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**SASTA Working Group
Sugar Industry Skills Development
15 April 2010**

***"Lost in Translation"
Why Adoption Fails***

The issue

- Valuable R&D
- Innovative research solutions developed
- High cost
- Significant resources
- Can be long development times
- But the end users do not adopt our solutions!

Complex systems perspective

- Understand the phenomenon
- Lack of adoption

Economists!

- Alfred Marshall – Chair in Economics at Cambridge
- Leading economist around the turn of the century (20th)
- Illustrate principles with examples in real life
- “I have had a growing feeling that a mathematical theorem dealing with economic hypotheses is very unlikely to be good economics, and I go more on the *rules* ...”

Burn the maths

(Alfred Marshall)

1. Use maths as a shorthand language rather than as an engine of enquiry
2. Keep to them until you have done
3. Translate into English
4. Then illustrate by examples that are important in real life
5. Burn the maths
6. If you can't succeed in 4, burn 3. This last I do often.



Systems ideas translated into English

Sociology and complexity	English
Work in the jargon of a discourse community	Understood by others like ourselves but not those that are different
Emergence	Once we release an innovation we have no control on how the users will respond
Boundary judgments	Technologists and end users see the world differently and hence act on the same information differently – both are right!
Co-evolution and artifacts	The technology will change how things are done in ways that we have not anticipated and it too will change in the hands of the users
Mental models	Users will only accept things on faith up to a point, after that it must make sense to them in their way of thinking, not ours



Systems ideas translated into English

Sociology and complexity	English
Bounded rationality	We are unable to understand the full dynamics of innovation diffusion and adoption
Model complexity	All models are wrong but are useful to some purpose so we must be aware of the limitations of our models especially in relation to the user context
Agent heterogeneity	Every user is different, with different needs, risk propensities, and how they assign value to an innovation
Context matters	What works for one user or small group of users may not apply to everybody – do not force fit our solutions – adapt our solution, how we package and the message

Integration

- Our solutions need to integrate seamlessly with the overall operations of the user and with other solutions for other problems that (s)he faces
- We need to be aware of the overall systemic context of the user

Medium is the Message

- What we say is important
- How we say it is as important as what we say
- What the user hears is more important than what we say and how we say it
- Learn the user's language
- We think it is the same – it's not!
- Even if it is the same, the "dialect" is different

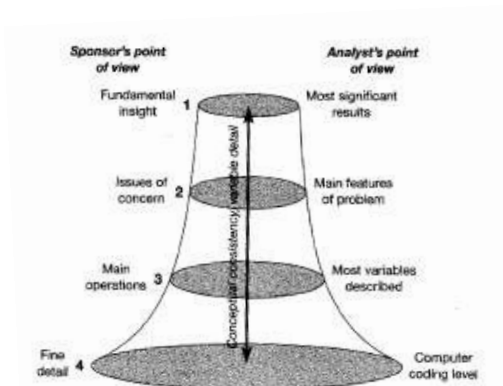
Repertoire of methods

- Mathematics
- Technical diagrams
- Computer models
- Spreadsheets
- Death by PowerPoint
- Morbidity by technical papers
- Meetings / focus groups
- Reports
- Stories
- Video / Industrial Theatre / Improv techniques
- Working prototypes
- Analogue models
- Microworlds / Learning Labs
- "Serious" Games
- Interactive simulations
- Experiential methods

Some tips ...drawing on K Warren

- Don't show big scary diagrams
- Present our findings / outcomes as a story made up of manageable bit-sized chunks.
- Unfold the complexity bit by bit so as not to overwhelm the audience
- Then show how they all work together
- If we need to show the detail to "prove" we are right then bury the full picture in an Appendix

Cone of Influence (Coyle 1996)



Conclusion

- Lack of adoption
- Complex systems ideas can help us understand phenomenon
- Translation between Researchers and End Users
- Find ways to bridge the “language” divides

Thank you!!!

- Questions and discussion

Absorptive Capacity

- “ability to recognize the value of new information, assimilate it, and apply it to commercial ends.”
 - Cohen and Levinthal (1997)