and other institutions are doing, watching what their competitors are doing, reading magazines, contacting others who are also watching and monitoring the farming environment, etc. Evaluation of the potential impacts is done either on paper in a formal estimation of the impacts of events or using mental models of how the business and its environment interact. The mental models may be used to evaluate whether the potential problem or opportunity needs a formal analysis.

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APPENDIX

SCENARIOS FOR MANAGEMENT PLANNING

Using only one view of the future to plan major directions and investments could be a mistake with devastating results. Estimating probabilities for many variables and calculating expected returns and the variability of those returns can be difficult if not impossible for many farmers. Instead, alternative scenarios or descriptions of the future can be developed to help understand the potential impacts of different paths that future events may take. These scenarios can be used to help estimate results and subjective scores for proposed strategies under different views of the future. Scenarios are useful for forecasting the future because they help us:

- identify which factors and forces are and will be important.
- focus on the forces in the marketplace and other environments.
- see the future even with imperfect information.
- not blindly accept one view of the future.

Developing and Utilizing Scenarios

The development of good scenarios of the future requires a good understanding of the forces involved in the current situation and how those forces are affecting trends and movements into the future. The procedures described below start with identifying the uncertain elements in the situation and the causal factors that will affect those uncertainties. Thus, rather than just choosing a set of variables in a seemingly random or professionally random process, these procedures will help a manager develop a set of more rational, internally logical, and consistent scenarios.

1. Identify the Uncertainties

   a. Examine and classify each element in the situation as:
      - constant: unlikely to change
      - predetermined: predictable; trends are stable
      - uncertain: depending on unresolvable uncertainty

   b. All three elements are part of each scenario, but the uncertain elements are used to create and differentiate the scenarios.

   c. Evaluate both trends and discontinuities in the uncertainties. This involves using the knowledge and expertise from many disciplines and fields.

2. Classify the uncertainties as:

   a. **Independent uncertainties** are independent of other elements affecting the decision or they are essentially independent even if one could find some weak but plausible connection. For example, interest rates for farmers are essentially independent of other elements such as crop prices, labor availability, etc.

   b. **Dependent uncertainties** are determined by independent uncertainties. For example, the corn price in Minnesota is an dependent uncertainty to a large degree because it is largely determined by the production levels in the main parts of the corn belt and by the demand for corn.

   c. Only independent uncertainties are used to develop scenarios. Dependent uncertainties are known once assumptions about the independent uncertainties are made.

3. Identify causal factors for independent uncertainties

   a. Decide what affects the independent uncertainties. For example, what determines the level of corn production in central Illinois (which can affect the corn price in Minnesota)? Or, what affects the performance of the general economy which can affect the Federal Reserve's interest rate decisions? A manager needs to make assumptions about how these causal factors will behave.

   b Limit, for reasons of practicality, limit how "far back" we go to identify causal factors. For example, we may choose different levels of corn production in the main part of the corn belt rather than split that into the different factors of costs, weather, and other factors. Practicality says we can comprehend only so much detail; we deal with the lack of detail by the number of scenarios we analyze.

   c These casual factors become the "scenario variables" from which we define the potential scenarios of future events.

4. Develop internally logical and consistent scenarios

   a. To do this effectively, we need a knowledge of how the farm and its environment works.

   b. Estimate the "second-order" effects of assumptions. Variables may be interrelated. For example, if we assume bad weather in the corn belt and thus poor corn yields, it is not consistent to have high soybean yields in the same area.

   c. A good scenario will not have conflicting assumptions and second order effects.

5. Analyze scenarios for:

   a. Returns for each alternative action
   b. Future results on the industry or farm
   c. Implications for structural attractiveness (i.e., profit)
   d. Competitive advantages for farm
   e. Impacts on the factors identified in the strategy tests listed earlier

Scenarios can be used in at least two ways. First, they can be used to help develop scores for proposed strategies as described earlier. Second, they can also be used within the decision framework of payoff and regret matrices: scenarios can be thought of as events and the different strategies as actions.

As an example of developing scenarios, let's consider a couple producing hogs in southern Minnesota. Their farm has the capacity to farrow and finish about 4000 hogs. They have and are willing to sell feeder pigs if the market indicates that is the best option. They also farm about 480 acres (160 owned and 320 rented) with the help of both full and part-time employees.

They had done well earlier but recent years have been rough on their operation. They have endured extremely low prices and have had disease problems that required them to depopulate and rebuild the herd. So both productivity and profitability have been low and their financial position has eroded tremendously. The bank is threatening to not renew their operating loan unless they can show a high likelihood that the bank will be repaid and their financial position will improve.

Right know they are considering three main options. First, they could continue raising both hogs and crops. Second, since the hogs are the biggest financial drain, they would consider renting out their buildings, raising only crops, and taking an off-farm job. Third, since the hogs are the biggest potential source of income, they also would consider the possibility of not renting the land and focusing on the hogs. These three options are broad definitions of what they could choose to do. They are also open to other options and to fine tuning these three options if needed.

However, they are unsure of what the future looks like. They don’t know what the prices may be, whether disease may hit them again, and so on. Using the steps outlined above, they have developed a set of scenarios to help evaluate their situation and the potential of alternative strategies for the future. (This is not a complete list of elements and scenarios, but they do show the process of scenario development. This example also will need to be reviewed and likely changed for different producers and different years.)

Step 1. Identify the uncertainties AND Step 2. Divide the uncertainties into independent and dependent		
Elements	Constant, Predetermined, or Uncertain?	Are Uncertainties Independent or Dependent?
Hog prices in market	Uncertain	Dependent on hog supply in market and pork demand
Hog supply in market	Uncertain	Dependent on other producers' actions
Other producers' actions	Uncertain	Independent
Market access	Uncertain	Dependent on Other producers' actions and processors' offerings
Pork demand	Predetermined	
This farm's hog supply	Uncertain	Dependent upon farrowing decisions and disease level
This farm's farrowing decisions	Uncertain	Dependent on hog prices in market and farrowing capacity
Farrowing capacity	Constant	
Disease level	Uncertain	Independent (even after following sanitation procedures)
Feed prices in market	Uncertain	Dependent upon market crop production and demand
Crop production	Uncertain	Dependent upon weather and expected crop prices
Weather	Uncertain	Independent
Labor supply and wages	Predetermined (by local market)	
Government programs	Predetermined (with some uncertainty)	

Step 3. Identify causal factors for uncertainties	
Independent Uncertainty	Causal factors
Other producers' actions	Long-run price expectations, expected packer behavior, changes in pork demand
Disease level	Infected visitors, wind, failed safety procedures
Weather	position of jet streams
Step 4. Develop internally logical and consistent scenarios	

Several scenarios could be developed from the causal factors just identified. I have described five of them below. Others would be variations of these or perhaps different intensities of each factor.

Scenario A ("Most likely"): Other producers continue to expand faster than producers exit, thus production has a net increase in production that is in balance with increases in pork demand so hog prices remain at current levels. Management is able to control disease so farrowing productivity and production efficiencies are good. Weather is normal so yields are normal so crop and feed prices are at normal levels.

Scenario B ("Lower prices"): Also very likely, perhaps equally likely as scenario A. The net increase in hog production is greater than the increase in pork demand so there is a downward pressure on prices from current levels. Management is able to control disease so farrowing productivity and production efficiencies are good. Weather is normal so yields are normal so crop and feed prices are at normal levels.

Scenario C ("Disease hits"): Despite management's efforts, disease breaks out pushing productivity and efficiency down. Other producers continue to expand faster than producers exit, thus production has a net increase in production that is in balance with increases in pork demand so hog prices remain at current levels. Weather is normal so yields are normal so crop and feed prices are at normal levels.

Scenario D ("Widespread Drought"): The potential for widespread drought is realized in the next year so crop production is down and crop and feed prices are up considerably. Other producers continue to expand faster than producers exit, thus production has a net increase in production that is in balance with increases in pork demand so hog prices remain at current levels. Management is able to control disease so farrowing productivity and production efficiencies are good.

Scenario E ("Good times"): The net increase in hog production is not as great as the increase in pork demand so hog prices rise from current levels. Management is able to control disease so farrowing productivity and production efficiencies are good. Weather is normal so yields are normal so crop and feed prices are at normal levels.

Other variations could include drought over most of the corn belt but not on this farm. Another variation is the opposite: drought and poor yields on this farm but the drought is not widespread. The number and need for more scenarios will vary with the need for details, the time available for analysis and interpretation, etc. The number of scenarios needs to be balanced with the potential for information overload, rejection of alternative scenarios, and focusing on only one scenario thus resulting in an incomplete picture of the future.

Choosing the Number of Scenarios

The number of scenarios needs to be limited due to the confusion and possible rejection of the whole process if too many options and alternatives are analyzed. One way to minimize the number of scenarios is to reduce the number of scenario variables to only those crucial variables with large impacts on the results being watched (say, net farm income or cash flow).

Another way to minimize the number of scenarios is to reduce the number of assumptions about each variable. The choice of assumptions is affected by four factors.

- The need to encompass the uncertainty to give credibility to the analysis. If we do not cover all the possible alternatives to what may happen, the analysis may be faulty due to incompleteness.
- The regularity of the impact of the variable. If the analysis is very sensitive to small changes in the scenario variable more scenarios are needed. If the results are not very sensitive, fewer scenarios will be needed to analyze the impact of the variable.
- The owner's or manager's beliefs about the future or about the impact of variables will determine the number of scenarios needed. Some beliefs need to be tested and evaluated to see what impact they may have and whether that impact is important. As a result, some beliefs need to be changed.
- The practicality of analysis will restrict the number of scenarios. More scenarios means more work needs to be done. Time is needed for both doing the analysis and interpreting the results. The comprehension ability and endurance of the intended audience also needs to be considered.

The number of scenarios can be kept to a minimum by choosing an analysis sequence that yields management insight for a selection of a strategy. For instance, the first scenario to be analyzed should be the one considered to be the most likely. Then a scenario polar to the most likely one should be analyzed. After that, analyze more scenarios until the impacts of the important scenario variables are understood. Limit the number of scenarios, but be sure to include major discontinuities in the variables (such as major shifts in demand or supply) and include enough scenarios to illuminate the range of possible futures that will affect strategy formulation and to communicate, educate, and stretch managers' thinking about the future. Willis suggests that we look for themes in the trends, variables, and other elements and then develop scenarios around those themes.

Another way to choose the number of scenarios is to evaluate the advantages and disadvantages of each number of scenarios. These are pointed out below.

One: The "most likely" scenario. This ignores other possibilities and may omit important events.

Two: Two scenarios are better especially if they are polar scenarios. Two can be very useful if they are equally likely to happen, that is, they are "deadly enemies." With only two scenarios, there can be a problem in trying to capture all possible events in two scenarios.

Three: Three scenarios are also better but they may degenerate to: the most likely, optimistic, and pessimistic scenarios. Then the optimistic and pessimistic scenarios are often "ignored" and the problems of only one scenario return. Also, what is optimistic? What is pessimistic?

Four: Four scenarios can be useful if they are developed to be of equal probability. This many scenarios can start to show and encompass the degree of uncertainty. Four also allows the allows evaluation of the opportunity costs of strategies (i.e., the regrets of choosing this strategy over another).

At what point does confusion start? What's too many? What can management comprehend? These questions need to be answered for each situation and each manager or management team.

Once strategies are planned, what might happen to change the plan? At this point in planning, scenarios can be developed and used in an iterative process. A manager or management team can play the "Devil's Advocate" on what may happen and evaluate the consequences for the business under a potentially final strategy. This iterative process can test specific questions about the impact of future events and what, if any, contingency plans are needed within the final chosen strategy.