

Decision Methodology AM

Tim: Interested in how businesses make decisions in a reg process:

- two kinds of decisions: screening & comparing alternatives
- Decisions are being made all the time: Product design formulation, Retail sales etc.
- What are the ways you make decisions? Which decision factors are most important?
- What mechanisms are used for making decisions?
- What kind of process? How is it done now?

Global organization – lots of formulators throughout world

- company has corporate constraints & internal regs
- decision parameters are based on use:
 - Safety aspects: globally applied & established by company
 - Supply chain: ingredient availability
 - Biodiversity
 - Environmental safety
 - Government regs: similar for prods that are mods of existing prods
 - Legal requirements: ie, patents
 - Consumer requirements & testing – customers can be retailers & each has own requirements; potentially a huge number of variables: Wal-Mart, Target, K-Mart
- Packaging plastics, different globally: PP big in EU; HDPE in US for recycling; Different interests
- recycling is nonexistent in some parts of the world
- Global teams responsible for product – get info from other sources wrt local considerations

What is the process?

- Linear and iterative process: back and forth
- ie: CARB reg re: products: tech proj leader + proj leader + teams = lots of spokes on hub
- Labeling is important
- Consider Environmental and human health together
- Needs to be Safe in a river and in a sewer facility in California

Automotive industry:

Various organizations for global and national standards: SAE, ISO, EU, global, US, state

Development – 10-year process

Two products comparison Co2 refrigerants;

- Efficiency
- Greenhouse gas
- Passenger safety
- Phase-out 141 A-EU

But, manufacturer stopped process

Testing uncomfortable

Who made decision?

- Narrative method
- Specific parameters looked at
- Certain minimums have to met

US EPA approval – SNAP Program

Refrigerants:

Alternative to 134

Narrative decision approach and qualitative risk assessment

Do others use this?

Qualitative process & narrative

With Utilities, safety is a key driver:

Safety > drivers
Risk >
Liability for decisions

Rate challenge every two years

Cost becomes a driver – risk is considered from a financial standpoint

Tire industry – safety is driver: NHTSA Federal safety standards are threshold factor

- change in a tire can't be considered if it does not comply
- later, consider if tires help cars meet emission stds

What is beyond?

- Marketing issues
- Car companies' requirement

New innovation? Innovation perspective:

- Intellectual property impact
- ingred safety – first consider reg issues, safety & feasibility, then consider business-oriented decision aspects
- alts for existing prods must also consider mkt claims, a part of functionality:
 - Does it support claims?
 - Does it have regulatory problems? Group will discuss
 - Is it feasible? Efficacy, consumer acceptance
 - What is the market? Mkt position, competition
 - Is it worth it?
 - Cost? Cost of ingreds, alts, parameters of distribution

How do they consider all these factors?

Hierarchy decision – executive decision informed by scientific/tech info

- mid-level decisions determine: ID options, screen, move on

Different disciplines gather together to make a decision:

Clorox – Global Stewardship – hub of decisionmaking

- Every product reviewed
- Tools are: Laws
Regs
Safety/toxic - Safety tool: 3E global tool with data
- Safety & environmental requirements for company, sustainability, toxicology, regs, international requirements – experts in all these areas
- Ok by all groups
- Does it meet minimums? If product does not meet threshold, suggest alts: ID Two or Three that met min. levels:
- Business decision does the product do what (it) is trying to do? Compare alts, primarily according to efficacy & cost.
- Data: rely on suppliers for this
- Contaminants: rely on suppliers to avoid or be aware of these
- Using Internal tools – evaluate product
 - 30 attributes at first, then as a whole

Heard two things

- Multiple attributes – compensatory Balancing of them; using Narratives
- Series of Thresholds, then move to different considerations, ie: marketing functions

Final decision point: consumer research indicates a need

- did mkt project a target?

For decisions: analyze, assess, test, etc

Worried about contaminants in raw materials

Life cycle

Two/three attributes To focus on for a decision

Testing & evaluations

Challenges to making a decision?

What to do when there is no clear alternatives or nothing is better.

Tradeoffs among criteria; pressure from reg & efficiency needs

How do you gauge relative importance of attributes when there is no clear indication?

Car design - Mandate on us; reduce fuel use alternative materials

Lighter?

Recyclable?

Feasible?

Reevaluation 2020

Cost vs. function? How do you make this judgment?

Scoring matrix w/weights & criteria

- Clorox designed an internal tool, with weightings; considers envl, health, sust policy of supplier & other factors

House of Quality - six sigma, q-matrix

- score for importance
- score for quality

Sustainability – looked at points for each attribute?

YES

Fold them all together

Importance & cost score

Can guidance help with how to specify weights?

- benchmarking - Competitor bench mark
- how to do weighting is important in guidance, not what weights should be
- JD Power weighing scoring – give info on wts in automotive sector

Optimization modeling process?

- develop algorithms for sustainability
- Sustainability analysis – use such a model

Guide to DTSC?

- Guidance should address Supplier participation: what's expected at each stage in supply chain
- How to weigh each role in the supply chain?
- Room for businesses in the middle between supply & manufacturer
- Industry-specific guidance
- Checklist of things DTSC wants to see/ want you to consider
 - comprehensive list of factors – thought exercise
- Grading scale/how will we pass?
 - clear stds about decision criteria & how it will be weighted
- sufficient time to make changes – some changes will take years rather than months
- recognition that other laws also form basis for decisions
- Harmonize with other jurisdictions /regs & laws: Europe, Asia, etc. typically one global product

Decision Methodology PM

How is decision making done?

Two schemes in regs screening decision-making:

Identify one or more safer alternatives;

Peculiar methods for product decision-making?

Long time consideration of all these kinds of attributes

Weighing will change functionality cost > important

Branding is important sustainability is part of that.

Room – all parts of company represented

Consensus process

Veto by sales – traditional

- Will change.

What has kept “Barbie on Market?”

Existing process close to the safer products regs	Existing process based on only looking at existing regulatory thresholds
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DTSC wants both to hopefully, tell us about their decision making process

Look at all the data; decide on alternatives; make final decision

Outside factors will force the decision

Guidance: What would be most helpful in Guidance?

Weighting might be difficult – been doing LCA/aa-type decisions for long time

- efficacy is important
- manufacturing feasibility
- economic feasibility, esp for publicly traded companies
- regs
- branding considerations.

All involved in decision are in room: HSE, tech, mgmt., sust

Then they use a consensus process w/vetoes by sales/marketing

Example:

Item; issue; frame problem; other sust factors; sales info; propose several solutions; elim undesirables; then arrive at final decision: create new or buy or allow to decline, etc

Decisions are affected by other factors: other ban/restrictions

Different processes used at different points:

- (1) Scorecard for ranking products
- (2) Then those that rank lower go to second, more consensus-based process to decide what to do at this point

Safety is bottom line for products – consumer and occupational exposure

1st screen - Multiple attributes, vary depending on product & used in future iterations of product – safety, performance, cost – balancing is done using proprietary internal decision-making tool.

- What is important about this product
- History of product
- We do not use it if it does not enhance the product.
- Sourcing of raw materials...

All a part of initial screening - Clorox has a formal decision tool for initial screening

No negotiation on safety – other attributes subjected to a rigorous evaluation process

After screening – formalized process for other attributes: ID sourcing, raw material, acceptability, availability, finite vs renewable source, new technology (ie: nano), regulatory hurdles, infrastructure feasibility, retooling/retraining, air & water quality standards, manufacture/use/EOL, efficacy (product claims), costs, consumer acceptance & customer acceptance

Guidance

Clorox – Part of decision making

- Efficiency
- Cost
- Regulatory screen

Alternatives analysis on REACH?

Manufacturer

Two different criteria	Make for a retailer/customer
	Market for an end user

Three different products based on customer:

- Hispanic 1 one highly fragrance cleaning product
- Non-Hispanic one less fragrance
- Allergy sensitive customer one no fragrance

How to weigh the attributes of product?

R&D senior leadership team w/experts - Team has all major elements of company represented

- legal, regulatory affairs, govt affairs, science team, supply/procurement
- weighting is product-specific & made in R&D at higher org level
- need a balance that addresses any product concerns (ie: cultural sensibilities)
- Driven by product & its attributes
- corporate culture & tolerances for risk affect decision (conservative & risk-averse behave differently from risk takers; also publicly owned vs privately held)
- Basic manufacturer different then formulator
- Different approaches affects decision making

In guidance, want certainty & clarity – what is acceptable & required for compliance

- meet goals of statute & requirements of regulation
- minimize interaction, but all interaction to occur
- provide opportunity to mitigate – not always back to start
- Manufacturer will want to know that it will pass muster
- Clarity in guidance
- What/how to comply

Self-certification opportunity?

- acceptance/designation by manufacturer

Take stakeholders into account – depending on products & corporate culture

- Info from outside sources-important for decision making
- Clorox involved Sierra Club in their Green Works line development