

Process Improvement Benefits Realization: Insights from an Australian University

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Abstract. This case study narrates the experiences of an Australian university that has undergone an enterprise process improvement initiative. The rich details discussed in the case study provide insights into the actions and interventions taken by the key stakeholders to plan, execute, and sustain a robust benefit realization strategy, which led to successful process transformation. The key lessons learnt explain the challenges faced by the university and how a well-designed benefit realization approach assisted in gaining stakeholders' buy-in for process improvement initiatives. The outcomes emphasize the importance of a benefit realization strategy to capture, materialize, and align process improvement objectives with the strategic goals in an educational environment, leading to successful process transformations. The findings also provide rich insights into benefit management for process improvement strategies in the tertiary education industry.

Keywords: Benefits Realization, Benefits Realization Management, Business Process Improvement, Process Improvement

1 Introduction

Higher education institutions play an important role in society; as a portal to individual success and socio-economic development (Drăgan, Ivana, & Arba, 2014). Globalization of education providers and new business models emerging with the disruptive technologies are rapidly changing the shape of higher education industry. Universities are under pressure due to strong demand, increasing global competition for students, international rankings, government regulations and educational reforms. They are also regularly criticized on their lack of readiness to handle the market forces and dynamically changing environment. Higher education institutions are regarded as expensive and difficult to align with other national priorities by the government. They have also been faced with severe funding restrictions in recent times (Coaldrake & Steadman, 2013). According to Coaldrake and Steadman (2013), universities should not depend upon the market or the government but take responsibility and initiative for adapting to the changing environment. Such organizational transformations initiatives can be achieved through business process management.

Organizations invest substantial amounts of resources in process improvement projects (Bradley, 2010; Braun, Mohan, & Ahlemann, 2010), as a means to survive, thrive

and to develop a competitive advantage in rapidly changing environments. Process improvement projects (when managed and delivered appropriately) are known to result in significant impacts and benefits. However, there is very little guidance available to capture these benefits or even to identify how the benefits are materialized. Moreover, projects still fail on a large scale as organizations do not ensure the achievement of strategic objectives when managing the projects (Doherty, Ashurst, & Peppard, 2012; Serra, 2017).

Serra (2017) argues that the success of a project depends on two criteria; project management performance and creation of business value. Project management performance is adhering to the budget goals, schedule goals and delivering the output of the project. Business value creation is delivering the expected outcomes and return of investment, managing and monitoring the undesired outcomes, making sure that the project outcomes align with the business strategy, and are the same outcomes the business case planned to deliver. Organizations lose a large amount of money as projects fail to deliver the business value, even when they fulfil the project management performance criteria (Braun, Ahleman, & Riempp, 2009).

There is often a ‘value gap’ between an organization’s current status and target future status. New capabilities and changes from the project outputs fill this gap. The improvements resulting from these capabilities and changes are the benefits achieved by the organization. Hence, benefits increase the business value. Therefore, benefits delivery is important for a successful value creation. As defined by Serra (2017, p. 11) “benefits are measurable and quantifiable improvements, which are normally expressed in financial terms, so they can justify any investment that may be required from the business”. They can be tangible or intangible (Braun et al., 2009).

“Benefits Realization is a process to make benefits happen and also to make people fully aware of them throughout the entire process”(Serra, 2017, p. 11). Project Management Institute (2019, p. 8) defines *benefits realization* as the “integration of gains resulting from the use of outputs of portfolios, programs, and projects” and *benefits realization management* as “the day-to-day organization and management of the effort to achieve and sustain planned benefits arising from investment in portfolios, programs, and projects.” Although organizations continue to invest millions of dollars in process improvement projects, there is very little guidance or examples on how to conceptualize and capture the benefits that these initiatives actually materialize. It is often reported as a major challenge organizations face (Project Management Institute, 2019). Failing to realize the process improvement benefits can be harmful to the reputation of the BPM discipline.

This case study captures the experiences of an Australian University, Queensland University of Technology (QUT); narrating how organization-wide process improvement efforts emerged as a call for cost efficient, effective service provisioning, where Benefits Realization became a central theme that had to be addressed, to present the visible value in order to get the buy-in of a complex stakeholder-mix. Given the very minimal guidelines available, QUT embarked on their own journey towards building and deploying a process improvement benefits realization framework, which is presented in detail here.

The rest of this paper first presents the context; introducing the case and the as-is situation, and then proceeds to explain the actions taken, concluding with a summary of the results achieved and the lessons learned. Additional information to supplement this case study's content is provided as Ancillary Material (available at <https://drive.google.com/open?id=1zIcAiWcfv2tl9fipyThrJw5MNeZY3k-c>).

2 Situation faced

2.1 Introducing the case context

Queensland University of Technology (QUT) located in Brisbane, Queensland, Australia was founded in 1989. It is an established university with over 48,000 students and more than 13,000 staff members. QUT is among the top 20 young universities in the world in two international rankings, the 'Times Higher Education (THE) Young University Rankings' and 'QS Top 50 Under 50 rankings.'

As an outcome of its periodic corporate reviews, QUT recognized the need to address operational inefficiencies as part of the required organizational transformation. It was identified that administrative business processes at the university highly contributed to resource costs, time delays, diminished services, inefficiency, duplication, parallel effort across Faculties and Divisions and also created re-work. As a result, in November 2016, Professor Peter Coaldrake, the (recent ex-) Vice Chancellor and President of QUT, proposed and laid the foundation for the 'eForms and Workflow project' to improve business processes. This project was implemented with the initial expectation of delivering significant savings and a rapid Return on Investment.

However, with the progress of the project the objectives further developed from mere automation of forms- as to add value to services, reduce risk and improve overall quality and the user experience. It was recognized that the challenges cannot be solved solely with technology solutions and a new governance structure should be established to identify, map and propose holistic university wide approaches to the key business processes. To address this requirement the project was transformed to the 'Enterprise Business Process Improvement (EBPI) project' in October 2017, which later became the 'EBPI program'. In December 2018, the 'Business Process Improvement Office (BPIO)' was established as a BPM Centre of Excellence to support continuous process improvement and automation across QUT.

The BPIO derives a range of benefits including improving user experience, visibility and control and reducing effort, cost and risk etc., through the process improvement initiatives. However, as every other organization practicing BPM, QUT also struggled in positioning and communicating these benefits and their impacts to the university. Thus, it was essential to have a mechanism to identify specific, measurable, achievable, realistic and timely benefits that can be harvested by the university to contribute towards the university objectives. A Benefits Realization Management (BRM) approach was introduced to cater for this requirement.

2.2 The commencing status

QUT has a ‘transactional’ business process improvement (BPI) approach; ensuring transactional excellence with a concentration on net cost reduction and service improvements (Weatherhead, 2015). Even though every project should have a strategy and a plan to realize project benefits, prior to the implementation of the EBPI program, QUT did not have a Benefits Realization Management (BRM) process for process improvement projects. It was not common in the university to develop business cases for projects. Therefore, business cases available on completed and on-going projects were limited, creating an absence of benchmarks. There was no benefits-reporting mechanism, nor a categorization of benefits put in place.

The BPIO also faced other challenges such as lack of existing BRM frameworks that support a continuous process improvement methodology and lack of guidance to implement BRM in the higher education context. After an environmental-scan seeking for guidance, which proved the lack of any actionable guidance, QUT BPIO decided to establish a BRM process that would; (i) manage projects to align project benefits and outcomes with the organization strategy, (ii) identify benefits and benefit categories during the project design/ redesign phase (planned benefits), (iii) measure, benchmark and report project outcomes and benefits, (iv) determine the scale of process transformation required to perceive the planned benefits, (v) communicate with the top management to inform the project progress and gain their support, and (vi) establish the proper background required to deliver successful project outcomes.

3 Actions taken

QUT’s BPIO developed and implemented a BRM approach with an in-house BRM framework to ensure its process improvement projects and programs are carried out to deliver outcomes which will realize the anticipated benefits. A BRM framework is defined as “an integrated set of governance and management practices designed to define, develop, deliver, and sustain planned benefits derived from the outputs of portfolios, programs, and projects” (Project Management Institute, 2019, p. 25). The QUT BRM framework captures the steps that needs to be actioned as a multi-staged process, outlining the resulting artefacts and required resources to deliver the outcomes in each stage.

This BR stages are well aligned to the already established and well institutionalized continuous BPI lifecycle at QUT (see **Fig. 1**) which consists of five stages namely; discovery, analysis, redesign, implementation and monitoring (see Ancillary Material Part B for further details). It was designed to align with core QUT strategy, by focusing on key performance indicators; ‘Graduates, Learning and Teaching’, ‘Research and innovation’, and ‘People, culture and Sustainability’. It guides QUT in the process from identifying benefits to delivering them, as well as in sustaining the realized benefits through proper monitoring.

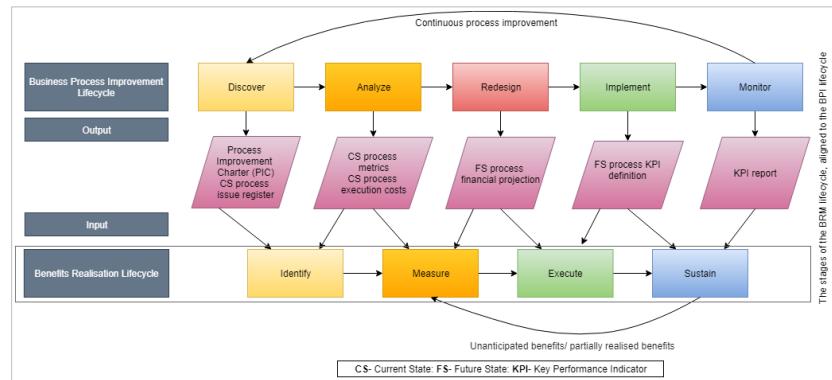


Fig. 1. Alignment of BR lifecycle with BPI lifecycle

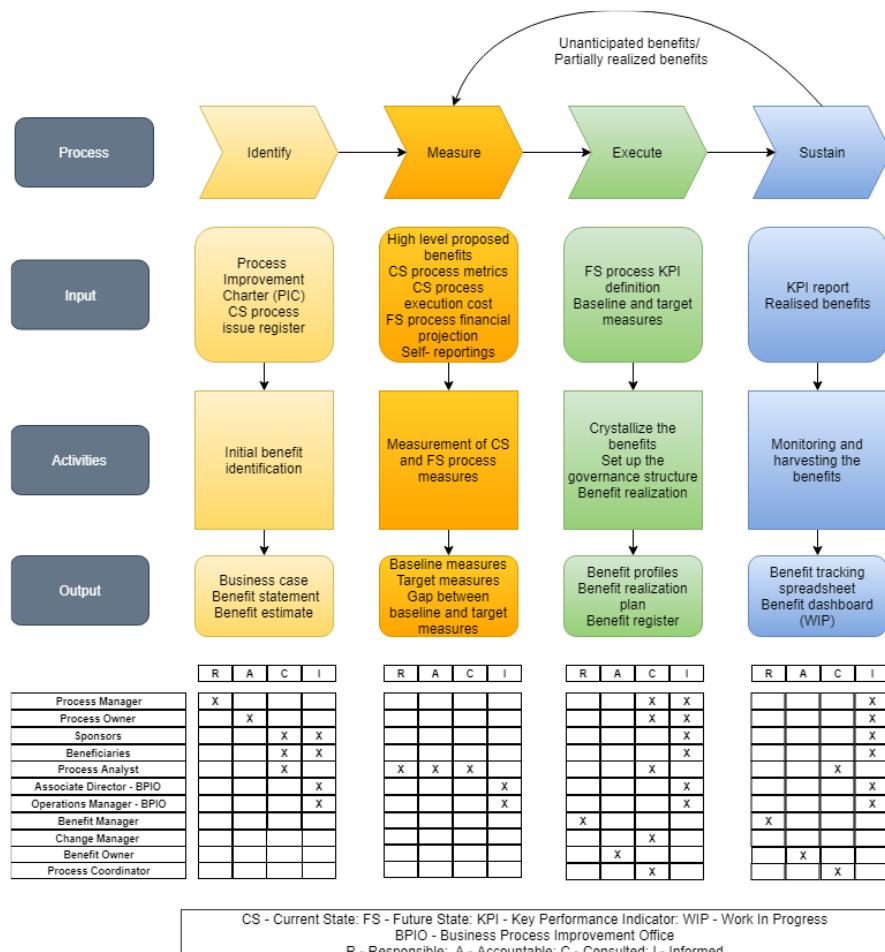


Fig. 2. An overview of QUT's BRM framework

As detailed in **Fig. 2**, QUT benefit framework has four stages namely; identify, measure, execute and sustain (each outlined in detail below). The QUT BRM framework also has clear governance wrapped around it, which aligns with the BPM governance and the corporate governance already institutionalized within QUT (see **Fig. 2** for an overview of BRM governance and Ancillary Material Part A for detailed descriptions of roles). The roles, responsibilities and accountabilities are assigned to designated individuals throughout the benefits realization lifecycle. This approach also ensures the identification and alignment of stakeholder involvements across different organizational hierarchical levels and areas. BRM involves variety of roles with different levels of engagement.

- **Governance roles:** Process Manager, Process Owner, Associate Director- BPIO, Operations Manager – BPIO
- **Stakeholder roles:** Sponsors, Beneficiaries, Benefit Owner
- **Managerial roles:** Process Coordinator, Benefit Manager
- **Specialist roles:** Process Analyst, Change Manager

3.1 Stage 1: Identify

The first stage of the BRM framework is in relation to identifying the benefits, that a project or program that is investing in process improvement expects to deliver; this is captured at a high level. This identification is heavily engraved with the ‘discovery’ and ‘analysis’ stages of process improvement methodology, particularly in relation to the process improvement charter (PIC) (see Ancillary Material Part C). The PIC is a mandatory document for a process improvement initiative that consists of a business case, where the anticipated benefits needs to be captured by the process analyst of BPIO and signed off by sponsors.

Hence, in the identify stage a business case, where benefits and the ROI are described in sufficient detail to demonstrate the impact of the process improvement and therefore justify the effort expended, is created by the BPIO. The business case is important to ensure that the originally intended benefits are delivered and the funds are spent appropriately. It also enables communication to align a diverse set of interests amongst the diverse stakeholders and provides a clear understanding to all stakeholders and beneficiaries, so that they can make informed decisions on the eventual means of realizing these benefits.

Benefits are identified in this stage in relation to the issues to be addressed. This is very much related to the transactional/ incremental process improvement paradigm followed by QUT. Insights to the issues are gained from the early analysis done as part of the process improvement discovery and analysis, and the addressing of these issues are then converted to planned or anticipated benefits. The benefit identification is done in collaboration by the BPIO and the business unit. As part of the business case, a benefits statement and a benefit estimate are documented. The benefit statement details the issues faced by the process and provides a consolidated view of benefits that can be gained by resolving those issues (documented in a few paragraphs), while the benefit

estimate states the financial and non-financial evaluations of the process benefits in few bullet points.

Once completed, the business case is reviewed by the BPIO operations manager, process coordinator and change manager. It is then approved by the associate director on behalf of the BPIO and the process owner on behalf of the business unit. Business cases are prioritized according to impact and effort, and a basic readiness assessment is conducted to ensure the selected business unit is capable of committing to the process improvement initiative.

3.2 Stage 2: Measure

Once the benefits are identified, the EBPI team embarks into quantifying the benefits. Both baseline and target measures are collected in this stage by the process analyst. The gaps between the current state measures and future state measures are then calculated. The measurement method, frequency and the tools needed to measure the benefits (if any) are also determined at this stage.

First, the insights from the analysis stage of the process improvement methodology (as mentioned above, see Ancillary Material Part B) are used. The output of the analysis stage, current state process metrics and current state process execution costs, are used to derive the current state measures and key performance indicators (KPIs). These are used as the baseline measures.

In the absence of comprehensive KPI data for process execution timescales and costs, self-reporting estimates are obtained from process participants by running workshops and baselined during the capture of the As-Is process model. KPIs can be of varying units of analysis such as KPIs for different roles, transactions, departments, faculties, divisions or the organization as a whole. Therefore, benefit quantification is taken place in multiple levels and these can be interrelated. For example, the KPI of an individual can impact the KPI of the department he or she is employed in. The lack of baseline measures has been an ongoing challenge. It can impact the data quality and also the end-to-end BRM process; it adds to the overall BRM effort and resourcing (i.e. when workshops need to be run etc.).

Next, the future state process model, process documentation and the process financial projection from the redesign stage of process improvement methodology are used to quantify the target benefits, and the future state measures and KPIs are collected. For financial benefits, volume data is taken over a three-year period in order to identify and account for trends, and rather than attempt to capture the variety of pay rates for each individual participant in a process, an average rate is estimated by role.

3.3 Stage 3: Execute

At this stage, the future state process models are created in the redesign stage of process improvement methodology and the process related changes are decided. The objectives of this stage are to crystallize the benefits and to set up the appropriate governance structure around benefits realization. A clear governance structure with designated roles

for accountability and responsibility of realizing the planned benefits and investing appropriate levels of resources is essential for the overall success of BRM. Communication is also paramount for the success of this Execute stage.

First, the change manager together with the process analyst, process owner and process manager, define and organize the planned benefits. Benefits are primarily categorized as financial and non-financial benefits, for reporting purposes. Non-financial benefits are further classified according to business drivers, which are aligned with QUT's organization strategy (see Ancillary Material part E).

The change manager then liaises with the business unit to assign the governance roles of BRM. A benefit manager responsible for benefit realization is selected for each individual benefit and the benefit owner is made accountable for the benefit. Process analyst together with the benefit owner, create a benefit profile (see Ancillary Material part F) for each benefit. Benefit profiles, which include the measurements of current state and target state KPIs, the method of measurement, risks and mitigations etc., describe benefits in more detail and record information to analyse the planned benefits, define the extent of the improvement that the benefit will deliver, ensure an appropriate person is accountable for delivery of the benefit, prioritize benefits, clarify the project outputs that are needed to enable the benefit, ensure strategic alignment and monitor the progress of realizing benefits.

All the benefit profiles are recorded in a benefit register. The benefit register is a single spreadsheet which supports monitoring by filtering information across all the benefit profiles.

Next, the project change manager engages with the business unit to conduct a readiness assessment (see Ancillary Material part D) to assess the feasibility of achieving the targets. Once identified, the business unit will negotiate with the analyst on a target benefit that they are comfortable to deliver and if BPIO feels more is achievable, a stretch target is set. Accordingly, a final decision on the target benefit achievement is made and, the benefit owner and the benefit manager sign off the benefit profile.

Some of these benefits are realized immediately post-go-live. For example, benefits such as increase in accuracy are derived as soon as a manual process is automated. However, most benefits take a longer time to manifest. In such cases it is essential to have change management initiatives put in place to gain the expected outcomes. The process analyst and the benefit manager, then create a detailed benefit realization plan (see Ancillary Material part G). Once the plan is established and agreed upon, the benefit manager begins execution of the plan with the support from the change manager in the implementation stage of the process improvement methodology.

The following factors concerning benefits are addressed in the development of the benefit realization plan;

- Engagement and acceptance of the plan by the key stakeholders and beneficiaries.
- Assignment of roles, responsibilities and accountabilities for benefit delivery.
- Impact of the planned benefits on the project funding.
- Business problems to be resolved.
- Operational obstacles and risks, potential disbenefits and management plan to minimize or avoid disbenefits.

- Pre-requisites for change to occur.
- Timeframes for delivery and harvesting.
- Method of measurement.
- Monitoring and reporting mechanism.
- Develop communication materials.
- Adequate documentation for benefits.

It is important to identify the risks, both discrete process risks and overall risks that can impact the organization, when developing the benefit realization plan to further monitor and address appropriately. Risks can also be ‘dis-benefits’, a measurable negative impact that might occur as a direct consequence of implementing a particular solution to realize benefits in one process, to other stakeholders and beneficiaries.

3.4 Stage 4: Sustain

Once the redesigned process is implemented, the process analyst in charge of the process monitors the benefit realization progress of all process benefits. Monitoring is a checkpoint activity conducted at agreed stages, which varies according to the benefit (ideally every 3 months), until the benefit realization plan ends. The data is collected regularly by the analyst and the benefit owner to review against the targets to determine if the benefits are on track to deliver. During monitoring if an unanticipated benefit emerges as the initiative develops, deployed or implemented, it is captured and directed to the BRM measure stage, after discussed at the monitoring meeting with the process owner. These unanticipated benefits can be outcomes of anticipated benefits; direct causal results or qualitative benefits such as improved customer satisfaction, risk reduction etc. If a disbenefit is captured, the best course of action to avoid or mitigate it is taken. This can be done as a support case or as a new process improvement activity.

Monitoring is important for varying reasons. It provides insights and trends that can forecast the process performance and, gives new directions to perform incremental process improvements. It also helps to identify and address unanticipated issues better, optimize the process to improve the degree of benefit, realize the potential to make new modifications that can lead to further process improvements, and fully realize partially realized benefits in the next iterations of the process improvement.

At every stage of monitoring, the BPIO pays special attention to the benefits tracking process, benefit measurement and budget concerns. It is essential to identify appropriate, measurable and a clear set of metrics that can address both tangible and intangible benefits during benefits tracking to achieve successful benefit monitoring outcomes.

Once delivered, ‘actual’ benefit achieved can be harvested. Each benefit plan contributes to an overall benefit realization plan for the project. Harvesting of identified financial benefits (where relevant) progressively after implementation at either the Triennial Budget or Mid-Year Forecast. Some anticipated benefits will not start to materialize until after the process improvement has been delivered in its entirety (such as a technology solution that enables workflows and automation). It is therefore recommended that the benefits realization plan is maintained beyond the initial (non-tech) solution delivery phase through to complete realization and that secondary benefits are

harvested when the opportunity is next available. As each process is re-engineered and each benefit is identified and profiled, they are included in a benefit tracking spreadsheet.

The BPIO plans to develop a benefit dashboard applying the spreadsheet data, to report progress against the predicted benefits more vividly to suit different stakeholder needs. The dashboard will also identify the status of a benefit using a Red Amber Green traffic light system. For example, if during a review a benefit is recognized as unachievable, it will be flagged in red to identify mitigations that can be put in place to get it back on track. By the creation of a dashboard, QUT BPIO aims to monitor the process performances, discover the reasons to not fully realizing the anticipated benefits and ensure that BRM is planned and managed holistically to achieve objectives and strategic goals of QUT.

4 Results achieved

The concept of creating a business case for every project was introduced as a result of the benefit realization process. This led to identification of likely benefits very early on in the process improvement lifecycle, creating awareness across all process stakeholders about the benefits, increasing receptiveness towards unanticipated benefits and conducting a benefit estimation. Current state measures and baseline KPIs are now readily available for university wide processes. Such new information that came into existence due to BRM has supported the university to better analyse its processes. BRM has also ensured the alignment of benefits to QUT strategy and objectives.

The benefit reporting mechanisms has now become well established and transparency on different types of benefits derived by QUT process improvement initiatives is more readily visible. Benefits categories formed by grouping the benefits supports in managing their realization and communicating about project outcomes with stakeholders effectively. This has led to a better understanding on both financial and non-financial benefits, and also efforts to recognizing and quantifying non-financial benefits.

Process efficiency has improved, resulting employees to move to higher value adding activities. This has impacted the employee morale positively. Process stakeholders and beneficiaries are aware of the benefits since the beginning and have designated roles and responsibilities in the BRM lifecycle. This sense of responsibility indirectly results in employee satisfaction.

Monitoring process keeps track of the benefits and gives insights on the process performance. Moreover, it has assisted in identifying new directions to perform incremental process improvements and unanticipated issues. BRM has paved a road to harvest project benefits and contribute towards the overall university objectives.

5 Lessons learned

- Benefits realization framework for continuous process improvement

Even though there are many benefits realization frameworks, most of them are associated with the project management discipline. In such frameworks, benefits are usually reported at project delivery. However, as business process management is a continuous process improvement initiative, often with multiple ongoing process improvements projects, rather than a single project with a few benefits where the start and end of the work is known, it is important to track and monitor benefits frequently. QUT BPIO found it a challenge to find a framework that supports benefit realization and reporting for continuous process improvements, where benefits are a growing entity that derives insights to the incremental stages of the process improvement initiative.

- Benefits realization framework for higher education industry

Benefits realization approaches are widely used in manufacturing, transport industry, health industry etc. There are very limited resources on the use of benefits realization in higher education industry. Even though many universities have implemented process improvement initiatives, there is a dearth of guidance on how they harvested the benefits from these initiatives.

- Collecting current state measures

As QUT did not have a proper measurement system prior to the EBPI program, it was a challenge to collect the current state measures and KPIs that are used as the baseline measures. In the absence of comprehensive KPI data for process execution timescales and costs, self-reporting estimates are obtained from workshop participants and baselined during the capture of the As-Is process model. These workshops were conducted over a period of four weeks. Self-reporting estimates are not always reliable as the time spent on executing a task depends on many aspects such as the individual performance, knowledge etc. It was a challenge to extrapolate accurate measures from self-reporting.

- Quantifying qualitative benefits

Apart from the financial benefits such as cost reduction, increase in income etc., there are many non-financial benefits that are harvested in process improvement initiatives. However, quantifying these benefits are a challenge. For example, if a re-engineered process reduces the risk by adhering better to rules and regulations, there is a huge impact by this process on the business. Nevertheless, giving a monetary value on this benefit is a challenge. Quantifying the reduction of risk can be the funds saved by not having to pursue legal actions etc. Such decisions are taken by the business (top management), not the EBPI service. Benefits such as saving the employee time by reducing rework, allow the employee to engage in higher value-added activities. But reporting it in terms of a dollar saving is complicating. In the case of QUT, the money saved is calculated by (hours saved x salary per hour). Harvesting this money is again a responsibility of the business (head of divisions and top management), not the BPIO.

- Institutionalising the BRM

Even though the EBPI team develops the benefit realization plan, individual business units are responsible for reaping the benefits. It is a challenge to get the business units

to own the process, be responsible and accountable for deriving the benefits. It is also a challenge to get business units to settle for the target measures BPIO deem as achievable. QUT has embraced flexibility when negotiating the planned benefits and realizing them by addressing variations to planned timelines and unexpected changes. Sometimes a resistance for adopting the process changes and new frameworks can also be seen. BPIO has introduced a concept of displaying flyers (see Ancillary Material Part H) on the process improvements and their impacts to encourage and reinforce the adoption and to build the right BRM culture. Change management and communication plays a huge role in the process of institutionalising the BRM.

- Cumulating project benefits to overall university objectives

Individual business units harvests benefits. But the BPIO need to cumulate these benefits and report their overall outcome towards the objectives and strategic goals of QUT. Reporting and communicating about the cumulative impact of process improvements carried out across the university is very important to rationale the funded investments and to encourage the organization to continue the investments. BPIO plans on implementing a dashboard to address this challenge.

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