



**A Cross-national Comparison of Project Benefits
Management Practices – The Effectiveness of Benefits
Management Frameworks in Application**

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**A Cross-national Comparison of Project Benefits Management Practices –
The Effectiveness of Benefits Management Frameworks in Application**

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Benefits are the principal reason why an organisation may seek to enact change through programmes and projects. The discipline of identification, definition, planning, tracking and realisation of benefits is recognised to be instrumental in achieving organisational strategy. In this study, we describe the results of a cross-national comparison of public sector benefits management (BM) practices in Australia, Canada, the UK, and the USA. It explores ‘BM practices in action’, considering to what extent ‘espoused’ or ‘mandated’ frameworks are actually practised and perceived by their users. Employing qualitative analysis, semi-structured interview data were analysed from 46 participants with experience in sponsoring, managing and/or reviewing government projects. The results expose considerable variation in the adoption and standardisation of BM frameworks from inter and intragovernmental perspectives. We evidence a strong focus on benefits identification across the data set, specifically at the outset (the business case stage seeking project approval) and observe deterioration in focus as the project or programme progresses through the authorisation (or assurance) approval gates towards close-out and operations. The results further emphasise the prominence of political interest, leadership buy-in, a benefits-driven culture, and a transparent benefits reporting mechanism in the implementation of ‘effective’ BM frameworks.

Keywords: project benefits, project outcomes, benefits management, benefits realisation, public projects

1. Introduction

A common measure of project ‘success’ is the set of ‘iron triangle’ components of cost, time and quality rather than the impacts or long-run benefits that are obtained from the resulting change (Serra and Kunc 2015). Although sometimes recognising that key project actors should be measured on long-term strategic objectives instead of short-term tactical performance (Hughes et al. 2017; Williams et al. 2019), the burgeoning literature in *Production Planning & Control* on programme and project management (e.g., see, Cano and Sáenz 2003; Ollus et al. 2011; Ojiako et al. 2015 etc), and conversation in the journal is

generally as focused on achieving short-term project targets as long-term benefits management (BM).

In practice, organisational strategy, and in particular government policy, is generally enacted through portfolio, programme, and project management, ideally framed by a holistic approach (Laursen and Svejvig 2016; Hodgson and Cicmil 2006; Jensen et al. 2016, Gardiner et al 2018). The successful delivery of outcomes – that is, the benefits projects were set up to achieve – is essential to achieving strategic objectives (IPA 2017c) rather than the operational delivery of outputs on time/scope/budget. However, a PMI survey (Boston Consulting Group 2016) shows that many organisations assess projects/programmes/portfolios based on outputs, without consistently tracking whether they help the organisation achieve its strategic goals. These two definitions of ‘project success’ – achievement of benefits and delivery/operational success (often called “project management success” going back to de Wit [1988]) – are distinctive (although can be, and possibly often are, confused with each other and overlap) and both need to be considered.

Ika (2009) describes ‘project success’ as an ‘ambiguous, inclusive, and multidimensional concept.’ The interests of different stakeholders imply that they will sometimes have quite different perceptions of what constitutes project success (Williams 2016; Davis 2014; McLeod et al. 2012). Turner and Zolin (2012) develop leading performance indicators for use during project execution to forecast how various stakeholders will perceive success during product operation. For outsourcing projects, Zheng et al. (2018) show how different types of control mechanisms (i.e. process, outcome, and relational control) can be utilised by client and vendor to drive outsourcing success.

An influential framework that seeks to lift the definition of success to recognise the strategic aims of a project was developed through work with the U.S. Agency for International Development, then the United Nations and OECD (Samset 2010). This

characterises a project's success as efficiency, effectiveness, relevance, impact, and sustainability - thus in all but the first characteristic recognising the strategic intent of the project and longer-term strategic needs of the organisation.

Despite the strategic importance of major projects and programmes, there are significant variations in the levels of success (Flyvbjerg 2006). 'Effective projects create value for all parties [...] and can generally survive their own inefficiencies (cost overruns, late completion, or early operational problems), but ineffective projects cannot compensate for their failures by efficient construction. In [our] sample, more than a third of the projects failed to reach acceptable effectiveness even though many met cost and schedule targets.' (Miller and Lessard 2001, 15). Similarly, the Project Management Institute (PMI)'s Pulse of the Profession® report (2017, 5) claims that only 70% of projects successfully met their original goals and business intent.

The theoretical discourse on benefits in the context of major public projects/programmes is relatively new and underdeveloped in terms of sophistication and recognition of complexity, yet many governments and sub-national public bodies are transitioning to a strong benefits-led culture (REF ANONYMISED 2017). Badewi (2016) emphasises the significance of combining BM and project management (PM) to project success but acknowledges a general lack of research specifically into the empirical evidence of the value of implementing BM practices. This paper aims to address this research gap. But it should be emphasised that this research only concerned public projects, and the practices of governmental bodies to identify, monitor and realise benefits. This brings added complexity to questions about "benefits". It also indicates that the results of this work cannot necessarily be assumed to show the state of practice in the private sector.

This paper summarises the results of a cross-national research programme into identification and realisation of project benefits (REF ANONYMISED 2018), commissioned

by PMI. Particularly, the authors seek to understand ‘BM methods in action’, considering how well the BM systems outlined in a preliminary information-gathering study (REF ANONYMISED 2017) really work out in practice (Blomquist et al. 2010), through a series of semi-structured interviews with participants from Australia, Canada, UK, and USA. These four countries were selected due to their sufficient depth of BM maturity (REF ANONYMISED 2017). To the best of our knowledge, no research has been conducted previously specifically with this purpose.

The remaining part of the paper proceeds as follows. The next section gives a brief overview of the relevant literature. It will then go on to define the methodology used for the study. The fourth section summarises the findings of the research. Section 5 discusses the research findings and sets out a research agenda by highlighting a few areas for further research. Finally, the paper closes with some concluding remarks and practical implications.

2. Literature review of Benefits and the Benefits Management process

The definitions of and interpretation of the term ‘benefit’ is variable (Breese et al. 2016) and whilst we recognise the complexity of the concept, for reasons of simplicity, we consider benefits in this study to be measurable, resulting from changes, perceived as positive by stakeholders, and demonstrating the contribution of project/programme/ portfolio to the strategic objectives of the (permanent) organisation (Breese et al. 2016). Benefits here, therefore, reflect the overall purpose of the permanent organisation which drove the setting up of the project (PMI 2013), as opposed to the immediate outputs of the defined project. The term ‘outcome’ is used interchangeably with the term ‘benefit’ within this study.

BM is a complex and challenging practice to enact, by virtue of the inherent challenges in forecasting, measuring and managing (Zwikaël and Smyrk 2012) long term outcomes from major project investments. The benefits of having mature BM frameworks are

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3 hopefully important, but these practices are not widely implemented yet, or only implemented
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5 as a subset of other PM processes, and there is little empirical evidence.
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8 The BM framework issued by PMI (2016) suggests a three-stage approach: identify,
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10 execute and sustain. It also draws upon Samset's (2010) goals management approach
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12 described above, which is also used by various super-national authorities to develop their BM
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14 frameworks.
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17 The literature on BM in the context of the work of government tends to focus on
18
19 policy and programme management as a conduit for strategic change. Aritua et al. (2011)
20
21 draws attention to the tendency for governments to utilise programmes to align project
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23 benefits with policy objectives and highlights their susceptibility to political and policy
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25 changes. The asynchronous nature of policy and programme delivery can lead to positive and
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27 negative impact on benefits realisation. One issue in the literature is that while government
28
29 policy may require projects to follow 'best practice', this may actually hamper achieving
30
31 overall government strategy. Research suggests that success or failure as analysed through
32
33 the lens of 'best practice' may not align with government goals beyond fiscal responsibility
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35 (O'Leary 2012; Young et al. 2012). Efforts to align benefits with central government goals
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37 can be further complicated by the competing interests from regional government
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39 involvement: while central governments often create strategy, regional governments often
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41 execute project (Christensen 2012) so compounding issues with multiple layers of
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43 governance resulting in increased complexity and oversight.
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49 Furthermore, policies which are structured too rigidly leave little room for the
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51 realisation of benefits that fall outside the traditional PM targets (Young et al. 2012, Breese et
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53 al. 2016) such as emergent benefits, which are often unforeseen and opportunistic (Hillson
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55 2002, Smith et al. 2015). Current government policies can be designed to reward projects
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57 with linear forecasting and top-down management whereas empirical evidence suggests that
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projects are unpredictable, emergent and contextual (O’Leary 2012). The stated desire of governments to implement programmes as tools for social change is often paradoxical with the reality imposed by policy and requisite project governance. The literature indicates that despite government requirements to deliver projects while maximising value, the link between project outcomes and broader government strategy remains tenuous (Christensen 2012; Young et al. 2012).

For Peer Review Only

3. Methodology

All the four countries included in our study for comparative analysis represent developed Western democracies with sufficient depth of BM maturity (REF ANONYMISED 2017). The degree of centralisation in BM frameworks, however, varied between the countries - from the greatly decentralised systems in the US to the more centralised UK system.

The overall aim of this study was to consider how well BM frameworks work in practice - particularly to what extent 'espoused' or 'mandated' frameworks are actually implemented and perceived as useful by their users - based on the prior information-gathering study(see questions below). This preliminary study provides detailed descriptions of the contemporaneous BM frameworks promulgated in each country based on the information available on the internet (that is, the collection of "naturally occurring data" as described by Silverman [2013]) and highlights a number of areas in need of further investigation. It also finds little evidence of empirical studies on BM methods, and thus recommends a thorough study into BM practices to contextualise the narrative information collated in each country. The six themes of queries covers not only the up-front definition but also work through the business case and in-execution benefits-realisation and post-project benefits review.

Given the nature of this central research question, the study needed to dig into the detail and causality of implementation and seek to capture the meaning and common features of an event through close examination of individual experiences [Starks and Brown Trinidad 2007]). This called for a phenomenological methodology (Easterby-Smith et al. 2011) rather than a wider survey-based method. Hence, semi-structured interviews were used, which provide the interviewers with the flexibility to probe for details to uncover previously hidden information or explore emergent issues with the interviewees (Flick 2009). This also allowed the questions to be tailored to the interview context and/or the people who were interviewed.

The research at this stage is therefore also qualitative.

The interview questions were grouped into six themes resulting from the prior information-gathering study (REF ANONYMISED 2017). The second, third and fourth follow the BM lifecycle.

- **BM Frameworks used in practice:**

- ✓ In practice do you follow an official BM framework? If so, why?
- ✓ What other methods or approaches are used?

- **Benefits identification:**

- ✓ Do you have processes for ensuring strategic objectives are identified? Are these effective?
- ✓ Do you have processes for ensuring strategic objectives are measured? Are these effective?
- ✓ Are different stakeholder requirements identified and tracked?

- **Benefits management/realisation:**

- ✓ Where is the balance of focus between managing outputs and realising benefits?
- ✓ Does the balance of focus change during the project?
- ✓ Are risk and benefits linked or managed separately?

- **Ex-post evaluation:**

- ✓ Is it appropriate to conduct ex-post evaluations?
- ✓ When is it appropriate to do so?
- ✓ To whom do you report longer-term benefits?
- ✓ Is your benefit attribution process effective and what are the issues here?

- **Quantification:**

- ✓ Is the quantification process useful?
- ✓ What are the main issues with quantification?

- **Effectiveness:**

- ✓ Overall, how effective do you think your approach is?
- ✓ What is it about your organisation that enables your approach to be more or less effective?

Each main interview question was accompanied by sub-questions to remind the interviewers of critical probing points within each conversation, although not every sub-question was specifically asked. Before each interview, interviewees had been provided with a document outlining the research purpose and the summary of the six topics of conversation. The researchers also asked interviewees, where possible, to (i) provide documentary evidence to support their statements, (ii) suggest a case study which illustrates the issues involved in BM in his/her countries, and (iii) introduce the researchers to other potential participants. Interviews avoided leading questions and probed the interviewees' comprehension of concepts such as 'benefits' and 'outcomes' rather than taking these as read; terms such as 'optimism bias' and 'agile' was not used without ensuring the researchers understood interviewees' understanding of the terms.

What we meant by a "project" was not explicitly defined to the participants. However, the interviews made it clear that we were discussing significant governmental projects. The conclusions drawn in this paper therefore concern long-term projects such as infrastructure, major transformation projects, etc. "Benefits" therefore would have longer realisation time frames than (say) some IT projects. Participants were selected based on their knowledge of BM practices in public projects in the countries of study, their seniority in the role, and their ability to give comprehensive views about the implementation of BM systems in their countries. The interviews were carried out between April and August 2018; the majority of UK interviews were face-to-face; for other countries, interviews were undertaken via Skype or similar and lasted about 30-60 minutes. We classified interviewees into the following

categories, and tried to ensure a spread across all categories; a few interviews were group interviews (see Table 1). This was done only in order to ensure a spread of knowledge in each country (not to analyse information gathered by role).

- A: Senior government officials (e.g., Senior Responsible Owners or the equivalent).
- B: Interviewees with experience in managing government projects.
- C: Interviewees on any bodies similar to the UK’s Infrastructure and Project Authority (IPA) and/or government project reviewers.
- D: Interviewees from Project Management Offices of major public projects.

Table 1. Research participants’ profiles

	Australia	Canada	The UK	The USA	Total
Category A	2	2	1	8	13
Category B	3	4	4	5	16
Category C	5	2	1	0	8
Category D	1	2	4	2	9
Total Participants	11	10	10	15	46
Total Interviews	9	9	10	12	40

Although the recruitment of these hard-to-reach types of participants proved challenging, the researchers could do so eventually by making the most of the existing network and exploiting the snowball sampling method – a process of asking initial respondents to recommend other potential interviewees (Atkinson and Flint 2001). The total number of interviewees in each designated government ranged between nine and 12 depending on how many could be recruited. The number of interviewees in each participant category (from A to D) differentiate from country to country, subjecting to the ability of the researchers to identify, and gain access to, eligible participants. Although we acknowledge

that the sample size of 46 participants for this kind of study is relatively small, we believe it is sufficiently diverse and adequate to achieve informational redundancy, permit deep, case-oriented analysis, and elucidate the goal of the study (Sandelowski 1995). It is also accepted that this might be a biased sample: while we tried to recruit interviewees based on their role in the country, it is likely that we obtained more recruits that were “enthusiasts” for Benefits Management, and this possible bias needs to be borne in mind in the results particularly where prevalence in the countries is indicated (and this would have invalidated any quantitative results).

Within-country and across-country data were carefully analysed in a multi-stage process to identify not only the commonality between countries but also those aspects of the experience that are particular to certain interviewees (Ayres, Kavanaugh, and Knafl 2003). At first, interview notes, approved by the interviewees, were coded into the six main themes as discussed above (a deductive coding process [see, e.g., Silverman 2015]) and then synthesised and summarised for each country. Midway during the interviews, a team workshop looked at question-by-question summaries, allowing researchers to share findings, develop the pattern of the information emerged from the interview data, report on the research progress and any obstacles faced during the interviews, and share thoughts on the interview results and questions for future research. When the interviews were complete, summarised data for each country were synthesised, compared and contrasted by two researchers. The result was then shared with the rest of the research team for comments, discussion and agreement. A final team meeting discussed the conclusions of the study and identified more recommendations for future research.

4. Findings

In this section, we present key findings of the research and their implications for practice with

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3 details by country set out in Appendix 1 at the end. The evidence is presented in six main
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5 sections reflecting the structure of the interviews.
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8 9 ***BM Frameworks used in practice***

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11 We observed a wide range of BM guidelines, frameworks, and practices across all countries
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13 and within each country. This is unsurprising, given the diverse nature of projects and
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15 programmes and the differences in structure (e.g., federal, provincial, state, municipal) in the
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17 USA, Canada, and Australia. There was evidence of a tendency towards the use of tailored
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19 approaches by department/sector in Australia and the UK. We also found that BM
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21 frameworks for transport and civil infrastructure projects tended to be well developed in
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23 Australia, the USA and UK in comparison to other areas (e.g., transformation). We speculate
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25 that the relatively well researched and practised field of transport economics may account for
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27 this.
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33 In general, some forms of BM framework were used by most respondents, and the
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35 purpose was understood by them. In some organisations, there was a shift towards benefits-
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37 led decision-making, but BM frameworks were often advisory, except in some cases where
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39 they were mandated for the preparation of business cases prior to approval. As the project
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41 progressed from the approval stage to execution, there was significantly less focus on
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43 consideration of benefits, despite assurance procedures designed to mitigate this happening.
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45 There appeared to be a strong emphasis on **project-management success** (time, cost, and
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47 quality) in all countries/sectors rather than project success (project outcomes and benefits)
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49 after the initial approval of the project.
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54 We uncovered a number of catalysts for the adoption of BM frameworks. The two
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56 most commonly cited motivations were (i) the growing need to show value for money and (ii)
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58 the desire to align project benefits with overall strategic objectives.
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Benefits identification

This section looks at the initial identification of benefits. Benefits identification is a crucial first step in the benefits cycle and will often form part of the investment case prior to project approval. It is widely accepted that while not all benefits can be identified in early stages, it is essential to consider likely benefits and those which are required.

Our data shows that the BM frameworks and practices for benefits identification were similarly well-developed across all four countries. The requirement for the analysis of benefits and costs before project approval was well recognised and formed the cornerstone of the benefits cycle. Cost-benefit principles seemed to be similar within the countries, although with some nuances discussed below. The use of guidance on cost-benefit analysis and business cases was mandated for project proposals exceeding a certain threshold (known in the UK as the Departmental Delegated Spending Limit); however, implementation of this policy varied in different government departments.

Aligning projects with strategic objectives

Our research indicates a general intention to align project benefits with strategic departmental/government objectives at the outset of the project. However, differences emerged in the detail of strategic fit in different departments and sectors. In the USA, for example, respondents reported that strategic alignment sometimes drifted during execution owing to insufficient work at the beginning and letting contracts too early, but also because the operating environment had changed and the initial specification was no longer appropriate. In Australia, project benefits and strategic objectives were not always well aligned owing to having too many layers of strategy with which to align priorities. There was also an issue of a lack of training and knowledge transfer.

Gaming and Optimism Bias

There are normally two major issues which occur at the outset of projects. These are *optimism bias* and *gaming*. In optimism bias, the unrealistic overestimating of benefits and underestimating of costs is seen as unintentional. This is one of the most common cognitive biases that influence how we make decision and judgment in the context of project management (Flyvbjerg, 2006). In gaming, benefits and costs are deliberately manipulated in an attempt to gain the desired outcome. For instance, a project sponsor may seek to strategically misrepresent costs (for example, deconstructing a project to avoid higher-level requirements to maximise their own autonomy) or overly state benefits to get things through the system. “The terms ‘strategic misrepresentation’ and ‘manipulation of information’ are used to refer to planned and systematic distortion or misstatement of facts in budgeting and planning systems” (Dalcher, 2016, p. 4).

There were some systems in place to minimise gaming, and optimism bias, such as close vetting of the business case before project approval and/or employing gated funding models. The impression researchers gained from the interviewees was that gaming was less relevant or perhaps occurred less where the system was more relaxed; it could be interesting for future research to investigate this to see whether this effect can be confirmed, and if so the extent.

Our study looked explicitly at optimism bias to understand how governments can ensure that this does not misrepresent the business case. All governments recognised this issue, however, the UK seemed to be the only country requiring a specific approach to quantifying optimism bias. In the UK, a contingency was required to be placed on estimates, calculated using reference class forecasting. Although all the participants from Australia’s New South Wales (NSW) confirmed that they did not have a standardised method to deal with optimism bias, some of them said that they used sensitivity analysis on all cost and

benefits. In future work, it might be worth looking into the role of culture in dealing with optimism bias, and the reasons why few (if any) countries follow the UK in using reference class forecasting to add contingencies to estimates - and whether this is the most effective approach.

Benefit Classification

According to our interviews, there was no standardised system for classifying benefits in any of the countries. There were various approaches; some examples include:

- financial and non-financial benefits (NSW BM framework [DFSI 2015] and some organisations in the USA);
- direct and indirect impacts (NSW Cost-Benefit Analysis Guide [NSW Treasury 2017b]);
- external and internal benefits (Australian Tax Office's BM framework);
- benefits to government, private-sector partner or the UK public (UK IPA's framework [IPA 2017b]);
- four quadrants (i.e. cost reduction, increases in productivity, internal benefit and external benefit) classification system (the UK Department for Transport),
- recurring and non-recurring benefits (some NHS trusts in the UK),
- primary and secondary benefits (some organisations in the USA),
- five 'core streams' outcome classification (Infrastructure Canada 2018).

Although all participants acknowledged the importance of having a well-developed benefits classification system, some interviewees gave us cause to doubt how well these benefits classification systems were being used in practice.

Identifying Project Benefits

Several studies (e.g., Ashurst and Doherty 2003; Badewi 2016) have suggested that the identification of project benefits should be a combined approach of interviews and workshops involving all key project stakeholders. In this way, the likelihood of commitment to realising those benefits is maximised.

Our study showed that stakeholder engagement was increasingly used in the identification of benefits. However, while stakeholder engagement was seen as an essential ingredient in identification by some, for others it may have been viewed as a cosmetic process as it was unclear whether the outcomes of the process were fed back into decision-making. A couple of participants from the USA stated a reluctance to invest sufficient time in this process owing to a fear that it could slow the progress of the project. Some participants were aware of conflicts between stakeholders on benefits but were not able to suggest any remedy to make those align. Further research could explore whether benefits are used as a way of legitimising the project but not for the broader social interest, what the usefulness and problems of public consultation are, and how we can carry out an effective stakeholder analysis.

Benefits management/realisation

Results from our study indicate a clear emphasis on benefits identification as a means of getting the project through the approvals process.

Consideration of benefits tended to fade once funding was achieved (apart from a few notable exceptions such as projects that had to go through the NSW's ICT gateway process or the UK IPA assurance process, for high profile projects in the USA, or projects funded by Infrastructure Canada). The empirical evidence shows that ex-post evaluations of benefits were rarely done in all four countries (see below).

A prevailing view amongst participants was that there seemed to be a skew toward project delivery (particularly project-management success) rather than benefits after project sanction, excepting occasionally there was an increased focus on benefits at project closure as benefits were evaluated and reported. Given benefits are normally vague, ambiguous and constantly in a state of flux, while being apparently clearly defined, it is pretty consequential that the project will undergo substantial change in scope, methods, outcomes and similar during its lifetime. The longer the project, the more likely this drift (Quattrone & Hopper 2001) is going to manifest itself. It is therefore consequential that solid project management change systems and procedures are to be implemented in order to guarantee a wise discussion on what these changes are about. This raises some potential questions for future research, such as: is too much emphasis on delivery rather than benefits in certain project types an indication of lack of 'change management'? (And if so, does it mean that similar skills are needed for BM and Change Management?) Where is the appropriate balance between emphasising output completely disregarding outcomes and vice versa? What are the roles of the various project actors (funder, sponsor, manager, user etc.) in managing outcomes/benefits, especially when there is a high turnover in roles throughout the project?

Changes in Expectations of Benefits

The majority of those interviewed recognised there would be changes in expectations of benefits throughout the course of the project. Reasons for this included changes to scope and budget sometimes as a result of changing political support; greater understanding as more information became available at later stages in the project and changes in the economic environment. However, the evidence from this study suggests that there were no practices in place to capture that evolution of changes for many categories of projects, especially transformation projects - further work is required here.

Risk

Project risk management frameworks tend to concentrate on risk to project delivery rather than risk to realising benefits. We found a mixed picture on the question of whether project risk management frameworks and benefits realisation risks were linked. Risk management and BM frameworks were sometimes integrated, however, the majority were not.

Interviewees clearly understood that outcomes and project risk management needed to be aligned and that not achieving benefits was a major risk in itself. The research questions remain then as to whether risk management and BM frameworks should be integrated and why, and how we can combine the two frameworks.

Agile

This study also aimed to understand whether BM frameworks were well-defined for an agile project. Most participants did not relate to agile methods in their responses, even though many were discussing oversight of major IT programmes (although this will have been influenced by the sector, and would have been different in the private financial sector or digital marketing sectors). For those who did, there seems to be no distinction made in terms of BM between projects managed by agile or waterfall methods, except in the UK where new guidance has been given for benefits identification as part of approvals processes for agile IT projects (HM Treasury, 2019). Most participants felt that BM methods seemed well suited to agile projects and indeed there was an argument that agile is particularly suited to benefits realisation. This raised the question of whether BM frameworks fit more naturally with agile than with waterfall projects, and how BM frameworks can be drawn up for agile projects.

Ex-post evaluation

Long-term ex-post evaluations of projects were considered important by some interviewees

but not generally done, especially for longer-term projects although most organisations carried out some form of evaluation on the immediate completion of the project.

Participants suggested reasons for this, namely:

- public projects tend to be complex and long term, and there were too many variables
- results will depend at what point you measure
- there was no mandating of ex-post evaluation
- dissolution of project teams following close-out
- the challenge in disentangling benefits that arise from multiple projects/portfolios.

There are some exceptions: for example, Canada Health Infoway currently use ex-post studies on transformation projects; Highways England design Lean Maturity Assessment to ensure lean projects capture and report lean benefits; the report by Australian Bureau of Infrastructure, Transport & Regional Economics (BITRE 2018) provides the result of a series of post-completion reviews of national projects.

Most participants when asked ‘when is it appropriate to assess or report longer-term benefits?’ did not feel able to give a definite answer. The Australian Taxation Office was working toward a more strategic approach to this area. Canada Health Infoway and Infrastructure Canada had specific plans to evaluate longer-term benefits on one year, five year and ten-year timeframes upon the project closure. One participant from the UK suggested that benefits are technically measured/evaluated for the life of a business case – usually ten years. Similarly, for some projects in the USA, full benefits may not be realised for ten or more years.

Capturing Lessons Learned

All participants felt that capturing lessons learned was critical. Although this was not

universally enacted, examples of good practices were observable in the Canada dataset, where the majority of participant organisations utilised processes to capture lessons learned, despite dissemination was less common. In the UK, Network Rail now requires lessons learned to be reviewed during a post-project review – usually a year after project closure. Most participants from the USA said that lessons learned were documented and shared internally and with others through, for example, bodies such as the National Academy of Public Administration or Office of Science & Technology.

Open Access to Project Information

We examined the role of open access in longer-term benefit evaluation. We argue this is integral to public accountability and transparency; our results show that public reporting occurred, but varied between countries. In Australia, the benefits arising from high profile projects are generally made public; likewise, the Canadian Government has sought to open up access; the majority of Infrastructure Canada and Canada Health Infoway reports can be found online in various repositories. In the USA, most organisations publish results of their projects on external websites, but these tend to be skewed towards operational aspects of the project rather than benefits realisation. There was a sense amongst the UK participants that transparency was important where the business cases made the intended benefits clear.

Quantification

Benefits quantification could be seen as one of the most important features of any BM framework, playing a fundamental in benefits quantification, for setting a baseline, attaining funding and for assessing changes to the benefits position during the life of the project.

In much the same way that whole-life cost methods are rarely standard, the quantifying of benefits appears to lack standardisation. The sophistication of quantification processes and level of compulsion in their use varied widely between different parts of

government and were particularly well developed in the transportation sector in countries such as Australia, the UK, and the USA.

The majority of participants thought a purely financial measurement of expected benefits was rarely achievable. Many benefits of public projects are difficult to define, let alone quantify. Most participants felt that not all benefits could be quantified or monetised and that current systems were not sufficient and/or sophisticated enough to measure many different types of benefits.

Our study shows that there was a strong emphasis on quantifying benefits which are easy to measure or useful for showing strategic alignment in the project proposal. Most participants could not give evidence of a clear treatment for benefits which could not be quantified or were difficult to monetise; however, they expressed the need to improve and refine the current quantification frameworks continuously. This prompted the question of whether the present systems set up projects to fail. The practice of quantifying benefits that are just guesses is one example of this. But then what does 'fail' mean, and when would be an appropriate time to establish expected benefits?

Isolated instances were found in which organisations focused on quantifying benefits with great success; in those instances, a repository of past quantification efforts and successes was critical for their approach. Further research is needed into what constitutes and distinguishes those countries with best practice in quantifying benefits.

The effectiveness of BM frameworks

The empirical data shows there was no clear answer to whether BM methods were effective or not. A mixed picture of the efficacy of the BM frameworks emerged. The majority of the participants from NSW felt that BM frameworks were beneficial and generally used, but there was still room for improvement. Most participants from the Commonwealth of

Australia, Canada, and the USA thought it was too early to assess effectiveness. The picture was more obscure in the UK where most of its participants seemed to 'sit on the fence' and speculate rather than provide any evidence on the usefulness of BM frameworks.

Barriers to the use of BM frameworks

We asked participants to identify some of the barriers to the use of BM frameworks. These included:

- Lack of awareness of the BM frameworks' existence.
- In some cases in the USA, interviewees acknowledged that there was no value in spending any significant resource in detailed long-term evaluation for some projects.
- Lack of political interest and senior management buy-in.
- Lack of a benefits-driven culture.
- Lack of requirement for reporting on benefits and conducting ex-post analysis.
- Insufficient resources were available to carry out benefits evaluation
- Poor-quality and low-maturity BM frameworks which were extensive and not user-friendly.

Enablers to the use of BM frameworks

In cases where BM frameworks appeared to (or were claimed to) work well in practice, we asked participants about what in their organisation facilitated that. We again found a mixed view, but all countries studied indicated the five following factors as enablers to the implementation of the BM frameworks:

- The desire to maintain a database of best practice for BM
- The organisational culture of doing BM

- The engagement, commitment, and buy-in of leadership.
- Increasing stakeholder engagement.
- Clear accountability and responsibility for BM

On the issue of what led to ensuring successful project outcomes, participants indicated the following:

- Good communication (cited by several people)
- A good team with a diversity of experience
- Good understanding of risk
- Good contract capability
- Good governance
- Good leadership
- Connection with the strategic vision
- Team cohesiveness
- Stay in contact with stakeholders and end users
- Understanding of what needs to be accomplished
- Knowing what is happening in the marketplace
- Clear definition of requirements
- Thorough front-end planning
- Successful transition to operations
- Maintaining a database of best practice
- Being a student of human behaviour

Country Differences

The four countries with their governmental structures exhibit a number of geographical and

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geopolitical differences, and this is likely to explain, to some extent, the different approaches and systems we have observed. In the case of Canada and the USA, for example, the geographical scale may explain the limited number of mandated ‘federal’ directives on benefits identification, management, and realisation. Our findings indicate that sub-national bodies tended to be better suited to the determination of benefits arising from projects and programmes; that is, controls were needed, but flexibility was essential. Australian jurisdictions exhibited ‘fiercely’ autonomous approaches, which, perhaps, mitigates against some of the pitfalls associated with inflexible, overly standardised approaches. In contrast, UK practices tend to be relatively similar at national and sub-national scale although idiosyncratic methods were observed in most of the gov-co’s. Also noted in the UK, but presumably applicable to all the other systems, was the issue of tracking the project benefits that span parliamentary reporting periods and where the policy landscape may changes.

5. Discussion of implications for practice

As can be seen from our findings, sophisticated use of BM tools is happening across all four countries. This is not unexpected as our previous research and literature review suggested that this would be the case. We also found that although those responsible for running complex projects in government are aware of the BM tools and frameworks in the literature, they do not always apply them in practice and below we shall reflect on five specific areas and the reason why this may be so.

Output and Outcomes

Firstly, there is a debate between focusing on outputs and outcomes. As we have seen from the literature cited earlier, there is still a considerable focus in the literature on what is often known as the iron triangle of cost, schedule and quality of delivery or project-management success (Zwikael and Globerson 2004; Varajão and Cruz-Cunha 2013; Pellerin and Perrier 2018; Jeang 2015), whereas the importance of the product and service produced (Carvalho and Rabechini 2015) or the outcome and benefits (Laursen and Svejvig 2016; Hodgson and Cicmil 2006; Jensen et al. 2016) is widely recognised elsewhere especially in the delivery of complex government projects (IPA 2017c).

Our research highlights how important benefit identification and quantification are for initial project approval and how (in contrast to other studies [e.g., Icmeli Tukel and Rom 2001]) the emphasis on benefits recedes and is replaced with project and output measures as the project progresses. As classical project and project output measures are local and under the control of the project team, one can understand this tendency. However, in our research, we found instances where a focus on outcomes was not seen as useful for the management of the project. Military hardware projects in the USA and UK were two examples of this. In the UK 'it is not practical to assess the benefits of aircraft carriers with a 15-year built and 50-

year service life', and for the US similar comments were made about the '100-year B52' project. Our reflection is that how the outcome is defined is extremely important. If it is too far removed from the project (as is the objective of preventing a future war) then it is not useful for directing the project and as a consequence, those in the project revert to project output measures to guide them. This suggests that managing projects to deliver outcomes and benefits does not always work and that the approach to be adopted needs to be contingent on the project circumstances.

Optimism bias and gaming

Although both optimism bias and gaming were well-recognised concepts, no common solution emerged from our study. Some used sensitivity analysis and some used external estimating teams, but the UK was the only country mandating reference class forecasting. As with ex-post learning discussed above, a pre-requisite for reference class forecasting is an organisation that collects and maintains the appropriate benchmark data for generating the appropriate forecasts, and this is recognised outside government projects (Fouché & Rolstadås 2010; Ochieng et. al 2016). In the UK resources have been dedicated to achieving this but future research should focus on why this approach has not been adopted more widely.

The project execution phase

Our results have shown that there is an emphasis on benefits at the project start-up phase, and some attention post-project, but attention fades during the project, for a number of reasons discussed above. The findings above identified a number of problems resulting from this. There can be an emphasis on project-management success rather than benefits management. Risk-management activities in particular can concentrate on project outputs rather than outcomes. And in particular, the fully-defined project with well-defined objectives, has difficulty in relation to the fluid nature of the public sector, where perceptions of desired

benefits can change frequently; the public sector is thus a particularly acute example of the phenomenon recognised by Malgrati and Damiani (2002), where the “idealistic ‘island of order’ may suddenly turn into a more realistic, very classic, ‘iron cage’”.

Ex-post project evaluation

One would think that ex-post project evaluation is important for learning (Williams 2008), but our research found many examples where this did not happen. Two practical reasons were given for this. First, there is the question of when this evaluation should be undertaken. Should this be done at the completion of the project – the point of handover to operations (an under-researched area in itself – see Projectmanagement.com 2018) – or at a later date when the benefits are being realised? Without clear guidance and rationale, this is a difficult decision to make. Second, there is the question of who will undertake the evaluation and bear the cost. After the handover, the project team is usually abandoned, so this is the last practical point ex-post evaluations can be undertaken in many situations.

Our reflection is projects are systems operating in wider systems, and that system of systems approach is important (Bourne et al. 2018). From this perspective, learning occurs at different levels in the system. The project team will have learnt from their time on the project and seen what did and did not work at the level of the project. However, if we require higher system level learning to occur and wish to investigate whether the project delivered the outcomes and benefits required or whether or not (with the benefit of hindsight) the project should have been undertaken at all, we are at a different systems level. For this, we need an organisation to sponsor the work and own the insights learnt. Our research has given us clear evidence that the level of ex-post evaluation needs an appropriate system level owner.

Accountability

There is a wider debate opened up with these findings about the accountability for benefits realisation. In the UK system, it is the Senior Responsible Owner who is responsible both for delivery of the project and for the benefits resulting from this – indeed, the SRO has to sign a letter agreeing to this (see UK Government 2019 for an example). However, we have already seen that there is not only sometimes a diversion between the pre-defined project and the emergent and sometimes fluid nature of benefits, but also that evaluation of the benefits of a major public project can be difficult when the economic environment within which it operates has itself changed significantly over the lifetime of a project. Sometimes the project merely facilitates benefits and it is up to other bodies to harness those benefits (eg construction of infrastructure might enable economic development, but it will be up to local authorities to take advantage of the infrastructure). In these circumstances, it is not clear how realistic it is for SROs to take complete accountability for the project benefits

6. Conclusion and Suggestions for Future Work

This study aims to understand better the use of BM frameworks in application, their effectiveness, what works, and how BM practices can be improved so that projects deliver what they promise.

We observed a wide range of BM practices across and within the four countries. There was evidence of a tendency towards the use of tailored approaches by department or sector in some countries. BM frameworks for transport and infrastructure tended to be well-developed compared to other areas (such as transformation) in the majority of countries. Generally, some form of BM frameworks were used, and their purpose was understood; however, the level of uptake was variable. BM frameworks were often only advisory, except some occasions where they were effectively mandated for preparation of business case prior

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3 to project sanction, after which the emphasis was on project-management success rather than
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8 From an academic perspective, we have identified both examples of good use of
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10 frameworks in the field of benefits management and specific issues particularly with respect
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12 to the dual need to work towards both output and outcome objectives, post evaluation of
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14 project success and cost time estimating. We suggest fruitful areas for further research at the
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16 end of this conclusion.
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19 From a practice perspective, we believe we have captured a rich picture of the variety
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21 of practice across a wide spectrum of public sector projects (from infrastructure, military
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23 equipment, IT and transformation) in four leading western countries and the majority of those
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25 interviewed expressed a keen interest in seeing the results. These practices have, in some
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27 cases, made us challenge academic wisdom and two conclusions for practice stand out.
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29 Firstly, we already know that how we define a project and what it is there to deliver is
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31 extremely important, but this research has highlighted specific issues of specification.
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33 Secondly, we have identified the importance of systems and structures. If we want to truly
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35 learn from past projects there needs to be a body tasked with this and who will capture and
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37 disseminate the findings. Similarly, if we want to improve our estimating we need a body to
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39 capture estimations and actuals, together with information on outputs, outcomes and benefits
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41 to create a reference base.
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47 To carry out this research, it was important to develop and execute a research method
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49 that was sufficiently credible with those who would take part in the research and who would
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51 be responsible for taking cognisance of the results. This meant that the method had to be
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53 credible with senior government officials, in the UK “senior civil servants”, many of whom
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55 are involved with some of the most complex projects and programmes in the countries
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57 studied. Furthermore, these officials are constrained in what they can and cannot say (in
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public) and they will also have concerns of participation in research that may implicitly or explicitly lead to criticism of governmental/ministerial decision-making (and there is sometimes tension between policy and project delivery). This research deployed an interview instrument whilst being mindful of the importance of academic rigour and independence as researchers. The opportunities that were obtained for interviews demonstrated the participants' confidence in the integrity, data management and research governance.

We have also highlighted a number of questions in need of further investigation, as presented in the previous sections. We observed a number of differences and degrees of applications of BM between the selected countries, and a lot of space remains for improvement and future work. We have identified an initial set of enablers and (on the other hand) barriers to the successful implementation of BM systems, which are worth bearing in mind when practitioners are thinking of initiating such work.

However, as this study is limited to English speaking countries with highly developed economies, it would be interesting to undertake a broader comparative analysis from a wider sample of countries. In addition, while we asked interviewees about projects in general within their country, the conclusions might depend upon areas the interviewees know about; infrastructure and government IT projects are liable to be over-represented. Finally, as a reminder, the study looked at government projects only, and different market sectors (e.g. financial sector or digital marketing) might give quite different results.

This research could serve well as a base for a conceptual study of 'how can projects be managed better?', putting it on a theoretical basis - using social theories (eg Bourdieu, Sociology of Work, Science & Technology Studies or Actor-Network Theory) with the results being considered through some in-depth case studies.

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Appendix 1 - Research findings summarised by country

About Participants	Australia	Canada	The UK	The USA
1. BM frameworks used in practice	<ul style="list-style-type: none">There were different frameworks for BM at varying levels of maturity and different sectors.The NSW government endorses the NSW BM Framework (DFSI, 2015). They also have other official documents mentioning BM, such as Guidelines for Capital Business Cases (NSW Treasury 2008), NSW Gateway Policy (NSW Treasury 2017a), NSW Government Guide to Cost-Benefit Analysis (NSW Treasury 2017b). Although the BM frameworks were not mandatory, the Cost-Benefit Analysis guideline (used in business case preparation) was for project proposals	<ul style="list-style-type: none">The current state of BM in Canada varies, both in maturity and practice, apparently with no single framework dominated. That was partly due to preferences towards devolved authority in Canada.The Treasury Board of Canada Secretariat (TBS)’s (2009) outcomes management (OM) framework provides guidelines for OM within federal departments and externally within organisations directly funded by the Federal Government. Canada Health Infoway receives federal funding and has advanced OM to exceed guidelines, embedding OM as an integral part of their approach to projects. Infrastructure Canada,	<ul style="list-style-type: none">Evidence of a varied approach to BM across government and non-government (non-gov) organisations; this clearly prompted a centrally lead initiative in the IPA to publish new guidance on the practice of BM and the use of frameworks (IPA 2017b). This guidance supplements existing support to departments and assurance review teams (IPA 2016). Highways England, Network Rail and HS2 have developed idiosyncratic BM methodologies drawing on elements of Managing Successful Programmes (MSP) and IPA Guidance; Evidence from Highways England suggests an explicit alignment with the 2017 IPA guidance. In	<ul style="list-style-type: none">There appears to be no formal use of prescribed frameworks. Organisations have developed different processes for identifying benefits which are applied flexibly. Federal agencies such as the Department of Energy (DOE) use a process of needs identification and project approvals which integrates BM. Overarching guidance comes from the Office of Management and Budget (OMB, 2016). However, implementation by each executive department differs. While directives from the OMB are structured as guidance, a congressional inquiry

	<p>exceeded a certain threshold.</p> <ul style="list-style-type: none"> • In the Commonwealth government, the Australian Transport Assessment and Planning (ATAP)'s BM guidelines (ATAP Guidelines Steering Committee 2016) appears to be known as the best practice for transport. The guideline should be endorsed by all Australian jurisdictions and published by the Transport and Infrastructure Council. They are closely aligned with the Infrastructure Australia Assessment Framework. Other Australian jurisdictions had their own guidelines; however, since the ATAP guidelines were developed, some jurisdictions seemed to either stop updating their own BM frameworks or use the ATAP guidelines 	<p>although part of the Federal Government, their own outcome framework has evolved independently of the TBS framework, targeting different outcomes and is mandatory with regards to infrastructure projects funded by the Infrastructure Canada.</p> <ul style="list-style-type: none"> • Provincial/municipal governments, and private contractors, vary in their approach to BM. The Ontario Public Service (OPS) has developed frameworks and guidelines which integrate BM within PM methodologies. Implementation of the BM guidelines varies, with responsibility falling to individual organisations within OPS. • The private sector approached benefits realisation through internal frameworks such as value engineering and building information 	<p>Network Rail, we found evidence of a well published BM approach with a desire to integrate this into (enterprise) risk management systems. During the course of our data collection and analysis, the IPA finalised publication of the new standard for portfolio, programme and project management (IPA 2017a). This provides high-level recognition of the importance of well-articulated and executed BM practices.</p> <ul style="list-style-type: none"> • Evidence also suggests that the MSP suite of guidance influenced BM practices. • High level of maturity in the government spending departments studied, most notably in the Department for Transport (DfT). The government-owned companies (gov-co) in our sample were demonstrably motivated to improve BM practices by developing 	<p>has the authority to mandate compliance should it be determined that guidance was circumvented. Departments often mandate compliance internally (e.g., DOE).</p> <ul style="list-style-type: none"> • Guidance on benefits identification comes from the Government Accountability Office's (GAO) Cost Estimating and Assessment Guide (GAO, 2009). • Agencies such as the PM Coordination Office are in place to support the development of processes which aid in BM. • There are ongoing and informal processes to feedback project outcomes from completed projects at the DOE and departments utilise peer review as well as ex-post analysis.
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	in a complementary way.	modelling without the use of explicit BM frameworks.	their own approaches.	
2. Benefits identification <i>(N.B. This section is not really about quantification detail, which will be discussed in depth in the later section)</i>	<ul style="list-style-type: none">• There seemed to be a good intention to align project benefits with the strategic objectives; however, that varied between departments.• The interview data shows that ‘accounting rules’ appeared to dominate the identification process.• Optimism biases were there naturally, but there seemed to be no standardised technique to mitigate them.• There were various methods for classifying benefits across departments.• Although stakeholder engagement was carried out during benefits identification, it was unsure whether that was done appropriately.• Benefits ownership and accountability were considered important,	<ul style="list-style-type: none">• There was an increase in interest and conversations surrounding BM, which aligns with the considerable focus on outcomes reporting at the federal cabinet level.• Bias did occur, gaming as well but it was less common.• Various methods for classifying benefits which varied by sectors. Although interviewees suggested that classification was essential, most of them did not use a benefits classification system• Stakeholder engagement was seen as an essential component of benefits identification and realisation management, with the frequency of communication varied considerably among respondents. The process of engagement spurred	<ul style="list-style-type: none">• Evidence implies that a significant emphasis on benefits identification is a consequence of the five-case model and associated HM Treasury Green Book requirements; consequently, measurable benefits tended to dominate business cases.• Interview data shows that benefits identification practices appeared to be important in aligning with strategic aims of the organisation.• Stakeholder engagement was recognised as very important too – particularly in agile projects/programme.• The issue of ‘gaming’ did not resonate with the interviewees although some participants were concerned that ‘pet-projects’ remained on a programme/portfolio despite a weak benefits	<ul style="list-style-type: none">• Considerable emphasis on the best use of taxpayer dollars made identification and measurement of benefits at the outset essential.• Qualitative benefits were also seen as important, and there was an understanding that not everything could be quantified.• There seems to be a trend in working more closely with contractors and stakeholders to identify benefits and get them on side.• There was more emphasis on looking at ‘whole life cost’ rather than the lowest cost option to achieve an objective.• The intention is always to align strategic and project objectives. However, they do

	<p>but it was felt that they were generally not done well by departments. Benefits did not appear particularly well normalised across government.</p>	<p>accountability and underpinned measuring and reporting.</p> <ul style="list-style-type: none"> Identifying benefits, to assist in the development of a business case, seem to consume the majority of BM efforts. 	<p>case.</p> <ul style="list-style-type: none"> Means of classifying benefits were varied; spending departments tended to use IPA's standard method whilst 'non-gov's and 'gov-co's appeared to have developed more bespoke systems to reflect the nature of their work. 	<p>sometimes drift apart owing to operational constraints and insufficient preparation.</p> <ul style="list-style-type: none"> Optimism bias and 'gaming' generally occurred and required independent scrutiny. Means of classifying benefits were varied with no prescribed classification system.
3. Benefits management / realisation	<ul style="list-style-type: none"> Emphasis on BM appeared strongest during the preparation of business case and then lessened once funding was achieved although with some exceptions (e.g., the NSW ICT assurance process). BM and Risk management sometimes meshed, and all of the interviewees thought the two systems should be integrated. There was no distinction between BM for agile and projects in the interviews. 	<ul style="list-style-type: none"> The focus on benefits generally decreased once the business case was approved. Some interviewees indicated that there was an additional increase in benefits focus at the conclusion of projects as outcomes (realised benefits) were evaluated and reported. In general, there was a significant alignment between BM and Risk management. BRM methods seemed well suited to agile projects. 	<ul style="list-style-type: none"> Significant focus on getting the project through Treasury approval process as well as throughout the project lifecycle due to assurance requirements mandated by the IPA. Participants believed BM was important and relevant to their sectors. Not a lot of work on agile so far but seemed suitable. HM Treasury have published specific guidance for agile. 	<ul style="list-style-type: none"> After project initiation, the attention moves to efficient running of the project rather than BM. Sometimes BM and Risk management integrated. Interviewees thought the two systems should be considered together. Agile projects were seen to be more dynamic and responding more quickly to stakeholders' changing needs.

4. Ex-post evaluation	<ul style="list-style-type: none">• There were some requirements to do post-completion reviews, and there was interest in creating a more strategic approach to ex-post evaluation.• It was not clear from the interview data how to disentangle which benefits came from which projects.• The system for capturing lessons learnt seemed not yet developed.• Ex-post analysis generally seemed not particularly focused on benefits.• Many information on ex-post evaluation from various government bodies were publicly available.	<ul style="list-style-type: none">• Ex-post evaluation is important but not generally done (except, e.g., Canada Health Infoway). The trend of ex-post evaluations seemed to be increasing.• No method for disentangling benefits was given.• Most interviewees indicated lessons learned (on delivery of outputs, not benefits) were captured although often not shared.• There was push towards more publication and communication of lessons-learned.• Interviewees felt that ex-post evaluations could be useful to determine the effectiveness of different approaches to BM. However, ex-post analysis not generally done in our sample (except Canada Health Infoway).	<ul style="list-style-type: none">• Lessons-learned and post-project reviews were commonly used to evaluate ‘project success’ although the original benefits might be no longer valid after a transformation programme closure.• Nature of transformation was complex so disentanglement of benefits and projects is very tricky.• Transparency tended to be important where benefits are specified in the business cases.	<ul style="list-style-type: none">• There was less appetite to evaluate benefits following handover.• It was difficult to know whether a particular benefit had been the direct result of the project.• Most organisations document project lessons learned, sharing it internally and externally.• Little evidence of empirical data collected much beyond the completion of the project being used to evaluate the effectiveness of various methods.• Some organisations had internal or even external publishing of benefits results (the latter being to do with ‘spin’).
5. Quantification	<ul style="list-style-type: none">• The benefits quantification process was considered useful,	<ul style="list-style-type: none">• Interviewees did not see quantification as a tick-box exercise.	<ul style="list-style-type: none">• Lots of methods of quantification.• Quite a range of opinion	<ul style="list-style-type: none">• Quantification was necessary partly to set a baseline and to get

	<p>but interviewees felt that it needed improvement.</p> <ul style="list-style-type: none"> • The problem of forecasting was seen by the interviewees as unavoidable. There seemed to be no standard guidance for dealing with bias. • Some policies were put in place to reinforce the BM practice such as outcome budgeting (NSW Treasury) or taking claimed savings from the departments (Australian Tax Office). • Interviewees were aware of difficult-to-monetise benefits; however, treatment for those varied and did not appear specifically well-developed. • NSW has some benefit quantification systems and they appear to attempt to monetise everything. 	<ul style="list-style-type: none"> • Benefits identification seemed to skew toward measurable indicators, with no universal method for quantification. • The challenge of developing the most appropriate measures to track indicators was a concern for most interviewees. • Respondents from the IT sector were more likely to attempt to measure non-traditional benefits, such as user satisfaction or well-being, and found agile methodology complimentary to BM. • Optimism bias dealt with by 'candid discussions', and where possible, a repository of ex-post costs & benefits 	<p>on the effectiveness of quantification processes depending on the sector.</p> <ul style="list-style-type: none"> • While there is a genuine effort to monitor benefits, it is uncertain how valid the measurement is given changes to the transformation landscape. • Green book outlines the guidance for dealing with optimism basis. • Best practices being developed that would allow projects to report BRM to appropriate governance level. 	<p>funding.</p> <ul style="list-style-type: none"> • Interviewees acknowledged that not everything could be quantified. • Independent scrutiny, setting expectations and stakeholder engagement were important to avoid optimism bias.
6. Effectiveness of frameworks	<ul style="list-style-type: none"> • Overall, interviewees felt the BM frameworks were useful, widely 	<ul style="list-style-type: none"> • The idea of espousing a singular mandated pan-Canadian framework was 	<ul style="list-style-type: none"> • Interviewees were reluctant to give view on the effectiveness of the 	<ul style="list-style-type: none"> • Effectiveness of the BM frameworks varied significantly. Some felt

	<p>used, but could be better.</p> <ul style="list-style-type: none">Interviewees suggested over 20 barriers to the use of the BM frameworks, most frequently mentioned barrier was the lack of awareness of the existence and the value of the frameworks	<p>not generally accepted.</p> <ul style="list-style-type: none">There were many barriers to using BM frameworks; the most significant barrier was the lack of awareness and buy-in from clients or senior management.	<p>BM frameworks.</p> <ul style="list-style-type: none">Interviewees suggested a number of barriers to and enablers of the use of the BM frameworks.	<p>it would give consistency and a means of passing knowledge on.</p> <ul style="list-style-type: none">Interviewees suggested a long list of attributes seen as important (rather than ‘what is actually done’) to the use of BM frameworks.
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PPC Benefits paper – Reviewers' comments

Reviewer 1

Introduction

Reviewer's comments		Our responses
<i>These two definitions of 'project success' – delivery/operational success and achievement of benefits – are distinctive (although can be, and possibly often are, muddled) and both need to be considered.</i>	Suggest perhaps to use a less subjective term than "muddled".	Replaced "muddled" with a less subjective discussion
<i>Perhaps the most influential framework seeking to lift the definition of success to recognize the strategic aims of a project was developed through work with the U.S. Agency for International Development, then the United Nations and OECD (Samset 2010)</i>	Suggest to support the "most influential framework" statement or re-phrase slightly.	Yes, this was an unsupportable statement. We have rephrased as suggested
<i>Project Management Institute (PMI)'s Pulse of the Profession® report (2012, 5) claims that only '64% of projects successfully met their original goals and business intent</i>	Suggest to cite a more recent study than 2012 to illustrate this point. You need to establish (for the reader) that this is still a problem.	This is a helpful comment, and we have addressed it.
<i>The theoretical discourse on benefits in the context of major projects/programmes is relatively new and underdeveloped in terms of sophistication and recognition of complexity, yet many governments and sub-national public bodies are transitioning to a strong benefits led culture.</i>	Suggest a reference to support this.	This is a helpful comment, and we have addressed it.

Literature Review

Reviewer's comments		Our responses
<i>Benefits here, therefore, reflect the overall purpose of the permanent organisation which drove the setting up of the project, as opposed to the immediate outputs of the defined project. The term 'outcome' is used interchangeably with the term 'benefit' within this study</i>	Suggest perhaps to use a reference to support the "benefit" definition. Perhaps use PMI or Kerzner .	This is a helpful comment, and we have addressed it.

<i>Furthermore, policies which are structured too rigidly leave little room for the realisation of benefits that fall outside the traditional PM targets (Young et al. 2012) such as emergent benefits, which are often unforeseen and opportunistic (Hillson 2002)</i>	Suggest a more recent reference here in addition to these to ensure that you are on firm ground that government policy has not changed to address this issue.	This is a helpful comment and we have addressed it
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Findings

Reviewer's comments		Our responses
<i>There are normally two major issues which occur at the outset of projects. These are optimism bias and gaming. In optimism bias, the overestimating of benefits and underestimating of costs is seen as unintentional whilst in gaming, these are being deliberately manipulated.</i>	Be good to elaborate on this especially the gaming point. Feel that this point has been raised but not explored enough.	Thank you for this. We have elaborated on these points to reflect this.
General point here: be useful to identify the project methodology use within the participant organisations to better contextualise the BM frameworks used. So for example, do they have their own process and deviating from the method or?		Thank you for this comment. Unfortunately, as we did not ask the participants specifically about the project methodologies used within their organisations, we are afraid that we cannot address this comment.

Discussion

Reviewer's comments		Our responses
I feel this section is particularly light. The Findings section detailed a number of observations from the participants but many of these threads seem not to have formed part of the discussion section in enough detail.	Suggest to widen this section to include this whilst making reference to the relevant aspects of the literature.	Thank you for this. We have included the discussion on two new areas: "the project execution phase" and "accountability".

Conclusion

Reviewer's comments		Our responses
<i>The key strength of this study has been its opportunity to interview a cross-national group of people who have extensive knowledge and experience in managing major public investments.</i>	Suggest perhaps that the "opportunity to interview" is not the key strength. The findings and subsequent evaluation would be the key strengths surely?	You are correct that this is clearly not "the" key strength but there are important issues which we have discussed to emphasise the benefits of this

research (see paragraph starting
"It was important to develop...."

Reviewer 2

Reviewer 2's comments	Our responses
<p>1. All across the paper, you refer to two 'definitions' of project success, which you call project success and delivery/operational success. Even though there is nothing wrong with your definitions, the delivery/operational success that you describe has the same definition of the widely used term 'project management success'.</p> <p>You can see for example De Wit, A. (1988). Measurement of project success. International Journal of Project Management, 6(3), 164-170 and many others more recent papers that address describe the term on the same way. So, unless you have a specific reason not to use the term 'project management success', I would suggest you to use it instead. It would make it much easier for the reader to understand your point and to be able to compare it with works from other authors.</p>	<p>We have rephrased various parts and used the definition as requested by the referee</p>
<p>2. On page 2, 'perhaps the most influential framework...' sounds like a too strong assumption.</p>	<p>Yes, this was an unsupportable statement. We have rephrased.</p>
<p>3. Since you are analysing only public sector projects, you should clearly acknowledge the possibility of an eventual market sector bias.</p>	<p>This is a fair point, and some comments have been made about the limitation of this research towards the end of the Introduction</p>
<p>4. On page 13 you mention that 'it seemed that gaming occurred less...' but you don't mention how much less, so that the reader can understand the relevance of the statement.</p>	<p>This has been re-phrased</p>
<p>5. On page 15, it might add value if you could expand briefly in explaining the rationale behind the suggested link between change management and benefits management, since this can be a relevant point for further research.</p>	<p>Thank you. This point has been elaborated.</p>
<p>6. On page 16, you mention that participants did not relate to agile methods. Have this result perhaps been influenced by the demographics of the sample?</p>	<p>This has been acknowledged and discussed</p>

7. On page 16, do you have a reference for the new guidance given in the UK for agile projects?	This is a useful comment, and we have addressed it.
8. On page 20, what do you mean by 'BM frameworks that worked well in practice'?	This has been re-phrased
9. On 'outputs and outcomes', may the demographics of your sample have influenced the findings? Are you consider for example IT projects with short benefit realisation time frames?	Yes, and this has been discussed in the methodology
10. In the section 6, some of the conclusions seem to be heavily influenced by the demographics of the sample and in special by the types of projects assessed. If you analyse a different market sector (e.g. financial sector or digital marketing sector), the results could be quite different. This must be acknowledged.	This has been acknowledged in the conclusion