

A CASE STUDY ON BENEFITS REALISATION AND ITS CONTRIBUTIONS FOR ACHIEVING PROJECT OUTCOMES

Patricia Tillmann¹, Patricia Tzortzopolous², Stelios Sapountzis³, Carlos Formoso⁴ and Mike Kagioglou⁵

ABSTRACT

Value generation has been an increasing concern in the project management literature. It has been argued that the main challenge for generating value is no longer the design of a physical facility or asset, but the capability of understanding the project holistically and going beyond the physical facility to generate benefits that are aligned with strategic intent. Thus it has been suggested that projects should be understood as means of achieving agreed goals rather than the simple delivery of outputs. Thus, this paper presents a case study that was carried out to analyse the contributions of the BeReal model on achieving agreed outcomes and goals. The BeReal model was developed by the University of Salford and was being implemented in a healthcare redevelopment programme in the UK. It was observed that the BeReal model was beneficial for the case study project in many ways: enabling a holistic understanding of value, enabling a dialogue about stakeholders' expected outcomes; and providing means for accountability. Expected contributions of the model were not observed in its full extent. Two main reasons were identified, the adoption on a later stage of development and the team's focus on complying with OGC procedures. While adopting the model from the earlier stages might be beneficial, the rigid structures commonly imposed to governmental projects might be a hinder to learning and continuous improvement.

KEYWORDS

Benefits Realisation, Value Generation, Project Planning and Evaluation

¹ PhD Candidate, Civil Engineering Department. Universidade Federal do Rio Grande do Sul (UFRGS), Osvaldo Aranha, 99. Porto Alegre, Brazil. patriciatillmann@gmail.com

² Senior Lecturer, School of the Built Environment. University of Salford, 4th floor Maxwell Building, Salford, M5 4WT. p.tzortzopoulos@salford.ac.uk

³ Research Fellow and project co-ordinator for the Health and Care Infrastructure Research and Innovation Centre (HaCIRIC). Maxwell Building - 4th floor (412), Univ. of Salford, Salford, M5 4WT. s.sapountzis@salford.ac.uk

⁴ Professor, Civil Engineering Department, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, Brazil. formoso@ufrgs.br

⁵ Professor, School of the Built Environment, University of Salford, UK, m.kagioglou@salford.ac.uk

INTRODUCTION

The importance of generating value through projects has been widely discussed in the project management literature. Winter and Szczepanek (2008) argue that organisations are facing the challenge to shift from the delivery of products to the generation of value and benefits. Therefore, the main concern now is no longer the capital asset, system or facility, but increasingly the challenge of linking business strategy to projects, maximising revenue generation and managing the delivery of benefits in relation to different stakeholder groups.

However, current project management practices have been criticised for not providing the adequate support to generate value that is related to the organisation's business strategy. Industry reports highlight the need for a more strategic oriented approach to the management of projects (Winter and Szczepanek; 2008). Thorp (1998) argues that the poor consideration of the strategic alignment of projects has led to projects frequently being delivered on time and within budget but not realising the expected benefits of investments.

Zwikael and Smyrk (2009) explain that the root cause for managers lacking a more strategic view is the development of managerial support based on the understanding of projects as generation of outputs. The majority of project definitions in the literature reflect an operational perspective: the work of a project consumes resources (inputs), to execute processes resulting in an output. The same authors suggest that an ancient definition of projects as means for attaining an agreed goal seems to have been forgotten for years, as only recently studies are supporting an outcome-focused approach for projects, in which meeting objectives, realising benefits and effecting change represent the real rationale for implementing a project (Zwikael and Smyrk 2009).

Therefore, this research attempts to understand how managerial practices can be improved to seize the opportunity of delivering change and contributing to achieving strategic goals through construction projects, better aligning project outputs to expected outcomes. The focus of this paper was on the analysis of the benefits realisation approach, which offers potential contributions to improve the strategic alignment of projects, and a case study on the BeReal model, which is based on such approach, was carried out. The model is being developed by a group of researchers at the Health and Care Infrastructure Research and Innovation (HaCIRIC), at the University of Salford, and is being tested in the development of healthcare infrastructure projects in the UK.

This paper is structured as follows. Firstly, a literature review on the benefits realisation approach is presented followed by a description of the BeReal model. Then the case study is described and the main findings discussed. The paper finishes with concluding remarks and directions for future research.

WORKING HYPOTHESIS AND SOURCE OF EVIDENCE

The hypothesis tested in the work was: *“the benefits realisation approach improves value generation by creating greater awareness of how project outputs will contribute to the achievement of expected outcomes and by pulling the decision making process based on the established benefit criteria”*.

Evidence to test such hypothesis was gathered through a case study in which the BeReal model was being implemented. The case study project is a large healthcare

redevelopment programme in UK that belongs to the National Health Services (NHS). The programme is an investment of £420 million through public funding for the development of the Regional Centre for Teaching, Trauma and Tertiary Care (3Ts programme), which completion is expected to 2019.

The case study was developed in the first semester of 2011 during the planning phase of the development: end of design efforts and towards the submission of planning permission at the city council. Data was gathered through 8 semi-structured interviews with project team members and document analysis.

LITERATURE REVIEW

THE BENEFITS REALISATION APPROACH

The benefits realization approach has emerged in the sector of information systems and technology during the 1990's. It was motivated by the low success of technology implementation on generating the expected business benefits to organisations (Thorp, 1998). Reiss et al. (2006) emphasise that there is a path from projects to benefits: projects have outputs and the combination of different outputs generates the capabilities that enable the desired benefits to be achieved. According to the same author, without the effective transition from outputs to outcomes, products and services remain only capabilities, or potential sources of benefits.

According to Thorp (1998) the need for managing benefits realisation is based on three premises: (a) benefits do not automatically appear when a project is delivered; (b) benefits rarely happen according to plan; and (c) realising benefits is a continuous process of envisioning results, implementing, checking intermediate results and dynamically adjusting the path leading from investments to business results.

In a previous IGLC paper the authors suggested that there are three main components of benefits realisation approach that offer potential contributions to the discipline of project management in construction (Tillmann et al. 2010). Such components are aligned with advances in project management discussed within the IGLC community: an underlying process of analysis and synthesis, suggested by Koskela and Kagioglou (2007) as the basis of design and planning; the importance of engaging stakeholders and managing their different expectations, that triggered the development of more participative approaches to project design (e.g. Christoffersen and Emmitt 2009); and adopting a systemic and dynamic view to project planning, a topic discussed by Howell et al. (1993) and by Ballard (2008).

Koskela and Kagioglou (2007) point out that when discussing about production and design, Aristotle suggests a method of analysis in which first the end is assumed and then it is considered how and by what means it is to be attained. It is a continuous process of envisioning the results and searching for the means to achieve the desired effects. Synthesis, in turn, provides the proof, the verification that the desired solution is possible (Koskela and Kagioglou 2007). Similarly, one fundamental aspect of the benefits realisation approach is to increase the predictability of benefits being realised through visualising the different possible paths from actions to results and to the generation of benefits, while constantly evaluating (Remenyi and Sherwood-smith, 1998). Zwikael and Smyrk (2011) emphasise the importance of establishing a governance structure and carrying out evaluation cycles to maintain the focus of projects on achieving the expected outcomes.

In addition, stakeholder commitment in this back-to-front approach is essential (Bradley 2006). According to the same author, if change is just imposed on people with no explanation of the reason why, then greatest resistance is generated. Success is much more likely when stakeholders are engaged in formulating the vision or at least influencing the shape of the change, and where they can see clear value, either for themselves, or for the whole organisation (Bradley 2006). The importance of engaging different stakeholders to discuss project values has also been explored in construction through the adoption of a value-based approach to design management, implemented and tested by a construction firm in Denmark (Christoffersen and Emmitt 2009).

Moreover, benefits realisation literature emphasises the understanding of projects as systems in which collectively identifying the many-to-many relationships between projects and benefits are essential (Reiss et al. 2006). Benefit mapping clarifies the route to benefits, the dependencies between projects, deliverables and benefits, as well as the distribution of budget and responsibilities. As a consequence, it provides basis for risk management, monitoring and budgetary control (Reiss et al. 2006). Continuous improvement is also emphasised, based on cyclic evaluations to enable learning and adaptation (Farbey et al., 1999). The importance of considering continuous re-evaluation of project means, ends and constraints is also discussed by Ballard (2008) and Howell et al. (1993).

Although benefits realisation attempts to mitigate similar problems discussed within the IGLC community, it also brings a contribution associated with a lean topic that is not frequently discussed in lean construction: *hoshin kanri*. Hoshin kanri is Toyota's approach for focusing on the challenge to deploy strategic intent and high-level policies into project planning and implementation.

Some challenges to achieve that have been identified in the benefits realisation literature: (a) the ability of setting the adequate measurements to track benefits realisation, since it is difficult to convert a policy vision or a business strategy into detailed and measurable statements (Bradley 2006); (b) the fact that some of the benefits may be secondary, non-expected and a result of changes that were made during implementation (Farbey et al., 1999); and (c) after the project has been delivered, generally the team is dispersed, representing a difficulty to set responsibility for the accountability of benefits (Zwikael and Smyrk 2009).

THE BEREAL MODEL

Rooke *et al.* (2010) argue that most of the Benefits Realisation Management Process (BRMP) can be conceived of in terms of knowledge management. The same authors explain that the knowledge managed here is the one required to transform benefits into requirements in the design phase, making sure such knowledge then is used to govern the production phase, and the project is properly monitored and evaluated based on the expected benefits and feedback provided with useful information.

The phases that constitute the model are described below (BeReal 2010):

a) Strategy Alignment Phase:

This phase brings together key stakeholder to build a collective vision of potential outputs and their impact on the programme and other business activities. A group of stakeholders is formed to translate high-level policy into realistic specific aims. A common understanding of the individual stakeholder potential benefits and

disbenefits is pursued in this phase. As a result, stakeholders get a list of strategic benefits, which characterise the purpose of the project and provide an overall guide for its success. Criteria for the design brief are set based on strategic benefits, providing focus for design development.

b) Elicitation Phase:

The aim of this phase is to breakdown the strategic benefits into sub and end benefits. *Sub Benefits* are specific targets linked to the strategic benefits that support the evaluation of design options, while *End Benefits* are specific targets that enable performance to be measured. Such level of benefits is defined through workshops with targeted groups of stakeholders. As a result, benefits of different levels (and disbenefits) are classified and characterised. Also, interdependencies among them are shown. This enables to create an evaluation structure for design options. All information generated in this phase is kept on the *Benefits Template*.

c) Optioneering Phase:

At this phase, design options are judged based on expected benefits and availability of funding. Stakeholders work on optimising their requirements, by weighting and ranking them. Then, the result is used to select a design option.

d) Pathway Phase:

At this phase, resources are allocated to specific benefits and associated activities. Stakeholders are engaged to agree on the pathway plan and set ownership for measuring and monitoring the realisation of benefits. The “*BeReal Case*” is a document that guides the pathway, it evolves during the delivery stage, can be used for a design assurance review, and also for guiding the operational phase.

e) Assessment Phase:

At the assessment phase, benefits are tracked and remedial action is taken as required. The assessment is carried out by interviews, questionnaires, post occupancy evaluation and other techniques. The *BeReal Case* is then updated with emerging measuring and monitoring outcomes. This phase should be seen as an on-going activity where stakeholders are engaged to assess the realisation of benefits.

CASE STUDY

The Brighton and Sussex University Hospitals NHS Trust (BSUH) is investing £420.1m through public funding in the development of the Regional Centre for Teaching, Trauma and Tertiary Care. Program completion is expected for 2019.

The program definition began with developing the strategy for health delivery. This definition process started in 2007 and was rooted on a myriad of policies (local, regional, national) for health delivery in the UK. Such definitions are carried out prior to the design phase, but that doesn't mean that further definitions to services could not be done during the design phase. This strategic planning phase is documented on the Strategic Outline Case (SOC). As part of developing the SOC, the Office of Government Commerce (OGC) recommends that the expected benefits from the investments should be stated. Throughout the program implementation the OGC assesses its progress and after completion, evidence should be provided that the expected benefits were achieved.

In the 3T programme, the justification for the investment is based on two main issues: a need to improve service delivery, achieving high standards that are also better aligned with NHS's policies for healthcare delivery; and the need to provide

adequate and modern built infrastructure to accommodate such services. The SOC document also mentions a desire to achieve that with efficiency, through the best use of resources.

THE BEREAL MODEL IMPLEMENTATION

The activities to adopt a benefits realisation approach in the project began before the implementation of the BeReal model, in that period, the guidelines of the OGC for benefits management was adopted. The activities related to the adoption of the BeReal model are detailed bellow, the first two listed activities were carried out prior to the model implementation:

1) Statement of expected benefits in the *Strategic Outline Case (SOC)* [pre-BeReal], published in 2007: part of standard procedure suggested by the OGC for governmental projects in the UK. Benefits were defined internally by the project team and documented in the SOC;

2) *Patient and Staff Design Forum* [pre-BeReal] in September 2008 was a workshop part of the Patient and Public Involvement (PPI) efforts which are required for this type of governmental projects. This workshop generated a list of design requests (very specific issues) that would later be analysed and addressed during the design phase. This list would later be included in the process of tracking benefits realisation.

3) A few months later, the HaCIRIC team join the project and carried out the first BeReal workshop: a *Benefits Criteria Workshop* with members of clinical and non-clinical staff. In the workshop, the benefits listed on the SOC were used as a starting point to review, reach collective understanding and document the programme expected benefits, in a very inclusive process.

4) After that, the HaCIRIC team facilitated the *Elicitation Workshops* with different staff groups to further detail the benefits previously discussed. The outcome of this workshop was a list of strategic benefits and sub-benefits, how they would be measured and who was responsible for realising them. The strategic benefits identified were: (a) generation of outcomes in compliance to NHS's strategic intent (health policies); (b) increased local access to healthcare services; (c) adequate facilities and facilities management; (d) improved clinical outcomes; (e) efficient and non-disruptive development and implementation process; (f) improved training, teaching and research skills; (g) improved management of service operations; and (h) better use of resources to deliver high quality care.

5) The definition of expected benefits was then used to support the selection of a building design option through a ranking and weighing exercise. First, the team asked participants to choose a design option (out of 5) intuitively. Then, the 8 strategic benefits were ranked in order of importance and a score attributed to their relative relevance. Design options were then evaluated based on how well they fulfil each expected benefit. Participants ranked the options by summing up the points given to the ability to fulfil each specific benefit.

6) After that, a benefits realisation group was established in the 3Ts to monitor the realisation and achievement of expected benefits throughout project implementation. A benefits leader was assigned and a sub-committee established. The work of the benefits leader started by compiling all the information gathered through the PPI

activities to create a baseline to compare the improvements when the new hospital is delivered.

7) Another activity was the re-alignment of the benefits identified during the workshops with the benefits described earlier on in the SOC. The idea was to build a concise framework to use for monitoring and checking the realisation of benefits. When this study was carried out, these were on going activities being developed with the support of the research team.

BEREAL MODEL CONTRIBUTIONS AND IMPLEMENTATION CHALLENGES

Bellow, the main contributions of the model and challenges of its implementation are discussed based on data collected in the interviews:

Providing means for a very inclusive planning process - One of the most positive aspects of adopting the BeReal model is that it was a very inclusive process. Engaging the different stakeholders (mainly patients and user groups) in the planning process was a very positive aspect, as in governmental projects, public involvement and acceptance is something highly desired and generally required by governmental authorities. However, it should be noted that a participatory processes can generate a large amount of information which is difficult to manage. According to the interviewees, a large amount of information about preferences and expectations was generated and some team members felt that it would be useful if they had a framework that would structure such information and clearly display the evaluation criteria that's is being used. Another challenge is knowing who to engage and when. Engaging participants on high-level discussions about strategic issues and expected benefits can be very difficult as they tend to express themselves in the level of spatial requirements.

Increasing awareness of expected outcomes - Increased awareness of the need to understand and track how project's outputs will lead to project outcomes was pursued by the establishment of a benefits realisation work stream and the definition of a leader that is responsible to find the appropriate ways of measuring these current and desired states, as well as engaging other people and defining responsibility for tracking those benefits over time. It was however observed that the benefits realisation work stream was segregated from other project activities. Other project team members were not involved on these activities and didn't have much awareness about what were the expected programme benefits.

Driving decision-making based on expected benefits – the BeReal model provided a rational decision making process to evaluate the different design options based on their ability to fulfill the expected benefits. Such process met OGC requirements for business case development. However, it was questioned if such approach, which is based on weighing factors and then selecting the option with the higher score really leads to choosing the best option. As participants were asked to intuitively choose an option beforehand, the question here is if decisions were really made based on the scores of individual attributes, or if the preferred option was chosen intuitively and then justified by giving it the higher ranks.

Providing means and methods for accountability - In many projects there is an attempt to comply with OGC rules and have a plan in which benefits are stated as

well as means for accountability. However, for different interviewees, their experience is that in most projects the expected benefits are rarely evaluated. The team gets dispersed after the project is delivered and no one checks if the intent of investment was achieved. It is expected that this project will be different, as the project team are planning the way they will measure it and assigning responsibilities through the benefits realisation work stream. However, a challenge is to balance rigor and relevance in the measuring system. Difficulty was found to find the adequate metrics to measure some of the expected benefits, particularly for the intangible ones. Similarly, difficulty was found to set metrics to assess the construction process and the expected benefits related to it.

Timing of implementation and external influences– Difficulties were also found in covering all strategic aspects in the model. This was associated with two problems: implementing the model in a later stage of development, after the expected benefits have been defined; and the need to pursue emerging opportunities, i.e. governmental funding for building something not initially in the scope of the programme. The initiative of pursuing such opportunity was not considered in the benefits realisation workshops and efforts.

DISCUSSION

The benefits realisation approach seems to have contributed in many instances for value generation in the 3T programme. Firstly, the engagement of different stakeholders to define the expected benefits from the project led to a holistic perspective of value generation, which extends the scope of designing the physical facility. Table 1 presents the expected benefits as defined in the project and the possible drivers for its achievement based on their analysis.

Table 1: Expected benefits of 3T programme and potential drivers for its achievement

Expected benefits	Drivers for its achievement
(a) Generation of outcomes in compliance to NHS's strategic intent (health policies); (b) increased local access to healthcare services; (c1) adequate facilities; (d) improved clinical outcomes; (h) better use of resources to deliver high quality care.	Planning of physical facility and planning the delivery of healthcare services (types of services, suppliers)
(e) Efficient and non-disruptive development and implementation process	Planning the production system
(f) Improved training, teaching and research skills	Planning new business for hospital, strengthening the research and development capability
(g) Improved management of service operations; and (c2) adequate facilities management;	Planning operations and facilities management

The BeReal model contributed to setting focus, from which the decision making process was pulled. Design decisions were made collectively, based on a framework agreed by the different stakeholder groups. Thus, the model enabled a collective process of analysis as suggested by Koskela and Kagioglou (2007) while planning how benefits would be measured sets the basis for synthesis.

The model also contributed to create greater awareness of how projects outputs would lead to the achievement of outcomes by establishing a specific workforce to help defining and measuring the achievements. The workforce focuses on project accountability but such effort could be improved if the rest of the team was better engaged on understanding what their contributions to benefits realisation were, as suggested by Bradley (2006).

However, the model has been adopted in this project with a major focus on establishing a formal method to plan for and evaluate the expected benefits of investments, complying with OGC requirements. Creating an environment for learning and improving driven by expected benefits as suggested by Farbey et al. (1999) was not the focus of the implementation. Also, understanding the pathway from the activities to the achievement of outcomes was not fully explored during the implementation. One reason for the model being adopted with focus on accountability might be related to the need to follow OGC guidelines and a concern to comply with procedures and follow strict checklists of requirements for each delivery package. Such environment seems to incentivise the team to focus on following procedures and avoiding deviations from plan (focus on planning and control), whereas a more flexible environment could better facilitate learning and continuous improvement.

Furthermore, similar challenges reported on the literature were observed in this study: the difficulty to set metrics to intangible expected benefits (Bradley 2006), difficulty to systematically include unexpected benefits that result from emerging opportunities (Farbey et al., 1999), and the challenge to assess achieved benefits given their long period of realisation (Zwikael and Smyrk 2011), a problem that the benefits realisation workforce set on this project attempt to mitigate.

CONCLUSIONS

The objective of this case study was to identify the contributions of the implementation of the BeReal Model for value generation in a healthcare redevelopment programme in the UK. The hypothesis tested in this study was that the model contributes for value generation by creating a greater awareness of how project outputs contribute to expected outcomes and by establishing a focus from which the decision can be pulled based on expected benefits. It was found that BeReal enabled a framework for participation in the programme development, a rationalised and justifiable decision-making process and a method for accountability over the benefits realised.

It was also found that the contributions of the model were not achieved in its full extent, i.e. clearly understanding the path between activities and the generation of outcomes, incentive to learning and improvement, and having a comprehensive framework that is constantly upgraded to reflect the project strategic vision. The reason for that seems to be related to the focus on complying with strict procedures and deadlines established by the OGC and the adoption of the model in a later phase of development. While adopting the model from the earlier stages might be beneficial, the rigid structures commonly imposed to governmental projects might be a hinder to innovation, learning and continuous improvement.

ACKNOWLEDGMENTS

The authors would like to thank the HaCIRIC team for enabling and supporting this research along with CAPES/Brazil. We would also like to thank the members from the 3Ts programme for their immense contribution for this research.

REFERENCES

- Ballard, G. (2008). "The Lean Project Delivery System: An Update." *Lean Construction Journal*, pp. 1-19. Retrieved from: www.leanconstructionjournal.org in May/26/2012.
- BeReal (2010) BeReal Model. Retrieved from: <http://www.bereal.salford.ac.uk/N/model.htm> in 03/04/2012.
- Bradley, G. (2006). "Benefit Realisation Management – A Practical guide to achieving benefits through change," Hampshire, UK, Gower.
- Christoffersen A. K. and Emmit, S. (2009). "A Value-based Approach to Design Management." in Emmit, S.; Prins, M and Otter, A. *Architectural Management: international research and practice*. Wiley-blackwell 2009.
- Farbey, B., Land, F. & Targett, D. (1999). "The moving staircase – problems of appraisal and evaluation in a turbulent environment." *Information Technology and People Journal*, 12, 238-252.
- Howell, G.; Laufer, A. and Ballard, G. (1993). "Uncertainty and Project Objectives in Project Appraisal." 8, pp. 37-43. Guildford, England: march, 1993.
- Koskela L. and Kagioglou M. (2007). The Proto-theory of Design: the method of analysis of the ancient geometers. *Strojarsstvo* 49 (1) 45-52.
- Reiss, G., et al. (2006). *Gower Handbook of programme management*, Gower Publishing: Hampshire, UK, 712p.
- Remenyi, D.; Sherwood-Smith, M. (1998). "Business benefits from information systems through an active benefits realisation programme." *International Journal of Project Management*, v.16, pp. 81-98.
- Rooke J. A.; Sapountzis, S.; Koskela, L. J.; Codinhoto, R.; Kagioglou, M. "Lean Project Management and the Problem of Value." *Proceedings of the 18th International Group for Lean Construction Conference*. Haifa, Israel, 14 - 16 July 2010. Walsh, K.; Alves, T. (Eds.). Technion Israel Institute of Technology, pp. 581-590 2010.
- Thorp, J. (1998). *The Information Paradox: realising the business benefits of information technology*, Toronto, Canada, McGraw-Hill.
- Tillmann P.; Tzortzopoulos, P. and Formoso, C. (2010). "Analysing benefits realisation from a theoretical perspective and its contribution to value generation." *18th Annual Conference, International Group for Lean Construction*, Haifa, Israel, July14-16 2010
- Winter M.; Szczepanek,T. (2008). "Projects and programmes as value creation processes: a new perspective and some practical implications." *International Journal of Project Management*, 26, pp. 95–103.
- Zwikael, O. and Smyrk J. R. (2009). "Towards an Outcome Based Project Management. Theory." *Proceedings of the 2009 IEEE IEEM*, 633-637.
- Zwikael, O., Smyrk, J. R. (2011). *Project management for the creation of organisational value*. London: Springer.