Expert Knowledge Transfer:
Solving Strategic Challenges, Setting the Stage for Next-Generation Management Systems

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Presentation Outline

- Expert Knowledge Retention and Transfer Approach
    - Process Steps
    - Transfer Methods
    - Deployment Models
- Knowledge Harvesting
    - What can be elicited?
    - How does this knowledge augment thinking, collaboration, accelerate competency and increase work performance?
- Case Study Examples
- Vision: New Management and Operational Strategies
- Lessons Learned

Chevron's Knowledge Transfer
3-Tiered Approach

Expert Knowledge — Mission-Critical, Unique Expertise

Job/Role Knowledge — Incumbent to Successor Handover

Processes, Best Practices, Day-to-Day Operational Knowledge — Traditional KM

Expert Knowledge Retention & Transfer
Process Overview

Step	Objective
1. Identify Experts & Critical Knowledge to Retain	• Identify experts and critical knowledge areas. OR • Identify and prioritize knowledge areas for achieving future strategies and mission-critical operations, then identify corresponding experts. THEN • Assess risks and other vulnerabilities. • Prioritize knowledge retention opportunities.
2. Identify Successors or Other Learners	• Determine who will receive what knowledge. • Understand learners' current capabilities .
3. Determine Knowledge Transfer Objectives	• Define learner(s) expected capabilities and level of performance post-transfer (e.g., competent performer versus SME).
4. Determine Knowledge Transfer Methods	• Select methods for each knowledge item.
5. Develop/Execute Knowledge Transfer Plan	• Identify specific knowledge items to transfer with timeframe and measures of success or capability. • Implement knowledge retention plan.
6. Monitor Expert and Learner Results	• Manager tracks expert and learner progress against knowledge transfer objectives and plans. Modify plans if needed. • Provide resources & reinforcement.

Knowledge Transfer Methods

- **Teaching/Master Class:** Presentation of fundamental and operational knowledge; review and discussion of a learner's specific problem or results in a group.

- **Community of Practice:** Groups of practitioners in a discipline that connect to seek/share experiences, develop/adopt practices or tools and develop/support a learning agenda.

- **Technical Mentoring:** Interaction between expert and learner to help the learner do a job more effectively and/or to progress in their career.

- **Job Shadowing:** Opportunities for a learner to observe the expert interacting with others or doing more complex work. Includes setup and debriefing discussions.

- **Guided Experience / Development Assignments:** Carefully selected projects or work assignments that fill gaps in experience or broaden/deepen targeted skills. "Guided" includes expert observation and feedback.

- **Knowledge Coaching:** Combines mentoring, shadowing and observation to assess learner competency gaps, and guide development with timely performance feedback. Expert enables learner to work on projects above current skill level to accelerate learning while cost-effectively assuring that project is successful.

- **Knowledge Harvesting:** Interview-based approach with expert to articulate big picture, mental models and detailed "how to" and "when to" guidance.

- **Peer Assist:** Experts share experiences and knowledge in a facilitated meeting with a person or team who is looking for advice on a challenge, problem or project.

EKR&T Process Deployment Alternatives

Process Formalization (Breadth)

- Business identifies critical, at-risk expert and knowledge, mitigates loss as needed.
- Built into annual business planning, succession plans, and relevant performance plans.

Planning Timeframe

- Reactive: handle "just in time" (ad-hoc).
- 3+ years: Formal succession plans. Provide time for SME.

Accountability and Resources

- Business determines accountabilities.
- Formalize as part of corporate talent management framework.
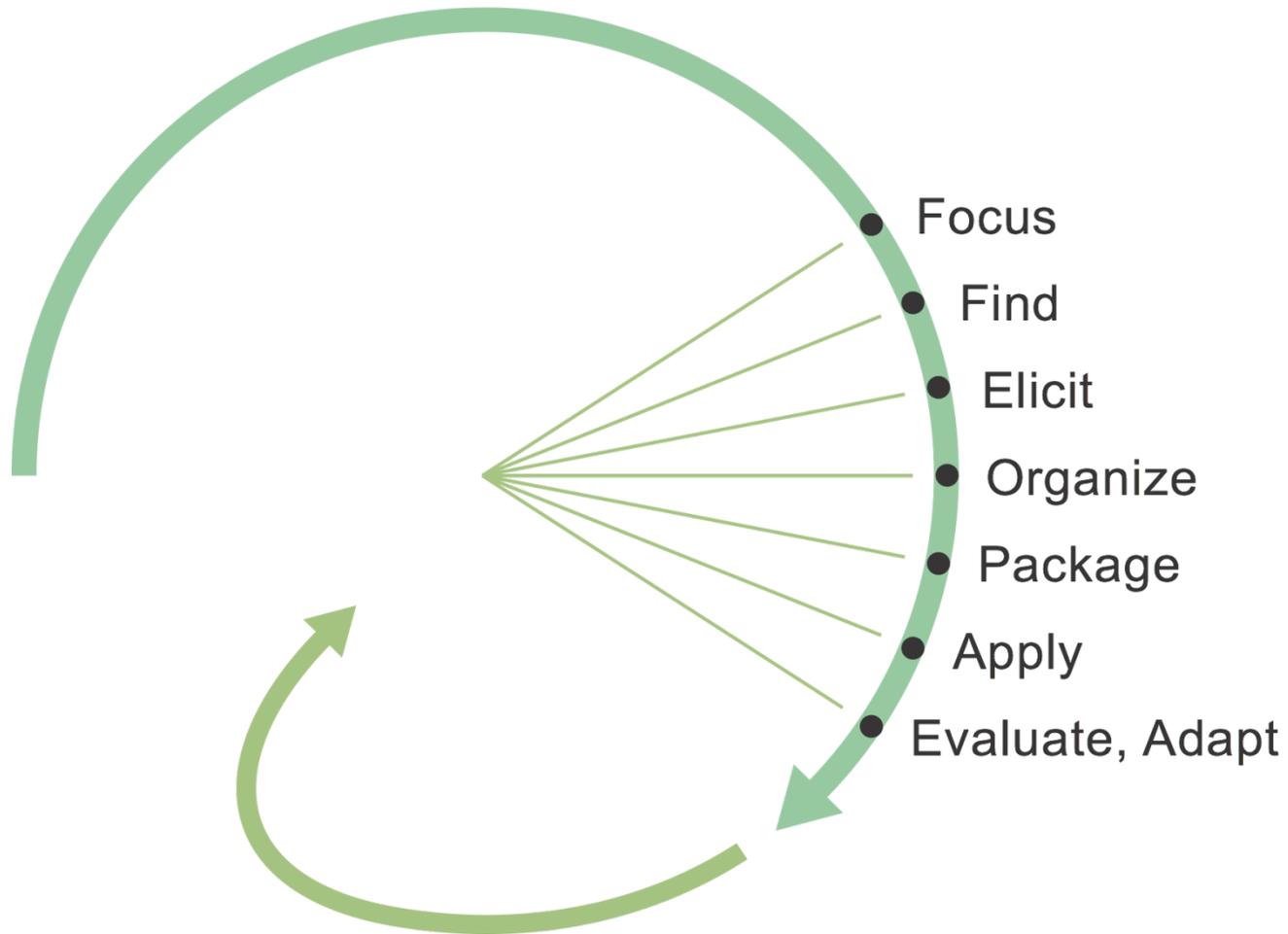
Metrics and Reinforcement

- Supervisor reinforces expectations in SME's performance plan.
- Metrics formally tracked and tied to business plan review and bonus programs.

Informal to Systematic

Knowledge Harvesting

Knowledge Harvesting | Knowledge Retention | Knowledge Management | Organizational Improvement

Knowledge Harvesting Process

- Focus
- Find
- Elicit
- Organize
- Package
- Apply
- Evaluate, Adapt

Types of Knowledge

Systemic Knowledge

Big Picture:
"Knowing how the parts are interrelated"

Contextual Knowledge

Signals:
"Knowing when to and why to"

Procedural Knowledge
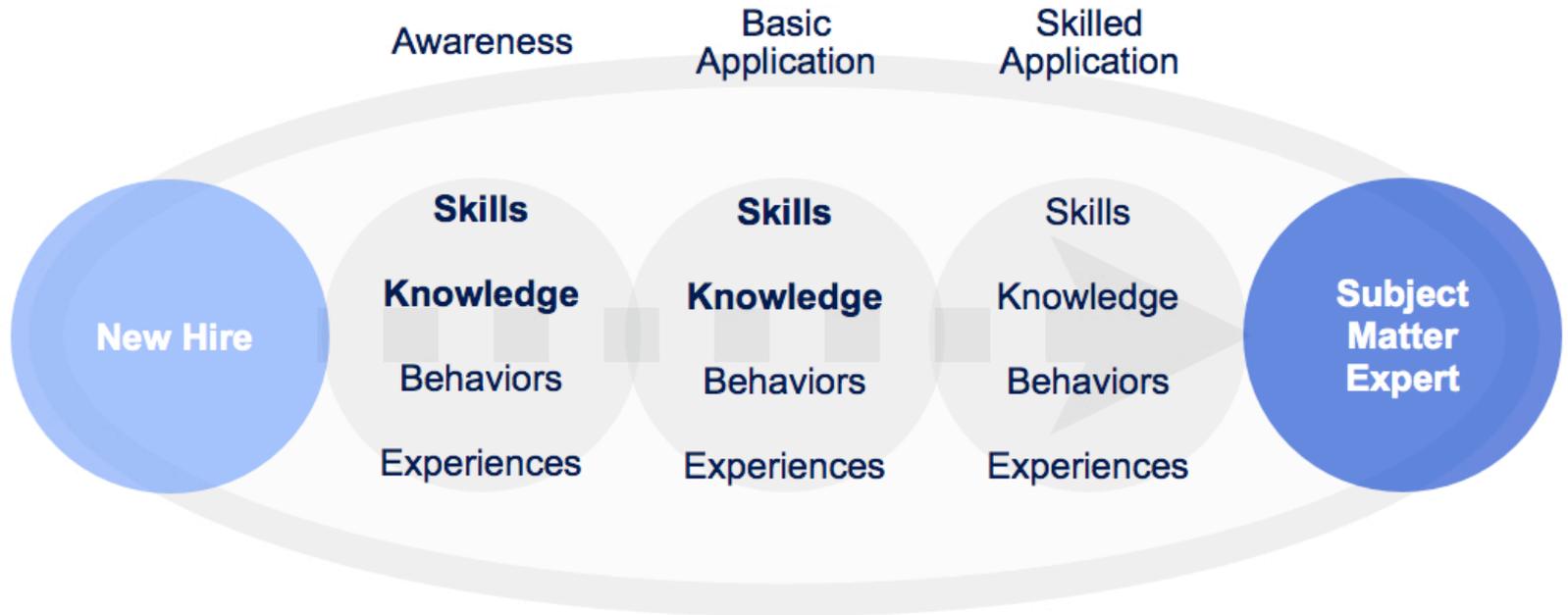
Guidance:
"Knowing what to do and how to"

Declarative Knowledge

Support Information:
"Knowing about"

Social Knowledge

Collaborative Norms:
"Knowing how to work with others"

Facets of the Learning Curve

Fuels Technology Expertise

| Expert	Critical Knowledge
Fuel Chemist	• Quantitative and qualitative performance and quality assessment of fuels and additives.
Energy Engineer	• Technical viability and value proposition assessment of new fuels and vehicle technology.
Product Integrity Manager	• Fuel product integrity incident assessment and response.
Regulations Manager	• Fuel legislation and regulation advocacy. • Performance-based and cost-effective fuel specifications with real societal benefit. • Relationships with government regulatory agencies.
Compliance Engineer	• Fuel regulatory compliance reporting. • Refining process impacts on fuel properties. • Relationships with manufacturing & distribution staff.
Analytical Lab Manager	• Manufacturing process troubleshooting, historical problem resolutions and technical service process.

Knowledge Transfer Drivers/Goals

- Minimize business disruption and risk associated with loss of top performer.

- Accelerate competency of less experienced employees.

- Improve the overall level of productivity or collaboration of a group.

- Increase safety and reliable operations.

- Offload parts of the work, to reduce cost and free time for value-added activities.

- Provide a sound basis for other team members' work.

- Enhance agility, adaptability and innovation.

Example Deliverables

- Mental models or systematic approach with detailed guidance for complex processes.

- Guidance on resolving unusual situations or problems.

- Accelerated training of successors.

- Learning and performance support systems for successors.

- Awareness of critical relationships.

- Strategies to shape and align team's annual business plans and initiatives.

Integrating Product Expertise
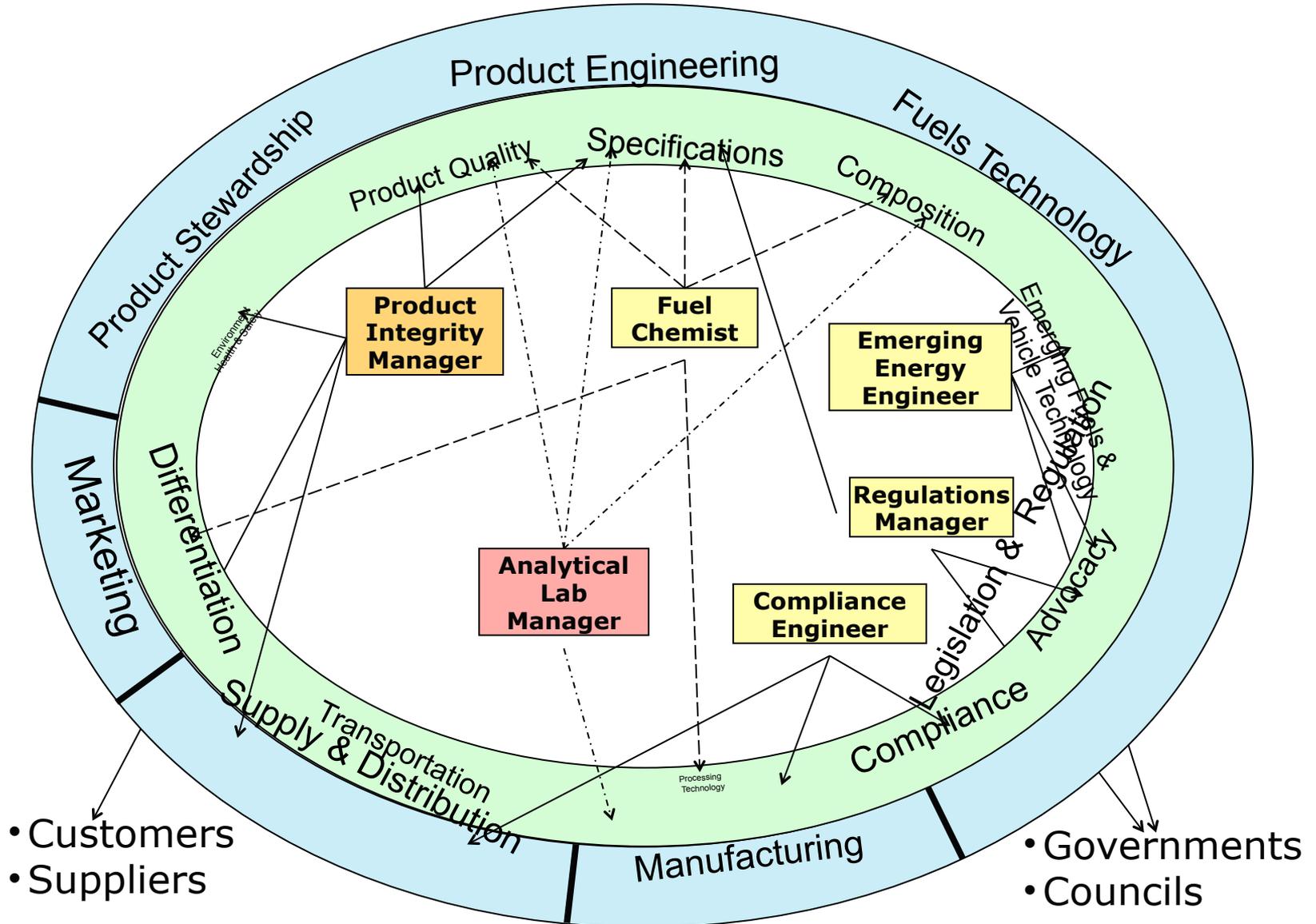
New Management Opportunities

- The "knowledge network" diagram shows significant connections and overlaps in expertise between related departments and roles (blue circle) and technical or business responsibilities (green circle).

- Having such a clear view of capabilities and work responsibilities enables the department's leadership to address issues such as:

    - Who should be assigned to a new project team, collaboration or work assignment?
    - Do we have the right relationships to work effectively with customers and other stakeholders?
    - What expertise is at risk and who should we develop?
    - What skills and experience should we look for to fill open positions?
    - What part of an expert's work can be offload to others?

Increasing Operational Excellence

Having a clear view of capabilities, expertise and responsibilities across organizations enables leadership to improve operations by:

- Accelerating competency of newer hires to be able to make good, risk-informed decisions.
- Increasing performance of a group doing similar work closer to that of the highest performer.
- Deliberately combining expertise between departments to foster innovation, improve agility or solve tough problems.
- Clarifying communication and ensuring the right expertise in supply chain processes.
- Developing common language and methodology to reduce ambiguity or arguments and more easily integrate new knowledge and insights.
- Integrating knowledge into complex decision processes reduces risk in investments.

Lessons Learned

- We can elicit systems thinking (mental models) and detailed guidance based on signals that trigger expert responses. This is more than we capture by "documentation" and is very difficult to do without a skilled interviewer. Results can be delivered as a learning and performance support tool.

- Knowledge Harvesting can effectively capture complex and hard-to-articulate knowledge. It should be considered for SMEs with critical, at-risk expertise.

- When an SME is provided with an opportunity to make thinking clear and explicit, other SMEs are better able to integrate their own experience (versus argue about who is right).

- Mental models accelerate the learning curve of newer employees by offering an authentic, big-picture perspective. Younger employees can better understand how new information fits with what they already know, and can be productive faster during turnover.

- The results of Knowledge Harvesting projects can "kick start" a mentoring or shadowing engagement by helping learners quickly understand what is important and share a common language. Resulting templates can be used to extend knowledge capture of other SMEs in related areas.

- A mentee's enhanced ability to ask good questions is a teachable but overlooked capability. It can improve knowledge transfer in mentoring engagements. HR professionals who are focused on competency acceleration are excited about this concept.