IT Governance
How we are making it work

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Information Systems
Nottingham Trent University

IT Governance at NTU
• Nottingham Trent University
• Looking for an IT Governance Model
• The JISC IT Governance model
• Implementing IT Governance
• Practical applications
• Key attributes for success
• Conclusion
Nottingham Trent University

- About 2,400 members of staff (FTE)
- About 25,000 registered FTE students on campus
- About 40,000 registered users of computing facilities
- 3 locations
  - central Nottingham
  - Clifton - about 5 miles south west of the City
  - Brackenhurst – about 12 miles east of the City
- Predominantly a teaching based University with about 10% of our activity research based
- We have a tendency towards courses with a placement period with an employer – focus on employability of graduates
- Senior management team have a strong commercial focus

Information Systems

- Centralised IT services, created in December 2004 by bringing together four smaller departments
- Currently a team of about 160
- All IT, telephones and AV, Web servers but not web content.
- Historical focus on operations (80/20) – moving towards increased focus on development (50/50)
- Recent extension of the Project Management team (from 9 to 12) and creation of a new team of Business Analysts (4)
- No IT support located in the Academy except for a very limited number of very specialist activities
- Funding pressures – 14 redundancies in July/August 2010

Looking for an IT Governance Model
IT Governance
Top Down
(courtesy of the University of Sao Paulo, Brazil)

IT Governance Strategies at CCE/USP

Phase 2: Strategic Planning
Phase 3: MIT Framework
Phase 1: Process Execution
Phase 4: Balanced Scorecard

IT Governance
Bottom up
Why the need for IT Governance

• Creating Information Systems from 4 disparate teams initially focused on creating roles and getting people to work together
• We reasonably quickly identified issues where bringing elements of governance would enable improved management and a common approach – particularly:
  – There was no risk register
  – Processes were undefined
  – Budgets needed re-designating
  – There was no Disaster Plan or Business Impact Analysis
  – There was no definition of what constituted a project
  – There was no concept of resource management
  – The culture of 'Academic Freedom' prevailed a.k.a. ‘Do what you like’
• Response: a half hearted attempt at implementing ITIL
• Note: Back then we would not have called this 'Governance' and talks with colleagues suggests our position was far from unusual

28 March 2011

Summer 2006 - The then IS Director resigns

A chain of events is set off which sets the governance ball rolling...
• An interim director is appointed
• He instigates a reorganisation
• IT Governance is formalised in terms of responsibility (but not yet in terms of clarity) by creating a new post “ICT Process Oversight Manager”
• A new director is appointed
• His background is the financial sector so governance of IT comes as a given (Sarbanes-Oxley; Basel 2, etc.)
• IT governance is placed firmly on the agenda for NTU

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Our approach

• Tackle the areas we had addressed as deficiencies
• Communicate to managers why we have a problem and win support – this led to a successful governance training day
• Look at the literature
  – Peter Weill and Jeanne W Ross’s book seems to be the classic text
  – It does address public sector/not for profit organisations
  – It proposes a top-down approach where we needed a bottom up
• Find out what other people are doing
• Look for a model which we could use or adapt to give the work some structure and to which we might be able to attach a strategy
  – We looked at COBIT but at that stage it did not work for us as processes were undefined
  – We’ve looked at ISO38500 but have not adopted it yet

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IT Governance – NCC Model

We are members of the National Computing Centre. They run governance training days and publish a book 'IT Governance' which is bottom up based and identified for us the scope of what we needed to do:

- Creating a business case for IT Governance
- Performance Measurement
- Implementation roadmap
- Communication Strategy and Culture
- Capability Maturity and Assessment
- Risk Management
- Supplier Governance
- IT and Internal Audit working together and using COBIT
- Information Security Governance
- Legal and Regulatory aspects of IT Governance
- Architecture Governance
- Managing the IT Investment

JISC support for IT Governance

- There are a number of IT governance related activities for which JISC have researched and published supporting materials including Change Management, Project management, Programme management and Risk Management (See http://www.jiscinfonet.ac.uk/infokits)
- They have also researched how IT Governance can support Higher Education again using a bottom up approach and produced a governance model, self assessment process and supporting toolkit (see http://www.ismg.ac.uk/)
- The JISC work on IT governance was produced just after we had created our model for NTU but before we had published it. As their approach was much more comprehensive than ours we changed tack...
The JISC self assessment questionnaire

- The JISC toolkit for IT governance includes a self assessment questionnaire
- This enables a snapshot on where you are with pointers as to what to do next
- We asked senior managers to complete the questionnaire; consolidated the responses and used them to direct our strategy

Organisation - Policies

Does the institution have in place appropriate policies and procedures to manage its information systems?

1. Does the institution have an acceptable use policy that all users are expected to sign and comply with? 1 2 3 4 5
Summary of evidence:

2. Does the institution have an information security policy? 1 2 3 4 5
Summary of evidence:

3. Are staff aware of their legal responsibilities in relation to information systems (e.g. Data Protection Act, Freedom of Information Act, Disability legislation, etc.)? 1 2 3 4 5
Summary of evidence:

The JISC Toolkit

- Provides a summary of each area of the JISC model
- Suggests appropriate things to do
- Offers indicators of good practice
- Offers other sources of information to look at


**Organisation: Policies and Procedures**

**Indicators of Good Practice**

- The following would serve as indicators of good practice in relation to policies and procedures
- Agreed policies in relation to IT use and relevant legislation
- Effective dissemination of policies
- Monitoring and reporting breaches of compliance with policies
- Robust testing of the Disaster Recovery Plan with results reported to the Information Strategy Steering Committee.

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**What success?**

- Good in parts; but still things to be done
- We have added to our basic list of governance topics and through minor reorganisations have added to the Governance team
- We have written an IT governance strategy for NTU – this is revised on an approximately six-monthly basis
- We’ve started talking to other institutions about where we are and to share good ideas/good practice
- There are slides appended to the talk should you be interested in seeing more of the practical outcomes
- ECAR subscribers can see how we applied the JISC model in more detail in the ECAR Research Bulletin “Making IT Governance Work” [http://www.educause.edu/Resources/MakingITGovernanceWork/214687](http://www.educause.edu/Resources/MakingITGovernanceWork/214687)

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**Putting the theory into practice**
How do you eat an elephant?

- One bite at a time

Our approach to implementing IT governance

- With limited resources we had to think small and build up as areas started to become sorted
- We looked for quick wins and things we thought were 'easy'
- We also thought about things that would give the most benefit (in Governance terms)
- Ergo – a phased approach...

IT Governance at NTU – Phase one topics

- Risk and audit
- Finance
- Information Security
- Legal issues
Why these topics first?

- Risk – the University were pressing for a risk register and it seemed that it should be relatively easy to create and keep up to date (rule 1 – assume nothing)
- Audit – Internal audit had been looking at IT issues but the typical response was addition of a management comment; propose some actions and a time table; then file the report and do nothing. A way of capturing actions and doing them properly was needed before we were found out and exposed to the Board of Governors’ Risk and Audit committee. This turned out to be a good move as a governor with audit experience started asking pointed questions...

Why these topics first? (continued)

- Finance – budgets had to be brought together and there was a desire to devolve budgets away from the head of department to give managers accountability. Governance was introduced to ‘police’ budgets and to make sure that managers weren’t cheating (rule 2 assume that there will be some ‘contingency’ in there somewhere; rule 3 don’t assume they thought about next year’s budget; they may just have added a percentage to this year’s budget)
- Information Security – we had a security manager and wanted to make more of the role; also aligning security with governance highlighted the governance role across Information Systems
- Legal issues – Data Protection and Freedom of Information issues were not established in IS; needing to be able to respond to legal timescales required some process to be established

IT Governance at NTU – phase 2 topics

- Capability Maturity and Assessment
- Performance Measurement
- Architecture Governance
- Supplier Governance
- Culture
- Leadership and Management
Why these topics next?

- The new IS director decided to undertake a review and we conducted a maturity exercise which resulted in a "Capability Improvement Project" focusing on 8 areas – Leadership; Communication; People; Client; Organisation; Process; Architecture; and Finance. The activities created as part of the project cut across the governance agenda and were an ideal opportunity to have governance topics introduced as mainstream activities.

IT Governance – phase 3 topics

- Software Licensing
- Asset Management
- Change
- Test and Quality Assurance
- Projects approved and prioritised
- We have created a team of Business Relationship Managers to ensure what we do is aligned with the Academy and Professional Services
- We have centralised the location of policies and procedures and want to enhance this with a move to a document management system to give version control and improved indexing

Why these topics next?

- A manager leaving enabled a reorganisation of roles and line management of some activities stuck in the operational side of the department were moved sideways.
- Ongoing changes of the way we present the department to the University
IT Governance – Phase 4

• Creating an Operational Plan

• Drivers
  – need to start creating some joined up thinking
  – Project Governance not working
  – Looking at the problem form a top down approach as well as a bottom up
  – Resources pressures have identified we need to look at what we do and the way
    that we do it

• Practical activities – map processes on a "Plan, Build, Run" model

• Document at three levels
  – High level overview
  – Detailed schematic of processes
  – Fully documented processes and work instructions

• Creation of a Service catalogue

Looking forward

• We want to introduce tools to improve our management activity— practical management as well as system management

• Consequently we are reviewing our end-to-end process with a view to joining up disparate activity, better documentation and integration into the service catalogue

• We have also reviewed our project management processes and are improving/formalising the gates for progression

• We need to join up activity using a similar approach to USP

• We need to develop a dashboard and scorecard
Key attributes for Success at NTU

- Establishing a culture where people start thinking that governance is important and start asking themselves what would the IT Governance team make of what I am doing/proposing to do
- Strong support for the IS Director and Senior managers – At NTU the IT Governance team is viewed as the conscience of the IS Director; he knows he will get nagged!
- Having a Governance team who have the ability to find out what is going on – having someone who can get people to talk to them about what is really happening; what staff are really thinking; what mad ideas managers are proposing; etc.
- Be prepared to ask questions and expect answers

Any Questions?

Appendix

Implementing IT Governance at NTU
## IT Governance in practice – Risk and Audit

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tr>
<td>Formal risk registers&lt;br&gt; - Department wide&lt;br&gt; - Projects (high level)&lt;br&gt; Formal risk and audit meetings on a monthly basis (IS management team)&lt;br&gt; Assessment of risk mitigation&lt;br&gt; Formal reporting on a monthly basis&lt;br&gt; Formal link to internal audit process for choosing internal audit topics&lt;br&gt; Process for managing internal audit responses and work required</td>
<td>Improved risk culture&lt;br&gt; Managers started to focus on mitigation&lt;br&gt; Exposure of the real issues&lt;br&gt; Focus on mitigation&lt;br&gt; Better understanding of the business risk&lt;br&gt; Improved management reporting&lt;br&gt; Improvement on meeting audit deadlines</td>
<td>Progress slower than we would have liked&lt;br&gt; More operational staff hard work - large amount of hard needed - training; helping identify risks, chasing for updates&lt;br&gt; Operational risk management improved when a key manager left (blocker?)&lt;br&gt; Praise from University senior manager on audit process that we are still reactive not proactive&lt;br&gt; The disaster recovery plan is getting there but still not complete</td>
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## IT Governance in practice - Finance

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<th>Activities undertaken</th>
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<tr>
<td>Devolvement of budget to the people who actually spend the money (empowerment)&lt;br&gt; Formal finance meetings on a monthly basis (IS management team)&lt;br&gt; Monthly tracking of expenditure to budget&lt;br&gt; Improved tracking of capital expenditure&lt;br&gt; Introduction of Key Performance Indicators</td>
<td>Managers now accountable for the money they spend&lt;br&gt; Monthly tracking and reconciliation highlights out of budget items and over budget items&lt;br&gt; Improved forecasting for year end&lt;br&gt; Rolling tracking makes budget setting very easy&lt;br&gt; Budgets have become realistic (we identified £100,000 of ‘fat’ in one budget area)</td>
<td>Tracking has revolutionised management and monitoring; budget managers can’t hide&lt;br&gt; Budget planning for 2010/11 took very little time&lt;br&gt; It has taken three years to flush out all the expenditure and to formally identify it in budgets&lt;br&gt; Still getting orders placed where there is no budget&lt;br&gt; Budget errors are being minimised&lt;br&gt; Poor planning is being minimised</td>
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## IT Governance in practice - Information Security

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<th>Activities undertaken</th>
<th>Outcomes</th>
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<tr>
<td>With limited resources we have focused on security issues&lt;br&gt; Penetration testing&lt;br&gt; Follow up complaints about misuse - internal and external&lt;br&gt; Improved ‘Computer Use’ document – shorter; easier to read; more pertinent&lt;br&gt; Security manual written and updated&lt;br&gt; Planning for staff absence and staff shortages</td>
<td>Responsibility for IT security across the whole University&lt;br&gt; The correct skills are available in the right places&lt;br&gt; Right level of investigations; links with police and government security agencies in place&lt;br&gt; Additional cover refused due to budget constraints; additional work from system logs as we haven’t got the time to read the logs&lt;br&gt; Security manager has good reputation and is used as a key contact&lt;br&gt; Cover not in place for sickness and holidays; but we have just drafted in some part time support&lt;br&gt; Work does not get done (e.g. trawling through security logs; regular audit of systems)</td>
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### IT Governance in practice - Legal Issues

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Relationship set up with University Legal services department – regular meetings</td>
<td>Responses to legal enquiries now don’t get missed (20 working day response deadline)</td>
<td>Good relationships set up with Legal Services now trust Information Systems to deal with contracts and external lawyers</td>
</tr>
<tr>
<td>Process set up to deal with ‘Data Protection Act’ and ‘Freedom of information Act’ queries</td>
<td>Link between legal services and IT security reinforced</td>
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<tr>
<td>Link between legal services and IT security reinforced</td>
<td>Process for ensuring student regulations cover all IT legal requirements/licence requirements</td>
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### IT Governance in practice - Capability Improvement

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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</thead>
<tbody>
<tr>
<td>8 work streams: • Leadership and Management • Communications • People • Client • Organisation • Process • Architecture • Finance</td>
<td>Digitised levels of maturity according to what was felt to be achievable</td>
<td>Difficult to fit round other work</td>
</tr>
<tr>
<td>Each work stream seeking to reach level two or level three of a five level model</td>
<td>Department wide improvement</td>
<td>Strong project management needed; values project manager changed progress tailed off</td>
</tr>
<tr>
<td>People work stream leader tackled many people based governance issues</td>
<td>Process work stream leader included service, architecture and project management (PRINCE2) governance objectives</td>
<td>Some staff were able to disengage with the project</td>
</tr>
<tr>
<td>Process work stream leader included service, architecture and project management (PRINCE2) governance objectives</td>
<td>We may have tried too much all at once (in top of the normal day job)</td>
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### IT Governance in practice - Performance Measurement

<table>
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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Used the activities of the capability plan to create a refresh of server hardware from stand alone servers to blades prompted performance measurement, which trended well coping with virtual servers. This hardware refresh prompted improved measurement of storage usage (how much and what for)</td>
<td>KPIs published monthly Hardware figures present more formal capacity management</td>
<td>KPIs did not of themselves improve performance; possibly because we’ve not made a song and dance about them; over time some areas have not improved Hardware statistics have changed forward buying patterns</td>
</tr>
<tr>
<td>A refresh of server hardware from stand alone servers to blades prompted performance measurement, which trended well coping with virtual servers. This hardware refresh prompted improved measurement of storage usage (how much and what for)</td>
<td>KPIs published monthly Hardware figures present more formal capacity management</td>
<td>KPIs did not of themselves improve performance; possibly because we’ve not made a song and dance about them; over time some areas have not improved Hardware statistics have changed forward buying patterns</td>
</tr>
<tr>
<td>Data management identifies large amount of stale files, plus staff photographs and music stored on work systems</td>
<td>KPIs did not of themselves improve performance; possibly because we’ve not made a song and dance about them; over time some areas have not improved Hardware statistics have changed forward buying patterns</td>
<td>Data management identifies large amount of stale files, plus staff photographs and music stored on work systems</td>
</tr>
<tr>
<td>We've thought about a balanced scorecard, but that is as far as it’s got</td>
<td>KPIs did not of themselves improve performance; possibly because we’ve not made a song and dance about them; over time some areas have not improved Hardware statistics have changed forward buying patterns</td>
<td>Data management identifies large amount of stale files, plus staff photographs and music stored on work systems</td>
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### IT Governance in practice - Architecture

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Small team (2.2FTE) created to develop an Enterprise Architecture</td>
<td>Captured staff with essentially the right skills in development and design disciplines prioring</td>
<td>Staff lost focus</td>
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<tr>
<td>Formal training and adopted methodology</td>
<td>Model accepted</td>
<td>Too much wide area thinking; no practical application</td>
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<tr>
<td>Model created and road shown to get IT staff buy-in</td>
<td>Model not popular; staff abstract to other areas (because nothing was happening)</td>
<td>Have had to abandon the group and make the staff redundant</td>
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<td>Looking to try again through a revised IT strategy</td>
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### IT Governance in practice - Supplier Management

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<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Tendered for strategic partnership for development of IT in the University</td>
<td>Strategic partnership - improved pricing; improved access to technology development; better relationships; contact and SLA/KPI management</td>
<td>Partnership with Logicalis going well but needs management</td>
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<td>Benefits for being in a partnership quantifiable</td>
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<td>Looking for similar benefits as we extend our supplier meetings (notably improved pricing, but equally looking for partners not just suppliers). These has generated significant savings in software maintenance</td>
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### IT Governance in practice - Culture

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<thead>
<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Staff morale group</td>
<td>Morale survey shows slight trend upwards</td>
<td>Getting people to read communications is hard</td>
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<tr>
<td>Surveys to identify staff morale (repeated annually)</td>
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<td>No vast improvements (do our staff feel being miserable?)</td>
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<tr>
<td>Weekly update</td>
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<td>Enforced redundancies (budget issues) have created a knock back but as things are starting to look more positive</td>
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<td>Monthly newsletter</td>
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<td>Quarterly face to face update</td>
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<td>Appraisal</td>
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<td>Team meetings</td>
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<td>Staff/manager one to ones</td>
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<td>Opportunity for performance enhanced pay</td>
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<td>Updated job descriptions</td>
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<td>Training plans and training availability (large budget)</td>
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### IT Governance in practice - Leadership and Management

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Identified all the managers (some team leaders did not see themselves as managers!)</td>
<td>Slow improvement in management capability</td>
<td>Some staff have struggled, especially those with new roles.  Resignation by a senior manager initiated a reorganisation which gave middle managers more opportunity to take ownership</td>
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<tr>
<td>Created a management forum 'Sheep dip' approach to basic management training</td>
<td>Reorganisation has actually helped people see how their roles fit</td>
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<td>Coaching, mentoring and buddying offered</td>
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<td>Slow improvement in management by team leaders</td>
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### IT Governance in practice - Service Transition

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<tr>
<th>Activities undertaken</th>
<th>Outcomes</th>
<th>How it went</th>
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<tbody>
<tr>
<td>Created three teams</td>
<td>Change Management a big success; all change now captured and controlled</td>
<td>Team created out of a reorganisation, staff moving into new roles.  Enthusiasm overrode problems and carried the whole department forward</td>
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<tr>
<td>- Asset and Configuration</td>
<td>Testing coming on stream more slowly; but getting there; positive involvement recently has raised the profile of the team</td>
<td>Enthusiasm overrode problems and carried the whole department forward</td>
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<tr>
<td>- Change and Release</td>
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<td>- Testing and QA</td>
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<td>Formalised processes based on ITIL</td>
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