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Economic Support and Sustainability of Laboratories

Dr Laurie Besley

CEO, National Measurement Institute, Australia (NMIA)

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Relevance of My Background

- I am Chief Executive of an institute in Australia that, amongst other things, is heavily involved in the chemical and biological analysis of food
- We provide analytical services to about 5,000 clients each year
- We issue some 15,000 reports on samples each year
- Our external revenue (from all sources) amounts to some US$ 35 million each year, of which perhaps US$ 15 million is related to food analysis
- All of our commercial activities operate under at least full cost recovery conditions
- As an Australian government body we are forbidden to operate in a way that uses government funding to compete unfairly with laboratories from the private sector
- On the other hand, as the Australian government's primary source of food analysis expertise, we provide many services direct to government agencies for policy and regulatory purposes
- Thus I am acutely aware of the issues faced by laboratories in both the government and private sectors

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What Makes Up a Laboratory?

People

Premises

Customers

Instruments

Systems

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What Makes a Laboratory Sustainable?

There are many factors, but all are related to the requirement that the laboratory must be able to support itself financially to an extent that it can sustain an appropriate level of technical capability to deliver adequate services to its stakeholders

- **Source of revenue to balance laboratory costs**
  - **Government or other independent financial support**
  - **Sufficient number of fee-paying clients**
- **Efficient management**
- **Knowledge of stakeholder needs**
- **Competent staff**
- **Suitable premises**
- **Appropriate instrumentation**
- **Effective quality system**

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Effective Management

- **Customer focus**
- **Human resource management skills**
- **Establishment of good client relationships**
- **Quality systems management**
- **Understanding of technical issues**
- **Efficient financial management**

- **Understanding of client needs**

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Competent Staff

- **Effective instrument operators**
- **Educated in quality systems requirements**
- **Trained in occupational health and safety issues**
- **Aware of customer requirements**
- **Trained in reporting of data**

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Appropriate Instrumentation

- **Fitness for purpose**
  - **Don't buy a Ferrari when a Honda will do the job**
  - **But equipment must be current and still technically supported**
- **Seek versatility**
  - **Ability to address a number of needs**
- **Look for equipment with low operating and maintenance costs**
- **Seek equipment with minimum operator experience and/or training requirements**
- **Seek "package deals" from suppliers that include maintenance contracts**
- **Learn from the experiences of other laboratories**

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Effective Quality Systems

- **Compliance with relevant international documentary standards, both technical and management systems**
- **Technical accreditation participation and audits**
- **Access to, and use of, certified reference materials**
- **Access to, and use of, reference analytical methods**
- **Access to, and participation in, proficiency testing programs or inter-laboratory comparisons, preferably those of interest to their clients**

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Suitable Premises

- **Suitable environmental control**
  - **Temperature**
  - **Humidity**
- **Clean**
- **Secure**
- **Fitted appropriately with services**
  - **Water**
  - **Specialty gases**
  - **Fume hoods**
  - **Solvent cabinets**
  - **IT services**
- **Meeting occupational health & safety requirements**

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Knowledge of Stakeholder Needs

- Requires laboratory management to be proactive
  - Stakeholder consultations and visits
  - Access publicly-available material
    - Printed
    - Electronic
- Establish user network
- Participate in sector forums (e.g. food manufacturers, producers)
- Ensure alignment with government, industry policies
  - Contaminant levels
  - Nutritional requirements
  - Emerging national issues
- Keep up to date on international developments

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Financial Support

- All of these requirements involve costs
- Finance can come from a number of sources
  - Fee-paying customers
  - National / provincial / city government
  - External funding agencies
- In many developing economies, in-country support is very limited
- Vital that laboratory have a long-term strategy to ensure financial viability
- Major role to be played by international funding agencies

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Role of Funding Agencies

- Provision of funding for the laboratory to:
  - Train their laboratory manager(s)
  - Training their technical laboratory staff
  - Establish their quality systems
  - Meet accreditation requirements
  - Improve their accommodation
  - Purchase appropriate equipment
  - Promote networking activities, conduct surveys to increase awareness of customer needs
- Provision of funding to educate customers in the advantages of using good-quality laboratory services
  - Product testing
  - Validation of supply chain quality assurance schemes
- All support should be conditional on the laboratory first producing a long-term viability strategy
- Timescale set for independence from external funding
- Any funding programs should involve a “follow-up” phase to ensure implementation of training, etc.

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Traps To Avoid

- **Examples of mis-applied funding**
  - **Funding to purchase instruments that no-one is trained to operate and thus remain unused**
  - **Funding to purchase instruments for which the laboratory has no budget to maintain in service**
  - **Funding to create a laboratory facility that the home organisation cannot afford to staff appropriately over the long term**
  - **Funding to generate services that have no viable customer base**
  - **Funding to train personnel who:**
    - **Leave the laboratory very rapidly thereafter for a better job elsewhere**
    - **Are at the wrong level to implement the training in their laboratory**
  - **Funding for overseas travel for technical training for management personnel**

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Thanks for listening !

National Measurement Institute, Australia
Bradfield Road
West Lindfield NSW 2070
Australia

Dr Laurie Besley
Phone: + 61 2 8467 3650
Email: laurie.besley@measurement.gov.au

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