



Chapter 4

Chapter 4

The Strategic Risk Management Process (SRMProcess)

4.1 Introduction

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 include that it is a great way to raise a family in a small-town, rural environment. In addition, many have inherited their operations from family members. Risk can threaten any of these values. One of the best ways to avoid unwanted changes is to develop a strategic plan.

The fields of agricultural economics, economics, business and finance offer farm and ranch managers many tools and techniques to aid in decision making when it comes to risk. The concepts of profit, marginal-analysis, cash and non-cash costs of production, enterprise analysis, and financial analysis all provide decision makers with valuable information. In addition, a number of constructs such as decision trees, payoff matrices, risk-return frontiers, and others offer methods for considering various trade-offs between the alternatives available. However, what is still lacking is a framework for pulling these various pieces together in a practical and accessible way that can include both the detail and the breadth that farm and ranch managers face on a daily basis. The heart of RightRisk Navigator is the Strategic Risk Management Process (SRMProcess). The SRMProcess provides such a framework and is designed for use on farms, ranches and other agribusinesses.

Figure 4.1 shows the SRMProcess in a diagram form. It is derived from a customized, traditional strategic planning process to fit risk management. The process will assist agricultural businesses in developing a risk management plan that takes into consideration resources available (including management ability), risk preferences, and the long term goals of the operation and families involved.

The process is divided into three main parts: strategic, tactical, and operational. The SRMProcess involves a series of ten specific steps for the management of any operation (Grey Box). The process is cyclic with feedback and reevaluation as conditions change. That is, risk management requires continuous evaluation. Management decisions are based on the operation's goals, actual performance, and considering current and forecast conditions, including risk. The specific steps in the process are described below and will be used to organize the subsequent material in this book.

SRMProcess

Ten step plan

I. Strategic

- Step 1: Determine Financial Health
- Step 2: Determine Risk Preference
- Step 3: Establish goals

II. Tactical

- Step 4: Determine Risk Sources
- Step 5: Identify Management Alternatives
- Step 6: Estimate Likelihoods
- Step 7: Rank Management Alternatives

III. Operational

- Step 8: Implement Plans
- Step 9: Monitor and Adjust

Figure 4.1. Strategic Risk Management Process



4.2 Strategic Stage – SRMProcess

The SRMProcess describes a process for strategically managing risk. This differs from other types of planning for the future where the user not only considers what the future may look like and what risks may be present, but also helps describe the best niche or position for the individual or business to occupy given risk preferences, goals, and anticipated threats/opportunities.

The strategic segment of the process focuses on the long term—such as ten, fifteen or twenty years from today. It describes the destination, rather than the specific steps to get there. It provides a description of what the organization desires to be or become in the future, how it will operate, and who will be involved. Further, it does all this in the context of what resource constraints the business currently must work within.

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. A winning risk management strategy, where there is competition, is one that results in sustainable positive results over the long run with acceptable levels of risk. In this way, strategic risk management is focused on actions that better-position the business for the future. It concentrates on management issues that are business-wide. At this point in the process discussions and analysis are solution-neutral (Robinson and Robinson, 2004). The tactical and operational levels of management are concerned with specific steps and actions needed to carry out the strategy.

Good management can be referred to as “doing the right things right”. The strategic portion of the SRMProcess helps to ensure that risk management activities are focused on the “right things”. Just as in the story about the young person seeking to impress his elders by being known as the fastest ladder-climber around, the strategic portion of the process seeks to ensure the ladder is leaning against the right wall, as well as that it can be climbed skillfully and without mishap.



The SRMProcess is also an *integrated* process. That is 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 the various planning levels interrelated and that all the players are aware of the desired outcomes and the plans for achieving them. When all the resources of a business can be aligned toward the identified goals of the business, 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 which are more established. Transition of business ownership and management from one generation to the next must be carefully executed to maintain viability.

Specific steps in the strategic portion of the SRMProcess include: 1) determine financial health, 2) determine risk preference, and 3) establish risk goals. Subsequent steps of the SRMProcess describe the specifics of how to move from where the business currently is toward its desired future. In addition, the process provides the framework to address changing conditions along the way.

Step 1 - Determine Financial Health

Financial health, much like health in other contexts, refers to the practice of assessing the well-being of the financial resources of a business. This process will usually identify areas of financial strength and weakness within the business. Doing so helps management better understand vulnerabilities, allowing for the development of plans to reduce them to acceptable levels. In addition, the practice may help identify areas of under-utilized 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 must also be aware of their overall health. Developing only the muscles needed for lifting heavy weights may make the athlete well-able to lift weights beyond the strength of others, but makes them ill-suited

to win a 100-yard dash. Financial resources may also be over developed in some areas and less so in others. In general, a balance of performance in each area of interest leads to a more healthy business and a business better able to withstand the shifting winds of change in the general economy and business environment. Put in 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 may lie.

Financial health is multi-faceted. As such, several measures are used to determine the health of this important resource. In general there are four areas of financial health that any business should be concerned about: 1) liquidity and solvency, 2) repayment capacity, 3) profitability, and 4) financial efficiency. Each area is unique and important to the overall performance of the financial resource. A series of sixteen 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.

Chapter 5 presents a much more in-depth look at the data provided by the various financial statements. In addition, this chapter discusses what each of the financial statements provide the business manager, why these statements are important for management, and the background information necessary to understand how they are derived from business documents. Further, chapter 5 discusses the sixteen ratios for assessing financial health and provides an example using Aaron Sprague's EWS farms.

Step 2 - Determine Risk Preference

This step in the SRMProcess 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 to earn big bucks? Many people would not, but clearly some people would.

Risk For Ailing Financial Health

Fred Smith, the founder of Federal Express and the creator of overnight delivery, was once so desperate for cash that he risked everything on blackjack tables in Las Vegas to send \$27,000 he won back to FedEx and keep it afloat.



People have three basic types of preferences or tolerance for risk. People exhibiting risk neutral preferences seek to maximize income, while ignoring the presence of risk. Risk loving people seek risk on purpose, just as people who have an addiction to gambling do. Most people exhibit risk averse preferences. Risk averse people are willing to give up income to avoid risk. For example, you might be willing to pay \$1,100 per year for automobile insurance. An accident carries a big price tag if and when it occurs. So, most people are willing to pay to avoid the risk of facing a large settlement. However, insurance companies are in business to make money, so they have to charge more than they expect to pay out. If it cost only \$900 per year to provide the car insurance, you would be willing to pay a \$200 premium above and beyond the cost of insurance to avoid the risk of paying a large settlement. Likewise, a farmer or rancher might 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.

Risk Neutral

Ignores risk

Risk Averse

Avoids Risk

Risk Loving

Seeks Risk

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, which is setting specific risk goals.

Step 3 - Establish Risk Goals

The next step in the SRMProcess 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, a mission statement should be drafted for the operation. This captures the focus and purpose of the operation. This

also describes the direction the operation should take for the future.

Next, risk goals should be crafted. These goals should be SMART: Specific, Measurable, Attainable, Related to other goals and constraints; and Tractable over time. When writing these goals, a brief list of the resources required should also be made. The goals should then be prioritized, so they serve as guides in the planning and decision-making process for outlining the steps needed to achieve the goals. Since resources are limited, once a higher priority goal is achieved, remaining resources can be allocated to lower priority goals.

The next step is to identify the resources required for each goal to be attained. For example, how much credit would be required, are there needs for additional training, are my soils the right type for the crops I want to produce, etc.? 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 eight provides a more detailed presentation of the specifics of the SRMProcess for setting risk goals.

*If you don't know
where you are going,
any road will get you
there*



4.3 Tactical Stage – SRMProcess

The tactical section of the SRMProcess is truly an important stage. It is within this stage that various alternatives are considered and evaluated for reaching the vision created for the future in the strategic stage. Resource constraints are addressed, alternative methods of risk management are considered, and the specific steps to follow are outlined. Creativity and a willingness to work through the details of various plans are needed to successfully complete this segment. Identifying problems or opportunities through careful, diligent planning will be rewarded by fewer unexpected bumps in the road and 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. However, it is important, especially in risk management, to realize that actions that may result in the same outcome are often not equal in either their resource costs or associated level of risk. For this reason, the tactical stage is acutely focused on evaluating alternatives for their impact on the resource base, implications for costs and returns, and more importantly for the levels of risk

The tactical stage considers various management actions available and offers the chance to calculate the cost or benefit for possible outcomes. For example, actions such as selling on the cash market or forward pricing might be considered, where the outcomes would include prices that might be received. In addition, the tactical stage provides a chance to plan the transition from the way business is currently conducted to the method envisioned for the future. Specific steps in the tactical level of the SRMProcess include: 4) determine risk sources, 5) identify management alternatives, 6) estimate likelihoods, and 7) rank management alternatives.

Step 4 - Determine Risk Sources

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

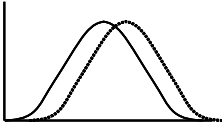
When you are done charting your risks, you should have more information than you can possibly pay attention to. Since all risks do not have the same financial impact, a method for prioritizing the sources of risk is also helpful. We offer risk-impact and risk-influence charts to help prioritize the risks. These charts highlight each risk by how much impact it has on you and how much influence you have on it. We end chapter 8 by developing decision trees and SWOT analysis. Decision trees are more complex than risk-influence charts but can be very helpful when time is taken to develop them. A SWOT analysis identifies (S)trengths, (W)eaknesses, (O)pportunities and (T)hreats to accomplishing your goals.



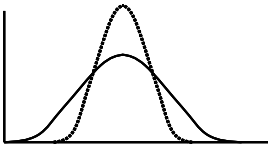
Step 5 - Identify Management Alternatives

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 tradeoff between the risk and achieving your personal goals. Some people will choose to assume risks in order to capture the returns that are often associated with it. Of course, even someone that assumes risk will also try to reduce it. At the other extreme, some people are so uncomfortable with uncertainty that they will avoid risks altogether. Risk also can be transferred to other people that are better prepared to handle it. Farmers for example can shift yield risk to insurance companies and the government by purchasing crop insurance.

Shift the risk profile to increase profit



Squeeze the risk profile to reduce risk



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. A detailed discussion about nearly thirty ways to manage risk in the 5 major risk categories is given in chapter 9. 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 back-up management plan can reduce human risks.

Step 6 - Estimate Likelihoods

The next step in the SRMProcess provides the tools for estimating the likelihood for various alternatives. This is the last step required to build the actual plan to 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 did you understand it? How well do you remember what it means? Could you estimate one of these probability density functions (pdf's) or risk profiles? They contain a wealth of knowledge about how risks affect you. In chapter 10

the SRMProcess 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.

In chapter 10, several RightRisk Navigator Tools are provided to help anyone develop sophisticated statistical descriptions about how important variables are distributed over time or space. A farmer or rancher, for example, could determine their 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.

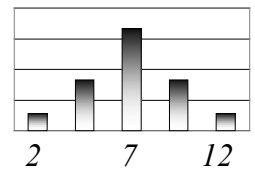
Chapter 10 also contains valuable information about how to find information and how to build a pdf using this information. You will even learn how to build a pdf using just your own knowledge or opinion when information is scarce.

Step 7 - Rank Management Alternatives

The final step of the Tactical stage of the process is to rank the various alternatives considered to this point and select those with the most desirable outcomes. The SRMProcess 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 high-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 Risk Ranker takes information that you enter 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. You start with looking at whether risk even needs to be considered. Sometimes, the risk is not important enough to make someone choose one management alternative over another. For example, if using irrigation reduces risk and improves profits, risk is not

Probability Density for Rolling 7 with two Dice





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 stop light graphs to compare risks. We provide several preformed risk management strategies such as safety first and maximin for a more formal comparison. Finally, we consider a person's personal risk tolerance scores to rank one management system to another. All in all, there are over ten different ways to compare and rank management alternatives based on risk and returns.

4.4 Operational Stage – SRMProcess

The third stage of the SRMProcess is the operational stage. It is within this segment that the action plans are implemented, actually taking the planned risk management actions. 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 is 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 SRMProcess 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—from the vision for the future, consideration of alternative methods for reaching that future, selection of the preferred method and the implementation, monitoring and readjustment necessary to see the plan through to completion. 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 SRMProcess 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 result in action on the part of 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 movement toward the future described in the mission statement and strategic goals, requires simultaneous work on a number of strategic goals and tactical objectives with differing timeframes. Operational-stage management provides the needed oversight and coordination to ensure smooth-functioning of the business and resource use.

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 management teams are usually most comfortable. These are the normal day-to-day, get-it-done steps in the process. However, with some planning, even this step can often be accomplished more effectively.

In addition, an ordered approach to organizing this phase of management can be of great assistance, especially during busy portions of the year. Detailing who is responsible for which activities, where the resources will come from, when the resources are needed, what the risks and contingencies are involved, and



what priorities are placed on the choices available. Implementing the plans from earlier steps of the SRMProcess involves addressing all these issues and more.

Step 9 - Monitor & Adjust

Monitor and adjust is the next step in the SRMProcess. As plans are implemented, resource use must be monitored and adjustments made as needed. Rarely are plans implemented exactly as outlined in paper. Particularly where uncontrollable-factors such as whether and markets are involved, implementation and execution must be monitored and mid-course 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. Mid-course 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 for resources that 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. However, even the very best, most-detailed record keeping available for a particular resource are wasted time and effort if management does not spend the time to review the information and remain open to using that information to make adjustments as needed.

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 SRMProcess, provides management with the background necessary to make

sound management decisions in the face of adverse circumstances. Contingency planning covered in the implementation step also provides the ammunition to for quick decision-making when adjustments are needed.

Step 10 - Replan

Re-planning is often ignored, probably because it would seem to highlight what was not achieved. However, as most 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 re-planning occurs throughout the year as resource use is monitored, it should also occur at year end.

A year-end analysis should be made to evaluate the performance of all ranch/farm resources. This 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—thus, completing the SRMProcess cycle.

As plans are implemented and assessments are made, 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, as well as identifying areas where the portions of the planning process broke down. Only then can re-planning begin with confidence. The re-planning 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 SRMProcess is a process that 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. Success will not be complete only if all goals and objectives are



reached. 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.

4.5 Concluding Remarks

We have discussed the basics of the SRMProcess that lies at the heart of RightRisk Navigator. A more comprehensive discussion of each step, along with examples applying the process to EWS farms, is presented in Part II, chapters 5-12. More discussions, lessons and examples are presented in Part III, centered around the 5 types of risk. Information about how to approach more advanced topics can be found in Part IV.

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