Strategies for Implementing Technology into your Business

Steve Richter – Frontier Precision, Inc.
Objectives

- Define Technology
- Define Improper Implementation
- Define Proper Implementation
Agenda

• What is Technology
• Why is Implementation Important
• Improper Methods of Implementation
• Method of Implementation
  – Parameters
  – The Technology
  – The Vendor
  – The User
What is Technology?

“Technology is the process by which humans modify nature to meet their needs and wants.”

Natural Academy of Sciences 2010

“A system that uses knowledge and organization to product objects and techniques for the attainment of specific goals.”

Science and Technological Change, Volti, R. 2006
Technology Breakdown

Technology includes all of the infrastructure necessary for the design, manufacture, operation, and repair of technological artifacts, from corporate headquarters and engineering schools to manufacturing plants and maintenance facilities. The knowledge and processes used to create and to operate technological artifacts – engineering know-how, manufacturing expertise, and various technical skills – are equally important parts of technology.
Technological Advances

Revolutionary

Incremental
Technology Adoption Lifecycle

- **2.5% Innovators**
- **Early Adopters 13.5%**
- **Early Majority 34%**
- **Late Majority 34%**
- **Laggards 16%**

Source: Everett Rogers Diffusion of Innovations model
Level of Adoption

Time

Level 1
Needs Assessment
Technology Selection

Level 2
Tailor and Trial

Level 3
Implementation

Continuous Improvement

Institutionalization

Insertion

Trial Use

Commitment

Understanding

Awareness

Contact

Frontier Precision
Technology is “Social Change”

• Technology is a social change process.
• Not always about the best way of doing things.
• Social change is easier when done in a collaborative manner.
Why is proper Implementation Important?
Importance

- Competitiveness
- Knowledge
- Stakeholder Satisfaction
- Organizational Survival
Improper Implementation Strategy

• Get awarded a big project on Thursday.
• Purchase on Friday.
• Put it on the new project Monday.
• Failure in front of the client.
Possible Outcomes

• 100% Successful Implementation
• Decreasing success = increased liability
• Customer Liability
• Vendor Liability
• Manufacture Liability
Proper technology implementation strategy is a collaborative process
Identify Stakeholders

- Owners
- Employees
- Clients
- Bank / Shareholders
- Others?

Each stakeholder has needs and wants. Failure to adequately address stakeholder needs risks ineffective implementation.
Stakeholders Needs

• Owners
  • Reduce cost, improve productivity, increase accuracy, minimize liability.

• Employees
  • Security, Job Ownership, Job Satisfaction.

• Clients
  • Value, Accuracy.

• Investors
  • ROI
Maslow’s Needs Hierarchy

- **Physiological needs:**
  - food, water, warmth, rest

- **Safety needs:**
  - security, safety

- **Belongingness and love needs:**
  - intimate relationships, friends

- **Esteem needs:**
  - prestige and feeling of accomplishment

- **Self-actualization:**
  - achieving one’s full potential, including creative activities

- **Self-fulfillment needs**
Implementation Parameters

• Identify the problem(s) you are trying to solve
• Develop Measureable Objectives
• Develop a timeframe to meet objectives
• Identify the key organizational people
• Identify the required infrastructure
• Select the technology
• Assign tasks
• Evaluate the results
Identify Problems

• Shortage of Manpower
• Lack of Education or Finances
• Lack of Competitiveness
• Outdated Methodology or Equipment
• Poor Marketing
• High Turnover
Develop Measureable Objectives

• Identify Inputs and Outputs
• Ability to perform SPECIFIC procedures
  • Specific field tasks
  • Specific office tasks
  • Specific reports
  • Things important to your organization
• Direct comparison of time / cost savings
• Hold involved parties accountable
Develop Timeframe

- Consult all stakeholders
- Make it reasonable / achievable
- Budget for unexpected delays
- Hold involved parties accountable
Identify Key Personnel

• Assign task to staff most willing to assist and most adept at learning new things.
• Helps develop a sense of ownership in the new technology.
• Speeds up implementation
• Offer performance incentives
Required Infrastructure

• Not always apparent
  • Does it run on Windows 7
  • Will it interface with our Engineering SW

• Includes education prerequisites
  • Non-surveyors purchasing surveying equipment
Select Technology

Selecting the technology should be the result of the best solution to the defined problems.

It’s not about cost. It’s about value.
Vendors / Business Partners

• Should be able to assist in all phases of implementation
• Should be an expert in their solutions
• Get referrals
• Should have formal training and technical support programs
• Should be a business partner
• Hold vendor accountable for meeting objectives
Assign Tasks

• Within allotted timeframe

• Make Accountable
Evaluate Results

• How close are results to desired outcomes?
• Are results acceptable?
• Can results be improved?
• Why weren’t desired outcomes achieved?
Vendors Role

• To consult on Technology and provide solutions to identified problems.

• Offer financial guidance on purchase.

• Provide equipment testing and setup.

• Provide installation guidance.
Vendors Role (cont)

• Provide initial training.

• Provide follow-up training.

• Provide on-going tech support.

• Provide on-going technical info.
Below is a short list of new features in the recently released Trimble Business Center version 2.40. If you are currently running version 2.2x or higher of Trimble Business Center, you can download and install this new version by clicking HERE.

**New Features in Trimble Business Center version 2.40**

- Optical Spreadsheet: View the optical spreadsheet to see a list of total station observations in your project.
- Convert TGO Projects: Convert one or more TGO version 1.63 projects to Trimble Business Center Projects
- Export Scan Points: Export scan points from TBC
- New Display Options: Select fonts, highlight color, and highlight line width displayed in various views.
- Improved Google Earth Export: Display scan points and features/attributes on a Google Earth Image
- Export Format Editor: Expanded export fields for custom export set-up

**Current FW / SW Versions**

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<th>Software</th>
<th>Version</th>
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<tr>
<td>Trimble TSC2/TCU Survey Controller</td>
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<td>Data Transfer Utility</td>
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**Attention Trimble users: Are you currently using the Minnesota DOT Real-Time CORS Network (VRS) or interested in how it works?**

Frontier Precision is holding a free technical seminar October 28th. The information covered will be beneficial in helping you get the most out of your Trimble equipment, including troubleshooting, best wireless devices, and product demonstrations.

**Thursday Oct 28th**
9:00am-12:00pm Plymouth, MN
(see attached PDF for more information)

Space is limited, so please contact us by Oct 21st to reserve a spot.
Call 877.690.3077 or [click here to email](mailto:info@frontierprecisioninc.com)
Users Role

• Commit to taking ownership of technology.
• Incorporate technology implementation into your organizational objectives.
• Invest in Training
  • Additional Staff
  • Turnover
  • Ongoing
• Technical Support (expect a cost)
  • Phone Support
  • Web Support
  • Upgrades
Summary

• Technology is Social Change
• Identify Stakeholders and their needs
• Identify Problems trying to solve
• Develop measurable objectives
• Develop timeframe
• Identify and collaborate with key personnel
Summary (cont)

• Select Technology that meets need
• Select Business Partner
• Assign Tasks
• Evaluate Results
• Insert Technology
• Internalize Technology
• Incremental Improvements
Questions