AT&T BATCH SERVICES PURCHASING DEPT. PROJECT

At AT&T I was responsible for six purchasing teams who placed vendor purchase orders for highly complex custom enterprise data networks. One team was specifically responsible for ordering batches of services from our vendors. Vendors able to provide these services numbered in the thousands and had de-facto and legal control of specific regions, which meant that services could only be provided by one vendor in a given region. The average daily in-progress purchase order volume for these teams was 3,500 orders.

The team responsible for batch service purchase orders was having substantial difficulty getting all of the services for a single contract delivered at the same time. In some cases the delivery delay between components could be as much as or more than 90 days. Customer satisfaction was quite low for services ordered through this team, and the contract cancellation rate was nearly 5%. The company was losing this revenue, and potential future revenue, because of poor customer satisfaction. This team also invested considerable time and effort trying to manage late deliveries at significant cost to the company, and hence a cancelled contract had serious negative impact on net income; estimated at $500,000 per year in wasted operating expenditures.

After examining the impact of these loses in time, revenues, net profits, customer and employee satisfaction, I was able to define the specific performance problem.

PROBLEM: Batch purchasing team is experiencing significant vendor delays which cause losses in revenue, net income, and customer and employee satisfaction.

The next step was to measure the existing process and categorize the reasons for the delays. A brief list of the more significant findings follows:

1. Vendor has no existing capacity to fulfill the request.
2. The end customer supplied a street address which the vendor could not find.
3. The end customer turned the vendor away, requiring a re-dispatch.

For the first problem, there was no way to improve that specific performance metric within our own company. If the vendor had no capacity, we couldn't make it magically appear, nor switch vendors. Given the thousands of vendors the team dealt with daily, it was not possible to make meaningful changes to supplier processes except for our largest vendors.

For the second problem, we discovered that the numeric code which vendors rely on to make decisions about our customers' street addresses was ambiguously chosen by our customer-facing project managers; typically because the customers themselves didn't have a complete set of information. No steps were being taken to rigorously verify that the selected code was correct at this point of the improvement project.

For the third problem, we discovered two primary issues.

First, the end user was often not informed by their company's purchasing staff at corporate headquarters that they should expect delivery. The customer-facing project manager was henceforth required to inform the customer that they need to tell the on-site person responsible for accepting delivery to expect delivery within a range of dates.

Second, vendors were receiving multiple purchase orders for a batch of services for a specific customer address. In many cases, only part of the batch requirements were delivered on-time, and others were late. It was not possible to change our systems to merge these multiple purchase orders into a single order without substantial costs, so an alternative was developed. The ordering team was then required to update each purchase order with the contract number for each batch of services via the order comments; hence notifying the vendor that there was a batch of services requested for the same address.

These are simple solutions to a major problem that caused approximately 60% of all delivery delays in this team. The net impact of these solutions was an overall reduction in the delivery cycle time of two days on average, and customer satisfaction ratings climbed from 85% to 95% in less than six months. As a consequence more customer orders came in because of our improved ability to reliably deliver a complete batch services on time.

A key employee performance metric in the ordering team was therefore 100% compliance with the new rules for writing comments on the purchase order which relate the purchase orders in the comments by contract number. We had established a method of measuring employee's level of compliance, and if employee performance fell below 97% on this metric, they would be given specific coaching by their immediate supervisor. The batch-services ordering team greatly appreciated the time savings, and was able to invest this free time into improving other key business functions.

Vendors thanked us for making their jobs easier as well, and sent many thank you emails to that effect. Customer-facing project managers appreciated that their time could be more focused on understanding customer needs rather than trying to obtain status on delayed projects. Customers rewarded us with new business and contracts.

AT&T PURCHASING PROCESS STREAMLINING PROJECT

The purchasing and deployment division of AT&T I worked for had a number of linked processes to satisfy a single customer purchase order. The most basic purchase order would contain: (1) at least one physical wire cable that connected a customer site into the internet, and (2) at least one logical software signal that would route data through the World Wide Web in a private and secure way to another customer site.

Other divisions within AT&T preferred that these services be ordered together on the same purchase order to minimize error and speed up delivery times, however within my division, system software structure prevented synchronization of these purchasing functions because the record code used to synchronize databases was potentially subject to changes due to rework.

Either, the services could be ordered together forcing one already overburdened team to manually update a series of databases, or the physical and logical components could be ordered independently which would reduce the amount of manual intervention substantially, but cause delivery delays of up to three business days. Neither solution added any value to the customer experience.

Since revenue for a customer contract could not be recognized until all of the components for a client request were delivered, any unnecessary cycle-time delay was costly to the company.

IT Engineers offered to try and solve this problem at an estimated cost exceeding $1 million dollars. However as the division operated as a cost center to AT&T corporate, senior management looked for other alternatives.

PROBLEM: Software structure does not allow for synchronous purchase orders of physical and logical service components required for every customer site contract.

Two sets of independent data were gathered to assess and measure the impact of the current process limitations. First the as-is state of the process was measured to determine how much cycle-time loss was accruing: on average three business days. Second, pilot data was gathered around forcing one team to manually update data. Although the cycle-time necessary to manually update the data was negligible, it quickly became evident that the backlog of extra manual activity could lead an already overburdened team to significant error and waste, as well as human-caused cycle-time delays.

After extensive discussions with a variety of teams throughout the division, it became evident that the software record code needed to have a static reference that could not change due to rework or other service changes.

Although I left AT&T to pursue my masters degree before this change could be fully implemented, the ultimate proposal was to update the systems so that the IP address would act as the static coding reference for a customer. Once an IP address is assigned to a customer site, it never changes.

IT programmers indicated that this simple software change would cost less than $100K; one tenth of the original estimated software development costs. Estimates were that this change would eliminate all of the common cause variation that existed in the previous process; accounting for something greater than 95% of all customer orders. Once implemented the three day cycle-time gain on revenue recognition was expected to free up a substantial amount much needed cash flow to improve other operations and expand services.