Technology Integration Issues

Agenda

Introductions

Current Landscape

Business Case for Integrating Technologies

Business Infrastructure that gets the new Technologies

Infrastructure Challenges

Best Practices

The need for Technical Expertise

Q & A

Craig Barkley

- Business Administration - BS MIS at SIUC 2003
- Web Technologies - AAS at Kirkwood CC - 2019
- Software Development - AAS at Kirkwood CC - 2019
- Full Stack Javascript - DeltaV Code Boot Camp - 2019
- Glass Artist - Gathering Elements - Since 2000

Importance of Tech Integration in Agriculture

- Agriculture plays a vital role in feeding the world's population.
- Technology integration enhances efficiency, productivity, and sustainability.
- However, challenges exist in adopting and integrating technology seamlessly.

Current Landscape

- **Cost**: hardware, software, and training employees.
- **Compatibility**: Compatibility issues may arise between different software platforms, hardware devices, or data formats.
- **Resistance to Change**: Resistance from employees or stakeholders. (Shipping)
- **Lack of Skills and Training**: Many technologies require specialized skills to implement and operate effectively.
- **Data Security and Privacy Concerns**: cybersecurity threats.
- **Regulatory Compliance**: Industries regulations and standards.(Drone)
- **Vendor Lock-In**: Depending heavily on a single vendor for technology solutions can lead to vendor lock-in, limiting flexibility and scalability. (Hvac)
- **Cultural and Organizational Challenges**: Organizational culture and structure can impact the success of technology adoption. Resistance from management or lack of support for innovation can hinder progress. Additionally, siloed departments and communication barriers may impede effective integration efforts.
- **Sustainability Concerns**: Some technologies may consume excessive energy or produce electronic waste, posing sustainability challenges.
- **Risk Management**: Adopting new technologies involves inherent risks, such as project delays, technical failures, or unexpected costs.

Value - Chain - Analysis

Need - A **business level strategy**, planned set of tasks and commitments related to specific market products.

For - Strategic actions and Strategic formulation

Why - to maintain a competitive advantage within the marketplace

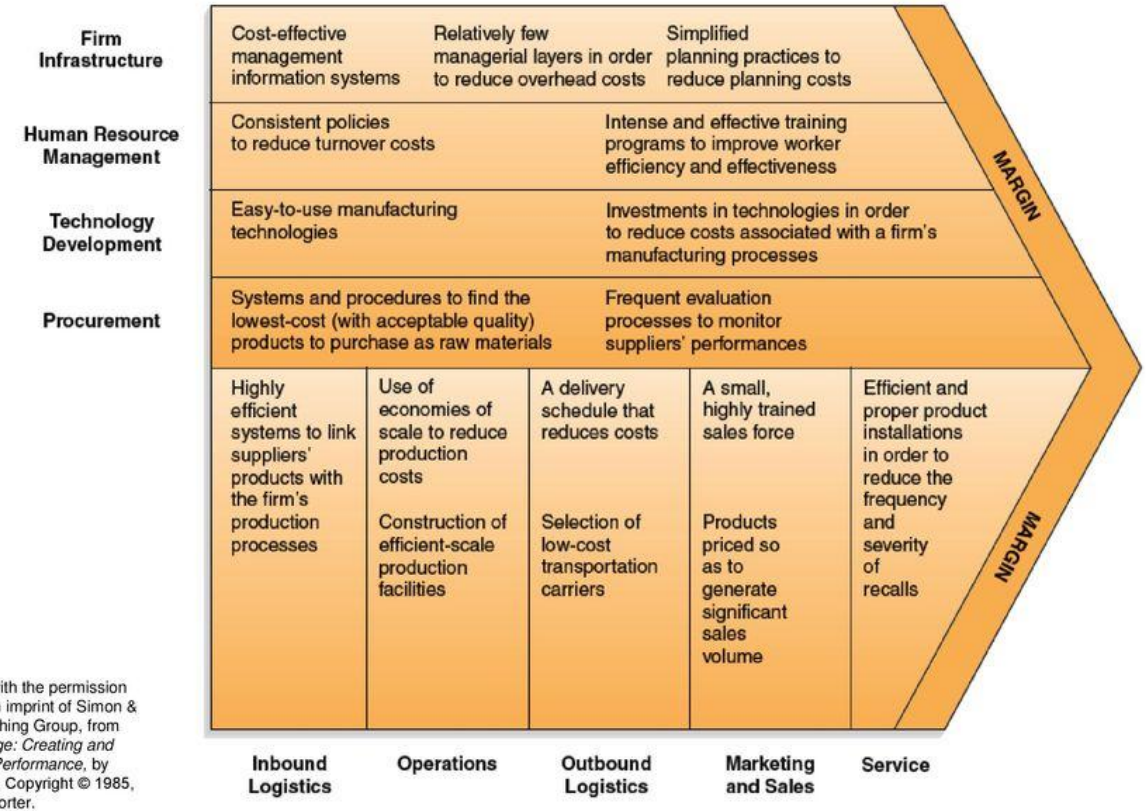
Who - your employees skills and abilities directly correlate to sustaining a competitive advantage, these are our **CORE competencies**.

With - Core Competency and a Strategy we can now formulate the Business Level Strategy.

5 Strategies- Cost leadership, Differentiation, Focused Cost Leadership, Differentiation, Integrated Leadership/Differentiation

FIGURE 4.3

Examples of Value-Creating Activities Associated with the Cost Leadership Strategy



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Infrastructure Challenges

- Poor internet connectivity in rural areas hampers data transfer and real-time monitoring.
- Solutions: Investment in rural infrastructure, satellite internet, or start a tech-based solutions company.

Cost Barriers

- High upfront costs of technology adoption deter many farmers.
- Solutions: Government subsidies, financing options, and cost-effective technology solutions tailored to small-scale farmers

Challenges in Technology Integration

- Lack of infrastructure in rural areas.
- High initial investment costs.
- Limited technical expertise among farmers.
- Compatibility issues between different technologies.
- Data security and privacy concerns.
- **Change Management exercise.** Need some pens and pencils…

Technical Expertise Gap

- Many farmers need updated skills to operate and maintain advanced technologies.
  - There are a shortage of software developers in every industry.
  - Unique opportunity for you to begin learning how to code as all industries continue to add more and more new technologies to their processes.
  - Your knowledge and background are very valuable within the software industry. You have specialized knowledge pertaining to specific topics.
  - Code is not the hard part.
- Solutions: Training and education programs, user-friendly interfaces, and tech support services.
- Tech support services will be best handled by those who have direct knowledge of the environmental objects that are being modeled in the software.

Code Code Code, You! Yes You, should be coding.

- AI will not take developer jobs for decades to come
- AI has begun to make certain processes more efficient.
- The future of work will be in teams
- Soft skills are enormously important
- More technologies will continue to be added to all industries.
- There are more free resources online than ever to help individuals learn to code.

  Resources:

- Open Source Code Bootcamp Free
- https://www.khanacademy.org/
- Learn Java or Python
- Lots of Links

Best Practices for Technology Integration

- Start with a clear understanding of farm/business needs and goals.
- Invest in scalable and flexible technologies.
  - https://www.ui.com/introduction
- Provide ongoing training and support to farmers.
- Collaborate with stakeholders to address common challenges.
- **Prioritize data security** and privacy from the outset.

Thank You!

Q & A

Resources for slide deck

https://slideplayer.com/slide/13306203/
https://www.amazon.com/Strategic-Management-Competitiveness-Globalization-Concepts/dp/032411480X
https://chat.openai.com/c/fef53f53-1133-4f4c-9f50-654dbdd7108a