Case Study

Acme Healthcare

A study in Enterprise Computing

By Victor Stachura

Introduction

Acme Healthcare had a long and successful history in the healthcare industry. The company was founded in 1866 just 2 years after the radical improvements of Anesthesia by Joseph Lister. An American entrepreneur (William Acme) was on vacation in Sweden when a chance meeting occurred at a local pub. Joseph Lister was enjoying a pint and boasting of his invention – "It's a real snoozer" he would say, while entertaining the crowd and putting people to sleep in the yard behind the pub. William Acme was always on the lookout for a business venture and befriended Joseph that night. After a long night of "testing" Joseph's new invention, a lifelong friendship was forged. Joseph was looking for a business partner in the United States – William Acme was it. In 1866 the United States Health Company was formed and became the sole provider of anesthetics to U.S. hospitals, clinics and opium dens. In 1867, on a whim of the founder, William Acme changed the name of the company to Acme Healthcare – because he could.

Through the years the company grew into an international conglomerate, supplying high quality anesthesia to hospitals, militaries and healthcare professionals across the globe. Acme Healthcare expanded their product line to include over 50 anesthesia related products, a network of hospitals and Emergency Care clinics. Their expansive product line met the needs of an ever expanding industry base – from reducing pain during surgery to recreational use, Acme Healthcare has the product. Acme also has the ability to treat patients through their hospitals and Emergency Care clinics.

Acme Healthcare was run by Alan Acme - the great, great grandson of William Acme. Although Alan was able to grow the company to its present size and stature, Acme Healthcare was starting to experience problems with costs growing faster than revenues and inefficiencies in their supply chain, causing missed deadlines and poor quality for some very large orders. When several cases of people failing to wake up after a surgery and recreational use, the board, stockholders and state authorities were not happy. "You can't be killing people!," said the Governor in a press conference. It was clear that Alan had to be replaced. Some even said Alan could not handle the pressure of running a large international corporation – causing him to indulge in vices that may have affected his on-the-job performance.

After a lengthy executive search, Laura Confute was selected as CEO and president of Acme Healthcare. While she had limited experience in the Healthcare industry, she had 30 years' experience successfully running large multinational companies. Within her first 60 days, Confute met with the regional and division presidents as well as middle managers and key clients and government officials – all aimed at understanding the corporation, the internal problems they're encountering and getting the pulse of their customers.

What she found was unnerving and unsettling. She even started to wonder what she got herself into. How could a company with such a long history, a great product, have so many issues?

The CEO Issues a Directive

Laura Confute was at a recent Gartner conference where every other presentation and discussion at dinner was about Artificial Intelligence and Gen AI in particular. Laura realizes there are problems with Acme that need to be fixed - maybe, just maybe AI can solve our problems.

Laura issues a directive to all her direct reports "I need you people to figure out how to implement this thing I heard about called 'Generative AI or Gen AI'. What is it? How does it work? Implement it here to solve our business problems! I want something implemented in 6 months, if not sooner. If you tell me "it can't be done",

then I'll find someone that can get it done! So, if you like your paycheck and overly large bonuses, I suggest you find a way to GET IT DONE! Understand? Good, that's what I thought!"

Organizational Structure

While much of Acme's growth was "organic" stemming from sales growth on existing product bases, expanding geographically or innovating new product lines, a larger share of the growth came from acquisitions either of competitors or an attempt to purchase Acme's way into a new market space. International expansion was driven primarily through acquisition of smaller Healthcare companies in country. Acme currently sells to most countries around the globe and manufacturers on five continents.

While Acme's 'growth through acquisition' model has allowed Acme to expand its marketplace geography and expand into new product lines at a pace that would have been impractical through pure organic growth, it's left the company with several challenges. Acquired companies were often left with the existing management teams, but systems were integrated into a core set of healthcare systems such as their Electronic Healthcare Records, Pharmacy Tracking System and Operating Room scheduling and Emergency Care system. Business processes were optimized as best they could be and communication between systems was "pretty good"

Business Processes

A legacy of Acme's growth through acquisition model was challenging, but like an Amoeba, the systems of a purchased entity were absorbed into the standard corporate applications. Business processes were also changed to conform to the corporate standard for administering anesthesia, accepting patients and dispensing medications

Understanding the performance of different parts of the organization was fairly simple since standard company-wide metrics exist. For example, there was only one calculation measuring revenue generated per patient

Many organizations within Acme have documented their business processes and there is much standardization and sharing of best practices across the company.

Information Architecture

During her research of the company, Confute was looking for sales data for a product that she knew was sold in multiple regions and countries – the 1 qt. anesthesia bottle. The problem was, she could not get a consolidated view of sales for this product. She was told that she had to first run reports from multiple, independent, sales systems, export the data to excel and then create the summary view that she needs.

The director of IT was happy to have someone build the report for her. The report was delivered 5 days later and contained the information she was looking for. The only problem was that she needed the sales data for a board meeting 2 days prior.

She quietly thought about firing the director of IT – but decided not to make personnel changes so early in her tenure.

Confute was also amazed at how easy it was to search and find information on their network. "It's just as easy to find information within our own company as it is on the internet!" she said. In order to find anything, only one tool was used – 'Acme Search'. Acme Search indexed email, file shares and multiple databases. Search results were often accurate and of much value.

During her 2nd month on the job, Confute was trying to research hospital productivity data – she was interested in which hospitals and what were the monthly patient volumes for the past 3 years. To her amazement, their EHR systems (there are multiple but integrated) did have this history and there was one place to search for the information. The Director of IT explained it like this: "We've worked hard to integrate our systems to give the most complete picture possible. You only have to write some SQL to get the data out and understand our data structure.

Problems with data and information were less of an issue than she originally thought. The Acme *brand* stood for something – their brand value was strong in the marketplace and their internal organizations all agreed on the definition of brand. All business units considered 'Acme' as the brand, with each product category as a consistent Acme brand. Each internal system implemented a consistent definition of brand along with a consistent data format definition. Since the data format was consistent, data interchange between systems was very efficient. Corporate level reporting was also positively impacted – Confute was able to report on the sales for one particular *brand* quite easily. In previous company's, Laura had to have an analyst spend several days sifting through reports and interpreting data from multiple systems. Laura was pleasantly surprised.

The IT Organization

The CIO (Charlie 'cypher' Smith) did not like the fact she was given a directive by the CEO to implement Gen AI. "Doesn't she realize Gen AI isn't ready for primetime? There's too many hallucinations and errors in the responses! Don't even get me started on the built in biases! I don't like it and will fight it as much as I can!"

Unbeknownst to the CIO, the Enterprise Architecture team has been reading and learning about Gen AI. This "sunks works" team is up-to-speed on how the technology works and even has identified several use cases or pilot projects. They've even built a small chat-bot prototype to test out basic Gen AI functionality. They're trying to figure out how to approach the CIO and show him what they've learned.

The IT departments are struggling to keep up with operating their current systems while building new systems and capabilities. Again, there is little interaction between the IT departments and business counterparts. IT deploys systems that few people use and there are rampant issues with data quality.

Every night several hundred computer programs also known as "batch jobs" run to extract, process and move data between systems. Occasionally, these jobs run without any issues. On most nights computer operators working 3rd shift have to restart jobs, correct data or call programmers in the early hours of the morning to fix problems. The operating environment is taking a toll on the staff and people are starting

to look for other jobs. This too could be a problem since most documentation of business rules and processing steps are out of date. The most critical knowledge is in the staff's heads and could easily walk out the door – putting the company even more at risk.

There was strong strategic planning at the corporate level and divisional levels. High level plans were developed and communicated to the regions & divisions. The divisions spent the time to develop specific, actionable strategic plans and when they did, each division was interested in their domain, but remained consistent with the overall corporate strategy.

There was little need to "roll-up" or consolidate divisional business plans due to their overarching consistency. Most divisions selected Oracle as the preferred database system while a small installation of MS SQL Server existed. This was not a large problem since integration was very efficient. All Acme Hospitals and clinics used a version of Cerner for all their administration and tracking needs. Efficiencies were gained due the consistent software products across all locations.

The legacy IT environment supported the business units well and Acme was able to rapidly respond to new regulatory directives - one system was changed and then replicated all affected locations.

Support for Government Regulations

Each region & division has their own regulatory group – focusing on the regulations for the countries in their region. Each year the regulations change and there is significant money spent on lobbying efforts with local & state officials.

The divisional IT departments are keeping up with all regulatory changes and new reporting requirements that have to be implemented. Typically people in the business groups are talking with officials and are alerted of any regulation changes. There is good interaction between the IT and business groups – development managers are notified early in the year when regulatory changes are announced. Acme Healthcare has little need to file for extensions because they typically meet state mandated deadlines.

Customers

The Chief Customer Officer (Sally Smith) was very enthusiastic about the CEO's directive. "I've been educating myself on Gen AI and think there's lots of potential in my department. Our customer service is fragmented and a sore point with our customers. I wonder if Gen AI can help?"

Acme Healthcare enjoys a large and diverse customer base. The Industrial and Commercial divisions have large customers that span the globe and as well as industries. About 25% of sales are to various military organizations around the world.

Coordinated account planning across regions and divisions is somewhat fragmented, but not a huge concern. Oftentimes, a customer is contacted by several Acme sales teams representing different parts of the Acme organization. Some customers are confused and there is never a 'Single point of contact' for

a customer. More distressingly, different parts of the company give different answers to the same customer questions.

There are separate customer service groups for the various customer types. Customer support is inconsistent at best and often frustrates customers.

Sales & Marketing

The Chief Sales Officer (Bill Smith) is cautious but somewhat optimistic about Gen AI. All my CSO friends at the golf club are talking about their "Gen AI pilot projects" and they have 'high hopes' for their success. I'm not so sure about Gen AI, but I like my bonus and want to be a team player. I'll fund a small project, but I don't want to be the first!"

The sales and marketing groups are always looking for information about their products, customers and current sales. The problem is the data in the corporate systems is not easily obtained in a usable format for the sales team. The sales team uses ipads and their phones.

Supply Chain

The Director of Supply Chain (Sam Smith) is dead set against Gen AI. "Well, I'm going to pretend to be "all for it", but I'm going to drag my feet and quietly not participate for as long as possible. I feel Gen AI is too risky of a technology right now and will probably go away next year. I jumped on the blockchain bandwagon and was burned! Look where that got me! Nowhere! I'm not falling for another fad".

Acme manufactures products in 42 plants on five continents. Manufacturing operations report into geographic regions. While the products manufactured and sold around the globe are relatively common, the manufacturing IT systems and data are not. For example, the same anesthesia that is made and sold around the globe will have a similar formula and manufacturing process but a different internal material code depending on which region manufactured it. This makes it cumbersome to track inventories around the globe and supply one region from another.

Acme Healthcare is having a quality control issue and not sure of the source of the problem. Several suppliers are used to provide the raw materials.

Many of the supplies track their product using various systems - some paper, many with disparate systems that don't talk to each other. Finding the source of a problem is a time consuming process and often error prone. Acme prides itself on the process they use to produce their anesthesia. After many years of research & experimentation, a formula was developed which produced the deepest sleep for the best cost.

Finance

The CFO (Suzie Smith) is all for Gen AI. "Like some of us, I've been reading and learning about this technology and am very excited to give it a try. My team has also been using tools like ChatGPT and

Gemini ai and I've seen productivity improve! I'd like to know how other CFO's are using Gen AI and how I can *really make a difference* in my operations!"

Suzie further laments during one happy hour: "Change at this company is awful! We want to adopt a change, but there's no real sponsorship or support from the leadership team. We tried putting in a Service Bus, but could not get the buy-in from business units. We tried blockchain, but the developers said "it was too difficult to learn". So what are the chances Gen AI will work?"

Each region maintains its own financial reporting structure. There is no common chart of accounts and financial reporting at the corporate level is simply a roll-up of regional and country level P&L's with little underlying data.

Exhibit A. Company Organization

Acme Healthcare is organized in several Regions and Divisions

Regions: The Americas
Europe, Middle East & Africa
Asia / Pacific

Each Region was organized by the following divisions:

Industrial Healthcare
Military Healthcare
Commercial Healthcare

Each Division also contained:

Sales
Marketing
Finance
Operations
R & D
Legal & Regulatory
Information Technology
HR

Corporate Functions:

Corporate IT
Finance
Operations
HR

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