Interaction Between Public Sector BIM Adoption and Government Policy with Assistance of a Systematic Literature Review

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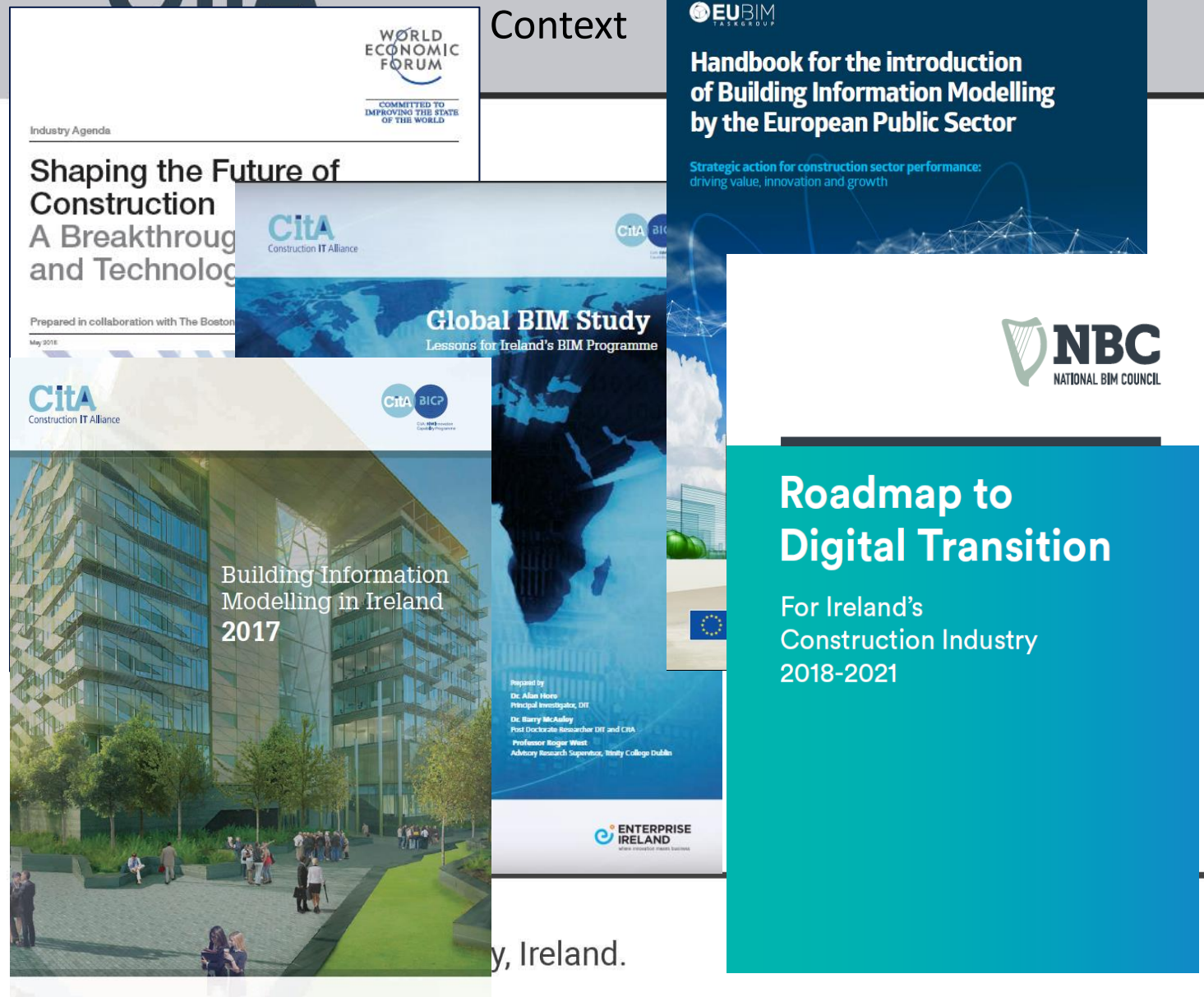
Agenda

- ❑ Context
- ❑ Research roadmap
- ❑ Systematic Literature Review
- ❑ Policy Drivers
- ❑ Government Roadmap
- ❑ Conclusion

Context



NBC
NATIONAL BIM COUNCIL

Roadmap to Digital Transition

For Ireland's Construction Industry 2018-2021

- World Economic Forum – Future of Construction Series
- CitA Global BIM Adoption Study 2017
  - 27 countries
  - Recurring themes
  - Lessons for Ireland
- EU BIM Handbook
- BIM in Ireland 2017
- NBC Roadmap for Digital Transition of the Irish Construction Industry

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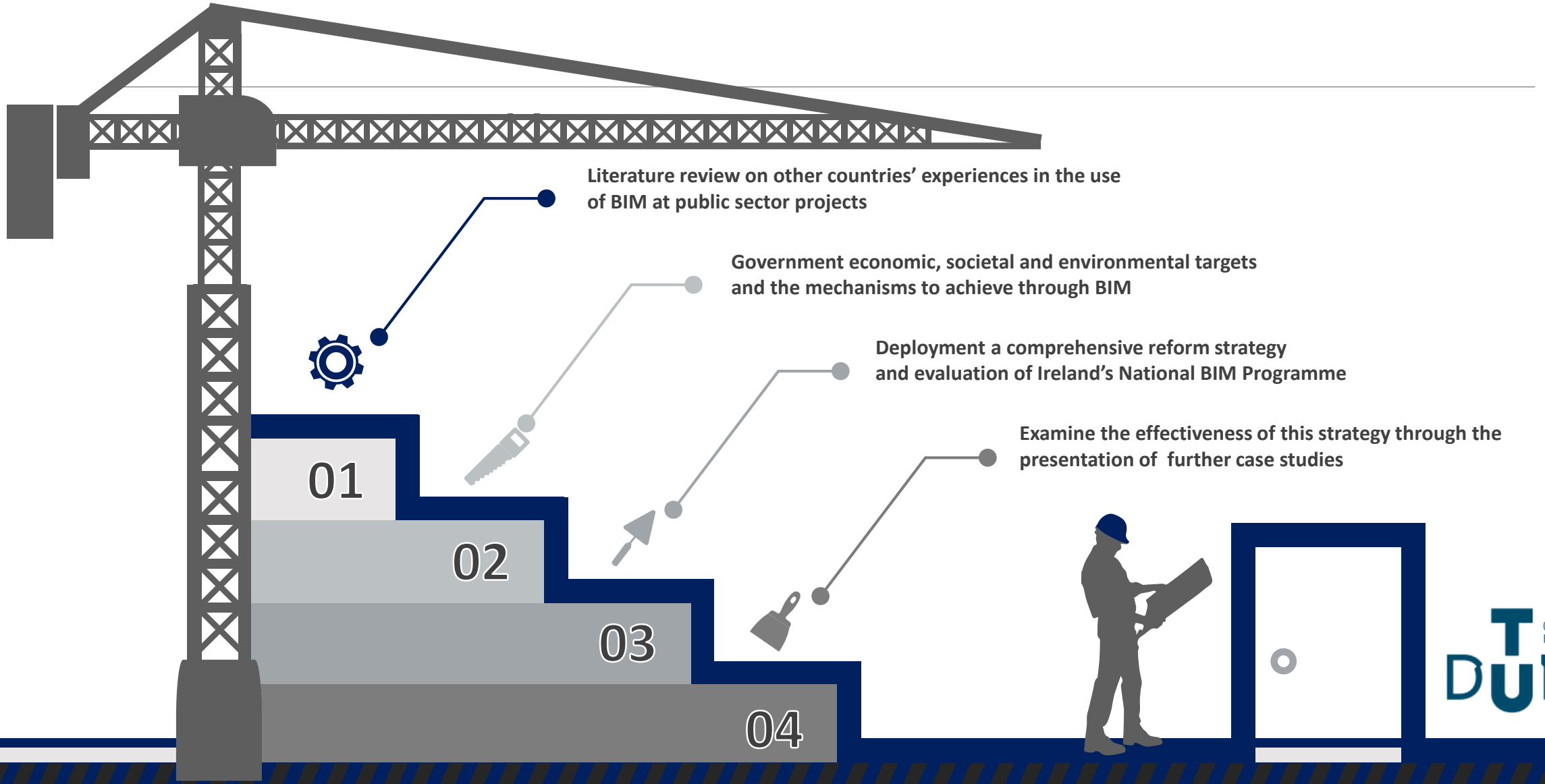
Research Roadmap



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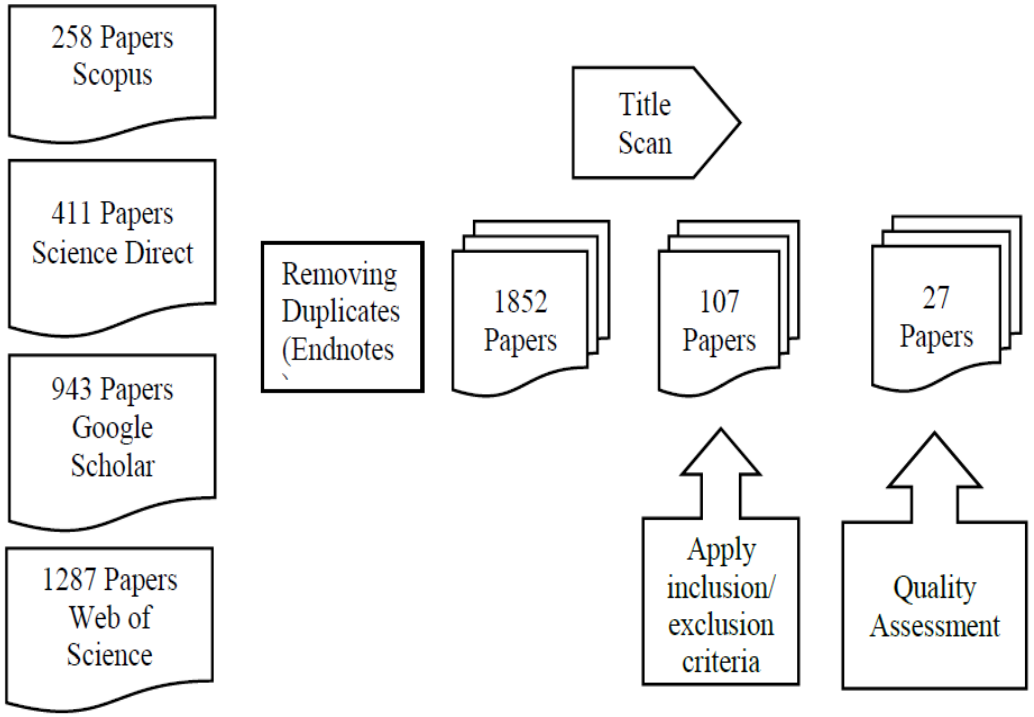
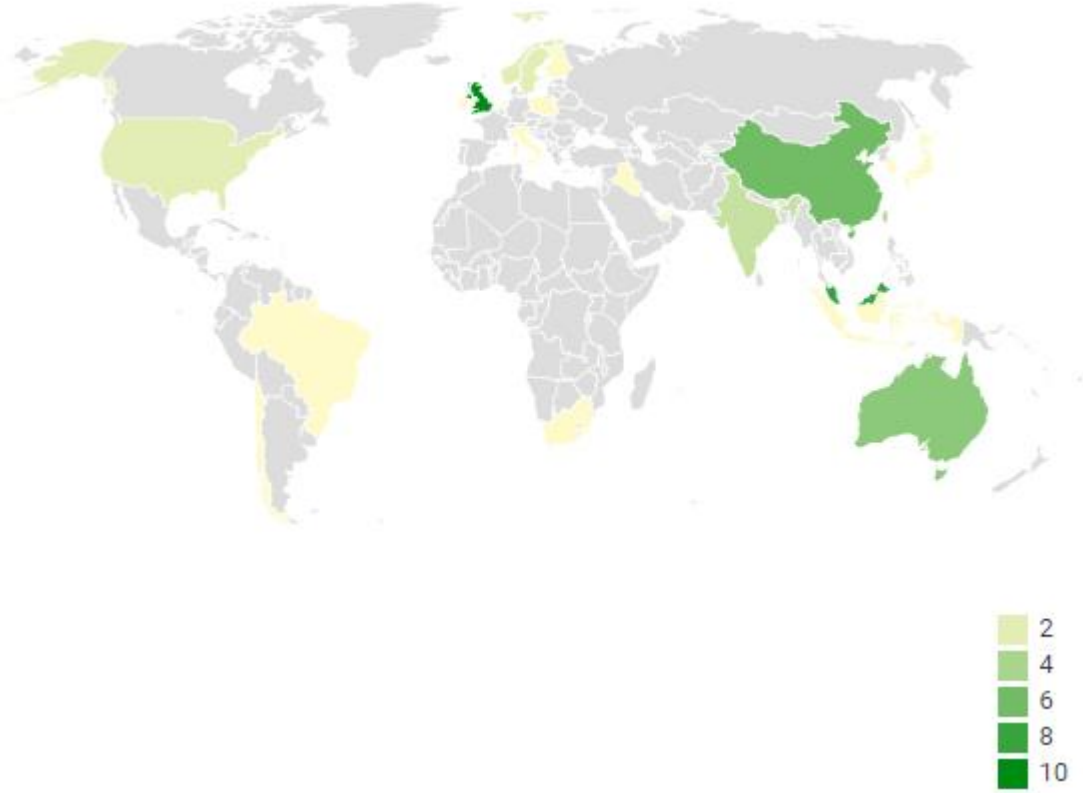
Systematic Literature Review



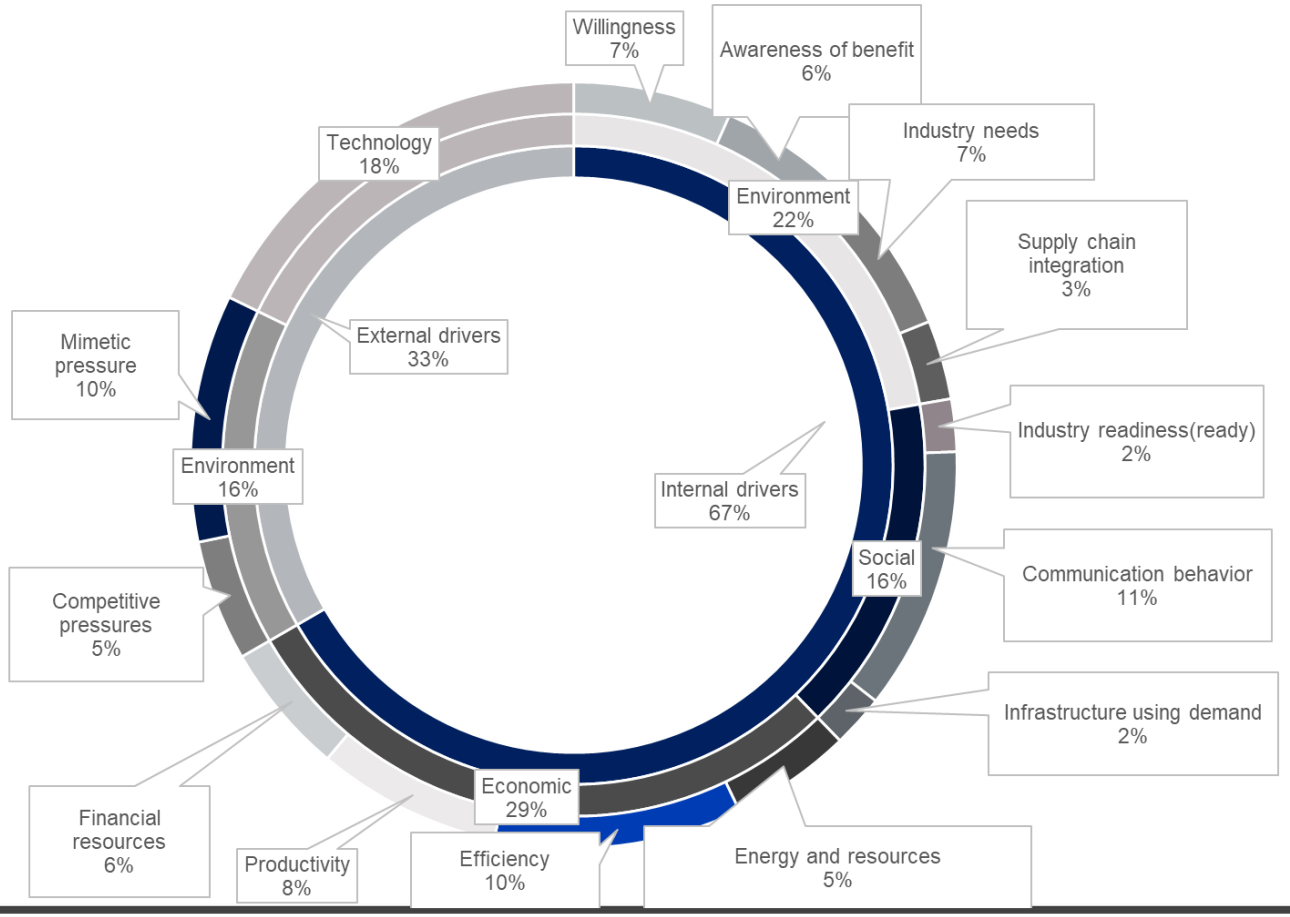


BIM Government Drivers

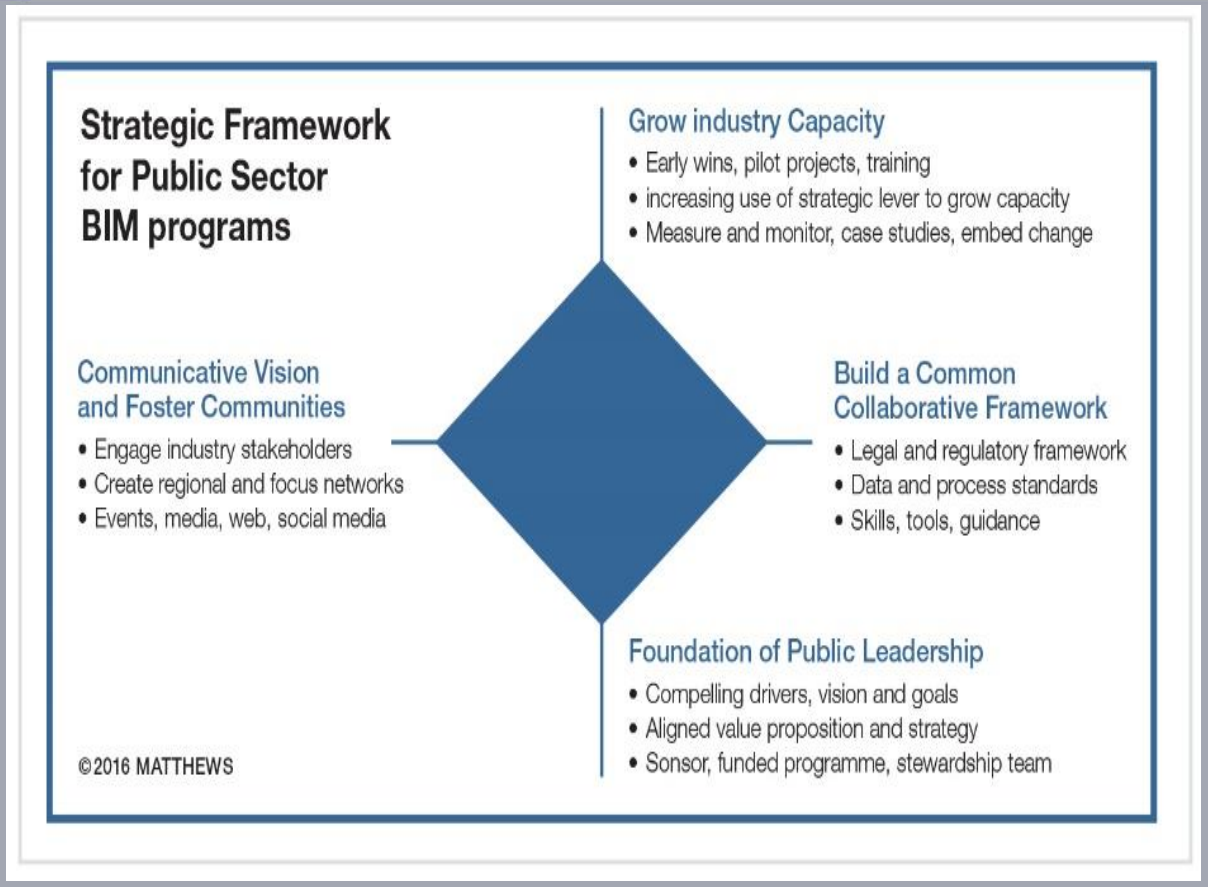
- 3D visualisation
- Collaboration improvement
- Reduced time and cost
- Collision detection
- Advancement in quality
- Reduced contingency
- Improved accuracy
- Energy efficiency
- Reduced rework

ID	Authors	RQ1	RQ2	Title
S1	Yang and Chou (2018)	0.50	0.50	Mixed approach to government BIM implementation policy: An empirical study of Taiwan
S2	Kassem and Succar (2017)	0	1.00	Macro BIM adoption: Comparative market analysis
S3	Mamter et al. (2017)	0	0	Stimulating a Sustainable Construction through Holistic BIM Adoption: The Root Causes of Recurring Low BIM Adoption in Malaysia
S4	Ahmed and Kassem (2017)	0	0	A Conceptual Model for Investigating BIM Adoption by Organisations
S5	Mamter and Aziz (2016)	0.50	0	Holistic BIM Adoption and Diffusion in Malaysia
S6	Attarzadeh et al. (2015)	1.00	0	Identifying key factors for building information modelling adoption in Singapore
S7	Succar and Kassem (2015)	0	1.00	Macro-BIM adoption: Conceptual structures
S8	Haron et al. (2015)	0	0.50	An Industrial Report on the Malaysian Building Information Modelling (BIM) Taskforce: Issues and Recommendations
S9	Hadzaman et al. (2015)	0	1.00	BIM roadmap strategic implementation plan: Lesson learnt from Australia, Singapore and Hong Kong
S10	Hatem et al. (2018)	1.00	0	Analysis of the Benefits for Adopting Building Information Modelling (BIM) in Iraq
S11	Enegbuma et al., (2018)	0	0	Preliminary building information modelling adoption model in Malaysia A strategic information technology perspective
S12	Memon et al. (2014)	0.50	0	BIM in Malaysian construction industry: Status, advantages, barriers and strategies to enhance the implementation level
S13	Smith (2014)	0	1.0	BIM Implementation – Global Strategies
S14	McAuley et al. (2014)	0	0	Aligning BIM and Lean Methodologies within Capital Works Management Framework in Ireland
S15	Atkinson et al. (2014)	0	0.50	Government's influence on the implementation of BIM
S16	Nepal et al. (2014)	0.50	0	Evaluations of BIM: Frameworks and Perspectives
S17	Cheng and Lu (2015)	0	0.50	A review of the efforts and roles of the public sector for BIM adoption worldwide
S18	Edirisinghe and London (2015)	0	1.0	Comparative Analysis of International and National Level BIM Standardization Efforts and BIM adoption
S19	Blanco and Chen (2014)	0.50	0	The Implementation of Building Information Modelling in the United Kingdom by the Transport Industry
S20	Wang and Song (2017)	0	0	The relation of perceived benefits and organizational supports to user satisfaction with building information model (BIM)
S21	Ghaffarianhoseini et al. (2017)	0.50	0	Building Information Modelling (BIM) uptake: Clear benefits, understanding its implementation, risks and challenges
S22	Liao and Teo (2017)	0	0	Critical Success Factors for enhancing the Building Information Modelling implementation in building projects in Singapore
S23	Liu et al. (2017)	0	0.50	Review and Prospect of BIM Policy in China
S24	Hore et al. (2017a)	0	1.0	Establishing Lessons for Ireland's BIM Policy Through a Systematic Review of International BIM Programmes
S25	Hore et al. (2017b)	0	1.0	BICP Global BIM Study-Lessons for Ireland's BIM Programme
S26	Ahmed et al. (2017)	0	0	A comprehensive identification and categorisation of drivers, factors, and determinants for BIM adoption: A systematic literature review
S27	Davies et al. (2015)	0	0.50	BIM in Europe: innovation networks in the construction sectors of Sweden, France and the UK

BIM Government Drivers



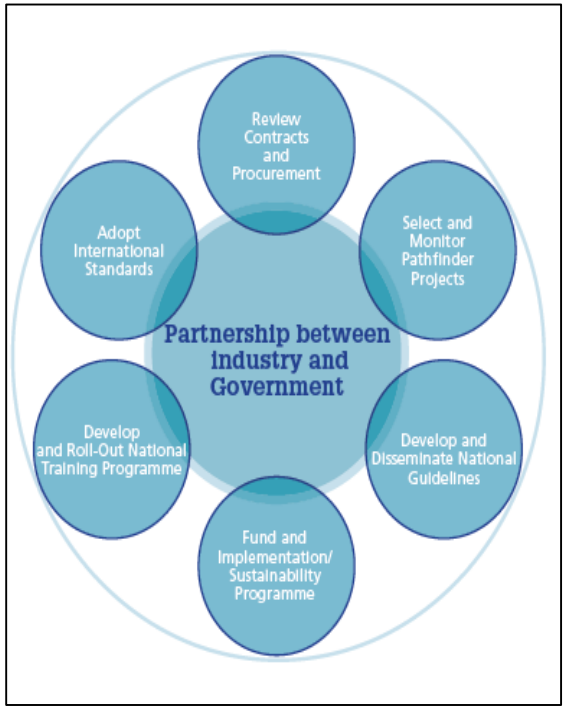
Exemplars of Government Frameworks

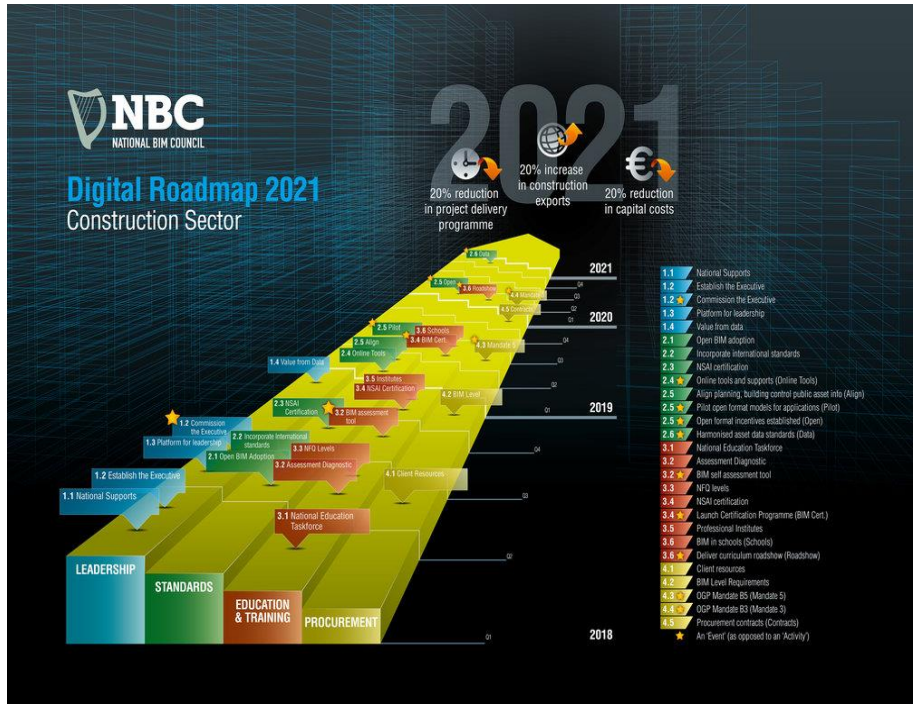


Strategic framework (EU BIM Group, 2018, pp. 24)

The BIM Adoption Cycle (WEF, 2018 PP. 6)

Government Frameworks to Adopt BIM





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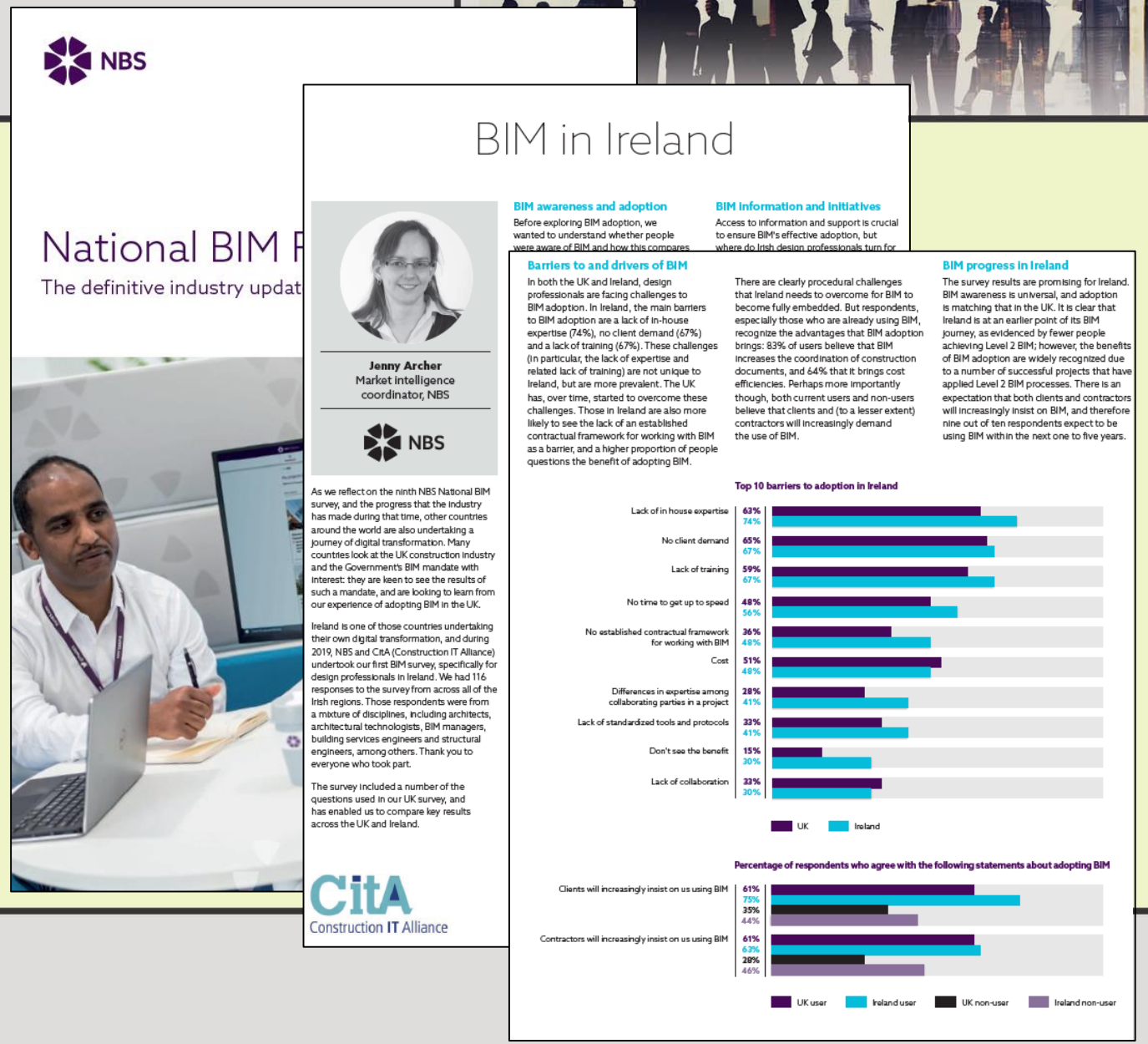
Conclusion

- Universal awareness of BIM in Ireland
- Similar sentiments to that in the UK
- Alternative approaches taken by international governments
  - Top down
  - Middle out
  - Bottom up
- Learning from the UK significant
- Imminent implementation of NBC Roadmap
- Time for support framework



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Thank you

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