



MedQuist Business Intelligence Program Established by Jim Pickens

MedQuist is a publicly traded world leader in medical transcription services with revenues of \$350 million, the largest user of speech recognition software in the world, and a virtual workforce of approximately 8,500. The company performed over 700,000 transcriptions annually. My responsibilities included IT Operations/Services, Business Process Engineering, Business Intelligence, Enterprise Project Management, and Six Sigma Process Improvement teams. My IT budget was approximately \$10 million.

Prior to my arrival, MedQuist was making business decisions based on personal observation and random investigations rather than systematic scientific evaluation. No formal program was in place. I was chartered to form that program.

The application infrastructure that supported the business consisted of:

1. PeopleSoft (Human Capital Management)
2. Saleslogix (Sales Force Automation)
3. WorkRoute (Product/Service Implementation Tracking – Homegrown)
4. SAP (FICO)
5. ADP (Payroll)
6. Document Enterprise Platform (Transcription Production System - Homegrown)
7. Links (Transcription Invoicing/Billing Homegrown)

None of the above systems talked to one another. Nor was any information from the above systems integrated into any kind of intelligent information distribution model.

After evaluating the situation, I determined that the company needed a systematic approach based on a Single Source of Truth model. That source of truth required three components to be successful:

- A data warehouse that was structured to support both structured and unstructured inquiries. Generally there are structured reports (e.g. daily KPIs), and ad-hoc inquiries from power users who are accessing large amounts of information not knowing exactly where they will wind up.
- A business intelligence layer that supported what I refer to as actionable reporting. I use the term actionable because presenting the information was not enough. The company needed to determine the root cause of variances in day-to-day reporting and take action.
- An auditable ETL model that performed the necessary extraction from the stove pipe applications into the data warehouse. I use the term auditable because financial decisions were to be made using the information.

IT Services, the data warehouse team and the BI team (including ETL) were under my authority. I functioned primarily as the lead consultant and senior project manager for the BI implementation:

- I defined the long term vision for the BI environment including priorities and governance standards. It should be noted that the long term vision was to create a source of truth that provided accurate, integrated, actionable and auditable information to the business units from the time an opportunity was identified through revenue recognition. The BI environment was to support:
 - Company-wide Annual Operating Plan performance (KPIs)
 - Sales and marketing planning
 - Revenue recognition and planning
 - Customer Life Cycle Management
 - Human Capital analysis and planning
 - Transcription services planning and schedule forecasting
 - Transcription work flow bottlenecks
 - Speech recognition product installation planning
 - Cost analysis



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- I conducted the requirements gathering sessions with the functional business units and guided the development of the functional specifications and technical design. This was a large cross functional project that required the complete support of the management team. My strength was in helping the management see a path for improving the company as well as their individual operations using actionable information
- I guided the IT Services team on the planning and implementation of the user interface model
- I guided the application developers on modifying the production systems to provide meaningful data that was needed by the warehouse.
- I guided the data warehouse team in the construction of the logical DW models to support both structured queries, unstructured queries, and audit requirements. The data warehouse was constructed using SQL/Server.
- I guided the Business Objects team in the construction of the BI layers, user access features and capabilities, and Crystal reporting. We implemented the BI layers using Business Objects Enterprise XI, R2.
- I guided the ETL team in constructing the ETL models (Microsoft) with particular emphasis on audit requirements, and logical layering that was required to work within the production systems down time window.
- I guided the BI team in the development of a standard dictionary of values, from what systems they were derived, and how they were calculated.

I staged the implementation in a manner that allowed the company to walk before they ran. I sought out quick wins. My primary goals were to give much needed relief from the current manual processes of collecting and digesting numbers, educate the company to the benefits of Business Intelligence, and stay focused on the strategic long term objectives.

The following is a partial list of the benefits MedQuist achieved:

- Generally eliminated much of the manual labor associated with forecasting, analysis, and reporting.
- Provided a "Single Source of Truth" for information and eliminated confusion about how numbers were derived.
- Accurate monthly reporting to the Board against AOP
- Sales could identify higher value revenue opportunities by combining internal data with hospital and customer specific information
- Operations as better able to understand, react to, and improve transcription work flow, scheduling, and skill matching inefficiencies on a global basis. This significantly reduced costs and improved overall customer satisfaction
- International Labor Management was able to interpret how off-shore activity was performing against annual plan.
- Speech Recognition Management was able to interpret how "Automated Speech Recognition" was improving our cost be transcribed line.
- Finance was better able to forecast revenues and expenses allowing the company to be proactive in controlling spending.
- Executives were now able to see how opportunities were converting into sales and ultimately into revenues and identify bottlenecks at each stage in the process.
- HR was able to better understand how transcription human capital was being utilized and establish compensation models more in line with industry standards.
- International Labor Managers were able to identify opportunities to increase off-shore operations reducing service delivery costs.