

Transparency: The way to enhance effective risk communication

Professor Lynn Frewer
Food Safety and Consumer
Behaviour



Consumer perceptions of risk, benefit, uncertainty and cost

Contextualizing consumer attitudes towards food safety issues



Emerging societal issues in the Agri-food sector

- Consumer Health
- Food Safety
- Food Quality
- Sustainability



The key questions that need to be asked

- What is driving consumer perceptions of *risk* and *benefit*?
- Who *trusts* whom to inform and regulate?
- How does this relate to *consumer confidence* in the food chain and associated science base?
- Are there *cross-cultural, inter- and intra-* individual differences in perceptions and information needs?
- How do other consumer attitudes (*ethics, wider value systems*) relate to perceptions of risk and benefit?
- How do the public react to information about *risk/benefit uncertainty*?
- How do we understand *risk/benefit variability* across different population groups

What does this mean for consumer decision-making about health, wellbeing, and choice?



Consumer risk perception

- The **psychology of risk perception** drives public risk attitudes
 - An **involuntary risk** over which people have no control is more threatening than one people choose to take
 - Dioxin contamination of the food chain
 - Potentially **catastrophic risks** concern people most
 - Major food poisoning outbreak
 - **Unnatural (technological) risks** are more threatening than natural ones
 - Gene technology, nanotechnology, convergent technologies versus
Organic production, ecological foods



Consumer risk perception

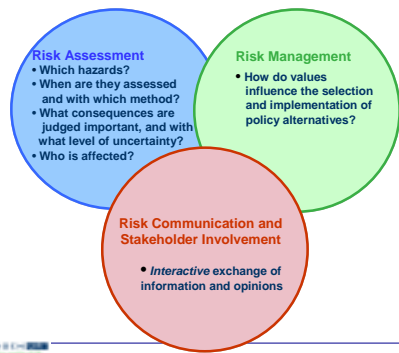
- **Ethical representations, values and concerns** are emerging as an important determinant of societal and consumer decision making
 - animal welfare
 - environmental impact,
 - sustainability
- Perceptions that the **“truth” is being hidden** increases both risk perception and distrust in regulators and communicators
 - increased transparency in risk management



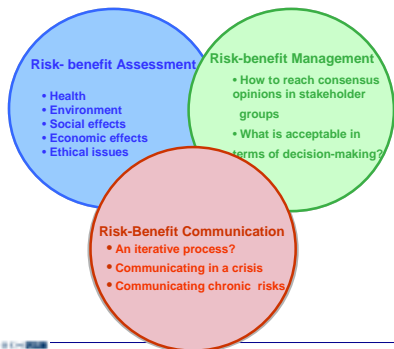
Risk Analysis Framework; improving trust through increased transparency?



Increased transparency raises more communication needs?



A Risk-benefit Analysis Framework; improving trust through increased transparency?



Trust in regulatory institutions and risk-benefit governance

- People may not always have a view regarding different Agri-food technology applications or food safety issues
- Trust in regulatory institutions is important, particularly in the area of potentially controversial applications or food safety issues
- People may react emotionally in response to specific issues (particularly if they do not want to think about relevant issues in depth)

Building societal trust in food risk management:

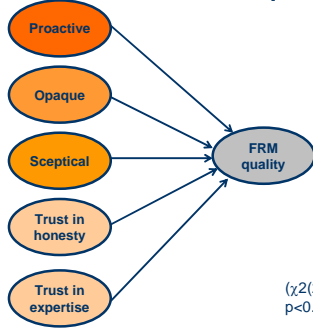
What needs to be communicated?

What determines good food risk management?

The constructs (derived from lay-expert focus groups)

- Proactive consumer protection
- Opaque and reactive risk management
- Scepticism regarding risk assessment and risk communication practices
- Trust in expertise of food risk managers
- Trust in honesty of food risk managers

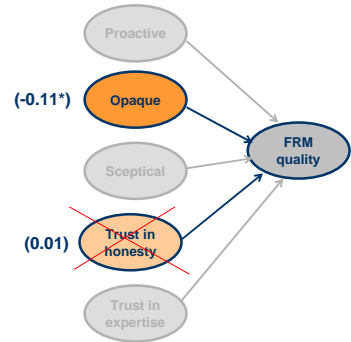
Structural model – FRM quality



($\chi^2(2420)=8429$, $p<0.01$; RMSEA=0.07).

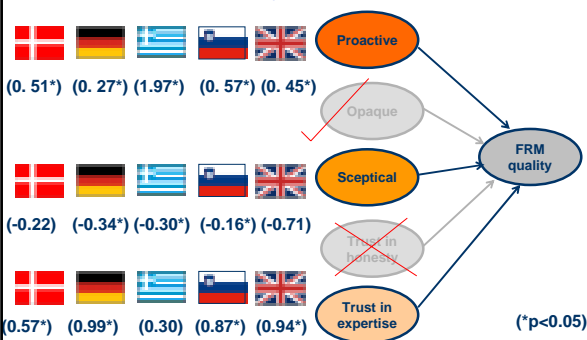
Van Kleef et al., submitted, risk analysis

Quantitative results: no country differences



(* $p<0.05$)

Country differences



(* $p<0.05$)

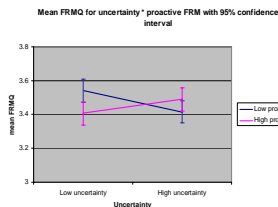
Quantitative results

- Factors of universal importance
 - Pro-active consumer protection
 - Opaque and reactive risk management
 - Trust in the expertise of food risk managers (*except Greece*)
- Factors of local importance related to food risk management quality evaluations:
 - Scepticism in risk assessment and communication practices

Communication example; GM potato with nutrition benefits

- Uncertainty x Proactive management communication

High uncertainty about the risks associated with the food, people prefer **proactive** FRM activities.



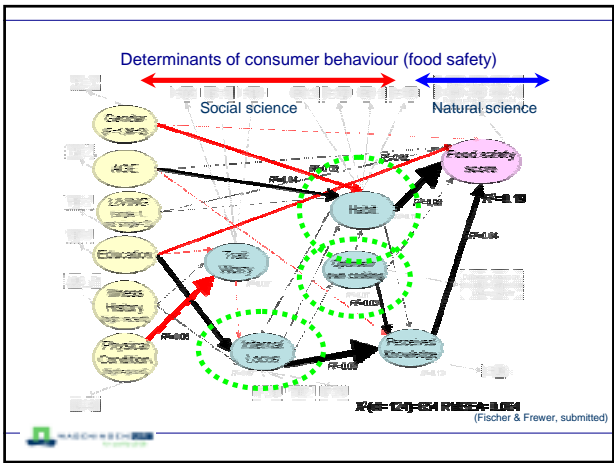
Low uncertainty about the risks associated with the VAP, people are **less concerned** about proactive FRM activities.

$F(1,2) = 9.85$, $p = 0.002$

Van Dijk, H., Van Kleef, E., Frewer, L.J., et al. (in preparation). Consumer responses to communication about food risk management.

Explaining individual differences

Psychological factors determine consumer attitudes, decision-making and impact on self-protective behaviors and food choices

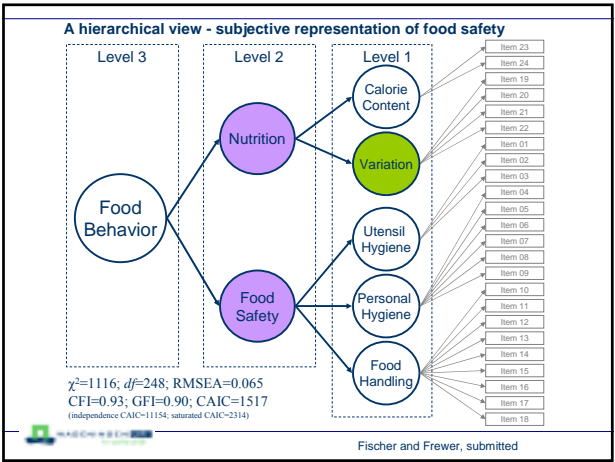


- Psychological factors are important barriers to effective risk communication
 - Locus of control (the extent to which an individual believes they can influence health outcomes)
 - Habitual behaviour
 - Optimism about own risk

Mental models of food –related behaviour.

Results of a hierarchical factor analysis

(Fischer and Frewer submitted)



- ### What psychological factors influence food choice and technology acceptance?
- Habitual behaviour
 - Fischer, A. Frewer, L.J., Nauta, M. Towards improving Food Safety in the Domestic Environment: Assessing individual differences in the safety efficacy of domestic food handling practices (in press, Risk Analysis).
 - Perceived Risk *versus* perceived benefit
 - Frewer, L. J., Howard, C., and Shepherd, R. (1997). Public concerns about general and specific applications of genetic engineering: Risk, benefit and ethics. *Science, Technology and Human Values*, 22, 98-124.
 - Role of affect or emotion De Jonge, J., van Trijp, H., Renes, R.R. and Frewer, L.J. (submitted)
 - Implicit memory
 - Spence, A., and Townsend, E. (2006). Implicit attitudes towards genetically modified (G.M.) foods: A comparison of context free and context dependent evaluation. *Appetite*, 46, 67-74.
 - Attitude activation
 - Frewer, L. J., Scholderer, J. and Bredahl, L. (2003). Communicating about the risks and benefits of genetically modified foods: Effects of different information strategies. *Risk Analysis*, 23, 6, 1117-1133
- Interactions between these....

- ### Conclusions
- Emphasis on *risk-benefit* analysis in a transparent environment
 - Assessment
 - Health
 - environment
 - socio-economic
 - ethical impact)
 - Management
 - decision-making
 - stakeholder and citizen priorities
 - Evaluation of consumer perceptions of benefit *and* risk
 - Individual differences in consumer decision-making may determine communication structure
- Bring together to develop best practice in risk-benefit communication in a transparent risk analysis framework

Thank you!

Any Questions?