

Challenges and opportunities for Innovation within the Climate Services' Framework

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The change....

Meteorologists and climatologists have always had a challenge; *is their mandate only to issue a weather and climate outlook – or rather to also issue advisory on the implications of the weather and climate forecast?* Typically the training of meteorologists and climatologists was not required to prescribe policy and strategies for coping with weather and climate. With time, however, **this is changing.** Other disciplines are needed!

Categories of climate services

1: Basic Climate services	Data analyses, climate monitoring. No expected skill in modeling.
2: Essential Climate Services	Statistical services and seasonal prediction, climate watches and warnings.
3: Full Essential Services	User interface on CRM to climate variability and change, and adaptation
4: Advanced Essential Services	Research and modelling capabilities for climate and applied climate studies.

Climate Innovation

- Must influence consumer behaviour
- Creating the “MUST HAVE” factor
- Making the Innovation seem worthwhile / valuable
- Built-in adaptive qualities to stay ahead.

EXAMPLE: SONY Walkman (1979) had features ready for release to fight competition. Reduced size, Radio (FM), Auto Reverse, Shock Resistance, Water Resistance; Rechargeable batteries, Alarm Clock, Dolby and even smaller size!

People didn't NEED these features, SONY made them “Desirable”.



Definition; Innovation

- Could be completely new product or service
- Could also be a small improvement in existing products or services
- Might be an improvement in internal processes
- Likely to have a strong technological component, e.g. software, electronics
- Probably for existing market, but may also create new / niche

A good innovation...

- Increases opportunity market separation
- Good for the economy as a whole (as companies trade on a global basis)
- Usually leads to cost reductions – better margins
- Should give consumers greater satisfaction and wider choice
- Reduces dependency on old products / services and technological processes.

What are the stages of Innovation?

Creative idea, spark of genius!

Creation of white papers, reports and reviews

Proof of Concept(s)

The business plan, financial case and the MONEY!!!

The commercialisation process begins in earnest



Types of innovation

Innovative Thinking: Six Simple Secrets by Padi Selwyn, M.A.

- 1. Product innovation:** New good or improved service.
- 2. Process innovation:** New or improved production or delivery method.
- 3. Marketing innovation:** New marketing methods.
- 4. Organizational / Social innovation:** Creation of new organizations, business practices.
- 5. Business Model innovation:** New way of conducting business.

Some examples of past innovations:

Category	Disruptive innovation	Market disrupted by innovation
Academia	Wikipedia	Traditional encyclopaedias
Communication	Telephony	Telegraphy
Computing hardware	Smartphones	Personal computers, laptops
Display	LCD; LED displays & other flat-panel TVs	Cathode ray tube (CRT)
Publishing and printing	Computer printer	Offset printing
	Word processing	Typewriter
Music	Gramophone	Pianola
	Digital media,	CDs; DVDs

Why Climate services Innovation

Either we fix climate variability or climate variability will fix us...

- We need a climate services enterprise that enables discontinuous, disruptive, and transformative innovations.
- The changes must help clients solve problems in new ways with new data products and services.
- Added output of climate services must also generate new industries, new businesses, and economic growth

Possible areas for innovations.

- Issuance of climate disaster and risk warnings and advisories; **Insurance products**; apply **Social Media and platforms**
- Monitoring of climate and development of climate 'feelers'; **New Data for new world**; an 'open data' policy poised; **making forecasts and data a public good and a resource for development.**
- **Pick on a few priority areas and innovate** in those – for example – climate services for health (malaria); climate services for agriculture; water;
- **Climate smart concepts for villages, development and living.** Agree on indicators and measures.