How to Translate Knowledge in Three States: Discovery, Invention, Innovation

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“Translating Three States of Knowledge: Discovery, Invention & Innovation”

Lane & Flagg (2010)
Implementation Science

http://www.implementationscience.com/content/5/1/9
Need to Knowledge (NtK) Model

• Based on CIHR KTA Model.

• Technology-based efforts intending impact MUST begin with a validated problem (need) and a feasible solution.

• Actors “need to know” stakeholders and context prior to initiating any project.

• Solution integrate Discovery, Invention and Innovation outputs.
Need to Knowledge (NtK) Model

- Model shows Phases, Stages, Steps, Tasks and Tips.
- Supported by primary/secondary findings from a scoping review of 250+ research and practice articles.

http://kt4tt.buffalo.edu/knowledgebase/model.php
Three States of Knowledge

• Knowledge in each state requires a different approach to Knowledge Translation.

• Translating knowledge in all three states increases stakeholder opportunities for knowledge awareness, interest and use.

• Use may occur in short or long term.
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Discovery State of Knowledge

• Research = Knowledge Creation.

• Process - New knowledge discovery results from empirical exploration.

• Value – Novelty in first articulation and contribution to knowledge base.

• Output – Discovery State – conceptual idea embodied as publication.
Invention State of Knowledge

• Development = Knowledge Application.
• Process - Invention results from trial and error experimentation.
• Value – Novelty + Feasibility embodied proof of concept.
• Output – Invention State - embodied as tangible proof-of concept prototype.
Invention Creation

Stage 4: Build Business Case
Stage 5: Implement Development Plan
Stage 6: Testing and Validation

ACTION CYCLE

Invention Output
Generate Invention

- Depending on barriers identified, select and implement interventions (e.g., broadly disseminate tool info, provide multiple access points)
- Monitor invention use. (e.g., web site hits, citations, phone and e-mail inquiries, survey knowledge user groups)
- Evaluate outcomes - May have to develop new outcome measures.
- Sustain invention use - Use feedback to modify tools as needed.
- Revisit the potential value proposition, business case, and focus group/field test data to communicate the value of the invention to knowledge user groups.
- Assess barriers to use of the invention. Survey knowledge user to see why they may not apply/use the invention.
- Use information from the business case and consumer research activities to explore ways the invention can be used by each knowledge user group. Develop tools to demonstrate how the invention will benefit each group and to help each group apply/use the invention.
Innovation State of Knowledge

- Production = Knowledge Codification.
- Process – Innovation results from systematic specification of attributes.
- Value – Novelty and Feasibility + Utility to producers and consumers.
- Output – Innovation State - embodied as functional device or service.
Stage 8: Launch Innovation. Depending on barriers, select and implement inventions (e.g., broadly disseminate product info, provide multiple access points).

Stage 7 (continued): Review test-market results, make changes to the innovation and marketing strategy to demonstrate how the innovation will benefit each group.

Use test marketing to explore ways the innovation can be used by knowledge user groups. Consider instrumental, conceptual and/or strategic uses of the innovation for each group.

Create final value proposition statement and post launch evaluation plan with performance metrics specific to the innovation.

Stage 8: Monitor innovation use. Provide product support and fix bugs.

Stage 9: Evaluate outcomes - Review results against expectations based on performance metrics.

Sustain innovation use. Repeat process.

ACTION CYCLE

Innovation Creation

Stage 7 - Production Planning

Innovation Output

Generate Innovation
Takeaway Points:

* There is now an operational model for the Innovation Process validated by research and practice literature.

* Considering knowledge in three states has implications for practice, policy and communication.
Acknowledgement

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