



BAXI

Case Study

From excellent to exceptional: how Baxi used data and analytics to make great customer service even better

UK boiler manufacturer **Baxi Heating** has 240 field-based engineers, who service and repair domestic boilers and heating systems. Baxi's primary focus is on customer experience, as consumers today have high expectations; they want to know exactly when the engineer will arrive, to get a fast, first-time fix, and to be kept informed at every step of the way.

The customer service and support operation is based at Baxi's headquarters in Warwick, with customer service operatives working in the Warwick call centre and a nationwide network of field-based service engineers, each completing around six or seven visits per day. Over the course of a year, Baxi will repair or service approximately 270,000 boilers, keeping the heating on and the water hot in homes all over the UK.

Cognito iQ

TRANSFORMING SERVICE

The challenge

Baxi's field service operations team was charged with improving customer experience, in order to increase satisfaction and, ultimately, contract sales.

This was a challenging objective, as Baxi's customer experience was already highly rated; it is easy to improve where there are many obvious flaws, but finding the small 'marginal gains' that add up to noticeable improvement is much more difficult.

The aim of the project with Cognito iQ was to be data led rather than, as in the past, relying on gut feel to make decisions about which areas to work on to improve. The final measure of success for the project was not only that customer experience had improved, with a knock on effect on sales and/or retention, but that it would be sustainable, delivering a data model that would support an ongoing programme of continuous improvement.



The solution

The solution, Cognito iQ OPA (Operational Performance Analytics) enables organisations with large mobile workforces, to visualise and control performance across key dimensions including cost, quality, efficiency, customer satisfaction and profitability.

The Cognito iQ data model has evolved over the last 29 years to hold over 300 metrics, specific to the field service industry, which can be configured for each customer's individual business processes, down to between 50 and 80 KPIs.

By systematically capturing and measuring performance throughout the operation, the solution enables organisations to:

- 1. align individual decision making with organisational objectives, by**
- 2. determining data-driven strategic objectives, and**
- 3. identifying execution strategies to realise these objectives, whilst**
- 4. creating a feedback loop that continuously improves performance across the operation.**

Baxi implemented the **Virtual Coach** module of OPA, which uses machine learning to analyse the complex flows of activity within the operation, to establish the patterns of performance, and to highlight opportunities for improvement, along with detailed recommendations for implementation. Once the improvement plans (objectives, policies and schedules) were defined, the Baxi operation could access them using the real-time dashboard module of OPA - **Insight Hub**.

For Baxi, the Insight Hub acts as a 'single pane of glass' through which to view and manage the day-to-day performance of the operation, using dimensions such as utilisation, efficiency, quality and effectiveness. As the data is presented in real time, managers can correct issues before they arise, preventing problems in areas such as customer satisfaction or engineer safety.

Additionally, Insight Hub enables Baxi's managers to review past performance by 'replaying' the operational flow, and the events of the last shift, day, week or other time period, to analyse when, why and how exceptions occur. This enables them to study their response, and the outcome, in order to make the changes that will prevent similar exceptions in the future.



Project methodology

The project had two stages. Firstly, using the Net Promotor Score (NPS) as the key measure of customer experience, Baxi and Cognito iQ identified which areas were most likely to have an impact. The team analysed key drivers of NPS, looking for factors that correlated with particularly high or low scores, and also brought in data from sources such as customer complaints logs and surveys to give a broader picture.



The next stage was to analyse the KPI data using the **Virtual Coach** module to confirm these moments of truth. The results highlighted the metrics with the greatest potential for improvement.

The analysis identified four factors - moments of truth - the areas that, if you get them right, will guarantee a high NPS:

- 1. Visit response:** *how soon Baxi dispatches an engineer after a customer call*
- 2. First-time fix (FTF) rate:** *whether the problem is fixed on the first engineer visit*
- 3. Further visit:** *if not fixed first time, how quickly a second visit can be arranged*
- 4. Call response:** *how quickly the call centre answers a customer call*

The outcome

- ✓ Contract sales grew by 5,000 sales per month
- ✓ Customer experience metric, NPS, improved from 68 to 72
- ✓ Visit response (how quickly an engineer can attend a job) saw 25% improvement
- ✓ Improved FTF rate – revisits down from 19.2% to 17.8%
- ✓ Average times for engineer revisit fell from 6 days to 3.5 days
- ✓ Call centre response time improved from 81% to 90% answered within SLA

1. Visit response

The data highlighted an issue with the Engineer Compliance KPI: engineers were not always starting or finishing shifts at the right time, attending visits in the right order or taking the planned amount of time to complete tasks. The team used Insight Hub to analyse the root causes and define improvements. They addressed the issue partly through training, and partly by altering the mobile app to provide alerts to assist the engineers throughout their shifts – this also improved engineer safety.

Improved compliance led to improved productivity and efficiency - there were more engineers available, without having to increase headcount. The visit response metric improved from 3.3 days to 2.5 days, a 25% productivity improvement, during the project.

“It’s a much better way of working. We are the face of Baxi and it is uncomfortable to have to explain why you are late, or to have to call the customer and say you won’t make it that day. The new procedures mean that doesn’t happen anymore. I also feel less rushed during the day as I know that my colleagues will support me if I’m struggling. This supports our total commitment to working safely”

John Bryant, Baxi Engineer

2. First-time fix

The team analysed the FTF rate KPI to see if there were any patterns, resulting in insights around the type of jobs that were causing second visits. For example, a particular type of boiler had a component that wasn't typically carried on the vehicle and, if this failed, the repair was complex and would take around two hours, rather than the typical 45 minutes allocated to a visit. The team put together a decision-tree script for the call centre to identify these repairs before the visit, so they could ensure the part was on the vehicle and that the correct amount of time had been allocated for the job. In the year, around 500 of these repairs were identified and fixed first time. With this and other insights, the revisit rate improved by 8% during this first year and there were knock-on positive effects on compliance too.

3. Further visit

Sometimes a FTF isn't possible and a further visit has to be made. Analysis of satisfaction data showed that customers prefer the engineer to arrange the follow-up at the premises, before leaving the job. The Baxi team worked with Cognito iQ to configure the engineers' mobile application to give them real-time access to the information they needed to make the appointment on the doorstep. Average further visit times fell from 6 days to 3.5 days over the course of the year.

4. Call response

With improved compliance and productivity, improved first-time fixes, and more engineers available, the call centre found that the type and volume of calls it was receiving from customers changed as a natural consequence. Call response time improved from 81% answered within SLA to 90% answered within SLA over the period.



"The project has exceeded all our expectations. We knew it would be tough to find the marginal gains that would add up to big changes for our customers, our engineers and our bottom line, but working with Cognito iQ and Insight Hub has yielded significant results."

Steve Randall,
Head of Business Change, Baxi



25%
increased
productivity



90%
of calls answered
within SLA



8%
improvement
of revisit rate



42%
reduction in average
further visit times

The impact

The key metric for customer experience, the NPS, improved from 68 to 72 - a 6% improvement over the period - and contract sales grew by an additional 5,000 sales per month over the course of the project.

The team at Baxi continues to use Insight Hub to ensure that the gains they have made are perpetuated and, as these have freed up resource while improving core metrics, there is the capability for further analysis and development.

A continuous improvement culture is important to Baxi; they are already beginning to identify the KPIs to target for the next improvement cycle, in order to keep their workers engaged, happy and delight their customers even more. They are also looking to deploy Cognito iQ OPA across other territories.

"I was frustrated when the engineer couldn't repair my boiler on the day, as it had been challenging for me to align my tenant's availability to this appointment.

However, after hearing that the engineer made the follow up appointment directly with my tenant on site, I was really impressed to know that she had heating and hot water again the very next day.

This was particularly pleasing to hear, as no further intervention was required by me and I had a happy tenant once again. Thank you Baxi."

Mrs Dams, Baxi customer

Why this project was exceptional

1. Cognito IQ's agile development methods, and innovative application of technology such as machine learning, have enabled the team to achieve exceptional results with limited resources.
2. Field service operations has many unique challenges. Managing remote engineers means you need visibility of a complex situation, in real time. Making improvements to field service means understanding the parameters of the operation before you can conduct analysis on the multiple variables involved. Unlike many data analysis tools, Insight Hub is highly specialised, and designed specifically to work in a field service environment. This means that it does a job that no generalist data analysis tool can do. The team at Cognito iQ put not just their expertise in software development and data analytics into the tool, but also their years of experience in field service.
3. This was a seemingly impossible challenge - improve an already high customer experience. It would seem that finding opportunities to do so would be too difficult, expensive and time consuming to pay off. But with smart data capture and analysis, those opportunities were identified and turned into results.
4. This was not a one-off project that finished once a goal was met. The overarching goal of Insight Hub is to develop a data framework that will support ongoing continuous improvement. As one variable is changed and improved, the system shifts, and the focus of the analysis and insight shifts with it, to uncover new patterns, and more opportunities to improve...
5. ...and the project has met this goal - the examples of improvements discussed above are only the beginning of an ongoing process of analysis, fine tuning and continual improvement.
6. Unlike continuous improvement in manufacturing environments, this project depended on improving the performance of people; engineers and call centre staff are not widgets that can just be churned out faster. The project has done so whilst also improving their working conditions, and satisfaction.
7. Similarly, this project has improved customer experience without injections of cash. It is simple to improve service if you can hire more staff, but this project used existing resources, and did more with them.

About Cognito iQ

Our software enables organisations with field-based technicians to break down the barriers between technologies, and work smarter.

By simplifying the way operational strategies are created and executed, we empower teams to collaborate more effectively, operate more efficiently and deliver better service.

Cognito iQ Operational Performance Analytics (OPA) leverages the value in vast amounts of field service data. OPA analyses and evaluates information from multiple data sources to uncover patterns and trends, providing invaluable insights into operation-wide performance.

Cognito iQ Mobile is a secure, resilient, cross-platform environment designed to support the functions carried out by field-based technicians. Business critical workflows empower them to access their jobs, guide them through their tasks and document their progress, in real time.

We inspire continuous improvement, ensuring our customers wow their customers. Together, we'll transform service, when and where it matters most.

For more information, visit our website CognitoIQ.com
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Cognito iQ

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