Executive forecast

Sage advice from Psyche Systems

ML0: Since arriving on the scene in 1976, Psyche Systems has achieved many firsts, from LIS on a standard operating system to graphic interface milestones, and now secure LIS hosting. Which of these do you think has had the greatest impact on the medical lab?

Bob Sage: Psyche introduced the first anatomic pathology information system featuring a graphical user interface (GUI) in 1988. We introduced the system on a Macintosh because the Windows operating system could not support a GUI at that time. To our knowledge, ours was the first commercially available system with a GUI in the healthcare information market.

Competitors in the anatomic pathology information system market began developing products with GUIs following our introduction, but did not release them until three years after our WindoPath system came to market. Today, all newer systems have a GUI. I believe without the competitive challenge that Psyche posed, the GUI would not have become as ubiquitous as quickly as it has. I believe Psyche’s relatively recent introduction of hosted laboratory systems (in 1998) will be similar to the GUI scenario. Time will tell whether hosted systems will replace turnkey systems.

ML0: Web-based technologies have opened great opportunities for Psyche Systems’ product development, as with its hosted application provider systems. Where do you see the next big advance in Web technology for healthcare applications?

Sage: The next step is the incorporation of Web technology directly into the applications. Currently, Web outreach tends to be an add-on to clinical systems. Microsoft’s .NET framework has made it possible to build Web access directly into the product. To take full advantage of these capabilities, the software must be designed to run on .NET — not merely modified from an older technology. New applications built from the ground up with the Web in mind will be the norm in coming years.

ML0: What will Psyche’s next significant achievement be, and how will it benefit medical laboratories?

Sage: Raising awareness of the many advantages of a hosted system is our current goal. Having a server in the laboratory is no longer necessary. Natural inertia, however, will keep turnkey systems viable for many years. The market for hosted laboratory systems will remain niche until its competitive advantages overwhelm the natural resistance to change. Our focus today is to carry the flag for hosting and eventually bring its benefits to a broader market.

Psyche, however, never stands still; we are constantly innovating. Our latest product, launched this fall, is called e.lixa — from the word ‘elixir’, as in “elixir of life.” By using e.lixa, the lab can extend the reach and, essentially, the life of a legacy LIS. This product uses the Internet to deliver tools to enhance the functionality of an existing LIS with features like graphical analysis, Web-based outreach, and advanced ad hoc search capabilities for an unlimited variety of management and patient reports with just a click of the mouse. Upgrading can be expensive and time-consuming. For a fraction of the cost in money and time, e.lixa gives laboratorians the best new features as an extension of their existing system.

ML0: Where does Psyche Systems stand in the security vs. patient-safety controversy among users, vendors, manufacturers, and the Food and Drug Administration (FDA) about the administration of program patches to regulated patient-care systems? What is your solution?

Sage: We spent many years testing our blood-bank system during our submission to the FDA for 510(k) approval. We were among the few companies that achieved acceptance on the first pass. We learned through that rigorous approval process that, although the cost of quality is high, such precautions are critical in an area like blood banking; this experience helped us strengthen our system. As a result, we have only had two bugs since our acceptance over three years ago — both of which were...
very minor. Fortunately, because of our choice of technology platform, our system is not subject to the frequent security vulnerabilities that require regular patching.

In a field like blood banking, where the stakes for taking risks are actually life and death, high-quality software is imperative, and mandatory safeguards are necessary in order to protect patient safety. The downside of the 510(k) approval process, however, is that we cannot continuously improve and enhance our blood-bank system the way we do our other products without resubmitting, which is cost prohibitive. In this way, regulatory approval for safety standards can actually stifle innovation that may save lives in another way.

It seems a great deal of the controversy stems from a misunderstanding between the FDA and vendors, and vendors and their customers, as to what is permissible and what is not concerning security patches. Perhaps clearer communication among all parties and a more streamlined regulatory submission process may help strike a better balance between patient safety on the one hand, and security and innovation on the other.

**MLO**: What do you consider the most critical challenges faced by Psyche Systems and the laboratory environment today?

**Sage**: We are at a point where automation and technology adoption are reaching critical mass across the healthcare industry, propelled further by government as a major proponent of IT to improve the quality of patient care. Along with that drive, however, come a great deal of regulatory oversight and a push for industry standards, which have created some confusion and uncertainty about the best way to proceed now while this movement is still in its early stages. Our laboratory customers have placed their trust in Psyche to keep abreast of emerging standards and ensure that we are taking measures to achieve full compliance with these mandates — whether they be government regulations like HIPAA or new requirements from JCAHO, CAP, or CLIA.

Additionally, a key benefit our lab customers see in our eXerva hosted services is that they no longer need to navigate the uncertain IT environment, worrying about things like hardware obsolescence, server upgrades, or security management. Many lab managers are tasked with the daily maintenance and management of the LIS to help alleviate some of the burden of an overtaxed IT department. A hosted LIS enables them to focus on their area of expertise — delivering high-quality lab work — while Psyche manages the computer system. Believe me, I have been in this business for almost 30 years, and I have found it is a constant learning process to keep pace with changes in technology.

**MLO**: After its 1996 corporate metamorphosis, Psyche adopted a hierarchical structure of interlocking teams — its fluid “group system.”

**Sage**: How does this structure allow Psyche to be more responsive to customers and market demands?

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**MLO**: What healthcare LIS industry demands and dynamics will drive Psyche Systems in the next five years?

**Sage**: I think we can anticipate that some of the trends we have just begun to see will continue to evolve and shape the LIS market. The laboratory is increasingly facing resource challenges — in both people and funds for new equipment and information systems. At the same time, laboratory testing is becoming ever more complex, with a demand for new testing procedures and more specialization in the types of tests and instruments available. Across the healthcare industry, there is also a push toward a single, comprehensive view of the patient to empower providers to deliver better care more efficiently. In the next five years, this trend will impact the laboratory with more of a blur of the lines between the clinical and anatomic pathology laboratory.

Psyche Systems has always had a customer-guided development process, which enables us to tap into hundreds of laboratory professionals to continuously improve and innovate our products. As a result, we have already begun to address some of these demands in our latest product offerings. As I previously mentioned, e.lixa was developed to give laboratorians new functionality easily and cost-effectively. When combined with WindoPath, e.lixa can also give the pathologist that single view of all current and historic patient results for a more refined diagnosis. The same is true of our full clinical LIS LabWeb. Our new release of WindoPath can also pull clinical results from instruments for flow cytometry, cytogenetics, and molecular diagnostics and present that data in tables for more meaningful analysis of the patient’s condition.

We expect these trends toward more highly specialized testing and a demand for tighter integration to continue. In anticipation, we have already begun to work on new features, applications, and technology platforms to address these market dynamics. We also know that other yet-unanticipated forces will impact the laboratory, and we will be prepared for those challenges as well by continuously working with our customers.

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