

Module 1

Megatrends of Agriculture

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Learning Objectives

The learning objectives for this module are for participants to:

- Increase their knowledge of the socioeconomic and agricultural trends that will be impacting agribusiness in the future.
- Increase their knowledge of the farm and rural community structure that is evolving and its impact on agribusiness and family lifestyle decisions.
- Be able to introduce management practices that can assist them in navigating and capitalizing on the trends and challenges identified in current as well as future agribusiness.

Module 1: Megatrends of Agriculture

Welcome!

Welcome to the starting blocks of your business journey. This high octane itinerary with its challenging road map will show you many facets, perspectives, concepts, and principles of business management and finance that can be applied to agriculture. Some sights and scenes you'll experience may challenge your current paradigms, while others may confirm some pre-existing thoughts and values you may already have about managing a business.

While each situation has unique opportunities and challenges, everyone would undoubtedly like to travel down a highway of success. The goal of this tour is to provide you with information and skills that will help you prosper in whatever your endeavor might be by helping you position your business, family, and personal lives in such a way that you can capitalize on opportunities available in an evolving agricultural and rural landscape. Your personal challenge will be to gather information and knowledge from your journey and apply it by customizing it to your personal situation.

ROADSIDE CHAT #1: Why would anyone in their right mind want to pursue the field of agriculture as a business or career?

That question was posed to me in the Carolinas and I allowed some young producers to respond. Here is a summary of their answers. First, every day is different – and not boring! Second, you get to use some of the latest technology and science in an entrepreneurial environment. Third, what a great place to raise a family and allow your children to learn the values needed to be good productive citizens. And, yes, while there is accountability and responsibility, there is also built-in flexibility to enjoy the simpler things in life. Finally, as a producer you place yourself in the position of providing vital products and services that people throughout the world depend upon. Enough said!

Megatrends Facing the Industry

Currently, agriculture is at a crossroads in our society with tremendous opportunity presenting itself. These opportunities are the result of a convergence of forces or trends facing the agriculture industry. These include: biotechnology, information advances, nanotechnology, and life sciences - all of which are in the hands of managers throughout the world that have advanced production capabilities.

In the future, agricultural managers will have to be multifaceted and able to operate in a five-dimensional industry that produces: food, fiber, fuel, products for the life sciences, and life experiences - all in an environmentally sustainable manner.

Let's tour North America for some examples of these five dimensions in action. A visit to a 34-year-old's operation in the vast fields of the Upper Midwest finds him utilizing yield monitors, GPS (Global Positioning System), and equipment guided by satellites to maximize profits. Now, let's travel to southeastern Pennsylvania and see wind turbines that provide energy located near forests that will provide timber to a global market. Throughout North America, alternative energy systems are sprouting up like new seedlings on a spring day. A young couple near Wichita, Kansas provides the *life*

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experience dimension by using a canon to shoot pumpkins a half-mile away. By charging five dollars a shot, they add to their bottom line and can keep their traditional family crop farm profitable. In Virginia, cutting-edge scientists in a biotech firm are producing tissue for human joint replacements with cells and tissue cultures from animals.

If you think you have entered the Twilight Zone or a Star Trek episode, think again. These anecdotal examples may seem a little extreme, but they are happening all around the country and illustrate the wide range of opportunities available in agriculture to make money and accelerate quality of life in the coming decades.

The future will bring prosperity in business and life to those savvy enough to recognize opportunities that will perpetuate change in their family, business and personal lives. Understanding the megatrends within these five dimensions (food, fiber, fuel, products for the life sciences, and life experiences) where producers *think globally and act locally* will be critical for success. Agriculture will be highly competitive in the future with survival of the fittest, requiring a high level of mental intensity. Also, flexibility and adaptability will be a best management practice requirement, regardless of your business model or climate.

You, Inc. - Megatrends Facing the Industry

Now let's bring the five dimensions of agriculture to your business and area. Name a business located in your area that would be an example of each of these five dimensions.

Food:

Fiber:

Fuel:

Products for the Life Sciences:

Life Experiences:

Which dimensions are in your future plans?

Catalysts for Change

Several catalysts for change will emerge in the coming decades. Each is highly inter-related; altering one variable can offset or change the other components. Let's go to the summit and begin to set the stage for your business in this new era of agriculture.

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ROADSIDE CHAT #2: What groups of people influence trends in agriculture?

A producer panelist from Alabama voiced a provoking thought at a conference I was attending at Clemson University. “The public, consumers, and special interest groups, along with the press, can have as much impact on agricultural trends as politics.” An example of this was an animal welfare group that applied pressure on McDonald’s and livestock confinement systems. Their concerns resulted in a major shift in production practices.

Consumer Demands

In the future, the evolving preferences and attitudes of both domestic as well as global consumers will have major implications for agricultural managers’ business strategies. We are already seeing that consumer demand for products and services that meet safety and security standards must be addressed. Also, convenience for consumers is a priority in this time-crunched society. Accordingly, products and services offered by agribusinesses must meet lifestyle habits and include these sought-after attributes.

We are seeing (both domestically and globally) several key issues related to consumer demands which influence agri-business. These include: (1) changing lifestyles; (2) level and distribution of income; (3) demographic characteristics of the population and (4) increased awareness of food safety, health and environmental issues that have created a fragmented agribusiness sector and marketplace.

Also, current and future demands being made by consumers will break the marketplace into three distinct sectors: (1) industrial contracts; (2) the traditional commodity marketplace; and (3) the value-added/niche marketplace. First of these are *industrial contracts* which are driven by agribusiness and food retailers that coordinate everything from production to delivery. Second is the *traditional commodity marketplace* which has existed over time and is changing into a more fast paced and global entity. Finally, there is the *value-added/niche marketplace* which is perhaps the most potentially influential segment for the future.

Cutting across all three of these sectors are food safety issues which have surfaced as major concerns in recent years. Branded food companies, private labels, local and global markets all will be facing increasing potential market risks associated with food safety issues. The ability to track products from the *farm gate to the dinner plate* will become even more prevalent.

Avenues available for a prosperous agricultural model for the future include local, natural, and organic markets which account for 8 percent of the marketplace in the first decade of the 21st century. This could grow to exceed 20 percent in the second and early third decades. While new production, processing, and distribution systems will need capital and expertise to evolve, they are sprouting up on the edges of urban areas and in hinterlands throughout the U.S. as both part-time and full-time businesses. Businesses with a story behind their production create a trust linkage and present an opportunity to form a relationship between the consumer and producer.

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Also, farm-to-school programs that educate young consumers; T.V. programming on the Food Channel; RFD TV with its wide variety of agricultural and rural programming; and sustainable agriculture operations are avenues available for the future.

You, Inc. - Consumer Demands

Name two consumer demands or issues that are having a direct impact on your industry or business.

- 1.
- 2.

How can you position your business or industry to meet these trends?

Environment

Increasing global economic change is affecting public perception of agriculture's role concerning the environment. Fundamental differences between growth and profit objectives and environmental balance will lead to legislation on all levels to protect ecosystems.

Water quality and availability will be troublesome in some regions of the world as competition between agriculture and the public intensifies. Water use and distribution in the 21st century will become what oil was as a resource during World War II, the 1970s and the early 21st century.

Environmental and natural resource issues will result in geographic migration of certain agricultural industries and possible consolidation. However, waste issues may benefit innovative businesspersons who utilize waste products for energy and soil nutrients in a sustainable manner.

Agribusinesses will be required to track environmental practices and inform the non-farm sector of practices and initiatives. Top producers, regardless of business model, will develop systems to obtain the most out of resources such as soil, water, air, and livestock in a natural, biological, and sustainable manner.

You, Inc. - Environment

What is the top environmental issue impacting your industry or area?

How will it change the way you do business?

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Government Policy

Government policy will ebb and flow within a global market context that continually evolves, ranging in a spectrum from free markets to protectionist attitudes. Environmental regulations, food safety, and farm subsidies, along with intellectual and property rights, and anti-trust trade sanctions will play a role in an agribusiness' strategic plan.

Overall, the United States' government policy will emphasize three major issues in the coming decades: (1) conservation and environment; (2) energy and emphasis on rural development; and (3) food safety and nutrition. We are seeing that fewer and fewer voters and public representatives have a heritage or linkage to farms and ranches. Because of this, farmers and ranchers will be required to be more communicative and vocal concerning how public policy affects them and their operations at all levels of government.

ROADSIDE CHAT #3: How important is it for farmers and ranchers to get involved in public policy development?

Al Bellotto, a longtime board member of Farm Credit of Central Florida, is quoted as saying, "Even a cowboy has to go to town." Mr. Bellotto is a very knowledgeable gentleman as well as a veteran of World War II. He was part of the team that fired the first shots at Iwo Jima! His comment is very thought provoking as agriculture goes under considerable change and scrutiny worldwide and deals with regulatory, policy and public issues.

As farmers and ranchers, we will be challenged to represent our industry at all levels including local, regional, state, national and international.

Let's start with the local level which often includes dealing with issues such as property development rights and the urban/suburban producer interface. Some will look at this as a threat, but as Al says, "Maybe there is opportunity if one looks at the cup half-full."

At the regional and state levels, issues pertaining to water and mineral rights, and regulation including food safety and security, reporting, and paperwork are necessary evils. Keeping bureaucrats and technocrats within reason is an educational program in itself.

At the national level, a majority of our citizens and politicians have no connection or history with the agriculture sector. Currently, approximately 80 percent of Americans are two generations or more away from the farm or ranch. They often see agriculture as a contributor to challenges and problems such as global warming, animal welfare, etc. Now and in the future, dialogue cannot be an option, but a requirement that hopefully empowers the younger generation.

Perhaps our biggest challenge will be finding the time to articulate a balanced perspective concerning our industry. If we don't, future "Al's" may be firing shots

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not only to protect our livelihood, but also to protect our country and its way of life as well.

You, Inc. - Government Policy

What government policy issues either locally, statewide, or regionally have impacted or will impact your business plan or model?

How will you adjust?

Technology

Information systems and biotechnology have been major contributors to increasing productivity throughout the world. Advances in collecting and disseminating information within the biosciences will far exceed the mechanical and chemical revolution of the mid and late 20th century.

Biotechnology is reshaping agriculture in livestock and crop genetics, tillage systems, crop protection, individual human health, and more. The rate of technology adoption will be impacted by three factors which include: management knowledge and skills, resources to implement technology, and consumer acceptance. Finally, social and political implications in the adoption of technology will be critical components for success.

In the crop sector, improved high-oil corn with increased levels of protein, carbohydrates, and amino acids like lysine and methionine are being developed and implemented for increased feed efficiency. In animal agriculture, similar developments are allowing genetic firms to link with producers to influence characteristics in meat quality. Seed technology will allow crops to be grown in different climate zones with less water and minimal soil requirements. Green technology will rapidly evolve to conserve natural resources, and meet the increasing needs of consumers and the general public.

The future will include information technology advancing to new levels. Right now, the use of computers in agriculture is in its infancy, but it is about to explode in its use by producers at all levels and in all segments. From constructing financial spreadsheets and scenarios to data mapping and organizing key plant and livestock data to make informed decisions, computers and data management systems are vital tools for providing solutions. The key will be for agribusiness persons to utilize the infrastructure and data; customize it into knowledge for the particular business; provide solutions to enhance profitability; and, give feedback to assist businesses as they are established, grow, and evolve.

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You, Inc. - Technology

What are two technological changes that have influenced the industry and area where you conduct business?

How will this impact your strategic thinking?

People

Historically many farmers and ranchers have been successful being independent and production-oriented. However, future managers will need to be much more people-oriented and interdependent. That is, being able to not only work with employees and family members, but also communicate with key personnel such as: accountants, crop and livestock consultants, legal counsel, lenders, suppliers, consumers, and the public in general. A high degree of *emotional intelligence* or *people-savvy* will be necessary to have a profitable and productive business. Understanding generational differences ranging from the hard driving Veteran and Boomer generations to the new Millennial workforce that is very oriented toward technology and work-lifestyle balance will be an element for success. Mastering the balance of high technology and the human touch may be the key to prosperity!

You, Inc. - People

Is work-lifestyle balance an issue in your business?

What are two strategic steps to consider which might help position your business to avoid potential traps?

- 1.
- 2.

Globalization of Markets

Historically, globalization of agriculture and other industries has fluctuated depending on the global economic status as well as the geopolitical climate. Producers of tomorrow will be competing with global economic blocs. Let me explain what I mean by that.

Board a plane and travel six hours to Europe and visit the European Union where the common currency is called the **euro**. This area of the world, despite being only 7 percent of the world's population, represents 25 percent of the world's economy. Historically, European agriculture has been more subsidized than the U.S.A. Niche markets in agriculture including natural, organic, and slow food, with a reluctance to accept technology-oriented foods and fiber are much more prominent amongst European consumers. Certain parts of eastern Europe and Asia are now being

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developed into large agribusiness units that could be keen competition to the American producer depending on geopolitical circumstances.

Now, let's jet over to the emerging economies of India and China that are creating a bloc with traditional economies such as Japan, Australia, New Zealand, and South Korea. This region is called the ASEAN-Asian Bloc. This group of countries is making substantial financial and political investment in agriculture and energy throughout the Southern Hemisphere. They are also creating alliances and trade agreements with countries in South and Central America, Africa and other strategic areas to provide more food, fiber, and fuel to a growing population that is becoming wealthier. The convergence of new infrastructure and biotechnology advances in this region will present economic competition to U.S. producers.

In the future, a North American bloc will evolve to compete against these powers which will include the U.S.A.'s largest trading partner, Canada, and its fourth largest trading partner, Mexico. Issues like trade, regulation concerning water, oil, minerals, labor, and farm subsidies will be hot topics as we go forward. Future generations of farmers and ranchers will operate and manage farm businesses with relationships north and south of the border and also on other continents.

Familiarity with such things as language, cultural differences, and social and political components of these power blocs will be critical to the success of many industries and enterprises. Understanding the health of the U.S. economy in contrast to other countries as it relates to government and tax policy, interest rates, currency exchange rates, and export potential will also be critical to the bottom-line. Knowledge of weather patterns, disease outbreaks and issues beyond the control of people and governments will be vital as agriculture production consolidates in these economic blocs.

But, how can we be expected to be successful in a global marketplace where extreme volatility and surprises are around every corner? Strategic management is all about anticipating, adapting to, driving, and capitalizing on change. First, we must strive to have a business model with low overhead cost and cost of production. Next, businesses must have the financial liquidity and cash reserves to withstand adverse economic cycles. Also, they must have a keen understanding of marketing and management operations leading to an economic margin. Yes, you must think globally and act locally, but if you are going to be competitive, your plans, strategies, and execution must be timely. A quote from a Montana rancher says it all, "In the new world of agriculture, knowledge is power, capital is king, and wisdom is implementing and executing the strategy."

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You, Inc. - Globalization of Markets

Do you agree or disagree that globalization is resulting in changes in your area?

Name two ways it is or is not impacting your area.

1.

2.

General Economy

No, we are not about to take you down the road to make you an economist, but the health of the U.S. economy does have a direct bearing on farmers' and ranchers' success. Currently, nearly 80 percent of all farmers and ranchers have some dependence on non-farm income and wealth. To a beginning producer, extra income or fringe benefits in the form of health insurance may be the variable that allows them to pursue a dream in agriculture.

A basic understanding of trends in economic indicators is important. Jobless reports, inflation rates, value of the dollar, and business and economic cycles are all elements that can have a significant impact on the agricultural and rural landscape. Lead indicators such as the Composite Leading Index and Purchasing Manager Index forecast the economy six to nine months forward; whereas lag indicators like unemployment rate and the average prime rate charged by banks demonstrate how well the economy has performed in the past few months, allowing economists to review their predictions and make better forecasts. These factors are often reported on the nightly news; by CNBC, the business and financial news channel; and in most newspapers and news websites. The particular indicators that relate to your business will vary by industry and sector. Webinars and face-to-face training on these topics can be tools in a manager's toolbox to assist in the decision-making process.

You, Inc. – General Economy

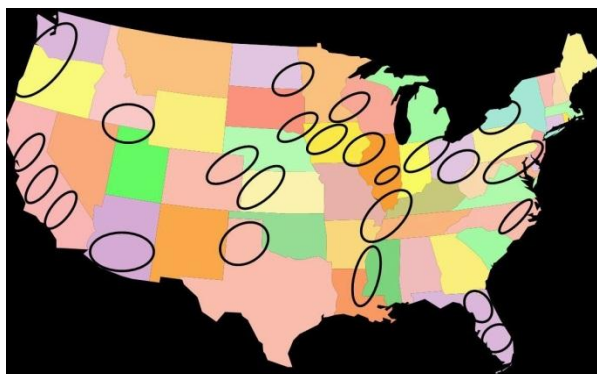
Which indicators apply to your specific industry or sector? What information do they show that will help in your decision making?

Farm Structure

Which is the best route for you to take regarding farm structure? What are the trends? Currently, there are seven business models which are emerging within the North American landscape. These are: (1) the large agribusiness farm/ranch, (2) the traditional family farm; (3) vertically-integrated agriculture; (4) contract agriculture; (5) the agri-entertainment venture; (6) the value-added agribusiness; and (7) the lifestyle farm.

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Let's visit each model and see how your vision might fit in. First, the **large agribusiness farm/ranch** model generates over \$1.5 million in revenue and has \$3.0 million in revenue and above in certain regions like Texas, Florida, and the West Coast. These large family farm units, for the most part, (see map for the location) generate approximately 70 percent of all agricultural production. You will notice land and natural resource quality, including water, are critical. Also see that many zones are located near metro areas or urban areas which will probably require future changes be made in the business model or perhaps relocation. Many of you involved in this segment will own other enterprises or businesses, some not connected to agriculture.



So, if you are a traditionalist, you may ask, “Is there a future?” Yes. Currently, nearly 30 percent of all farms and ranches in the United States could be classified as **traditional family farms**, generating between \$100,000 and \$500,000 in revenue. Many will be family businesses that will either scale up or exit the business in the future. Other farms in this classification will not have a next generation of family members to transition into management, and will be required to use an outside equity partner as its mode for future operations. However, for many the balance of business, family, and personal goals and motivation is the highway to success.

ROADSIDE CHAT #4: Is the family farm disappearing?

“Yes” is my response to shocked young audiences. However, further review finds that the family farm is “evolving.” For example, in my youth the family farm was owned and operated by the husband and wife. Now, it is often 15 times larger and owned and operated by nieces, nephews, and outside investors bound legally by a corporation, partnership or limited liability company (LLC).

For those of you following along, you might be curious about those farms and ranches between \$500,000 and \$1.5 million in revenue. These farms are in the transition mode or the Bermuda Triangle of agriculture. That is, they are too big to be small and too small to be big. This can be a very challenging size as producers are evolving management teams, undergoing capital expansion, and attempting to develop management systems. Producers are challenged by the fact that they must evolve from a producer focusing on day-to-day production

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activities to a manager of people, systems and the business' financial, marketing, and risk management. Many become discouraged, which often results in trauma and stress in business dynamics.

Vertically- integrated and **contract agriculture** are successful business models to many new entrants. These models allow someone to operate with the latest technology of parent companies while having access to markets through contracts. Poultry, hog, grain and vegetable operations often come to mind and fall into this classification.

Agri-entertainment and **value-added businesses** are rapidly growing in many areas of the country. Some take advantage of a consumer niche; others are able to link with a need for an agricultural and rural experience. Several attributes are important for success, including marketing and people skills, as well as a detailed operational and execution plan.

Finally, some of you may want to farm or ranch part-time or for the lifestyle. About 70 percent of American producers can be classified as **lifestyle farmers**. This model includes people of all ages, socioeconomic classes, genders, and races. Some are at the urban or satellite city edge while others want the solitude and peace of rivers, mountains and valleys. To be successful using this model requires synchronization between employment and lifestyle demands, and enjoying the lifestyle desired.

Of course, the model or segment that you choose or that is best suited for you is your decision. As you can see, each model has its challenges and opportunities and can evolve over time.

You, Inc. - Farm Structure

Which farm structure is most prominent in your industry or area?

Which farm structure or structures is the best fit for you?

List two reasons why.

- 1.
- 2.

Rural Community Dynamics

Future generations of agriculturalists will seek equilibrium between operating a business, balancing the demanding needs of family, and just making time for themselves. The community surrounding the location of the business is the venue for not only business activities, but experiences for lifestyle dynamics.

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A rural community that is economically vibrant and growing frequently has the following attributes:

- good schools
- hospitals
- preventative health systems and workout areas
- internet access
- good infrastructure
- reasonable cost of living
- natural amenities such as lakes, rivers, mountains for enjoyment
- access to shopping and leisure activities

These attributes will frequently impact both farm structure and your business model. The ability to attract and retain a high quality workforce and have harmony in the family is correlated with the fit of lifestyle goals and rural community offerings.

You, Inc. – Rural Community Dynamics

Which attributes exist in your community?

What can you do to bring the “missing” attributes to your area to improve the vitality of the community and quality of life?

Summary

The catalysts for change discussed will shape a new business environment for agricultural and rural areas in the 21st century. We trust this has stimulated curiosity and provoked thought, discussion, strategy and action for your business plan.

ROADSIDE CHAT #5: What is your advice for navigating trends and capitalizing on opportunities?

- Manage for volatility with flexibility and adaptability.
- Focus on what is valued by the consumer.
- Be committed to inform the public, consumers, government officials, and media about agriculture.
- Think “outside the box” and be innovative.
- Consider the “big picture” and remember one size does not fit all.

This ends the first leg of your learning journey. Now let’s get out of the blue sky and bring it down to your own business in your quest for success.