

Institution: University of Hull		
Unit of Assessment: Business and Management Studies		
Title of case study: Changing the management of major public projects		
Period when the underpinning research was undertaken: 2011 to present day		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Terence Williams	Professor	Sep 2011-present
Hang Vo	Research Associate	Jan 2017 – May 2019
Chris Bovis	Professor	May 2007 – present
Yasmin Merali	Professor	Jan 2014 – Present
Period when the claimed impact occurred: 2014 to present		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact		
<p>Most government policies are delivered through the implementation of a project or programme. Thus the delivery of major public projects is very important in delivering policy objectives. University of Hull research made innovations described below in front-end management of major public projects, which has actively influenced the development of evidence-based project delivery in the UK and other countries. Working directly with project practitioners, the research focussed on themes of broadening understanding around project benefits, project governance and contracts. The case study exemplifies impact via changes of organisational practices, such as within various organisations including the Infrastructure and Projects Authority (IPA), the US Project Management Institute (PMI) and how the research influenced UK Parliamentary Committee reports.</p>		
2. Underpinning research		
<p>Public policy is realised through executing major projects, for example one of the collaborators (IPA) is responsible for government projects with a value around £½trillion, so even small improvements are of significant value. The UK government recognises the importance of project delivery and sought improvement in delivery of public projects within the 2017 Industrial Strategy. The Risk Institute at the University of Hull has investigated such projects and identified improvements in their management (Prof Williams and Research Assistant, with others including Prof Merali and Prof Bovis 2014-present). All of the research findings stem from collaborative efforts across academic institutions and sectors (including infrastructure, ICT, military and transformation projects) led by Hull. The key research findings underpinning this impact claim are: establishing the need to appreciate complexity in project design (2.1), developing good project governance to achieve sustainable benefit and constructive feedback mechanisms (2.2 and 2.3 respectively) and contract formulation within project management (2.4).</p>		
2.1. The need to comprehend complexity and human effects to achieve project success		
<p>To look at improving delivery of such projects, initial research developed an understanding of how major public projects behave within a context which is complex and subject to changes in public policy. This used a theoretically sound understanding of both a wide range of projects internationally (Ri), and private sector projects (Rii), showing that project success and long-term sustainable public benefit depend on a complex interaction of a wide variety of factors.</p>		
2.2. Good governance to achieve sustainable benefit from projects		
<p>A full understanding of the effective development of the front-end large-scale project planning has hitherto been lacking. The Hull team developed a comprehensive structure to bring logic, clarity and completeness to the front-end [Grant1] (Riii). A particular aspect is the complexity of how 'benefits' are socially constructed. Hull-led research [Grant2] showed the conflict between delivering project outputs and achieving long-term benefits. The work was generated by a cross-national comparison of large-scale public sector projects in four countries (UK, Australia, Canada, US), exposing considerable variation in the adoption and standardisation of 'Benefits Management' frameworks (Riv). This was followed by a phase of case-work on the fluidity of benefits. The work identified a strong focus on benefits identification at the business case stage and made recommendations to prevent a deterioration in focus during the execution. Both stages of this work gave comprehensive recommendations to government bodies responsible for these</p>		

processes to improve delivery of project benefits, including: identifying the importance of political interest, ensuring leadership buy-in, developing a benefits-driven culture and stressing a transparent reporting mechanism.

2.3. The instrumentality of project governance and feedback

A key part of large-scale public projects is the requirement for formal external review. An analysis of government project reviews [Grant3] (Rv) considered how review recommendations were formulated, and whether they were followed. This confirmed that delivery confidence of projects improved under the current IPA regime but also provided detailed recommendations for improving processes, including sensitivity for continuity between reviews, monitoring the balance between output delivery and strategic outcomes, turnover of project leaders, formulation of recommendations, feedback processes, and implementation of those recommendations, and provided suggestions to improve the processes.

2.4 Contract formulation as a mechanism for risk reduction

Public projects usually involve contracted private-sector partners. Based on collaborations with the Ministry of Defence (MoD) [Grant4] it was shown (Rvi) that systemic risk in contracting procedures and shortcomings in the design and implementation of these fundamental agreements were contributing to project failure. The Hull team developed a tool-kit including a practical visual tool to identify such risks, in order to improve contracting procedures and facilitate partnership working between the contract partners.

3. References to the research

- (Ri) Klakegg OJ, Williams TM, Shiferaw AT (2016) Taming the "trolls": major projects in the making, *International Journal of Project Management*. 34, 2, 282–296.
- (Rii) Williams TM (2016) Identifying success factors in construction projects: A case study *Project Management Journal* 47, 1, 97-112.
- (Riii) Williams TM, Vo H, Samset K, Edkins A (2019) The front-end of projects: a systematic literature review and structuring. *Production Planning and Control* 30, 14, 1137-1169.
- (Riv) Williams TM, Vo H, Bourne M, Bourne P, Cooke-Davies T, Kirkham RM, Masterton G, Quattrone P & Valette J (2020) A Cross-national Comparison of Project Benefits Management Practices – The Effectiveness of Benefits Management Frameworks in Application. *Production Planning & Control* 31, 8, 644-659.
- (Rv) Vo H, Kirkham R, Williams TM, Howells A, Forster R, Cooke-Davies, TC (2020) An empirical study of assurance in the UK government major projects portfolio: from data to recommendations, to action or inaction. To appear in the *International Journal of Managing Projects in Business*
- (Rvi) Bloomfield K, Williams TM, Bovis C, Merali Y (2019) Systemic Risk in Major Public Contracts. *International Journal of Forecasting*. 35, 2, 667-676.

The journals for (iii), (iv) and (vi) are all ranked 3 or above on the "CABS list".

Relevant grants are as follows:

- Grant 1.** PMI funded a team for US\$50,000 (Hull receiving 85%) for a literature survey of the Project Front-End.
- Grant 2.** The US-based Project Management Institute (PMI) funded a four-university consortium headed by Hull on Benefits Management from 2017-2019 for a total sum of US\$262,000
- Grant 3.** PMI funded a team of Hull and one other researcher for US\$50,000 on "Project Governance: From Data to Recommendations to Action or Inaction"
- Grant 4.** Dstl provided a research grant 2015-2018 including but not only a PhD scholarship for over £100,000 looking at systemic risk in contracts.
- Grant 5.** ESRC funded a 9-university consortium on Project Delivery in 2019, Hull's portion (£130,000) was research time for a CI, a 2-year PDRA and a PhD scholarship

4. Details of the impact

Claimed research impacts are multidimensional and at different stages of implementation, being: contributing to standards (4.1), implementation protocols (4.2.), practice in Project Benefits Management (4.3), public project governance (4.4), with a specific focus on risk management (4.5) both within the UK and beyond. Due to the long-term nature of the impacts, a brief note describes the impact on on-going efforts (4.6).

4.1 Improvements in project management standards

Research impacts specifically contributing to standards used by practitioners have manifested through the collaboration with the US Project Management Institute (PMI) [Grant2]. PMI is using the interim “Benefits” research results in advising its ½-million members. **The research is influencing the latest versions of PMI’s worldwide publications: *Benefits Realization Management: A Practical Guide*, the next editions of *The Standard for Program Management* and *The Standard for Portfolio Management*, and PMI’s global standard *Guide to the Project Management Body of Knowledge* (Seventh Edition) draw on, or will draw on, Hull’s research findings, which emphasise practices promoting the extent to which benefits may be realised.** PMI is supporting a new Benefits Management community. The PMI’s Network Engagement Facilitator states that he has led sessions using these research findings with the Cabinet Office, Ministry of Defence, the Major Projects Leadership Academy alumni, Ministry of Justice and UKRI as well as senior industry leaders [A]. The impact lies in providing “*opportunities to use the research findings to promote and enable effective [Benefits Realization Management] practice*” [A].

4.2. Implementation protocols for project management and evaluation

While the underpinning research was largely exploratory, there are already impacts from how project management has changed. For example, the research on project success (Riii) **helped the construction company Sewells (annual turnover over £100M) to better understand and develop its culture/working practices, leading to more effective management.** The company continues to use the research as a reference for ensuring balance of good practices and processes with company values and culture, and provides a copy to all of their new employees, as attested by their Managing Director [B].

Similarly, the work with the Norwegian “Concept” programme has helped their understanding, which feeds into the Norwegian government Quality Assessment system, helping the Norwegian government broaden its focus and invest more in the front-end of their projects. This led to Williams presenting the “front end” work a keynote lecture at the 8th “Concept” Symposium for the public-sector project-management community attended by industry representatives, academics and government officials in 2018.

Other research impacts manifested through advisory consultancies e.g. consulting to the Organisation for Economic Co-operation and Development (OECD [C], from the Deputy Director, Internal Audit) on their project management practice, which **contributed to OECD’s thinking on project initiation, post-project closure / stock-takes, and standardisation.** Similar advice to Siemens **enabled better preparation of post-project claims, fully assessing system dynamics and “efficiently manag[ing] service providers”** (Senior Project Director [D]).

4.3 Practice in Project Benefits Management

Development and dissemination of the research, particularly through a White Paper [E] has **aided the establishment of a community of practice in the UK** (e.g. an IPA round-table of senior personnel and dissemination and discussion at workshop July 2019 attended by 120 decision-makers); participants at the workshop gained “*useful insights, particularly from the sharing of the research*” [A]. Moreover, IPA acknowledged that the governance work had a number of impacts including **improving their assurance processes and influencing the refreshing of their assurance review processes** [F]. The impact extended internationally, as it involved practitioner communities responsible for delivering Projects Benefits in New Zealand and Australia.

4.4 Research impact on public project governance

Research impacts on government practice manifest through slow incremental changes facilitated by ongoing engagement. **Influence on the debate is evidenced by the Parliamentary Public Administration and Constitutional Affairs Committee** (2019) report [G]: this explicitly cites Williams by name twice, once on the findings of the work on the front-end (para 32 of the report) and once on the findings of the Governance project (para 34). Other examples of this ongoing

engagement are a major report with detailed recommendations on **improving project reviews and follow-up of their recommendations, and the project governance system in which they are embedded**, which was directly informed by the research (summarised in (Rv) and providing White Paper [H]). These have been disseminated within IPA and more widely in government, and has influenced the performance of such reviews: for example, **Senior Civil Servants used this research to inform their thinking on how assurance processes could be improved**; IPA's Chief Analyst commented that the work "*certainly helped us in thinking about how processes should be updated*" and that "*the evidence contained from the interviews in the work and those who had been on the receiving end of IPA's assurance programme was especially helpful.*" [F] A webinar for PMI was watched live by over 1000 practitioners and subsequently viewed over 37,000 times online [I]; of these viewers, 99% were practitioners who watched the full webinar; viewers hailed from 137 different countries, providing evidence of broad international reach; there are 1200 reviews online (99.9% positive), with statements such as "excellent data for improving assurance processes and good governance" [I].

4.5. Improved risk management

The Ministry of Defence (MoD) was a research collaborator in [Grant1]. A practical visual tool developed within this Grant to **identify systemic risk and improve contracting in outsourcing commissioning contracts**, and the tool-kit and general learning from the study, were welcomed by MoD Commercial. Consultancies with other companies and organisations have updated their risk management praxis and reported back similar beneficial results for their project management and risk mitigation.

4.6. Ongoing efforts to improve project management and risk reduction

There is growing awareness among policy-makers, project managers and public officials that such thinking is pivotal, evidenced through the recent successful ESRC grant, to provide an umbrella for research on the delivery of public projects with IPA [Grant5], to develop advice given to IPA and thus influence the project delivery profession within UK government. Similarly, continued collaboration with other public stakeholders (e.g., Norway) are also indications of such shifts in thinking to ensure the benefits of major public projects.

5. Sources to corroborate the impact

- A. Testimonial of PMI Director regarding the use & impact of the Benefits Management outputs.
- B. Testimonial from Sewell Group Managing Director on the impact on their work on their culture and working practices. See also <https://sewell-group.co.uk/blog/hull-university-says-sewell-delivered-excellence/>
- C. Testimonial from the Deputy Director of Internal Audit at OECD of the impact on their Project Management practice
- D. Testimonial from Siemens, Senior Project Director.
- E. T.Williams, M.Bourne, P.Bourne, R.Kirkham, G.Masterton, P.Quattrone, C.Toczycka, H.Vo "Identifying and Realising Project Benefits - A Cross-National Comparison of Benefits Management Practices. Phase 3: Recommendations for Improvement". White Paper. May2020 <https://static1.squarespace.com/static/5f158300d87ba32558e51c2e/t/5f73b3d917866c0a8f930d02/1601418204509/Benefits+Phase+3+-+White+paper+-+penultimate+v3b.pdf>
- F. Testimonial from former Chief Economist at IPA (Sept 2017-Jan 2020) concerning the use and impact of the Governance Report and White Paper
- G. House of Commons Public Administration and Constitutional Affairs Committee (2019). The Government's Management of Major Projects: An Interim Report. Report HC 303. <https://publications.parliament.uk/pa/cm201919/cmselect/cmpublicadm/303/303.pdf>
- H. T.Williams and H.Vo "Project Governance: From data to recommendations to action or inaction" White Paper for IPA July 2018. <https://www.bettergovprojects.com/completed-research/project-one-2atce-tpm3w-je9ch-yz85r-3k6yb>
- I. Project Governance: From Data to Recommendations to Action or Inaction. Webinar featuring Hang Vo, Terry Williams, and Richard Kirkham - January 15, 2019 <https://www.projectmanagement.com/videos/519812/Project-Governance--From-Data-to-Recommendations-to-Action-or-Inaction> Additional data on PMI engagement with Webinar: source PMI.