Lessons Learned in Developing Knowledge Retention and Transfer Systems

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Agenda

- John Deere Background
- Knowledge Management
  - KM /Collaboration Vision and Program
  - Knowledge Management Initiatives
  - Retention of Critical Knowledge (RoCK)
- Governance & Leadership
- What We Have Learned
**John Deere Today** – An American icon founded in 1837 and growing outside the United States for more than 50 years

- A world leader in providing advanced products and services for agriculture, forestry, construction, lawn and turf care, landscaping and irrigation.
- A leading worldwide manufacturer of off-highway diesel engines
- One of the largest equipment finance companies in the U.S.
- Key investor in alternative energy sources
- Exciting new entities: John Deere Intelligent Solutions Group, Landscapes, Water, and Wind Energy
John Deere Manufacturing Locations
The John Deere Strategy

Growing a Business as Great as Our Products

Exceptional operating performance

Disciplined SVA growth (Shareholder Value Added)

Aligned high-performance teamwork
Knowledge Management

John Deere will achieve world class collaboration and knowledge management by building the competencies of our people allowing us to attain and sustain the best SVA performance and meet customer needs across our global organization.

*Knowledge Management is a set of processes and behaviors that proactively captures, uses, and enhances the value of knowledge.*

Improved virtual collaboration and knowledge management realization will:

- reduce project cycle time
- enhance valuable practice sharing with business partners
- improve access to knowledge
- enable better decisions
- achieve quality goals.
KM/Collaboration: “The First Bite”

**Priority 1:** Content management for engineering (and enterprise)
- All content (documents, people, metadata, ...) is managed
  - Categorized / searchable
  - Backed up
  - Retention policy
  - Intellectual property protection (access rights)
  - Addition / change notification (alerts / feeds)

**Priority 2:** Real-time communications
- Telepresence, WebEx, ...

**Priority 3:** Social networking
- Social Media policy, Jive, Employee Jams, ...
Future: Easy Access/Storage of Knowledge
Content Management Survey Results: Engineering Focus

**Document 1**
- N/A: 0
- QTPS: 5
- Cprojects: 10
- PDMLink: 15
- SharePoint: 20
- Shared Drive: 0

**Document 2**
- All of the choices: 0
- Windream: 5
- V2Net: 10
- PDMLink: 15
- SharePoint: 20
- Shared Drive: 0

**Document 3**
- Not Stored: 0
- Web: 5
- PDMLink: 10
- Shared Drive: 15

**Document 4**
- Unknown: 0
- Not Stored: 5
- Recon: 10
- SAP: 15
- Web: 20
- SharePoint: 10
- Shared Drive: 0

**Document 5**
- Not Stored: 0
- Windream: 5
- V2Net: 10
- Web: 15
- SharePoint: 20
- Shared Drive: 0

**Document 6**
- Unknown: 0
- Local Harddrive: 5
- Not Stored: 10
- Forums: 15
- V2Net: 20
- Web: 20
- SharePoint: 10
- Shared Drive: 0

**Document 7**
- Local Harddrive: 0
- SharePoint: 5
- Shared Drive: 10
- Shared Drive: 15

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10 APQC KM Conference 2010 - April 29, 2010
Many KM Initiatives: Documented Retention Efforts in Enterprise

Deere Direct, Human Resources Administrative Services
Dave Fortin, Maurice Trusser, Mike Pasold

HR Deere Direct - They are documenting all of the Deere Direct processes & procedures to make sure they retain the knowledge of experienced Deere Direct representatives before they leave and have good processes for training all new representatives as they tend to have higher turnover than most areas.

C&J John Deere
Southeast Engineering Center, HR
Cheryl Fortin

Captured critical knowledge before a retiree left (Facility Manager). Cheryl worked with Susan Litt, founder and President of Align HR, and IPO (e-learning service bureau). They captured the interview with a searchable and indexed video. The HR Deere Direct people then built their own version of this and called it e-SEEC projects.

Enterprise Product Delivery Process, Product Design
David Gregor

EPDP - Product Design CoP - Document the Engineering Design Guidelines

Ap & Turf Supply Management
Kelly Diff-Morgan, Sharon Nell, Natalie Newman, Jamie Reinke, Michelle Wilson

Have a project to capture job knowledge of all employees leaving due to the early separation package in AT. They are engaging Jim Hard’s area to develop a web-based form to capture employee knowledge before they leave. They are interested in the interview guide for positions that may be easier to capture through an interview as opposed to the job handoff guide. They gathered information from several different resources and created this spreadsheet for their work.

Knowledge Management Initiatives at John Deere

The knowledge management group is working with several areas of the business that have to search for critical knowledge or execute jobs that identified by the deere company to baseline an area and then train new employees on this knowledge. The results are that they have created a series of job handoff guides that they will use to train new employees. The next step is to incorporate this into the system to make it easier for new employees to access the job handoff guides.

APQC KM Conference 2010 - April 29, 2010
Knowledge Retention: Snapshot

– Participated in several APQC KM benchmarking studies including 2007 knowledge retention study.
  • Recruited several people in company to sponsor/participate

– Created Retention of Critical Knowledge (RoCK) process and Job Handoff Guide template
  • Started with Michelin’s job handoff document and identified pilots
  • “Light” automation through a SharePoint repository including training.
    – Partnered with Supply Management and John Deere Learning to develop.
  • Worked with Human Resources to link RoCK repository to Employee and Manager Self Service portals
  • Continue to work with HR to discuss ownership of overall process

– Work with various KM initiatives on ongoing basis
RoCK Process
Retention of Critical Knowledge

The purpose of this space is to provide a location where employees can store their employees' job handoff guides. Documenting their job can help their replacement adapt faster to new assignments and make them more productive. It also can make employees more comfortable during the job transition process.

If you have questions on how to use the tool, please contact Karen Lekowski at 309-765-4041.

- Review online instructions that provide step-by-step instructions on how to create and edit the Job Handoff Guide.
- Note: Refer to the Resources on the left side for "How To Instructions" for using this
The purpose of this document is to capture critical job knowledge about your role to provide a transition document for the person taking over your role.

**Employee Name**: John Deere

**Department Name**: Marketing / Sales

**Position Title**: Curriculum Developer II

**Job Duties (cut & paste from Global Performance Management)**

- Develops or project manages the development of training/performance improvement materials to support products, processes, or systems. Directs vendors as they develop training/performance improvement materials.
- Participates in and supports analysis/design activities to identify performance gaps, create learning objectives, and determine appropriate instructional strategies.
- Manages relationships with specific stakeholder groups, creating and implementing short term/long term training plans that support products, processes, and systems. Support the DPQS process by working with factory representatives to develop training statements for the EPDP and/or E-CSP processes/documents that support factory and training department ambitions.
- Leads or supports activities to ensure training/performance improvement materials are effectively handed off to the group responsible for the delivery of those materials.
Leadership & Governance
Value of Knowledge

"Genius without education is like silver in the mine."
– Benjamin Franklin

“Continuous effort - not strength or intelligence - is the key to unlocking our potential”.
– Winston Churchill

What, Where and When a broken relay was found on Apollo 11 Lunar Lander?
– Relay for the blast off rocket
– On the floor
– After the first lunar moon walk
Deere Landscape

- Global business
- 38 decentralized engineering units
- Multiple projects at each unit
- 60 engineering software packages
- 240 document types and growing - CAD, DFMA, DFMEA...
- Different languages
- Different cultures
- Demographics
- Little collaboration
- No expert search
- Limited document search
Technical Knowledge Manager

- Now What?
- Reality
- Teamed was formed
  - IT and Business
  - Passionate about subject
- The nature of knowledge and documentation
  - Human nature
    - Not invented here
    - But that won’t work on my tractor
    - That is a lot of work
    - What is metadata and why do I have to do all this?
Begin with Basics

Bottom up approach – counter-intuitive

– You can’t fix anyone or thing - you can influence behavior with process and tools
– Project management – basis of creating content and knowledge management
– Knowledge Management is a nebulous topic – start with the benefits of content management
  • eDiscovery
  • Server size increasing 50% per year
  • Retention policies
– Clear and defined
  • Without this, you will be frustrated
Pilots

Choose carefully
- Need a success story early
- Young, progressive thinkers
- Energy

Marketing
- This is cool -- big mistake
- Talk about BENEFITS, not features
  • Efficiency, search, reuse
- How does this help me every day, the next person

Human Nature
- Not to share – early childhood testing
- Not to document
- Don’t take the time to store correctly
Pilots

Two most important things on any project
- Communication
- Integration

Communication plan
- Show success
- Have one-on-one meetings with people that are having issues
- Successes – often and frequently
- Get your evangelists to talk this up

Hoarding Knowledge
- More seasoned – want to share
- Typically people want to share, but they do not know how – make it easy
- Example - 102 page “Design Guideline” on a snap ring
Design Knowledge Center

Purpose:
– Design Guidelines and Design Books provide explicit engineering domain knowledge to the enterprise.
– To reduce future work
– To retain a reference of work we are doing
– Provide a strong foundation as people continue to move through new roles and responsibilities
– To minimize mistakes

Content:
– Design Guidelines are treated as living documents, essential references for future generations of engineers to use, revise and improve.
– Design Books are records and calculations for individual series or product families.
Governance

What this is about - Leadership

Everything you create
- Is it worth saving? If not, why are you creating it? (Lean)
- Who has access to it? (IPP)
- Where do you store it to make it fast, simple and easy to find?
- What metadata do you store with it?
- How long do you store it?

Tendency is chaos, shared drive approach, easy, but not structured

Business Case
- E-Discovery
- Server space – “Green initiatives”
  - 40% - 70% added yearly
Executive Sponsorship

Future Vision
  – Who paints this?
  – Takes longer than you think
  – Visuals are essential

Signed Charters are Important
  – Clear Champion
  – Council representation
    • Enterprise Engineering Council (EEC)
Virtuous Leadership

Six Virtues
- Prudence
- Magnanimity
- Courage
- Humility
- Temperance
- Justice

Virtuous Leadership is
- Required
- Needed at all levels
- In limited supply
Virtuous Leader

Magnanimity
Being able to habitually strive for great things, challenge him/her self to see and do good

Courage
Being able to habitually endure through any constraints for the sake of the good

Temperance
Being able to habitually temper one’s passions and behaviors

Humility
The practiced ability to overcome selfishness and to serve others

Prudence
Being able to habitually discern the good and means to achieve it

Justice
Being able to habitually will the good and give others their due.

Behaviors of the Virtuous Leader

- Seeks work excellence
- Sees the gifts in people
- Pursues constant self improvement
- Strives toward perfection
- Diligent problem solver
- Faithful coach and mentor

Sources: Peter Drucker, Stephen Covey, Alex Harvard, et al. modern and ancient authors. Visual by Jim Jacobs - Savvy Consortium
What is Wisdom?

**Wisdom** is a deep understanding of people, things, events or situations, empowering the ability to choose or act to consistently produce the optimum results with a minimum of time and energy. Wisdom is the ability to optimally (effectively and efficiently) apply perceptions and knowledge and so produce the desired results. Wisdom is comprehension of what is true or right coupled with optimum judgment as to action.

Webster
Product Design is a deep understanding of people, things, events or situations, empowering the ability to choose or act to consistently produce the optimum results with a minimum of time and energy. Product Design is the ability to optimally (effectively and efficiently) apply perceptions and knowledge and so produce the desired results. Product Design is comprehension of what is true or right coupled with optimum judgment as to action.
Wisdom Process

Knowledge

Application

Wisdom
What We Have Learned

**Tie to project management**
- Current process and systems
- KM is no good without content management
- Governance is **key**

**Treat like a design project**

**Identify the problem areas?**
- Interface points
- Organizations need a buffer between Engineering and IT, many do not have
- Takes awhile to really soak in what you are accomplishing (2.5 years)

**Take the first step**
- Like business, you can talk and talk but until you build something, and have something to show, your not taken seriously

**This is not an easy journey**
- Meant to build character and wisdom
- Virtuous leadership required at all levels