

Case Study – Cabot Communications

Cabot Communications is an established SME with headquarters in Bristol, developing a range of digital television (DTV) middleware products which it integrates onto its customers hardware platforms, and creating bespoke user interface applications. Cabot is a subsidiary of the Vestel group which is based in Turkey.

Background

Cabot was founded in 1993 to develop embedded software technology for the emerging DTV sector in which the UK was leading the world. The company initially developed its own interactivity engine, implementing the new MHEG-5 standard, and then went on to develop a range of other complementary DTV middleware products.

Around 2000 the company was acquired by the Vestel group, a manufacturer of home technology products and domestic appliances, based in Turkey. Vestel was a customer for Cabot's DTV products and wanted to build a much closer relationship with this key technology supplier while also benefitting from Cabot's product sales into the open market.

The change in ownership brought with it new management and additional funding, with the intension of growing the business both in terms of its ability to supply to Vestel and its ability to supply to the wider market. These ambitious growth plans needed a step change in the operational performance of the business, particularly from the engineering team which formed the bulk of the staff and the heart of the company. Recognising this need, the CEO recruited new leadership for the team.

Challenges

The company had steadily grown its engineering team in Bristol to around 20 staff, mostly software engineers, with a couple of managers and a single tester. This team had developed all of the company's products to date, and was beginning to work with customers to integrate these products onto customers hardware platforms (set top boxes and televisions) and to develop bespoke user interface applications.

The team was largely driven by the engineers themselves, without clear work definition and with little planning, but with good engineering design practices in place. Day to day activities were defined by the needs of the here and now, with fire fighting starting to happen in some areas as work levels grew and interactions with customers became more complex.

Product releases were unplanned, happening informally, sometimes without sufficient testing, and with little commercial input or market promotion. Releases were engineering driven, making it hard for the business to create a good commercial impact when they happened.

Anamosys

Growth & Change Management
for Technology Businesses

Customer support needs were increasing, but support was provided from across the engineering team which meant regular interruptions to product development work and an ad hoc response to support requests.

The acquisition by Vestel had made it more important than ever to keep track of engineering activities. Time spent needed to be planned and reported so that revenues from open market customers could be balanced against activities carried out for the parent company, and so that future work for all customers could be accurately planned and scheduled.

Vestel had its own engineering team based in Turkey, developing some related DTV technology but mainly integrating Cabot's products into Vestel set top box and television platforms. There were synergies between the two teams but they had very different histories and cultures. A way needed to be found to make the most of these two groups without having them step on each other toes.

Product testing was ad hoc. The one tester in the team was very adept at checking out product integrations, so quality was being maintained, but testing was not repeatable or formalised, and so demonstrating quality to the more demanding customers was proving hard. Much of the testing needed was common across different platforms, lending itself to efficiency improvements via test automation.

A small IT team was in place, but lacking effective leadership, this team was tending to do its own thing rather than servicing the needs of the business.

Digital television technology was moving forward at a pace, with new standards emerging regularly and new geographies switching over from analogue every few months. Cabot needed to keep on top of these technology changes, and to keep abreast of the industry, if it was going to maintain a compelling product offering.

Solutions

Previous experience in the DTV industry, both in creating IP and delivering design services, provided a good grounding in Cabot's technology and market. Every business is different though, and no two groups of people operate in the same way or have the same capabilities, so time was needed to get under the skin of Cabot, to understand its products and its people.

Organising the Engineering

Heading up engineering, the first task was to start organising the work and to put out the fires. Projects were the obvious vehicle to use for partitioning the activities of the team into manageable chunks, and the existing managers were keen to pursue this route. The team was unaccustomed to the concept of projects, so training and coaching (based on lean Project Management Institute practices) were needed, and the basic tools for requirements capture, scoping, project planning and resource management needed to be put in place.

As is often the case, the team had been carrying out work that was already a close approximation to a set of projects. This just needed to be pointed out to them, and a few of the boundaries beefed up, in order to establish projects on a firmer footing.

The establishment of projects enabled financial accounting processes to be put in place around them, allowing costs for the development of new product to be determined and spend on customer integration projects and bespoke developments to be monitored. This provided the information needed to manage the split between Vestel and open market activities and to guide future work with an appropriate balance between the two.

Supporting the Customers

Carving out project activities helped turn the spotlight on what work remained, and one significant area was customer support. A separate team was established to provide support, headed up by one of the managers who had a particular aptitude for handling customer relationships. Agile work management processes were put in place within the support team to keep track of what was essentially a collection of chaotic work activities, allowing priorities to be changed rapidly as circumstances required.

Planning the Present and Predicting the Future

Rather than allocate engineers permanently to the customer support team, a pool arrangement was established for resourcing whereby engineers could be allocated to a new product development project, a customer integration project, or to a spell in the customer support team. This arrangement allowed the engineers to move around the team so as to broaden their experience, it avoided the creation of single individuals who were the only possessors of expert knowledge, and it provided maximum resourcing flexibility when allocating staff to new work. The resource pool approach required management, with some bespoke tools needing to be put in place to bring together project schedules and resource plans into a single consistent view of engineering capacity.

The same planning processes and resource management tools allowed accurate predictions to be made about the schedule for future work, and the availability of this new information acted as a mechanism to bring together the sales and delivery sides of the organisation. A regular commercial review process was established to discuss sales prospects and how these might fit in to the future workload. This allowed the sales organisation to speak to customers with confidence about delivery scheduling and the engineering organisation to plan for work that was coming down the pipe.

Establishing the Team in Turkey

The new processes for organising engineering work and managing resources were first established within the Bristol engineering team. Having been proven and rolled out, the same processes could then be transferred to the team in Turkey, helping it to merge quickly and seamlessly with the team in Bristol. Being part of a developing economy, the Turkish engineering team tended to be young and enthusiastic, lacking experience in some areas, particularly management, but keen to learn from the more experienced Bristol staff. With organisation and process in place to help bring the teams together, the differing levels of maturity between the two teams began to complement each other, becoming an asset.

Time needed to be spent on the ground in Turkey, working with the team there to explain and establish organisation and process, to build and coach local team management and in particular, project management, and to impart some of the Bristol culture of freedom, innovation and responsibility which was not the norm in Turkey. Staff from each site were encouraged to interact, both electronically and by arranging opportunities to spend face time together. This brought the team members closer, overcoming a natural distrust, and sharing the best aspects of each teams culture and experience.

With a team now established in both Bristol and Turkey, and with consistent process in place allowing projects to be carried out in both places and providing an overall view of current projects and future planned work, headcount growth began. Recruitment in both countries doubled the size of the team over a two year period, establishing an engineering team of around 75 staff with the capability to execute 30-35 concurrent projects.

Improving Product Testing

When restructuring of the engineering team first began, black box product testing was being conducted by a single individual who knew the product well and had the knack for searching out defects. This type of testing had served the business well, but more professional testing was needed to support its growth plans and to satisfy the needs of its more demanding customers.

A new initiative to improve product testing began, with the recruitment of a new Test Manager and the establishment of a dedicated team. The first improvement was to create test scripts so that manual testing could be repeated, so that staff at the Turkish site could be engaged in testing work (significantly expanding the available test resource), and so that testing could be formally specified for customers.

Having a bunch of test scripts in place greatly improved visibility of what testing was being conducted and the nature of that testing. Certain areas clearly lent themselves to automation, in particular testing of the interactivity engine which was conducted against a standard, repeatedly on multiple platforms. Having manual test scripts in place allowed a test automation framework to be constructed and then these scripts to be automated, reducing the test time for the interactivity product from two weeks to three hours.

Improving IT

New management was also recruited for the IT team, initially on a contract basis to first demonstrate the advantages. The culture within the team was shifted from the provision of interesting technology to the provision of the service required by the business. Work plans were put in place and a longer term strategy established, enabling proper budgets to be set for IT spending and a roadmap to be laid out for infrastructure improvements.

Leading the Way with Technology

With work activities now being planned, product releases happening on a reliable basis, professional testing established, and appropriate IT in place, it became possible to focus on technology and research. A new research team was established, with a dedicated manager but with staff allocated from the resource pool, to investigate new technology and to keep abreast of standards and what was happening in the industry. This provided Cabot with representation at national DTV forums and within government, allowing the company to influence the development of standards (such as the standard for Freeview+) around which it would later develop product.

The establishment of a research team, and the invigoration of new technology and innovative thinking within the wider engineering team that this engendered, meant that a much richer and better informed input could be provided into considerations of business strategy. Building on the closer relationships established by the commercial review process, a quarterly business strategy review was established, bringing together the leadership team with the sales and delivery sides of the company to discuss and agree future direction and to manage the product roadmap.

"At Cabot Communications, Peter restructured the engineering team, establishing product development, customer project, and support teams, building an automated test team, and putting in place appropriate process for planning work and managing resource. These significant changes enabled us to sell future work with confidence and to deliver to customers reliably, both key to enabling growth of the business. Under Peter's guidance, engineering capacity increased significantly, both in Bristol and with the establishment of a new offshore engineering team in Turkey."

– Keith Potter, Managing Director, Cabot Communications

Anamosys

Growth & Change Management
for Technology Businesses

About Anamosys

Anamosys enables business growth within smaller technology companies by helping them to organise and to scale. For start-up businesses this is about bridging a gap, enabling a small band of enthusiastic and passionate individuals to become a professional, sustainable and growing team. For more established businesses it is about making the organisational change needed to move to the next level.

We can provide assistance with:

- Mentoring and coaching of the management team in organisation, scalability and growth strategies.
- Creation and roll out of appropriate business processes and infrastructure.
- Handling multiple concurrent customers and projects, and significant information and resources.
- Change management needed to transition from a small to a medium sized enterprise.
- Effective communication and people management needed to shift team thinking and behaviour.

Get In Touch

To learn more about the help we can offer please contact Peter Cain by phone on:

07949 029686 or **01594 517142**

or by email at:

peter.cain@anamosys.co.uk