Creating Interactive Facilities Management Capabilities through Building Information Modelling as a Tool for Managing the Irish Public Sector Estates - Presentation

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Creating Interactive Facilities Management Capabilities through Building Information Modelling as a tool for Managing the Irish Public Sector Estate

By
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• Presented by
• Barry McAuley MSc, BSc (Hon), Dip.Eng
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• Government strives to reduce the general government deficit to less than 3% of GDP by 2015.

• Government’s plans for an additional €2.25 billion investment.

• Capital Works Management Framework (CWMF) and Public Service Reform Plan.
The Need for Change to Ensure a More Efficient Irish Public Sector Estate

- The need for change to ensure a more efficient Irish Public Sector Estate.
- Government has committed to achieving by 2020 a 20% reduction.
- Public sector has been challenged to achieve a 33% reduction in public sector energy usage.
- Public sector has an enhanced physical environment to operate from.
- BIM technologies and a partnering soft landing approach.
Literature Review

A move towards a more efficient and intelligent Public Sector Estate.

- Ireland needs a public service that can lead our economic recovery.

- Effective maintenance and management of buildings could significantly reduce the $15.8B annual costs.

- BIM technologies offers Facility Managers and building owners a powerful means to retrieve information from a visually accurate, virtual model of a physical facility.
Literature Review

Learning from the UK BIM Policy
BIM + GSL = Better Outcomes

To champion better outcomes for our built assets during the design & construction stages through Government Soft Landings (GSL) powered by a Building Information Model (BIM) to ensure value is achieved in the operational lifecycle of an asset.
Literature Review

Learning from the UK BIM Policy

GSL Process

- Review new design requirements and expectations through feedback

Asset Design & Construction:
- Define outcomes and measures of success
- Establish Objectives & KPIs, Open Budget

Asset Operations:
- Identify & deliver user / operator needs
- Asset/ Facilities Management

Measures:
- Financial Performance
- Functionality & Effectiveness
- Environment

1. Portfolio Planning - Benchmarks
2. Establish Objectives & KPIs, Open Budget
3. Test and model, Operational Strategy
4. Check and confirm plans and assumptions
5. Handover, Training & Mobilisation
6. Monitor and Evaluate - POE Y1
7. Fully incorporate and explain - POE Y2
8. Lessons Learnt - POE Y3

Collect and compare actual operational performance against planned targets
GSL will be a key element of the design and construction process, maintaining the ‘golden thread’ of the building purpose, through to delivery and operation.

Early engagement of the end user and inclusion of a GSL champion on project teams during the design/construction process.

Combined with BIM it will provide a fully populated asset data set to feed into CAFM systems and modelling will enable planning modifications. This data will need to be maintained throughout the building life cycle.

Post Occupancy Evaluation will be used as a collaborative tool to measure and optimise asset performance and embed lessons learnt.
BIM in Facilities Management Survey - May 2013

How far into the future do you think it will be before BIM plays a key part in your role?

- 20% Already Relevant
- 12% Within a Year
- 28% 2-3 years
  - 20% 3-5 years
  - 8% 5-10 years
  - 3% 10+ years
- 9% I don’t believe it is relevant

BIM4FM provides a forum for FM industry bodies to input and develop appropriate use of BIM for benefit of FM and support Implementation of Government Soft Landings (GSL) across the asset lifecycle.

UNClassified
**Literature Review**

**BIM in Facilities Management Survey - May 2013**

**How do you think your company will use BIM?**
- 84% Life-cycle management
- 82% Improve efficiencies
- 69% Cost reductions

**How would you like to see BIM supporting FM?**
- Life-cycle management - 75%
- Improve efficiencies - 68%
- Reporting data - 62%
- Benchmarking metrics - 53%

**BIM4FM** provides a forum for FM industry bodies to input and develop appropriate use of BIM for benefit of FM and support implementation of Government Soft Landings (GSL) across the asset lifecycle.

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Methodology

IPFMA / DIT PhD Survey

1. Early FM involvement:
2. FM and Information Communication Technology (ICT) working together
3. ICT as a FM tool in managing the Government’s state facilities:
Methodology

IPFMA / DIT PhD Survey – Part 1

- 11% of the respondents had routinely observed early Facility Manager involvement.
- 55% claiming that there was none too little involvement.
- 61% believed that the Facilities Manager could play a major role in improving sustainable construction.

If Facilities Manager was involved
- Advise on the best "fit" for the occupants:
- Enhancing accessibility from a maintenance point of view.
- Highlight areas that could be changed to improve the running costs.
- Streamline the design briefing process.

- Unnecessary impact and lack the technical and materials costs skills in certain aspects.
Methodology

*IPFMA / DIT PhD Survey – Part 2*

- 79% of respondents still used paper based or a digital copy on a CD or DVD to provide O&M information.
- 21% using WebFM or an O&M system.
- 86% of the respondents are very to somewhat aware of the current interest and debate in respect to BIM.
- 23% of that number having used a BIM model for Facility Operation and Maintenance.
- Signs that companies have significant knowledge when it comes to ICT in improving the overall FM process.
Methodology

*IPFMA / DIT PhD Survey – Part 3*

- 69% claim that the Irish government should take a similar stance to the UK.
- 22% have experience working within the public works sector in regards to facilities.

- Some of the inefficiencies within the Irish public sector facilities:
  - Decisions based on short term costs.
  - A lack of coordination between designers, constructors and operators.

- Facilities Manager can:
  - Help the Irish Government meet its carbon targets.
  - Provide information about the buildings and the services.
  - Occupiers actions.
Overall Findings

- Little involvement of the Facilities Manager during the early stages.
- Facilities Manager should have an advisory role within the design and construction phases.
- Little move towards cutting edge technologies from the Irish FM sector.
- Significant knowledge demonstrated when it comes to ICT in improving the overall FM process.
- A strong call for the implementation of BIM on public sector projects.
Following in the UK’s footsteps and implementing BIM and a similar soft landings framework, could help create a more interactive and intelligent Government estate.

These technologies along with earlier Facility Manager involvement, could help reshape future public assets.

Ireland 2050?