Maintaining the Balance: managing the changing dynamics of the cloud

Jenny Leonard
University of Sydney

jenny.leonard@sydney.edu.au
Maintaining a balance

Global  Local

Whole University  Specific areas

More functionality  Less budget
Maintaining a balance

How does the cloud affect what is sourced globally, and what is sourced locally (nationally)?

What does this mean for IS managers?
Some typical university systems

“Core” administration systems

- Student administration
- Research administration
- Human Capital Management
- Finance

Staff and student information ecosystem

- Finger et al 2010
- Learning management
- Library
- Research infrastructure

External reporting

- DEEWR returns

Internal reporting

- Business intelligence
Global or local (national) sourcing

"Core" administration systems
- Student administration
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- Human Capital Management
- Finance

External reporting
- DEEWR returns
- Global
- Local

Internal reporting
- Business intelligence
- Global
- Local

Staff and student information ecosystem
- Finger et al 2010
- Learning management
- Library
- Research infrastructure
- Global

Database of record
- National user groups
- Local

Global or local (national) sourcing
Focussing on locally sourced systems

External reporting

DEEWR returns

Global  Local

“Core” administration systems

Student administration

Research administration

Human Capital Management

Finance

Database of record

National user groups

Staff and student information ecosystem

Finger et al 2010
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<th>Time</th>
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<td>2010s</td>
<td>NATIONAL products plus GLOBAL products</td>
<td>Community cloud for core systems Public cloud for peripheral systems Parts of NATIONAL systems being offered GLOBALLY Further software/platform sharing mechanisms</td>
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Global or local (national) sourcing

External reporting
- DEEWR returns

Vendors
Using niche expertise to explore global markets

Government reporting platforms

“Core” administration systems
- Student administration
- Research administration
- Human Capital Management
- Finance

Staff and student information ecosystem
- Finger et al 2010

Learning management
- Library

Research infrastructure

Universities
moving peripheral systems into global spaces
- Student relationship management
- Student recruitment
- Staff recruitment
- Staff expenses management

Vendors

Using niche expertise
to explore global markets

Government reporting platforms
Possible dynamics for systems with strong local content

- **Vendor imperatives**
  - Vendor niche knowledge
  - Partitioning feasible
  - Global demand

- **User imperatives**
  - Peripheral functionality
    - Excludes database of record
    - Part of staff/student information ecosystem
  - Integrated, correct records, support for robust processes

- **Vendor niche knowledge**
  - Partitioning feasible
  - Global demand

- **Periphery functionality**
  - Excludes database of record
  - Part of staff/student information ecosystem

- **Core, in-house database of record**
  - Niche offering, providing viable cost/benefits
  - Integrated, correct records, support for robust processes
What does this mean for IS managers?

• Working with vendors to ensure core systems remain viable at a national level
• User group: negotiating what remains in core systems, and what is peripheral
• Identifying what can be safely sourced from the public cloud
• Identifying new potential consortia and sharing opportunities
Maintaining a balance

How does the cloud affect end-user sourcing of systems?

What does this mean for IS managers?
End-user sourcing of systems

End-users can more easily source their own systems
• No/reduced Capex
• Attractive operating costs
• Direct relationship with vendor

Whole University Specific areas
What is the ideal split for a university?

<table>
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<tr>
<th>Coordination</th>
<th>Unification</th>
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<tbody>
<tr>
<td>Whole university</td>
<td></td>
</tr>
<tr>
<td>Diversification</td>
<td>Replication</td>
</tr>
<tr>
<td>Specific areas</td>
<td>Specific areas</td>
</tr>
<tr>
<td></td>
<td>Whole University</td>
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</table>

Business process standardisation

Ross et al 2006
Historical challenges

Weill et al 2002
How does cloud change this?

- Professionally built systems
- Implications underestimated
- Duplication of functionality
- Different risks

Weill et al 2002
Are these problems University specific?

A supermarket

Inventory = Goods → Registration of sales

A University

Inventory = Courses → Registration of diplomas

Leonard and Zinner Henriksen 2011
Universities and the strategy/benefits relationship

<table>
<thead>
<tr>
<th>Integration benefits</th>
<th>Strategies</th>
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<tbody>
<tr>
<td></td>
<td>Core</td>
</tr>
<tr>
<td></td>
<td>Research</td>
</tr>
<tr>
<td>Integrated data</td>
<td>√</td>
</tr>
<tr>
<td>Standardised processes</td>
<td></td>
</tr>
<tr>
<td>Management information</td>
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Leonard and Higson 2014
Implications for IS managers

• Broad discussion of ideal architecture
  – Grounded in a workable “operating model”
  – with University strategy in mind
• Continuing relationship building
  – “champions”, “super-users”
  – Boundary spanners: academic-admin; admin-admin
  – Education
• Encourage early IS involvement in end user cloud acquisitions
• Continuing to clear up
  – Data maintenance
Maintaining a balance

What skills do IS managers need to keep in-house when moving to the cloud?
What skills should IS managers demand of vendors?
How should IS managers develop vendor relationships over time

More functionality
Less budget
Skills to keep in house

Willcocks et al 2014 “Moving to the Cloud Corporation"
3. Skills to demand from vendors

Willcocks et al 2011
4. Building the vendor relationship

• Launch the mission stage
  – Effective leadership pair (client-provider)
  – Strategic benefits, not just cost efficiencies
  – Strong transition and change management

• Stay on target stage
  – Partnering approach to governance
  – As a client, integrate, empower and reward provider’s staff
  – Joint conflict/issue resolution

• Explore new frontiers stage
  – Technology as an Enabler and Accelerator of Performance
  – Deploy Domain Expertise and Business Analytics
  – Prioritise and Incentivise innovation

Lacity and Willcocks 2014
Thankyou!

Jenny Leonard
University of Sydney

jenny.leonard@sydney.edu.au
**Definition:** Cloud characteristics and implications for universities

<table>
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<th>Cloud characteristic (Australian Government 2011)</th>
<th>Implications for Universities</th>
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<tr>
<td>1. On demand self service</td>
<td><strong>Standardised capability</strong> – changes are automated there&lt;br&gt;<strong>No direct relationship with vendor</strong></td>
</tr>
<tr>
<td>2. Broad network access</td>
<td>Only feasible with <strong>broad user base</strong></td>
</tr>
<tr>
<td>3. Resource pooling</td>
<td><strong>Location independence</strong>* – University does not know where data is held</td>
</tr>
<tr>
<td>4. Rapid elasticity</td>
<td>Best suited to systems with <strong>highly varied demand</strong>&lt;br&gt;(is this true of University systems – see JISC 2015)</td>
</tr>
<tr>
<td>5. Measured services</td>
<td><strong>Longevity of service not guaranteed</strong></td>
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* For some types of cloud, eg private or community clouds, location may be known
Definition: Cloud based services

SaaS (Software as a Service) provides services over the internet. Consume: End users, Provide: Vendors, Support: Developers.

PaaS (Platform as a Service) provides a platform for developers to build and run applications. Consume: Developers, Provide: Vendors, Support: End users.

IaaS (Infrastructure as a Service) provides infrastructure resources over the internet. Consume: End users, Provide: Vendors, Support: Developers.

Marinos and Briscoe 2009

Also: Platform as a Service
## Delivery models

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<th>Type</th>
<th>Description</th>
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<tr>
<td>Private or internal cloud</td>
<td>Provided solely for an organisation&lt;br&gt;Managed by third party</td>
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<tr>
<td>Community cloud</td>
<td>Shared by several organisations within a specific community. May be owned by the organisations or a third party</td>
</tr>
<tr>
<td>Public cloud</td>
<td>Cloud services are available to the public and owned by a vendor eg Amazon</td>
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<tr>
<td>Hybrid cloud</td>
<td>An integrated cloud services arrangement using different models</td>
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