

High Tech Farming & Ranching

"The Sky's the Limit"

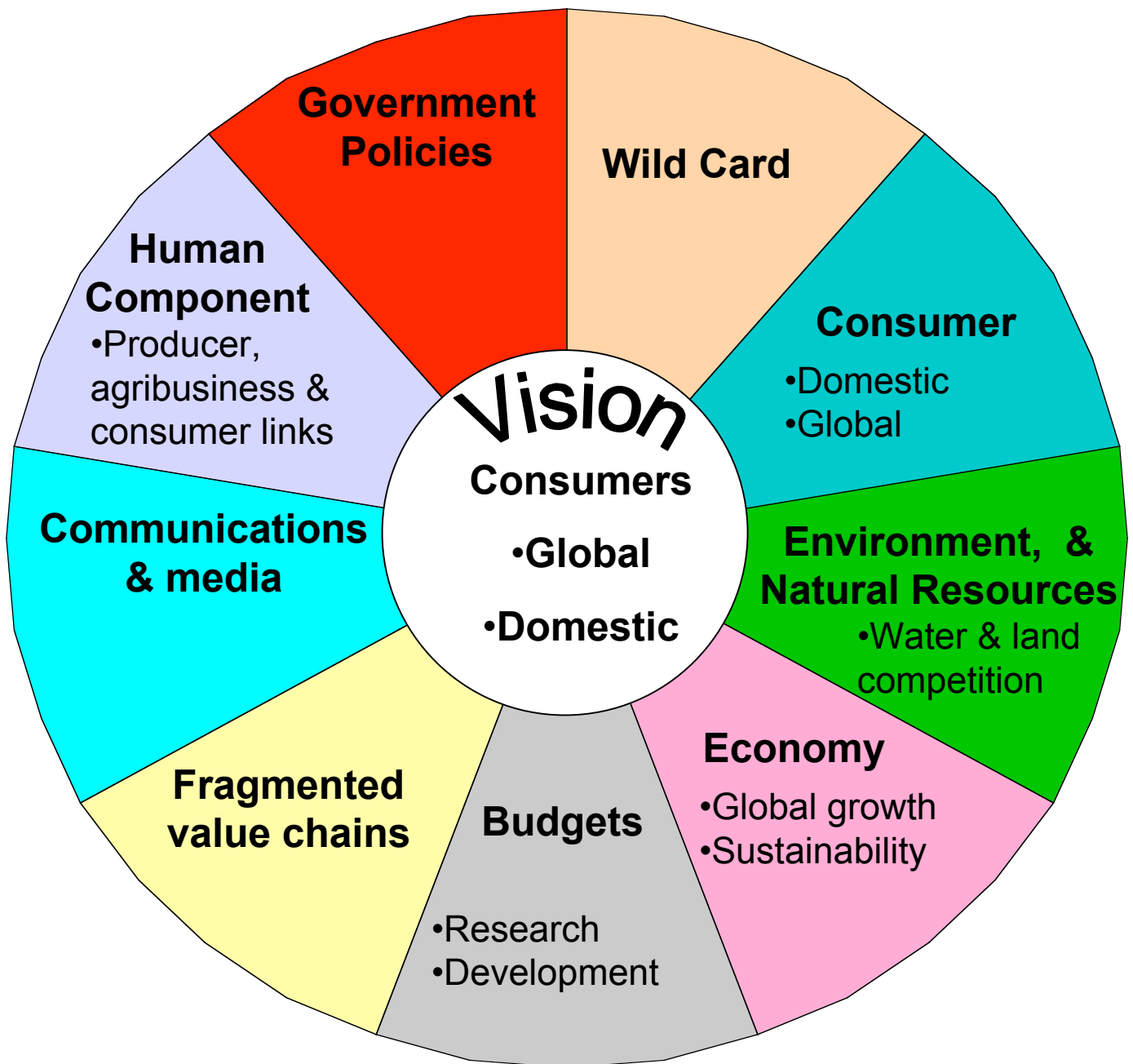


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Weekly Website Columns:
Ag Globe Trotter: www.farm-credit.com
Road Warrior of Agriculture:
www.cornandsoybeandigest.com

Strategic Trends Impacting Technology Adoption

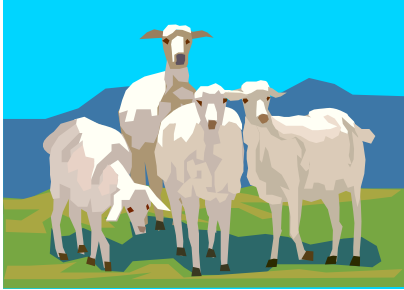
Food, Fiber & Fuel



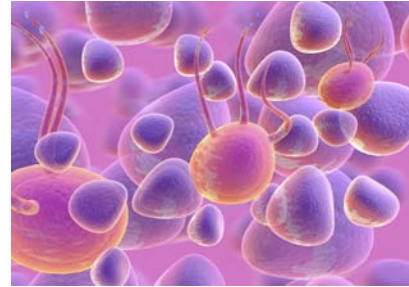
Reality

Technology Macro View

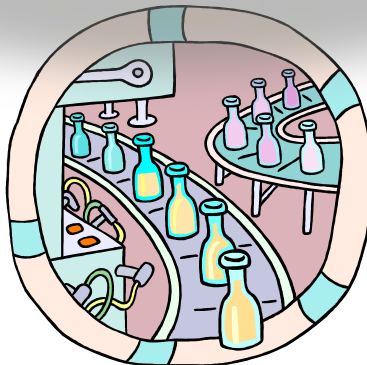
Life Sciences



Nanotech



Biotech



**Advanced
Production**



Info Tech

Consumers & the Marketplace

- How much more would the consumer be willing to pay for these attributes (per dollar cost)?

Attribute	Incremental Change
Organic	\$1.37
Natural	\$1.27
Local (produced within 100 miles)	\$1.32
Recycled package	\$1.23
Fair trade item	\$1.33



Domestic & Global Consumer Issues

- **20/80 rule**

- ✓ 20% of the population has 80% of the wealth
- ✓ 80% of the population has 20% of the wealth

- **Three consumer ‘sniff’ tests**

- ✓ Safety, security & stability
- ✓ Convenience
- ✓ Meeting lifestyle habits
- ✓ Classic example: Bottled water



Big Five Food Retailers

- **38% of food sales in 2000**
- **51% of food sales in 2005**
- **70% of food sales in 2010**

- **Large food retailers**
 - ✓ Multinational agribusinesses
 - ✓ One million selected producers globally



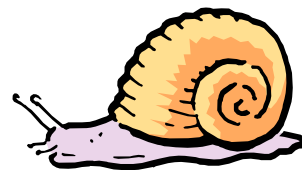
Fast Food vs. Slow Food

● fast food movement



	meals away from home
Super Bowl I	28%
Super Bowl XXXVIII	46%
Super Bowl L	63%

● slow food movement



- ✓ Europe
- ✓ northern California
- ✓ New England

Global Partners

● Proposed Asian Group

- ✓ **Members:** Japan, China, India, Australia, South Korea, New Zealand & the 10-member ASEAN group: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Singapore, Thailand, the Philippines & Vietnam
- ✓ **Population:** 3.1 billion
- ✓ **Total GDP:** almost \$10 trillion (US)



● NAFTA

- ✓ **Members:** Canada, United States, Mexico
- ✓ **Population:** 430.5 million
- ✓ **Total GDP:** \$12.9 trillion



● European Union

- ✓ **Members:** Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, the Netherlands, United Kingdom
- ✓ **Population:** 460.1 million
- ✓ **Total GDP:** \$11.7 trillion



Selected BMPs & Financial Performance

BMP <u>Technology</u>	Return on <u>Assets</u>	<u>Revenue</u>	<u>Debt Level</u>
Innovator/ Early Adapter	6.6%	6.7M	31%
Adopt When Proven	4.0%	1.2M	38%
<u>Traceback Systems</u>			
Yes	5.9%	6.5M	43%
No	5.6%	3.9M	32%

Technology Adoption

Financial Variable	Early or after proven	Majority, laggards & innovators
ROA <i>Northwest</i>	8.03 <i>5.53</i>	6.56 <i>4.93</i>
Net Income	\$110,317	\$67,306
Revenue	\$860,269	\$561,225
Debt to Asset Ratio	54%	65%

- **Minnesota: innovators are least profitable (4.71 ROA)**
- **Northwest: innovators are most profitable (6.61 ROA)**

Business Planning

Financial Variable	Business Plan		No Business Plan	
	MN	NW	MN	NW
ROA	6.75	6.34	7.76	5.61
Net Income	\$93,093	\$766,778	\$92,878	\$505,193
Revenue	\$973,388	\$5,719,524	\$613,682	\$4,122,027
Debt to Asset Ratio	68%	37%	48%	32%

- **As farms become bigger and/or more leveraged, more business planning is necessary**



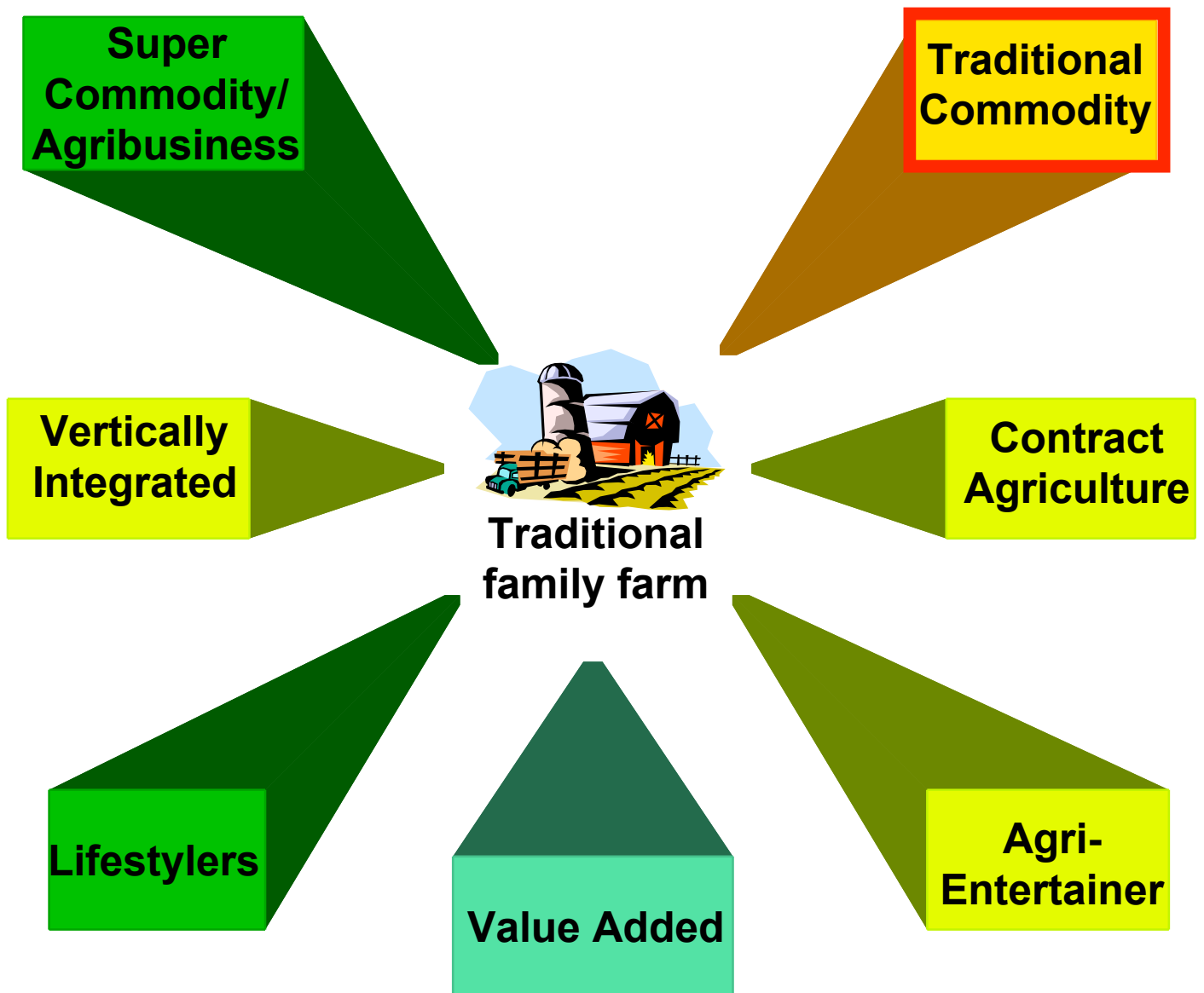
Technology & Business Reality

Three Keys

- **increase productivity**
 - ✓ customization & speed to market
- **lower operating expenses (cost)**
- **outsource**
 - ✓ Physically & virtually



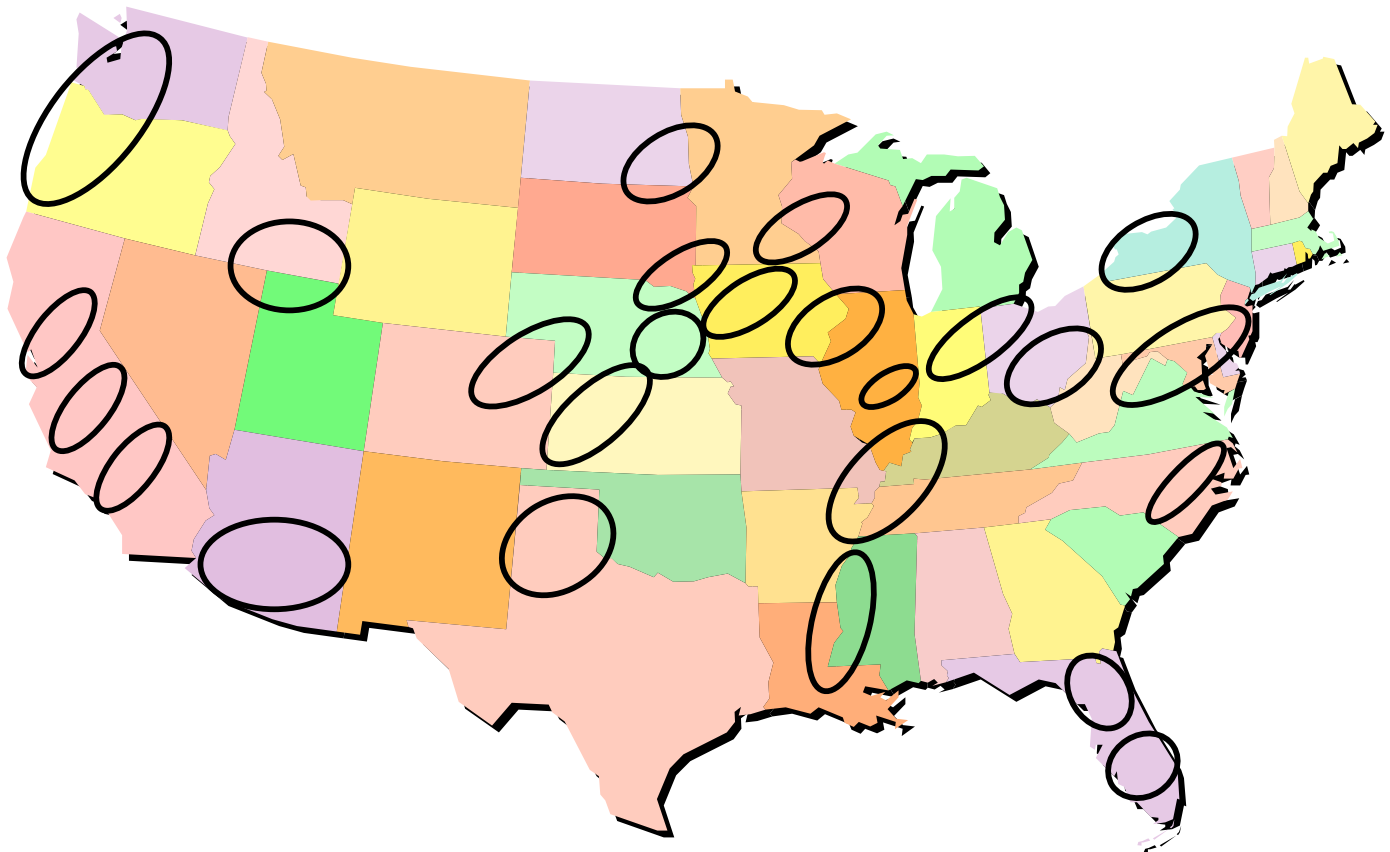
Seven Business Models: Vision 2015



Growth Index:

High Low

Agribusiness & Commercial Sector ***“High Intensity Agriculture”***



- **80,000 to 100,000 farms & ranches**
- **45% to 75% of farm debt**
- **70% of U.S. production in agriculture**
- **10% to 20% annual growth in debt/revenue**
- **not geographically bound**

Lifestyle Sector: Population Shifts



U.S. Census analysis, 2000-2004

Local population shifting in many areas

Close

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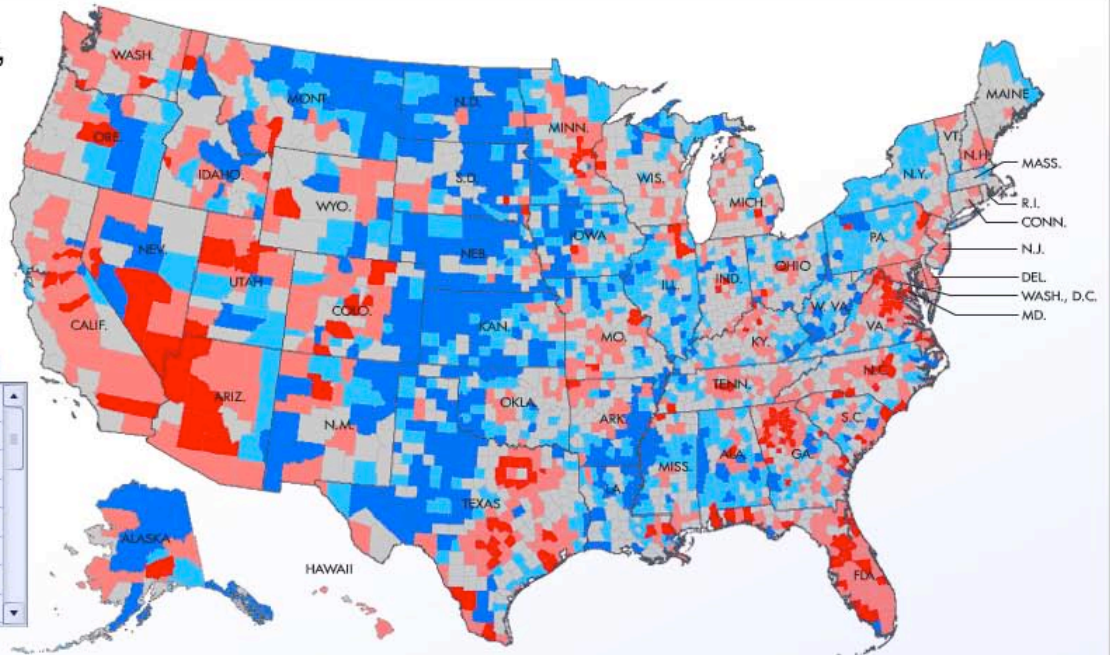
Overall change,
in percent

KEY

- More than 15% gain
- 5-15% gain
- Up to 5% gain
- Up to 3% loss
- More than 3% loss

TOP 25 COUNTIES (by percent)

- 1 Flagler, Fla.
- 2 Loudoun, Va.
- 3 Rockwall, Texas
- 4 Kendall, Ill.
- 5 Forsyth, Ga.
- 6 Douglas, Colo.
- 7 Henry, Ga.
- 8 Newton, Ga.



▲ CREDITS

- **red** represents the lifestyle segment
- **1.5 million farms & ranches**
- **10% to 15% of farm debt**
- **10% of U.S. production in agriculture**
- **10% to 20% annual growth in debt**
- **residential: 80%**
 - ✓ **red** & **gray** zones
- **destination: 20%**
 - ✓ **blue** & **gray** zones

Technology Action Perspectives

- **customer & marketplace forces drive business model**
- **technology + information + people = margin or profit**
- **information, biotechnology, and people source of control & power**
- **systems approach & objective business planning**
- **agriculture is more than farming & ranching- it's food, fiber, and fuel production & distribution**

Success = strategy timing execution