4 The Strategic Risk Management Process©

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Most agricultural producers are not involved in production agriculture just to make money. When asked, many respond that they also enjoy the lifestyle and being close to the land. Many also comment that it is a great way to raise a family in a small-town, rural environment. Some inherited their operations from family members. But risk can threaten any of these values. One of the best ways to avoid unwanted change is to develop a strategic plan. This chapter shows you how to do that specifically for risk.

Agricultural economics, economics, business, and finance offer farm and ranch managers many tools and techniques for decision making when it comes to risk. The concepts of profit, marginal analysis, cash and noncash costs of production, enterprise analysis, and financial analysis all provide decision makers with valuable information. What is still lacking is a framework for pulling these various pieces together in a practical and accessible way to include both the detail and the breadth of experience that farm and ranch managers face on a daily basis. For this purpose we developed the Strategic Risk Management process (SRMP or SRM process) and called it Risk Navigator SRM©. The SRM process provides such a framework and is designed for use on farms, ranches, and other agribusinesses. You will manage

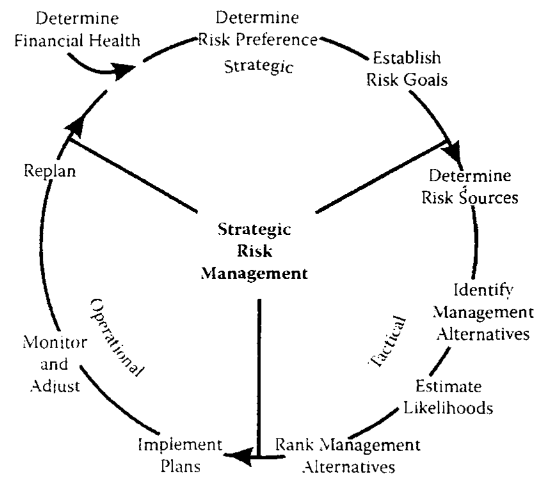

FIGURE 4.1 Strategic Risk Management Process. Source: Dana Hoag. The Strategic Risk Management Process. Unpublished proposal. Department of Agricultural and Resource Economics. Colorado State University. 2005.

risks better if you follow the steps. read about each step. and use the tools on our Risk Navigator SRM Web site that are specifically designed for each step (www.risknavigatorsrm.com).

The idea for SRMP came from Hoag (2005), as he searched for a way to make risk management more accessible. He found that risk management concepts could be portrayed through the well-established strategic management literature from business, as described in Figure 4.1. The process will assist agricultural businesses by developing a risk management plan that takes into consideration strategic objectives, like resources, risk preferences and the long-term goals of the operation, tactical tools to address risk problems, and operational steps to see that the plan is implemented, monitored, adjusted, and reapplied.

The process is divided into three main parts—strategic, tactical, and operational—containing ten specific steps. The process is cyclic with feedback and reevaluation as conditions change. That is, risk management requires continuous evaluation and reevaluation. Management decisions are based on the operation's goals, actual performance, and consider current and forecast conditions that affect all types of risk.

The SRMP differs from other types of planning for the future. Users not only consider what the future may look like and what risks may be present in their operations, but they also learn how to determine the best niche or position for their business to occupy given risk preferences, goals, and anticipated threats and opportunities. We discuss each stage below.

4.1 THE SRMP STRATEGIC STAGE

The SRMP is an *integrated* process, meaning the strategies identified in the initial steps are linked to the objectives and plans developed in subsequent steps. These interconnections of the various steps help ensure that all planning levels are interrelated and that all players are aware of the desired outcomes and plans for achieving them. When all of a business's resources can be aligned toward its identified goals, success, while not guaranteed, is much more likely. In addition, the process must consider stage-of-life issues for the people involved. For example, young families are more vulnerable than those who are more established. Transition of business ownership and management from one generation to the next must be carefully executed to maintain viability.

This stage of the process is labeled *strategic* because it involves setting strategy. In a military sense, strategy describes the overall plan designed to achieve a particular outcome. In a competitive situation, a winning risk management strategy is one that results in sustainable positive outcomes over the long run with acceptable levels of risk. In this way, strategic risk management is focused on resources and goals that better position the business for the future; the tactical stage that follows focuses on the details to attain those goals. At this point in the process, discussions and analysis are solution_neutral (Robinson and Robinson, 2004).

The strategic portion of the SRMP includes the following three steps: (1) determine financial health, (2) determine risk preference, and (3) establish risk goals. These steps define the endowment and attitude of the decision maker, which set some boundaries on which management strategies are most realistic. Someone with a lot of money can take on different risks than someone without any money, for example. It is important to determine how able you are to take on risk before proceeding to making decisions about how risks will be managed. Subsequent steps of the SRMP describe the specifics of how to move the business toward its desired future, and we will look closely at those as we move along.

4.1.1 Step 1: Determine Financial Health

Determining financial health refers to assessing the well-being of the business's financial resources. This process will identify areas of financial strength and weakness within the business. Doing so helps management better understand vulnerabilities, and allows for the development of plans to reduce them to acceptable levels. In addition, the practice may help identify areas of underutilized capacity, perhaps offering the option to capitalize on developing opportunities.

Just as athletes who train for a particular sport must develop strength in the specific areas the sport demands, they also must be aware of their overall health. Developing only the muscles necessary for lifting heavy weights may make an athlete well able to lift weights beyond the strength of others, but may make him ill-suited to win a 100-yard dash. Financial resources also may be overdeveloped in some areas and less so in others. In general, a balance of performance in each area of interest leads to a healthier business better able to withstand the shifting winds of change in the general economy. Put another way, the chain of financial health is only as strong as its weakest link. For this reason, it is important to assess where the weaknesses lie.

Financial health is multifaceted. As such, several measures are used to determine the health of this important resource. In general there are five areas of financial health that any business should be concerned about: (1) liquidity, (2) solvency, (3) repayment capacity, (4) profitability, and (5) financial efficiency. Each area is unique and important to the overall performance of the financial resource. A series of 16 ratios or indexes are utilized to evaluate financial health. Data for the ratios is derived from the four basic financial statements: the balance sheet, a cash flow statement, an accrual adjusted income statement, and a statement of owner equity. Finally, you can develop your own personal credit score as an indicator of financial health using the Risk Navigator SRM tools developed for this step.

4.1.2 Step 2: Determine Risk Preference

Step 2 in the SRM process is unique to risk. Most people prefer more money to less, but every person is different when it comes to how much risk they will tolerate to get more money. For example, would you be willing to use your savings to become a day trader in the stock market or to take a job in a war-torn country in order to earn big bucks? Many people would not, but some people would.

People have three basic types of risk preferences or tolerance. Individuals who exhibit risk-neutral preferences seek to maximize income while ignoring the presence of risk. Risk-loving people intentionally seek risk, just as people who have an addiction to gambling do. Most people exhibit risk-averse preferences, meaning they are willing to give up income to avoid risk. For example, suppose you were willing to pay $1,100 per year for automobile insurance. Insurance companies are in business to make money, so they have to charge more than they expect to pay out. If it costs only $900 per year to provide the car insurance, you would be paying a $200 premium above and beyond the cost of insurance, which you are willing to do in order to avoid the risk of paying a large settlement in case of an accident. The insurance company would be earning a $200 premium to take on that risk for you. Likewise, a farmer or rancher might be willing to accept lower profits from a marketing contract that reduced his or her price risk or to accept lower profits by vaccinating livestock to avoid disease outbreaks.

How risk averse a person can be is highly variable, which is why economists and other financial professionals have difficulty helping individuals determine the best course of action to follow. Recommendations cannot be made until the advisor knows how risk averse the individual is under different circumstances. The tools presented in Chapter 6 assist in assessing what a given individual's tolerance for risk might be under various conditions. Once you know your financial health and risk tolerance, you can think about the next step: setting specific risk goals.

4.1.3 Step 3: Establish Risk Goals

The next step in the SRM process is to set your risk goals. This is an extremely important step because goals guide the rest of the planning process. Goals should identify both family desires and where the business should be in 5 to 20 years.

To aid in this process, draft a mission statement for the operation to capture the operation's focus and purpose. This statement describes the direction the operation takes in the future.

Next, craft your risk goals. These goals should be SMART: Specific, Measurable, Attainable, Related to other goals and constraints, and Traceable over time. Prioritize your goals based on a list of the resources required. Since resources are limited, address higher-priority goals before moving on to lower-priority goals. The next step is to identify the necessary resources required for each goal to be attained. For example, how much credit is required? Are there needs for additional training? Are my soils the right type for the crops I want to produce? It is important to be honest in the assessment and determine if the goals are realistic given current resources, soil conditions, or livestock herd, etc.

Next, the process moves to setting tactical objectives. These are the methods used to accomplish the goals. Improving yield would be a tactical goal. The final step is to describe the operational plans. These are the action steps taken to achieve the tactical objectives and strategic goals. Chapter 8 provides a more detailed presentation of the specifics of the SRM process for setting risk goals.

4.2 THE SRMP TACTICAL STAGE

In the tactical stage of the SRMP, agriculturalists must evaluate various alternatives for reaching their vision for the future outlined in the strategic stage. That is, you make a solid plan. Individuals address resource constraints, consider alternative methods of risk management, and outline specific steps to follow. Creativity and a willingness to work through the details of various plans are needed to successfully complete this segment. Careful, diligent planning will be rewarded by fewer unexpected bumps in the road and, quite possibly, a more favorable outcome in the end.

Again following the military example, *tactical* refers to a maneuver or action taken to achieve a particular goal. Two management actions that result in the same profit may not be equal in either their resource costs or associated risk levels. For this reason, the tactical stage is acutely focused on evaluating situations for their impact on the resource base, implications for costs and returns, and more importantly, for the levels of risk.

Specific steps in the tactical level of the SRM process include: (1) determine risk sources, (2) identify management alternatives, (3) estimate likelihoods, and (4) rank management alternatives.

4.2.1 Step 4: Determine Risk Sources

The first step in the tactical phase is to determine when risks will come and where they come from, and to prioritize where risk management efforts will pay off most. No one has the time and money to address every risk. Navigator helps you identify the risks that you face and determine which ones need to be prioritized for best management.

We start with identifying risks. To that end, we list the five major types of risk in agriculture: production risk, market or price risk, financial risk, institutional risk, and human resource risk. We then provide a comprehensive list of agricultural risks commonly faced in each of these areas. (A number of tools and techniques are presented in Chapter 8 to help list and describe these risks.) Finally, we offer a variety of tools on the Web site to help organize and prioritize these risks. For example, a contributing factor diagram helps you describe the various risks that contribute to a desired outcome, such as making a profit or being able to pay off a loan. Often just identifying the risks can be a bigger challenge than developing a method for managing them. This flow-charting technique helps the user to think through the various factors needing attention.

When you are done charting your risks, you should have more information than you can possibly pay attention to. Since all risks do not have the same financial impact, a method for prioritizing the sources of risk is also helpful. We offer risk-impact and risk-influence tools to help. These charts highlight each risk by how much impact it has on you and how much influence you have on it. Another helpful tool we discuss is SWOT analysis. A SWOT analysis identifies Strengths, Weaknesses, Opportunities, and Threats to accomplishing your goals.

4.2.2 Step 5: Identify Management Alternatives

Decision makers have to decide how to manage risks after identifying and prioritizing them. There are four basic ways to manage risk: assume it, avoid it, reduce it, or transfer it. The objective is to find the appropriate trade-off between the risk and achieving your personal goals. Some people will choose to assume risk in order to capture the returns that are often associated with it. Of course, even someone who assumes risk will also try to reduce it. At the other extreme, some people are so uncomfortable with uncertainty that they will avoid risk altogether. Risk can be transferred to people who are better prepared to handle it. Farmers, for example, can shift yield risk to insurance companies and the government by purchasing crop insurance.

The objective of any particular risk management strategy is to manipulate the risk profile into a more acceptable form. Management efforts are focused on narrowing risk by squeezing the probability density function (profile) or increasing the expected value of the outcome. For example, production risk can be managed through diversification or by installing irrigation. Marketing risk can be managed with storage or by using the futures market. Maintaining credit reserves will help with financial risk and having a backup management plan can reduce human risks.

4.2.3 Step 6: Estimate Likelihoods

The sixth step in the SRM process provides the tools for estimating the likelihood of various alternatives. This is the last step required to build the actual plan and choose your risk management strategy. Most people find statistics very difficult to understand. Remember that bell-shaped curve you learned about in high school or college? How well do you remember what it means? Could you estimate one of these probability density functions (PDFs) or risk profiles? They contain a wealth of information about how risks affect you. In Chapter 10, the SRMP will provide a detailed description about what these important curves are, how to interpret them, and even how to compute them. In short, you will learn how to create a risk profile.

Also in Chapter 10, several Navigator tools are provided to help develop sophisticated statistical descriptions about how important variables are distributed over time or space. A farmer or rancher, for example, could determine his or her average yield and the PDF will show how much chance there is of getting lower or higher yields, and much more. This information is used to determine which management strategy best suits your personal situation.

Chapter 10 also discusses how to find information and how to build a PDF using this information. You will even learn how to build a PDF using just your own knowledge or opinion when information is scarce.

4.2.4 Step 7: Rank Management Alternatives

The final step of the Tactical Stage of the SRM process is to rank the various alternatives considered to this point and select those with the most desirable outcomes. The SRM process uses the concept of a payoff matrix along with powerful tools in Excel™ to analyze and compare different risks. These are the same methods that highly paid consultants use. Two or more risks can be compared by looking at their returns, the probability of good and bad outcomes, and by factoring in the personal risk preferences of a decision maker.

The Risk Navigator tool called the Risk Ranker organizes your information into a payoff matrix about risks, probabilities, and management alternatives, and creates five different types of analyses that help you compare which risks are right for you. But before doing that, we start by looking at whether risk even needs to be considered. Sometimes, the risk is not important enough to make one management alternative preferred over another. For example, if using irrigation reduces risk and improves profits, risk is not a factor. If risk is important, we provide risk profiles of each management alternative for comparison purposes. Likewise, you can use graphical profiles, such as fan graphs or stoplight graphs, to compare risks. We discuss several preformed risk management strategies such as Stop Light diagrams and Maximin for a more formal comparison.

Finally, we consider a person's personal risk tolerance scores to rank one management system over another. In all, there are over ten different ways to compare and rank management alternatives based on risk and returns.

4.3 THE SRMP OPERATIONAL STAGE

The third stage of the SRM process is the operational stage. It is within this segment that the action plans are implemented by actually taking the planned risks. The focus here is on the day-to-day duties of management. Watching how the plans unfold and adjusting to the inevitable bumps along the way are necessary. It has been said that when implementing a strategic planning process, the user is off-course from the original plan most of the time. Reaching the destination then depends entirely on making course corrections as needed to ensure the business moves in the desired direction. These activities are the focal point of the operational level.

Specific steps in the operational portion of the SRM process include implement plans, monitor and adjust, and replan. Strategic plans are often left in a drawer and never fully carried out, usually due to a lack of diligence in developing all levels of the plan—the vision for the future, consideration of alternative methods for reaching that future, selection of the preferred method and the implementation, and the monitoring and readjustment necessary to see the plan through to completion. This stage reduces that risk. Finally, the process does not end, rather it continues into the future as the business matures, is transferred to the next generation, or evolves to offer a new array of products. The SRM process is depicted as a circle to illustrate this cycle and the need for continuing the process.

The best-drafted strategic goals, tactical objectives, and operational plans will result in nothing but frustration if the planning process does not contain action on the part of the people involved. The operational level is focused on the activities of day-to-day work. At this stage, the planning process should influence and affect what takes place week by week, month to month, and season to season. For best results, there should be a structured approach used as the activities of labor and management are carried out.

Operational-level activities include making sure the operational plans are carried out, that resources are available when and where they are needed, that those responsible for various stages of the production process are providing the needed oversight, and that systems are reacting appropriately when contingencies come to light. In addition, successful shifting toward the future requires simultaneous work on a number of strategic goals and tactical objectives with differing time frames. Operational-stage management provides the needed oversight and coordination to ensure smooth functioning of the business and resource use.

4.3.1 Step 8: Implement Plans

Ultimately, the management team must put whatever plans have been made into action. Implementation of the plan involves acquiring the necessary resources, scheduling the tasks to be completed, and overseeing all aspects of the plan. This is the area where management teams are usually most comfortable. These are the normal day-to-day, get-it-done steps in the process. With proper planning, however, even this step can be accomplished more effectively.

An ordered approach to organizing this phase of management can be of great assistance, especially during busy portions of the year. Implementation includes detailing who is responsible for which activities, where the resources will come from, when the resources are needed, what risks and contingencies are involved, and what priorities are placed on the choices available. Implementing the plans from earlier steps of the SRM process involves addressing all these issues and more.

4.3.2 Step 9: Monitor and Adjust

As plans are implemented, resource use must be monitored and adjustments made as needed. Rarely are plans implemented exactly as outlined on paper, particularly where uncontrollable factors, such as weather and markets, are involved. Implementation and execution must be monitored and midcourse adjustments made if goals and objectives are to be realized. The importance of this step is often overlooked by managers; however, evaluation of how closely plans are being followed is critical to reaching goals. Midcourse adjustments are necessary in nearly every activity people pursue.

Good records are essential for monitoring, evaluating, and making necessary adjustments. Implementation of even basic record keeping when resources have not been previously monitored is essential to successfully completing this step of the process. Where risks are higher or consequences greater, more complete or detailed record keeping may be justified. Yet if management does not spend the time to review the information and remain open to using that information to make periodic adjustments, even the best, most detailed record keeping becomes time and effort wasted.

Management of resource supply and demand is a critical function in the implementation step. However, just as critical are monitoring and adjusting to associated increases in threats or opportunities presented by the changing environment in which the business operates. Coupled with these environmental changes are changes in the risks and contingencies that accompany them. Having spent time considering alternative management strategies and ranking those alternatives in the tactical level of the SRM process provides management with the background necessary to make sound decisions in the face of adverse circumstances. Contingency planning covered in the implementation step also provides the ammunition for quick decision making when adjustments are needed.

4.3.3 Step 10: Replan

Replanning is often ignored, probably because it seems to highlight what was not achieved. However, as most individuals will readily acknowledge, people tend to learn more from failures than from successes. Recognizing what was not accomplished is the first step toward addressing the deficiencies responsible. Identifying reasons that goals are not achieved is crucial in continuing the strategic planning cycle. Although replanning occurs throughout the year as resource use is monitored, it also should occur at year end.

A year-end analysis evaluates the performance of all ranch and farm resources. This analysis includes determining how closely actual performance matches the budget, with consideration of any benchmarks set for resource performance as part of transition planning. After completing this analysis, plans should be drafted for the coming year, completing the SRM process cycle.

As plans are implemented, the assessments should be made with full knowledge of how the implementation came to pass. The positive and negative influence of risk should be accounted for, in addition to identifying areas where portions of the planning process broke down. Only then can replanning begin with confidence. The replanning process is the first step in beginning the cycle anew as the manager moves toward revisiting his or her risk preferences and strategic goals.

Finally, it should be noted that the SRM process is ongoing into the foreseeable future. While some, maybe most, strategic goals and objectives will be met, others will prove too difficult or conditions will change to make them unimportant or too costly to achieve. That outcome is reasonable and acceptable. Accomplishment of all goals and objectives is not the sole measurement of success. Rather, progress toward those goals that are most important will provide many positive returns, particularly if systems have been implemented to allow management the capability of measuring that progress over time.

4.4 CONCLUDING REMARKS

Risk Navigator SRM packages the ten-step SRM process for you. A complete description of each step can be found in Chapters 5 through 12. Each of these chapters describes what the objective of each step is and multiple ways to accomplish it. The www.RiskNavigatorSRM.com Web site contains easy-to-use Internet tools that are the methods we prefer for each step. For more clarity, we have provided an example of how EWS Farms conducted each step at the beginning of each chapter.

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