

The Improvement Network

BEDFORDSHIRE MAGISTRATES' COURTS
Applying Six Sigma principles in the public sector

Background

Bedfordshire Magistrates' Courts service covers a small but densely populated county with a population of 560,000. Magistrates' courts deal with 95 per cent of all cases coming before the criminal courts. Caseload is currently increasing at a rate of 25 per cent per quarter in Bedfordshire.

There are two court centres – Luton and Bedford Magistrates' Courts – employing 124 staff, with 250 lay magistrates and a revenue budget of £4 million. The organisation's aim is "to provide a modern and fair system of summary justice in Bedfordshire which commands public confidence". It has a track record of leading the way in quality initiatives. It was the first to be awarded the "Chartermark" for excellence in public service, and has also recently been re-recognised as an "Investor in People".

The journey

The criminal justice system in England and Wales has been set challenging targets in order to deal with persistent offenders more swiftly and more effectively and thus to increase public confidence in the criminal justice system. Achieving these targets relies upon the agencies involved working together with a common sense of purpose and mission, and with a greater emphasis on achieving an effective outcome.



Lord Goldsmith
 Attorney General

Dr Marilyn Dyason

This case study illustrates the steps involved in applying the six-sigma principles to the criminal justice system in Bedfordshire in order to identify and eliminate causes of delay in the progression of cases. The results show how the application of strategic quality management tools and techniques, such as six sigma, are bringing about the required culture change to a more cohesive, focused system and one that is truly customer-driven.

Step one: Establishing an environment suitable for action

Having the right culture in place was to play a significant part in the success of the initiative, which also required rigorous measurement and analysis to make real improvements in processing cases. The courts are heavily dependent on others in the "supply chain", including criminal justice agencies such as the police, crown prosecutors, the probation service and other key stakeholders, such as solicitors. What was needed was a methodology that would engage the commitment of these separate organisations to eliminate, waste and poor quality, i.e. "loss of value" in the processing of cases.

Step two: Establishing the meaning of loss of value in quantitative and qualitative terms

Reducing the cost of poor quality has been equated with "increasing the customer value", based upon the six sigma premise that fewer defects lead to greater sales and hence greater profits. The cost of poor quality represents lost value to the customer. In the public sector,

the six-sigma methodology is applied to maximise the potential value to the customer, hence demonstrating “best value” in the provision of the service.

The underlying principles of six sigma are concerned with:

- reducing the cost of poor quality;
- reducing the effect of variation; and
- optimising resource utilisation.

The budget allocation for the magistrates’ courts is based upon weighted caseload, that is the number of cases actually completed in a year. No allocation is made for cases not completed. The key process is the throughput of a case from start to completion. If a process failure is identified at the court hearing, the court hearing is adjourned and the process starts again.

Approximately 20,000 cases are completed in a year. However, the opportunity exists to complete 30,000 cases in this period. One-third of the cases are adjourned two to three times on average before they are completed.

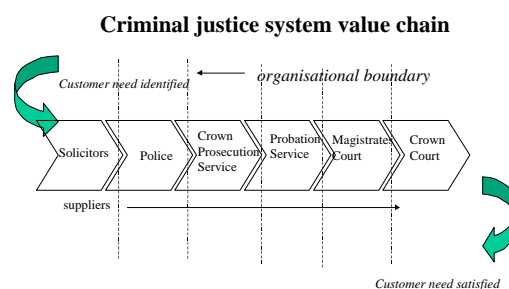
Loss of value (cost of poor quality) for the magistrates’ courts is associated with the following issues:

- internal failure (loss of files, incorrect paperwork);
- external failure (lack of witness availability list, parties not ready);
- appraisal (cost of checking and inspecting work and re-work cycle);
- prevention (pre-trial hearing ineffective); and
- lost opportunity (resources needlessly deployed).

The purpose applying the six-sigma methodology is to optimise the process so that maximum value is achieved and maximum funding attracted.

Step Three: Determine customer requirements

The principles of “supply chain management” were applied, equating the stakeholders involved in the delivery of the service with suppliers in a commercial organisation. The key suppliers in the criminal justice system supply chain are the solicitors (defence advocates), the police, the crown prosecution service, the probation service, the witness service, magistrates’ courts and crown courts, as illustrated below.



The customers concerned with the outcome of the service include the victim involved in the case and witnesses, who hitherto had not received the consideration that was so vital to increasing public confidence in the criminal justice system. It was clear that, in order to make the radical improvements, necessary rigorous attention to quality, cost and delivery times was essential. The management of the supply chain demanded teamwork, co-operation and effective co-ordination throughout the organisations involved. A critical examination took place of each stage in the process, paying particular attention to the interfaces between each organisation or agency. Servqual methodology – modified and developed by the authors – was used to establish the expectations and perception of the service currently provided and received at each of 42 customer supplier interfaces (as shown in the figure below). The survey findings revealed a number of performance gaps between “suppliers”, each of which contributed to delays in progressing cases.

Customer supplier interfaces

Supplier/ Customer	Solicitors	Police	Crown Prosecution Service	Probation Service	Witness Service	Magistrate s Courts	Crown Court
Solicitors		X	X	X	X	X	X
Police	X		X	X	X	X	X
Crown Prosecution Service	X	X		X	X	X	X
Probation Service	X	X	X		X	X	X
Witness Service	X	X	X	X		X	X
Magistrates Courts	X	X	X	X	X		X
Crown Courts	X	X	X	X	X	X	

Step Four: Methodology and Data Collection

350 cases were tracked through the “prosecution process”. 275 cases progressed to completion without adjournment. The attribute associated with this data was “good”. 75 cases were identified as “bad” – that is, they were not completed due to a defect occurring at a certain stage within the process.

A pareto analysis was used to determine the categories associated with the most common causes of defect, including “lack of court time”, “solicitor not ready”, “defendant not present” and “adjourned for reports”.

A fishbone diagram was used to explore the underlying problems associated with each category, involving a representative group of court users in identifying the causes of “loss” in the process.

Step Five: Determine cost of poor quality

The defect rate was 75 defects out of 350, which is equal to 214,286 parts per million. From the defect rate, the process quality (expressed in sigmas of the corresponding normal distribution) could also be deduced and defect rates can be converted into process quality.

The current process sigma rating of 2.3 indicated that the loss of value could be estimated at approximately 35 per cent of the total funding opportunity for the Magistrates’ Courts – approximately £1million of lost opportunity in financial terms.

Expressing the loss of value in quantitative financial terms conveyed a powerful message to all those involved in the process and was instrumental in gaining commitment to the need for change and to minimising variation in the process. For example, an extraneous variation was found in the availability of staff from the probation service to produce reports. Specific actions have been taken to address each cause of variation.

Step Six: Setting aggressive (stretch) goals

The target was set to reduce the average number of days of completion of a case from 35 to 29. In order to achieve this it was necessary to bring about a 50 per cent reduction in process failures.

The reduction over two years enabled the target to be met by eliminating the errors in the “Magistrates’ Court: adjournment for reports” category, which was the greatest cause of delay. By eliminating these, it was possible to reduce the defects per million to 100,000. This

is still only a 2.8 sigma process. In order to achieve a greater reduction it was necessary to address all stages in the process where delays occur until zero defects is achieved. The challenge is to achieve zero defects at all stages in the process.

Results

- productivity increased by 30 per cent;
- 20 per cent savings generated in last two financial years has been reinvested in improved service delivery;
- optimised resources – use of physical and human resources increased from 70 per cent to 98 per cent;
- the area is now one of the “top three” for timely provision of reports;
- customer (witness) satisfaction has increased – reduced waiting times on the day, and increased overall satisfaction; and
- external recognition through prestigious quality awards: Finalist in International Award (International Quality and Productivity Centre).

Professor Kaye sees the success of the work as largely due to team working:

“Fundamental to the success of the programme is the commitment and, more importantly, the involvement of chief officers, across the system.”

To mark the success of this work, Bedfordshire Magistrates’ Courts recently hosted the launch of the roll out of a national case management programme. At the event, Attorney-General, Lord Goldsmith, said *“It is very exciting that Bedfordshire is piloting this initiative. It is more difficult to be first and pioneer the way. We have already seen the commitment from everybody – the courts, the police, the public, the prosecutors and the defence lawyers – which will make it a success. And, when it is a success, it means local justice for local people”*.



Attorney General with Mr Stewart Sprawson, defence solicitor

Summarising the power of six sigma

Six sigma was found to be a powerful method of working towards a common focus among the key players in the “supply chain” in the criminal justice system. It has resulted in the following achievements:

- alignment of the goals and objectives across the organisations involved in the supply chain, focusing on “progression of a case”;
- a change of culture from separate hierarchical organisations towards a process driven, matrix style organisation structure that emphasises cross functional working with clearly defined roles and responsibilities of each supplier;
- an effective move towards the goal of optimising the resources used in the progression of a case by reducing the duplication of activities and causes of delay across “suppliers”; and

- a “results orientation”, which was previously missing, with emphasis on a greater understanding of the link between enablers and results and in determining the value of activities to the customer.

Six sigma proved to be an effective process improvement methodology, complementing and enhancing the value of other quality improvement management tools and techniques being used, such as the Balanced Scorecard and Excellence Model.

The future

Due to the innovative approaches adopted, Bedfordshire was chosen as the first area to pilot the Government's proposed radical reforms to the criminal justice system in England and Wales. The aim of the reforms is to address more effectively the needs of victims and witnesses, thus increasing the confidence of the community in the criminal justice system. Internal and external benchmarking is being used as a means of seeking out and applying best practice to key processes, drawing from experience in other sectors and other industries. Benchmarking partners include other public service organisations, such as the NHS and local government, where the authors are successfully applying these quality improvement methodologies. This "external" focus is providing an exciting impetus to address the complex problems within each of these services.

Contact details

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