

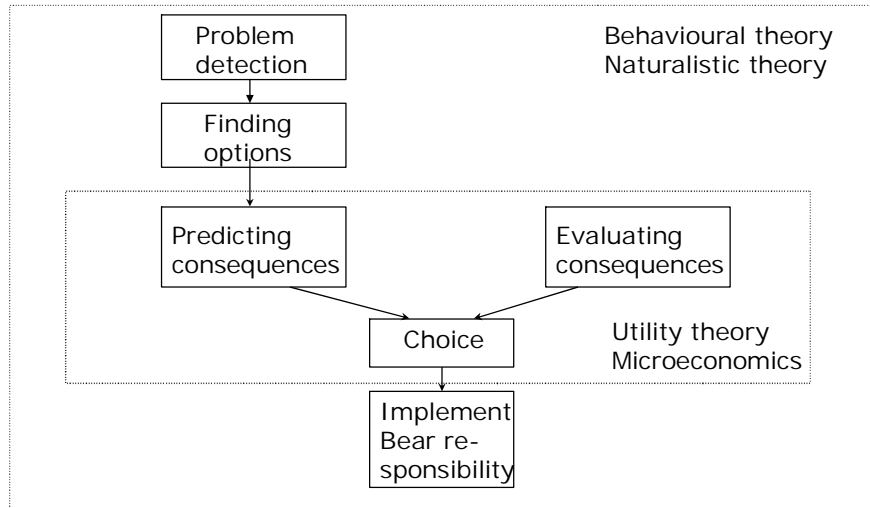
How farmers' make strategic decisions

The Scientific Agricultural Society of
Finland
Helsinki 2009-04-22

Some concepts

- | We make decisions to solve a problem
- | What is a problem?
 - » The difference between the current and the desired state
- | Two kinds of problems:
 - » Unique: something you haven't met before
 - » Repetitive: a familiar situation, known from before
 - » These problems are solved in different ways – different info and different managerial support are needed
- | Strategic decisions are mostly unique
- | Theories for decision making:
 - » Different view of decision making in different theories

Analytic decision making in different theories



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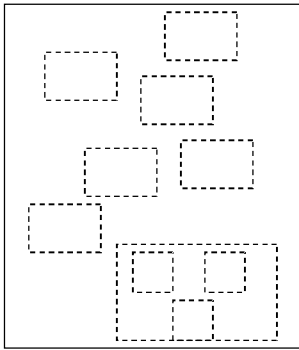
Comparison of utility and behavioural theory

- | | |
|---|---|
| <ul style="list-style-type: none"> Utility theory » Problem clear » Goals/criteria clear » Options and conse-quences known » Consistent beliefs » Consistent preferences » Optimizing How farmers should do Easiest to apply in repetitive decisions | <ul style="list-style-type: none"> Behavioural theory » Problem unclear » Goals/criteria unclear » Options and conse-quences unclear » Beliefs not consistent » Preferences not consist. » Satisficing behaviour How farmers do Explain the behaviour in strategic decisions |
|---|---|

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Two ways of processing info: analytic and intuitive



Analytical processing:

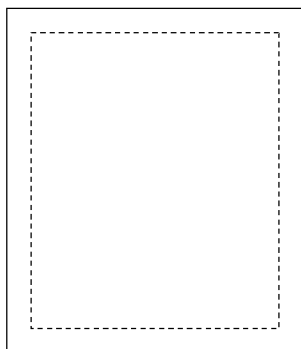
- §Decompose into parts
- §Analyze each part
- §Sum up
- §Choose and act

Characteristics:

- §Conscious – deliberate and optional
- §Based on certain rules or sometimes laws
- §Integrate information by calculations or listings of advantages and disadvantages etc.

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Intuitive processing:

- §Recognize a similar situation
- §Integrate current information
- §Judge the entirety
- §Choose and act

Characteristics:

- §Subconscious – and always working
- §Follow a feeling about what is a correct choice
- §Based on own, codified or others' experiences

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Example: convert to organic farming or not

Analytical:

- | How to control weeds?
- | How to cover nitrogen needs?
- | How much will the yield decrease?
- | How much will the costs change?
- | What crop rotation?
- | What risks are there?
- | What would I win and lose?

Intuitive:

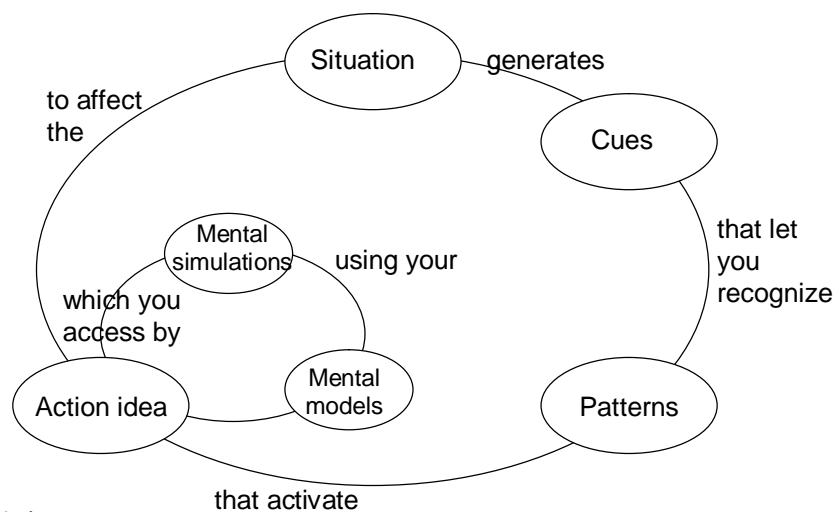
- | My neighbour has organic production –he/she seems successful
- | How does he/she do it?
- | Would I manage it?
- | Would it be better than now?
- | Should I try it on one field?

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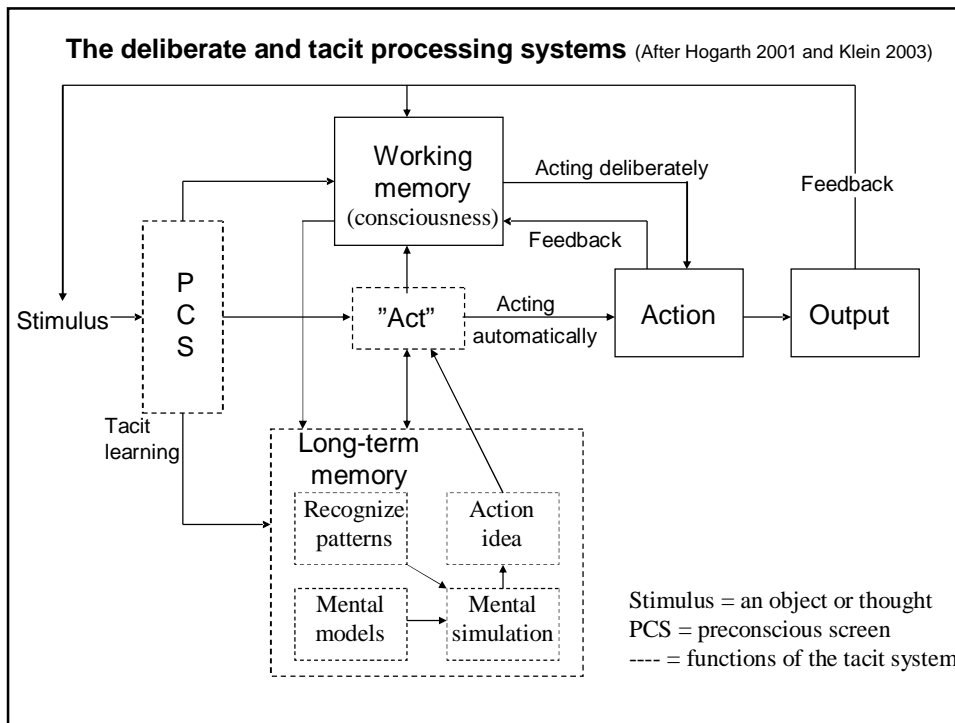
Intuitive thinking

(Recognition-Primed Decision Model, Klein 2003)



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Model of decision making process (analytical approach, unique decision)

Sub-process Functions	Info search & attention	Planning & forecasting	Conseq. evaluation & choice	Responsibility bearing
Problem detection	Info scanning Attention	Forecasting conseq.	Conseq. Evaluation Problem?	Checking
Finding options	Info search Perc options	Forecasting conseq.	Conseq. Evaluation Option?	Checking
Analysis & choice	Info search	Planning Forecasting conseq.	Conseq. Evaluation Choice	Checking
Implementation or action	Info search Clues	Forecasting conseq.	Conseq. Evaluation Choice	Responsible of final outcome Feed forward

Model of decision making process (intuitive approach, unique decision)

Maximum use of the tacit system

Sub-process Functions	Info search & attention	Planning & forecasting	Conseq. evaluation & choice	Responsi- bility bearing
Problem detection	Info scanning Tacit system	Tacit system	Tacit system Problem?	Checking
Finding options	Info search Tacit system	Tacit system	Tacit system Option?	Checking
Analysis & choice	Info search Tacit system	Tacit system	Tacit system Choice	Checking
Implemen- tation or action	Info search Tacit system	Tacit system	Tacit system Choice	Responsible of final outcome Feed forward

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A continuum

Only intuition:

- Low cost
- Quick
- All info included
- Correct?

Both intuition and analysis:

- Higher cost
- Slower
- Not all info included
- More correct?

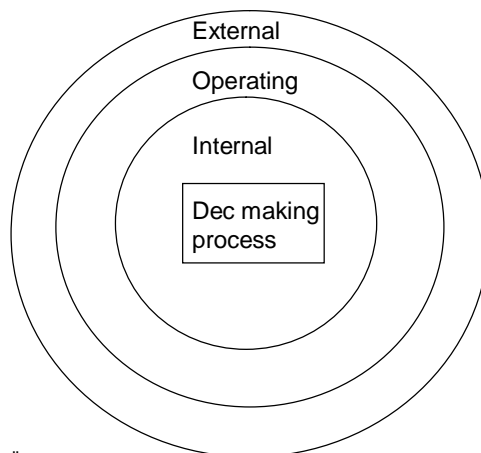
How can intuition be improved?

- Feedback is necessary – including process feedback
- Correct feedback – search info on counterhypothesis
- Use analysis to support/verify intuition
- Experience is important

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Factors that influence decision making



External factors: Political, Economic, Socio-cultural and Technological (PEST-analysis)

Operating environment: Porter's five forces, competitive advantages, etc.

Internal factors:

- 1) Problem type & other problems
- 2) Quantity & quality of resources
- 3) Organizational factors
- 4) Individual factors

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External factors

| Political factors

- » CAP, Trade policy, Economic policy etc.

| Economic factors

- » Interest rates, Exchange rates, Costs (labour, energy)

| Socio-cultural factors

- » Values & attitudes, Lifestyles, Demographic changes

| Technological factors

- » Production technology, Information technology, Competitors' development, New products from research etc.

PEST-analysis

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Operating environment

| Factors

- » Porter's five forces
 - Threat of entrants
 - Customer power
 - Threat of substitutes
 - Supplier power
 - Competitors
- » Competitive advantage
- » Opportunities
- » Threats
- » Etc.

| Information analysis methods

- » SWOT-analysis
- » Product-Market matrix
- » Product Life Cycle Model
- » BCG (Boston) –matrix
- » Porter's Market Competition Model
- » Participating model
- » Customer's Customer Analysis
- » Bench marking
- » Etc.

Internal factors: Situational

| Problem type and other problems

- » Repetitive vs. unique decision
- » Simple vs. complex problem
- » Magnitude of problem, i.e., risk
- » Other problems may cause avoidance

| Quantity and quality of resources

- » Amount of info, i.e., level of uncertainty
- » Info is quantitative versus tacit/qualitative
- » A well-defined and accepted model is or is not available
- » Financial and personnel resources

Internal factors: Organizational

Mission, vision, objectives, strategies etc according to strategic management and the following:

- a) Organizational culture
- b) Organization and directing – who makes the decisions
- c) Organizational politics
- d) Management style

a) How does culture influence?

- | Culture:
 - » Shared values, shared assumptions
- | Described by:
 - » Mission statements, formal values
 - » Basic assumptions etc.
- | Influenced by:
 - » Top management
 - » Crises
 - » Resource allocation
 - » Rewards
 - » Recruitments etc.
- | Informs about:
 - » How individuals should behave
- | Permits shortcuts in decision making
- | May cause mindsets & less creativity

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Internal factors: Individual

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> Values and attitudes Motivation Problem assessment and framing Risk attitude Ability, mental models and experience Locus of control N-achievement, N-affiliation and N-power Avoidance | } | <ul style="list-style-type: none"> Choice of info sources Intensity in info search Way of processing info Way of forecasting consequences Evaluating conseq. Implementation |
|---|---|---|

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Implications: How can advisors and management tools assist?

- | Produce stimulus for preconscious screening:
 - » Info for any of the four functions or phases
- | Assist in deliberate analysis:
 - » Diagnose problem
 - » Forecast consequences
 - » Suggest resolution options
 - » Plan options and implementation
- | Assist in checking and verifying intuition
- | Provide feedback

What kind of information?

- | Cues to recognizable patterns
- | Connect to the farmer's mental models
- | Refer to farmer's own or other's experience
- | Not general info but what will happen to current production and situation
- | Express problems, options and plans as deviations from current situation
- | If not possible, use case descriptions and model farms

- | Scientists and management tools produce analytic info – farmers prefer intuitive info
- | Advisors and management tools have to use analysis for diagnosing, finding options, planning, forecasting, controlling etc - as previously
- | Add analysis of current situation
- | Express the info as deviations from the current
- | This is how experienced advisors usually explain information in dialogue with the farmers

PM-matrix

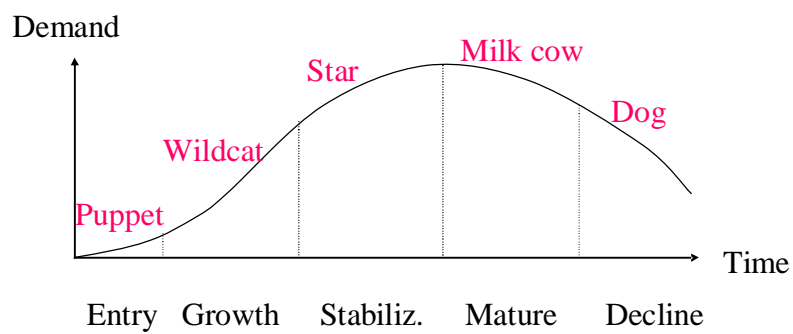
Market \ Product	A	B	C	D
1	-Turnover -Marketshare -Profitability			
2				
3				

The main part of the profit

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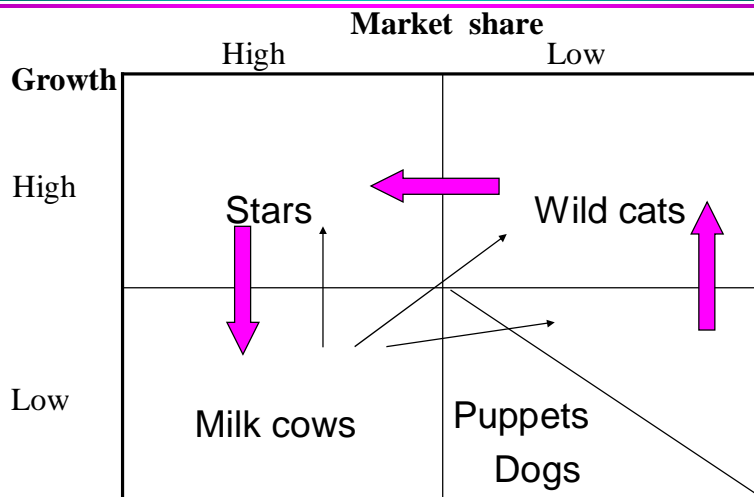
Product Life Cycle



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Product life cycle and financial resources

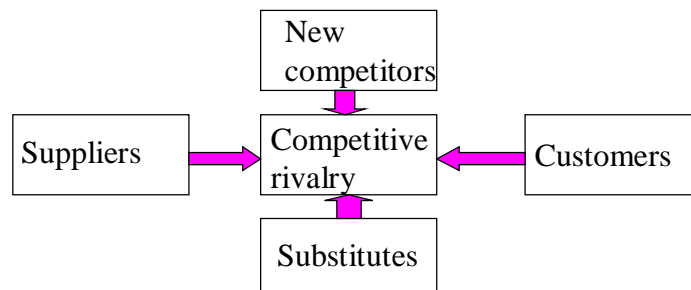


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Porter's Market Competition Model

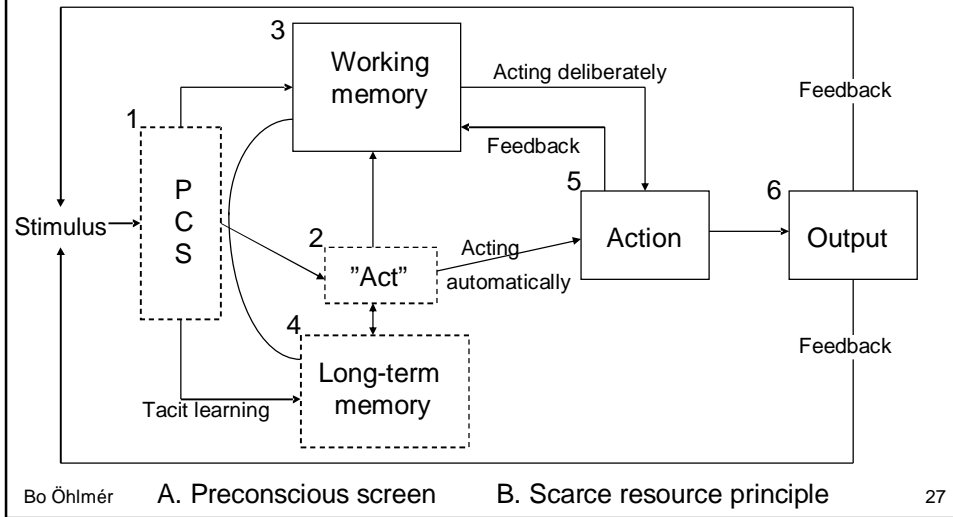
1. The core value or competitive advantage
2. Market strategies:
 - a) High coverage & low cost
 - b) High coverage & differentiation
 - c) Low coverage & high focus
3. Five strategic forces



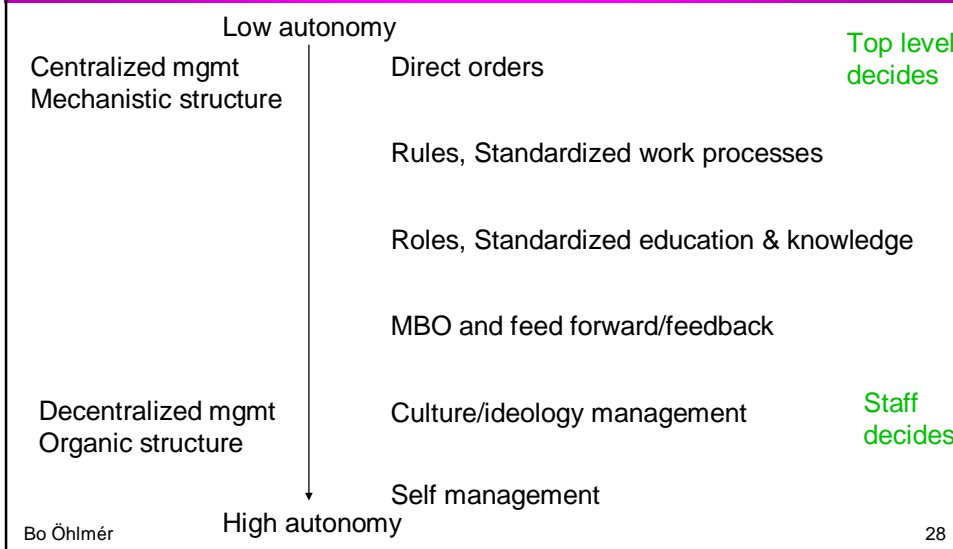
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The deliberate and tacit systems (Hogarth p. 196)



b) Organization and directing: Who makes the decisions?



c) Organizational politics

- | Formal power
- | Informal power
- | Definition: the by-play where employees want to advance themselves regardless of the best of the organization
- | Such by-play affects the decision making

d) Management style

- | Reflect the prevailing culture: autocratic, democratic or between
- | Autonomy, what to control, involvement
- | Power basis:
 - » Coercive power including forced involvement
 - » Remunerative – payment/incentives for involvement
 - » Normative – involvement by treating employees with respect and by valuing contributions

Group decision making may add:

- | Legitimacy of the decision
 - | Commitment: willingness to take part
 - | Motivation: desire to contribute
 - | Expectation: that the action will have expected outcome
 - | Creativity
 - | Information/knowledge
 - | Coordination of different parts or subgroups
 - | Training and development of employees
- But has disadvantages:
- | Takes time
 - | Costs more
 - | Intra-group conflicts
 - | Role conflicts
 - | Group think