



CORPORATE AND  
TRANSACTIONAL

## buildingDIRECT's Business Process Improvement Project

### Summary

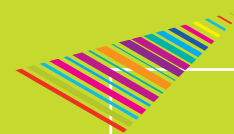
buildingDIRECT is a non-subsidised arm of Nottinghamshire County Council that is responsible for providing a 24/7 maintenance service for buildings within the County Council property portfolio. buildingDIRECT also undertakes site condition surveys (including asbestos, gas, electrical testing and legionella), provides professional and technical advice to clients regarding Disability Discrimination Act projects, and undertakes minor design and build projects.

buildingDIRECT's *Business Process Improvement Project* (BPIP) was concerned with examining how business improvement techniques could be used within the organisation to help it become the lowest cost provider of high quality building and maintenance service for Nottinghamshire County Council.

The project was also concerned with achieving the highest possible improvements in-line with guidance from the Rethinking Construction agenda.

The project followed a structured approach using appropriate business improvement models and various lean manufacturing techniques. As the project was delivered from within the organisation it allowed participating staff members to learn and practice lean techniques and also meet the requirements of a *Business Improvement Techniques* National Vocational Qualification (BIT NVQ).

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## Project background

The backdrop for the initiation of the BPIP was the ever present government mantra to deliver end-user service improvements and efficiency savings, combined with buildingDIRECT's desire to improve its working practices and streamline its processes. buildingDIRECT also sought to change the culture within its organisation, and finally to demonstrate that buildingDIRECT delivers value for money services for Nottinghamshire County Council.

To achieve this buildingDIRECT had to prove that they were not simply concerned with becoming the lowest cost provider and sought to develop processes that would deliver mutual benefit for all parties based on a target and whole life cost approach, using performance measurement to underpin continuous improvement, cultural process changes were also targeted in order to ensure that collaborative - and not confrontational - working was achieved during and after the BPIP project.

The BPIP followed a structured approach and used appropriate business improvement models and various lean manufacturing techniques. The project was structured to enable staff from within the buildingDIRECT team to develop key skills and capabilities that would meet the requirements of a universally recognised BIT NVQ award. The practical activities associated with the project generated enough naturally occurring evidence to allow staff to qualify for the NVQ award.

The NVQ training programme was delivered by West Nottinghamshire College via Qualitrain Ltd with the lifecycle of the project lasting 10 months and targeting real business problems.

### Training aim is to provide:

- NVQ Level 4 qualification in Business Improvement Techniques to EAL standards
- a progressional route and level of extra training suitable for enrolment onto the BIT Foundation Degree
- support for the management team to create a working BIT project plan for Nottinghamshire County Council.

In total 12 employees at buildingDIRECT participated in the BPIP and undertook the NVQ award, this included staff members from all levels within the organisation and included the Head of Service, Commercial Manager, Health & Safety Manager, Procurement Officer, Condition Survey Officer, Electrical Estimator, Building Supervisor and Information Management Officer.

The BPIP team threw themselves in at the deep end and targeted long standing problems, and in real time addressed each issue. The team initially focused on its purchasing department because of its central role in the organisation and interaction with every other department.

One of the first projects set out to reduce the amount of storage space for building, electrical and mechanical materials. The aim was to deliver materials to site when required, thereby reducing storage costs and travel time for buildingDIRECT's operatives. This was achieved by arranging for suppliers to deliver goods direct to site and resulted in the closure of buildingDIRECT's stock holding area. This also eliminated the need for operatives to return to base to collect materials. The direct cashable benefits by eliminating the storage space equalled £6.5k pa in rent saved, whereas the reduced travel time enabled the operatives to be more productive resulting in lower project costs and non-cashable savings of £33.5k pa.

### How were the projects and savings identified?

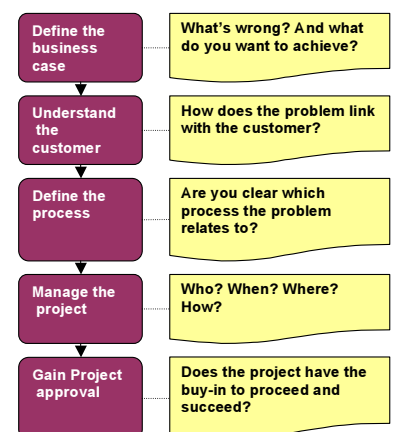
buildingDIRECT followed the classic Define, Measure, Analyse, Improve and Control (DMAIC) process used in Six Sigma methodologies. The key stages of DMAIC and its relation to the buildingDIRECT project are detailed in the following sections:

#### Define (Jan – Feb '07)

During the first four weeks of the program buildingDIRECT established individual work related projects that would enable team members to gather evidence towards achieving the Level 4 NVQ in BIT.

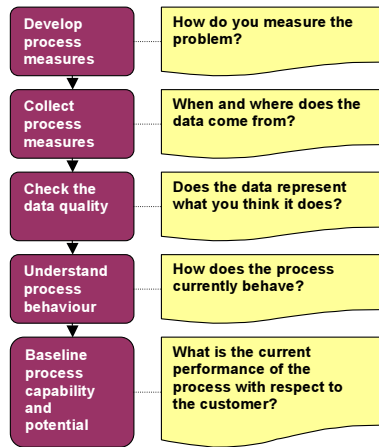
In this stage buildingDIRECT concentrated on methods designed to help them to define business improvement opportunity, thereby allowing them to determine what and where the problems were. buildingDIRECT examined the Quality, Cost and Delivery (QCD) and Quality, Reliability and Service (QRS) requirements of the customer and their relevance to business improvements within the bounds and constraints of the organisation.

Figure 1. The Define Stage



## Measure (Feb – Mar '07)

Figure 2. The Measure Stage



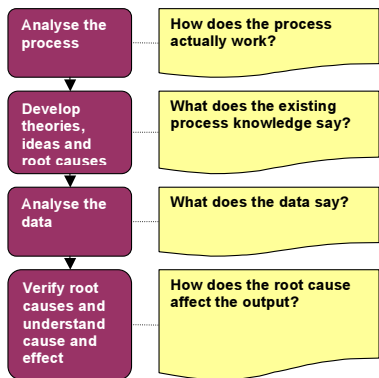
The Measure phase established a datum in terms of process performance through the development of clear and meaningful measurement systems. The measure phase also built upon performance data held by the organisation and allowed buildingDIRECT to fully understand the historical behaviour of its process.

buildingDIRECT compiled numerous departmental Key Performance Indicators (KPI) based around the customers requirements, before examining which KPI's best determined the needs of the customer. When this stage had been finalised buildingDIRECT were able to take their first measurement of 'current performance' and create a baseline from which to measure future BPIP achievements.

This part of the process was surprisingly detailed and rigorous and enabled the team to gather a large amount of evidence based work for the NVQ.

## Analyse (Apr – May '07)

Figure 3. The Analyse Stage



buildingDIRECT utilised various analysis techniques under the Business Improvement Techniques umbrella to determine the true problems in their processes and organisation. Various quality improvement tools also helped to solve these problems and present the order in which problems should be rectified.

The analyse phase identifies critical factors of a good product or service, and the root causes of defects. It has less of a logical flow but functions more as a toolbox of tools and techniques. The first two steps of Analyse are also referred to as the 'Process Door' because they aim to understand and gain clues directly from the process itself.

The tools focus on gaining an in depth understanding of how a process really works, and so most of them involve the people who know the process best - those

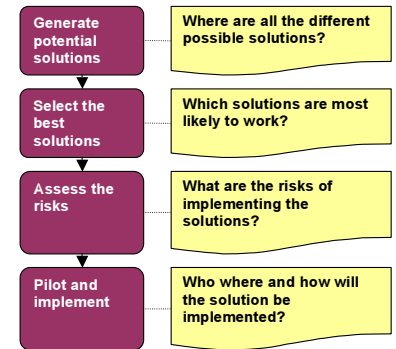
who 'make it happen' The last two steps are also referred to as the 'Data Door' because they focus on gaining clues and understanding from the data itself. These tools include a range of graphical and statistical tools to analyse the data.

## Improve (Jun '07)

Once the analysis process had identified the improvement priorities buildingDIRECT was able to implement an assortment of lean improvement methods.

The effect of the new solutions was later measured against the KPIs developed during the measure phase.

Figure 4. The Improve Stage



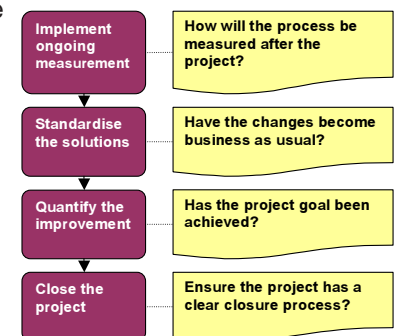
The success of the improve phase was not based upon the successful implementation of the selected solutions, but instead when the process measurement KPIs had improved and been validated with appropriate statistical techniques (graphs and hypothesis testing). The KPI charts were updated regularly and reviewed during each of the BPIP project training meetings.

Several of the NVQ units were embedded within this implement phase and the team were able to obtain further evidence and the minimum knowledge requirements to satisfy the majority of the award at this stage.

## Control (Jul '07)

The Control phase was used to ensure that the solutions implemented by buildingDIRECT became embedded into daily processes and ensured that any improvements could be sustained after the project had formally closed, this would prevent 'old' problems from re-occurring.

Figure 5. The Control Stage



Each of the new processes had a rigorous data collection system in place before the project was closed, this involved defining who was responsible for collecting and reviewing the KPI data, as well as ensuring that the measurements had been integrated into the services/organisations KPI trees.

Once satisfied that an improvement was controlled buildingDIRECT re-measured their KPI's to check whether an improvement had been successful or not. If an individual project had not been successful it was re-analysed, if successful the team moved on to the next problem and started the DMAIC cycle all over again.

### Benefits achieved

At the end of the BPIP buildingDIRECT were extremely confident that they had made a lasting difference to their organisations processes and could confidently assert that they now offered their customers a service that;

- was mutually beneficial to all parties
- was based on a target and whole life cost approach
- could be selected on Best Value grounds and not simply by lowest price
- measured performance and sought continuous improvement
- had adopted collaborative working processes and reduced confrontation.

### Ownership

By working through the BPIP programme buildingDIRECT essentially skipped the need to hire consultants and allowed them the opportunity to gain the skills required to develop their own organisation in line with their own business objectives.

### BIT NVQ Award

Working through their problems enabled all 12 members of the BPIP team to attain an NVQ Level 4 qualification in Business Improvement Techniques. The 100% pass rate is far above the national average pass rate of 80%. This incredible achievement was only made possible through the support and participation of the management, staff and Qualitrain Ltd personal trainer - who all participated in the project with obsessive dedication.

### Cultural change

Completion of the BPIP has enabled buildingDIRECT to alter the perception of change from 'aaarrgh!!!' to 'aaaahhh!' Employees are now actively engaged in all aspects of the business and the hands-on learning approach has won over many employees who could not

initially see the benefit of change. Relationships with clients have also improved dramatically, in one instance buildingDIRECT had a positive impact on a clients own business processes. The client in question rationalised their use of databases following interaction with buildingDIRECT, thus enabling the client to use more accurate business information for their budget monitoring.

### Savings

***"The project has delivered both cashable and non-cashable savings, improved team working across the whole business and reinforced the key driver for buildingDIRECT of putting the customer at the heart of everything we do."***

Lesley Bradley  
Head of Service  
NCC buildingDIRECT

The BPIP enabled buildingDIRECT to identify the areas where Gershon efficiency savings can be met for the next five years - in a ten month period! The project also delivered a number of spin off benefits including electronic service delivery for work processes such as vehicle log sheets and associated timesheets. Savings from individual projects include:

- Archiving savings – buildingDIRECT has electronically archived over 120 boxes of invoice and building project material thus saving ten years storage costs estimated at £140k
- Office space – an anticipated 40% reduction in accommodation space will save the organisation approximately £180 per sq/m per annum when they next relocate. This has been achieved by rationalising their filing systems.
- Water Monitoring – Improved route scheduling means that buildingDIRECT now delivers the same level of service with 30% lower staff costs
- Materials storage - £40k reduction in storage and associated travel costs by ordering materials to be delivered direct to site.

## Critical success factors

The most critical success factor centred on buildingDIRECT's decision to select the biggest procedural problems for the BPIP despite them carrying the highest risk of failure. In doing this buildingDIRECT really threw themselves in at the deep end, a conscious decision designed to fully engage staff at the outset of the project.

The team occasionally encountered resistance to change when seeking the support and assistance of council departments. Overcoming the silo mentality was an issue at first but the buildingDIRECT team soon won over their colleagues with their enthusiasm for the project.

A major success factor and a key lesson for any authority thinking of completing a similar project concerned buildingDIRECT's decision to base their project and learning exercise on addressing long standing and age old problems. In doing this buildingDIRECT were able to build upon and utilise their staff members existing knowledge and relate it to Six Sigma and lean thinking approaches. This was a key factor in ensuring that a 100% pass rate was achieved in the NVQ Award and ensured that the BPI programme was completed in a relatively short period of time and to a high standard.

## Transferability

By completing the BPIP and NVQ Award 'in-house', buildingDIRECT were able to immediately apply the lessons learned to different areas of the service. Indeed, the NVQ skills are applicable in any workplace and are therefore transferable across the council and even to public sector partnerships.

The Six Sigma lean thinking process, as used by buildingDIRECT, allowed for employees to take responsibility of their service and allowed the council to remove the cost of contracting external 'lean thinking' consultants who use Six Sigma or Toyota principles to 'do the work' on behalf of the council.

For further information on how you can follow the process used by buildingDIRECT; save money on consultant fees; empower your employees; and deliver real efficiency savings please use the contact details at the end of this case study

## Role of RCE

The East Midlands Centre of Excellence is showcasing this leading edge project as an example of excellent practice from the East Midlands.

### EMCE Contact

**Lesley Bradley**

Head of Service

NCC buildingDIRECT

tel: 0115 956 7777

email: lesley.bradley@nottsc.gov.uk

**Richard Bates**

Business Improvement Consultant

Qualitrain Ltd

tel: 07906 990 399

email: richard@bates9000.fsnet.co.uk

**Chris Allison**

Regional Director

East Midlands Centre of Excellence

tel: 0115 977 4921

email: chris.allison@nottsc.gov.uk